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Thomas Gehring

Dynamic International Regimes

Institutions for International
Environmental Governance



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Preface

This book has a long history. It is rooted in my general interest in international governance and in the possibilities, and limits, of overcoming anarchy and self-help by purposeful coordination of behaviour among states. Previous works inquired into the contribution of international law to governance. The legal perspective emphasizes the role of norms for international governance. It is almost automatically an institutional perspective. This study does not change the subject of inquiry, but it approaches it from an international relations perspective. It is the revised version of a Ph.D. thesis that was submitted to, and accepted by, the Department of Political Science at the Free University of Berlin in spring 1992.

A project like this is not the isolated work of a single person. It could not have been realized without support from many sides. I owe Günther Doeker debts of gratitude for a 'realistic' approach toward norms in the international system that reached far beyond legal positivism and laid the foundation for a norm-oriented concept of international governance. I am also grateful for his provision of the freedom and time necessary to develop my own ideas. For numerous fruitful discussions in the past years that yielded a great many ideas and suggestions I would like to thank Markus Jachtenfuchs, Sebastian Oberthür, Anthony Carty, Volker von Prittwitz, Michael Zürn, Kai Wegrich, Herrmann Ott and Kristine Kern. Their comments helped avoid mistakes and clarify my arguments. Many of them also read the whole manuscript or large parts of it.

The present study relies not least on a personal perception of international governance in practice. I am therefore indebted to many interested and helpful people from UNEP and the ECE in Geneva as well as from the German Ministry of the Environment, the Federal Environmental Agency and the International Council of Environmental Law, who offered their time for discussions, opened their archives and enabled me to visit a number of meetings of the member countries of the two international regimes explored. I would like to mention in particular Peter Sand, Francis Barron, Hendrik Vygen and Dieter Jost.

I am also grateful to Derek O'Brien, who prevented the making of numerous mistakes in a foreign language and to Lutz Lademann whose skill was essential for preparing the figures. Last but not least, many thanks to Marike Kolossa for her continuous support and encouragement.

Berlin, March 1994

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Introduction

International regimes, i.e. international institutions for the governance of limited issue-areas, are a matter of considerable interest to international relations theory. The debate on international regimes (re-)introduced norms and institutions as relevant subjects into the analysis of international relations¹ without losing sight of the precarious nature of cooperative arrangements in communities that do not have powerful enforcement mechanisms at their disposal. The exploration of institutions in the international system does not replace the traditional structural analysis of power and interests, nor may every single event be explained by regime analysis. Rather, the concept of international regimes is an attempt to overcome the sterile dichotomy between the traditional camps of 'idealists' who *believe* in norms and institutions, and 'realists' who *dismiss* their relevance in the international system.

The establishment of international regimes is not a goal in itself. As long as decentralized and uncoordinated decision-making yields satisfactory outcomes, regimes will be of limited service. However, if outcomes are sub-optimal and their improvement appears desirable, actors may be motivated to coordinate their behaviour. For that reason, the debate on international regimes focuses predominantly on cooperation, that is, on the adaptation of behaviour that overcomes sub-optimal outcomes and realizes joint gains. More precisely, it is directed at elucidating *opportunities* for cooperation and its limits. In some regards, the exploration of the role and nature of norms and institutions is merely appended to the dominant inquiry into cooperation and discord. Not surprisingly, regime theory is strong in analysing and explaining cooperation and much weaker in analysing and explaining institutions. To a large extent it constitutes a theory of international institutions without a clear concept of the nature of institutions and their contribution to establishing and maintaining cooperation. Some 'reflective' approaches drew attention to this weakness but did not succeed in elaborating a coherent concept of institutions that was compatible with the fruitful mainstream research programme. The present study shall contribute to bridging this gap.

Mainstream regime theory emphasizes the realistic aspects of institutionalized cooperation. It assumes that the actors in the international system, generally states, act to maximize their parochial interests. Their action will be constrained by the interests of their co-actors and by the constellation of interests of the actors participating in a decision situation, i.e. the 'structure' of the situation. Some of these constellations trap actors in dilemma situations which tend to produce sub-optimal outcomes. In these 'mixed motive' situations the coordination of behaviour, i.e. cooperation, may yield collective and individual benefits. However, cooperation may be difficult to achieve and to sustain. Although actors may communicate to

¹ International regimes are generally defined as 'sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations'; this definition goes back to *Krasner, Structural Causes and Regime Consequences*, p. 186.

generate common norms and collectively adopt cooperative arrangements, they still decide unilaterally about their behaviour and retain the ability to retreat unilaterally to non-cooperative action. Hence, the relevant constellation of interests at any given time merely establishes limits for cooperation that a meaningful cooperative arrangement may not exceed. It does not assure that cooperation is realized within these limits.

Neither interests nor constellations of interests are simply given. Issue areas may be conceived of, and delimited, differently. In an international conference, for example, the interests of actors may vary according to the size and relevance of the group of co-actors, and according to the issues included in or excluded from the negotiations. Interests also depend on knowledge and interpretation of facts that may be affected by negotiations. Interests, constellations of interests and, accordingly, opportunities for cooperation are influenced by the institutional framework in which interaction takes place. It may matter whether a group of actors interacts exclusively by action, or whether these actors are enabled to communicate separately from action. It may matter whether actors struggle over substantive advantages or deliberate about norms intended to govern behaviour.

Hence, the influence of institutions is not necessarily limited to the auxiliary function of stabilizing and sustaining cooperation on the basis of a given constellation of interests. A group of actors may gain *some* control over the relevant constellation of interests and related opportunities for cooperation. Apparently, this control will be limited because interests and constellations of interests may not be freely manipulated. It will be less important in the short run and in comparatively clear-cut and stable issue-areas while its relevance will increase over time and in issue-areas that develop rapidly.

The structural and the institutional aspects of institutionalized cooperation are perfectly compatible. Their analysis poses different questions and contributes different insights into the understanding of institutionalized cooperation in the international system. The former focuses on the constraints for successful cooperation in a given situation at a given moment. The latter inquires into institutional mechanisms for the establishment and support of cooperation and into opportunities to remove existing constraints by the skillful use of institutional devices.

Therefore, the present study does not reject mainstream regime theory. Rather, it takes its central insights as its foundation and develops from this perspective a supplementary approach that elucidates the nature of institutions in the international system as well as the mechanisms securing their influence on outcomes. It recognizes the close relationship between international regimes and cooperation but conceives of them as non-identical phenomena.

Theorizing is not an aim in itself. This project retains a strong reference to concrete instances of international institution-building that facilitates the generation of empirically relevant questions. The combination of empirical analysis and theoretic-

cal interpretation promises meaningful insights that may become practically relevant for strengthening international institutions and institutionalized cooperation.

The main purpose of the empirical part of the study is therefore the *generation* of theoretically interesting questions and preliminary hypotheses rather than the testing of theoretically derived hypotheses. The study takes as its empirical point of reference two international environmental regimes that govern the issue-areas of the protection of the ozone layer and of long-range transboundary air pollution. Both of them are among the most important international environmental regimes and the former provides the 'blueprint' for the more recently established regime for the protection of the global climate. The exploration of two cases rather than one broadens the empirical basis of the study and avoids that conclusions are drawn from a single incident of international cooperation. The reference cases are explored in the form of largely descriptive and process-oriented case studies to elucidate their institutional development *over time*. Their analysis relies largely on a detailed evaluation of conference documents and materials prepared during negotiations, many of which have not been scientifically evaluated before.

The peculiar institutional design of the two international regimes gives some hints as to the nature of international governance by regimes. In both cases framework institutions were set up although cooperation was still out of sight. The participating state actors established permanent negotiations that were intended to *produce* cooperative arrangements within the issue-areas concerned. From these frameworks a number of parallel or successive arrangements emerged that prescribed behaviour believed to lead to improved collective (and individual) outcomes. From the perspective of mainstream regime theory these cooperative arrangements reflect cooperation among actors. However, they are not lasting over time and frequently even envisage their own replacement. Accordingly, each of the two international regimes consists of a comparatively stable institutional framework and several more or less temporary and limited cooperative arrangements. The governing institutions may be conceived as comprehensive international regimes only if the firmly institutionalized frameworks are recognized as indispensable components of these regimes.

Against the background of this empirical evidence, the study examines international governance by regimes in its theoretical part, in particular international governance by regimes of the dynamic type. For this purpose it explores the nature of norms and institutions that are essentially collective phenomena. For a single actor it makes no sense to establish institutions and to generate norms (although a single actor may be powerful enough to largely determine their content). The collective nature of norms and institutions does not require, however, that the widely used model of the international actor as a rational utility maximizer ('*homo oeconomicus*') be replaced by that of an actor firmly caught up in a web of social rules ('*homo sociologicus*'). Rather, the existence of norms and institutions is fully compatible with the basic assumptions of methodological individualism. Their exploration does not have to sacrifice compatibility with this dominant theoretical

approach in international relations theory, nor with the fruitful research programme of mainstream regime theory. Therefore, the nature and function of norms and institutions shall be developed from the perspective of egoistic and rationally behaving actors.

The theoretical part of the present study starts from the premises of mainstream regime theory. It recognizes 'states' as the principal actors in the international system (after all, states are the usual members of international regimes). It conceives of them as egoistic and rationally behaving utility maximizers that pursue their own interests. These premises facilitate a 'realistic' perspective (in the sense of not being overly optimistic, *not* in the sense of closely reflecting reality). They avoid the 'smuggling in' of assumptions as to altruistic and community-oriented behaviour. The theoretical argument proceeds in three steps:

The *first step* develops the essence of social institutions understood as sets of norms governing interaction among a number of actors. While norms are not particularly relevant for fully rational actors, they facilitate decision-making as soon as the implicit assumption of omniscience is relaxed and the rationality of actors becomes bounded. For the evaluation of their interests and the making of their decisions in a given situation these actors must assess how their co-actors expect them to behave. In some cases unilaterally generated 'rules of thumb' will serve, but in other cases actors will have to 'expect' what others expect from them. If the expectations of expectations of a number of regularly interacting actors converge, norms will institutionalize that inform how 'one' behaves appropriately in a given situation. Norms of this simple type and social institutions composed of them are collective phenomena although they emerge entirely from unilateral decisions by the actors involved in a regular interaction. They constitute standards of behaviour that guide decision-making while not necessarily prescribing behaviour that is believed to lead to collective optima. These tacitly emerging norms may exert influence on outcomes, but they cannot be *purposefully employed* as devices to achieve certain outcomes.

The *second step* explores the essence of international regimes. If regime theory is largely interested in cooperation and regimes are considered as devices to achieve and sustain cooperation, they must be conceived as generally capable of inducing changes of behaviour that promise the overcoming of sub-optimal outcomes. For that reason, regime norms cannot result from the interaction that they are intended to govern. They must be generated independently of that interaction, albeit with a close view to it. The actors concerned may not merely act, they must also communicate. The norms of a cooperative arrangement must be moulded by communication. However, international norms emerging from communication threaten to be meaningless unless the actors are inclined to implement them voluntarily. Norm-moulding must therefore observe the limits for cooperation determined by structural constraints. Negotiations constitute a widely used form of communication that provides actors with opportunities to pursue their parochial interests *and* develop common understanding. The norms of international regimes are inseparably linked

to negotiations as a specific form of interaction because it here that the actors concerned shape their common normative expectations. Negotiations enable a group of actors to adopt decisions *collectively* rather than by a chain of unilateral decisions and spontaneous coordination.

The *third step* addresses the essence of dynamic international regimes. While negotiations may terminate upon the adoption of a set of norms, dynamic international regimes comprise a permanent negotiation process. The community members as a group retain the ability to take decisions collectively. International regimes of this type enable the regime members to address collectively the response to incidents of non-compliance that might otherwise undermine agreed norms and unravel cooperation. Moreover, within international regimes of this type cooperation may develop over time. New opportunities for cooperation emerging from changes in the relevant constellation of interests may be immediately exploited. The international response to an existing problem, such as the depletion of the ozone layer, may be developed step by step. Over time cooperation may affect interests and widen opportunities for further cooperation. What is more, to some degree cooperative arrangements may be designed to *purposefully* pave the way for expanded arrangements and exert some influence on the pace and direction of change.

In short, dynamic international regimes are institutions of a sophisticated type. Their power does not stem from the establishment of new actors in the international system such as large-scale international organizations, nor from the prescription of exogenously generated community-orientations. It relies predominantly, if not entirely, on the ability of actors to reach agreement by communication separate from the sphere of action and to take decisions collectively.

*

The study is divided into five parts.

Part I (Chapter 1) explores the merits and deficits of the debate on international regimes. It identifies two conceptional sources for mainstream regime theory, namely structural realism and the issue-area approach. It argues that the situative structural analysis which draws on game-theoretical and group-theoretical reasoning is suitable for identifying opportunities for cooperation. However, its concept of norms is largely insufficient and, more than this, contradictory in itself. Some other approaches to international regimes, frequently labelled as 'reflective', draw attention to the weaknesses of the mainstream approach. They contribute various insights about the role of knowledge, the legal process, and social institutions in international relations, but they do not develop a coherent alternative concept of international regimes.

Part II (Chapters 2 - 4) examines the process of the formation and development of the international regime on long-range transboundary air pollution. Chapter 2 explores the two roots of regime formation, namely an environmental conflict between two groups of Western European countries and the highly political process of détente involving the two military alliance systems and virtually all the European

and the two North American countries. Chapter 3 analyzes the cumbersome process of negotiations on the institutional framework of the regime that culminated in the adoption of the framework Convention on Long-range Transboundary Air Pollution in 1979. Chapter 4 investigates the development of cooperation within this framework and traces the several negotiation processes which have so far led to the adoption of three substantive protocols that address different groups of air pollutants. It also looks into the more recent preparation of instruments of the 'second generation' that are envisaged to replace the existing cooperative arrangements.

Part III (Chapters 5 - 7) explores the international regime on the protection of the ozone layer. Chapter 5 examines the establishment of the institutional framework of the regime that was again cumbersome and time-consuming although the resulting convention contained few substantive obligations. Chapter 6 traces the emergence of the first cooperative arrangement from its beginning in 1983 to the adoption of the Montreal Protocol in 1987. Chapter 7 looks into the development of cooperation within the regime between 1988 and the end of 1993.

Part IV (Chapter 8) has an intermediate function. It relates the analytical approach of mainstream regime theory to the empirical reference cases. It contains brief summaries of the development of the two international regimes and analyzes the patterns of interdependence among actors within the two issue-areas as well as the structure of various decision-situations in the course of the formation and development of the two regimes. It observes that constellations of interests and cooperative arrangements changed frequently, while international governance remained firmly institutionalized and develops the central puzzle of the present study from this seeming contradiction. Readers who are not particularly interested in the extensive case studies are referred to this Chapter.

Part V (Chapters 9 - 13) constitutes a fresh approach to international regimes that does not disregard the particularities of institutions. Chapter 9 starts from the assumption of egoistic and rationally behaving actors and develops a concept of norms and social institutions based on interaction. It concludes that simple norms and institutions of this type are wide-spread and not overly demanding. On this basis Chapter 10 introduces the distinction between norms that emerge from interaction, and norms that are generated by communication among actors separate from the sphere of action. It argues that only the latter type of norms may be employed to purposefully affect interaction. Against this background it develops a theoretically founded definition of international regimes and outlines the ideal type of 'dynamic international regime' as well as the opposite type of 'static international regime'.

Chapter 11 inquires into negotiations as a particular form of communication among actors. It examines three pure modes of interaction and argues that negotiations combine the interaction modes of game and debate. Their suitability for the moulding of norms in the international system relies on this combination that allows bargaining and arguing, i.e. the egoistic and the community-oriented aspects of cooperation. However, negotiations tend to reproduce the original dilemma. The Chapter, therefore, explores mechanisms to handle this negotiation dilemma.

Finally, it develops a basic model of the formation of international regimes. Chapter 12 turns to dynamic international regimes and develops the concept of the policy dimension. International regimes of this type comprise standards for the appraisal of options for cooperation that indicate desirable (long-term) development within the issue-area. To discharge this function, their policy dimension may *not* be immediately related to a specific constellation of interests and a temporary cooperative arrangement. Rather, it constitutes another stable element of international governance in rapidly developing issue-areas. Subsequently, the Chapter investigates opportunities for policy-making in dynamic international regimes and develops a model for the operation of this type of international regime.

Chapter 13 compares three mechanisms for the stabilization of cooperative arrangements in case of non-compliance. Cooperative arrangements may be stabilized by action, but this form threatens to reproduce the original sub-optimal outcome that cooperation was intended to overcome. An arrangement may also be stabilized by third party settlement (e.g. court decision-making), but this form is entirely based on rational argument and excludes the parochial interests of actors. The former mechanism is overly realistic, the latter overly idealistic. However, dynamic international regimes may incorporate decisions about community responses to non-compliance into the negotiation process that combines egoistic and community-oriented aspects.

The Conclusion argues that negotiations constitute the central mechanism for the coordination of behaviour among egoistic and rationally behaving utility maximizers if sub-optimal outcomes produced by entirely decentralized decision-making are to be overcome. Serious negotiations, that is, a specific form of communication, rather than the enforcement of obligations or the altruism of the participating actors ensure the success of international governance.

Part I: The Theory of International Regimes

Chapter 1

International Regimes: A Subject of Inquiry in International Relations Theory

The debate about international regimes re-introduces norms and institutions as a relevant subject of inquiry into the analysis of international relations. It is dominated by an approach that heavily draws on rational choice assumptions. The mainstream theory of international regimes may be considered as an economic theory of international norms and institutions. A number of rival approaches, focusing on the role of social institutions, international law, and knowledge for the analysis of international regimes identify weaknesses of the mainstream but have not so far developed a coherent concept.

1. The Roots of Mainstream Regime Theory

The mainstream concept of international regimes has two important theoretical roots, namely structural realism and the issue-area approach. A short assessment of these two roots will facilitate an understanding of the innovations introduced by regime theorists¹.

1.1. *Structural Realism*

Regime theory in its mainstream version² is closely related to structural realism³ as developed mainly by Waltz⁴. This branch of international relations theory is heavily influenced by micro-economic theory. It considers the structure of the international system as a largely stable variable that is formed by the co-action of individual actors and intervenes between their actions and political outcomes. The general

¹ The following discussion of structural realism and other approaches to the analysis of international relations does not attempt to evaluate the merits and disadvantages of these approaches. It is *exclusively* intended to explore their implications for mainstream regime theory.

² See *Krasner, Structural Causes and Regime Consequences*; *Krasner, Regimes and the Limits of Realism*; *Keohane, The Demand for International Regimes*; *Keohane, After Hegemony*; *Stein, Coordination and Collaboration*.

³ *Krasner, Structural Causes and Regime Consequences*, pp. 185-186, calls mainstream regime theory 'modified structuralism'.

⁴ See *Waltz, Theory of International Politics*. In an earlier work, this author had identified three main sources of international conflict, namely the nature of man (first image), the internal processes of states (second image), and the structure of the system itself (third image); see *Waltz, Man, the State, and War*. In his more recent work developing 'structural realism', he focuses entirely on the 'third image'.

model is that of a market that 'intervenes' between producers and consumers of goods and orients the behaviour of actors accordingly⁵.

Structural realism adopts a number of far-reaching assumptions on the properties of actors. Actors are modelled as behaving unitarily because systemic theory does not account for internal political processes. It abstracts from all internal diversities as well as from national particularities⁶. Actors are assumed to have consistently ordered preferences and choose among alternative courses of action so as to further these preferences. They are 'rational'⁷. Moreover, actors are assumed to be 'egoistic', that is, their preferences shall be oriented toward the achievement of their own well-being⁸.

Waltz assumes that the international system is composed of state actors. »So long as the major states are the major actors, the structure of international politics is defined in terms of them«⁹. Like the structure of a market that changes upon the emergence of a few large participants from a state of complete competition into one of oligopolistic domination, notwithstanding a number of small and therefore relatively unimportant actors which might continue to exist, the structure of the international system is, in essence, made up of a relatively small number of major actors. This premise has some justification, considering that neorealism is not only entirely devoted to structure (and not process), but also concerned with the *overall structure* of the international system¹⁰.

As structural realism is not concerned with the unit level, it does not assume a functional differentiation between the different units, i.e. states. The units are, however, distinct from each other by the amount of 'capabilities' which they possess and which they can employ to pursue their interests. Though 'capability' is an attribute of the units, it appears only at the system level¹¹. Like the structure of a market, the structure of the international system is determined by the constellation of the relative strength of a number of important actors.

The international system modelled by structural realism is *anarchic*. Anarchy is not chaos. It does not at all preclude order¹². It simply implies that order is determined by structural patterns. International institutions and norms will have to be supported by capabilities and thus reflect systemic patterns, or they will be largely ignored

5 See Waltz, *Theory of International Politics*, pp. 89-91.

6 Structural realism thus adopts the classical 'billiard ball' model.

7 The rationality assumption allows an interpretation of the action of states as meaningful and purposive. States respond directly to structural incentives (without intervention of their internal decision processes); see Snidal, *The Game Theory of International Politics*, p. 38.

8 This is an essential condition for the evaluation of external incentives and the employment of rational choice models.

9 Waltz, *Theory of International Politics*, p. 94.

10 This is an important premise. Modified realism and mainstream regime theory generally adopted the concept of states as acting units, despite the fact that these approaches are concerned not any more with the structure of the overall system, but with the structure of confined issue-areas. Modified realism cannot, therefore, invoke the same justification as structural realism.

11 See Waltz, *Theory of International Politics*, pp. 97-98.

12 See Waltz, *Theory of International Politics*, pp. 88-89.

and break down¹³. Human intervention cannot effectively change the structure of the international system. Actors in a system governed by structure are not considered to act without expectations about the outcome of their behaviour. On the contrary, it is the structural order which shapes these expectations and guides actors' decision-making¹⁴.

An anarchic system is based on the self-help of its units within the framework of a constraining structure. »Whether those units live, prosper, or die depends on their own efforts«¹⁵. Structural realism therefore predicts a continuing struggle for 'capabilities', the aggregate asset securing the survival of the state. A relative increase of capabilities available to one actor necessarily implies the relative decrease of capabilities controlled by other actors. 'Capabilities' are therefore a relative asset. In structural realism, actors are considered to maximize their *status* relative to that of others¹⁶. They may therefore not be expected to engage in cooperation that benefits their co-actors more than themselves, even though they might gain in absolute terms.

It follows that the issues pursued by states are hierarchically ordered. First and foremost, states will strive for capabilities for survival. These are mainly composed of military and economic strength. Only in the second place, and only to the degree to which security is assured, they may *in addition* strive for well-being¹⁷. The overall struggle for survival extends across all sectors. The principal distinction between the international and modern domestic systems is not the frequent occurrence of violence in the international system but the fact that the international system does not have at its disposal an enforcement mechanism to control this violence. Hence, force is assumed to be a relatively effective means¹⁸.

Mainstream regime theory draws heavily on structural realism. It borrows the concept of actors in the international system as unitary and rationally behaving units that act to promote their interests, and the role of structure for the determination of 'rational behaviour' in a given situation. The decision to adopt these concepts has far-reaching implications for mainstream regime theory. It becomes a purely structural approach that is, like all structural approaches, confined to an examination of constraints faced by individual actors and their patterns of behaviour within these constraints. Accordingly, the decision to adopt this approach entails a severe limitation of the focus of regime analysis. It disregards factors leading to the appearance, change or disappearance of international regimes originating from the

13 Existing organizational patterns are, thus, considered to be mere epiphenomena of the distribution of capabilities in the system; they are not capable of exerting autonomous influence; see *Waltz, Theory of International Politics*, p. 88.

14 The generation of expectations is facilitated by the stability of structure. Accordingly, »a structural change is a revolution ... and it is so because it gives rise to *new expectations* about the outcomes«; *Waltz, Theory of International Politics*, p. 70 (emphasis added).

15 *Waltz, Theory of International Politics*, p. 91.

16 See *Young, Toward a New Theory of Institutions*, p. 118.

17 Accordingly, »in a self-help system, considerations of security subordinate economic gain to political interest«; *Waltz, Theory of International Politics*, p. 107.

unit level. As long as the modelling of actors precludes an extension of the analysis to processes at the unit level, both approaches have in common an inherent focus on stability, while not being able to account for change that is generated at the unit level¹⁹.

1.2. *Complex Interdependence and Issue-Areas*

However, other assumptions of realism were relaxed or entirely given up. Several important events during the 1970s could not be consistently explained by the realist theoretical and analytic framework, among others the oil crisis caused by a number of comparatively weak oil producing states and the rise of developing countries' influence *in spite of* their still very limited power resources²⁰. Theoretically, it was even more puzzling that changes in some issue-areas, such as oil supply, proceeded far more rapidly than in others, e.g. world trade²¹. While the general decline of post-war 'regimes' could be accounted for by an assumed decline of the relative 'capability' of the United States as the dominant hegemonic power, differences in change could not be explained by a theoretical approach entirely focusing on the *overall* power structure. Apparently, area-specific parameters exerted a sufficiently high influence on outcomes to warrant their examination²².

Keohane and Nye contrasted the realist analytical model of a world entirely dominated by the overall power structure with an opposing ideal type, namely 'complex interdependence', that modified three fundamental assumptions of political realism in the light of empirical observations. On a continuum of situations, the realist model would provide one extreme, and complex interdependence the opposite one²³.

While within the realist self-help model states base their existence and their protection against decline on their own power resources, the ideal type of complex interdependence assumes that their survival is generally secured²⁴. Consequently, the fixed hierarchy of issues in the international system diminishes. The perceived interest of states may extend to the striving for wealth and other goods which are of

18 Further conclusions of neorealism as to the polarity of the international system and alignment strategies of actors shall not be discussed here since they do not play any role for regime theory.

19 See Ruggie, *Continuity and Transformation in World Politics*, pp. 151-152. Any inclusion of unit-level processes risks, however, accounting for an unmanageable number of empirically observed factors, while the undeniable success of structural theories is based precisely on their 'parsimony'.

20 On developments of the disciplines of international organization and international relations during the 1970s, see Kratochwil/Ruggie, *International Organization. A State of the Art*; and Rochester, *The Rise and Fall of International Organization*, especially pp. 791-797.

21 See Keohane, *The Theory of Hegemonic Stability*, pp. 138-139.

22 This is true also for political economists assuming that the capability of the hegemonic power had not seriously declined, see *Strange, Cave ! Hic Dragones*. These authors explain the change of some sectoral arrangements differently, e.g. by economic factors inherent in particular markets; see discussion on the change in the world automobile sector by Cowhey/Long, *Testing Theories of Regime Change*.

23 See Keohane/Nye, *Power and Interdependence*, pp. 23-24.

24 Relative security is a prerequisite for cooperation; see Keohane, *Theory of World Politics*, p. 194.

only secondary importance in the realist model²⁵. In comparatively quiet periods, security considerations are reduced to one out of a number of parallel concerns. Although basic realist assumptions about actors, i.e. their rational behaviour and their stable order of preferences, are retained, the dissolution of a hierarchy of issues implicitly modifies actors' calculations of preferences. While the capabilities available to actors, i.e. the predominant asset under realist conditions, are measured in quantities relative to those of other actors, other goods, such as wealth, are measured in absolute terms. An actor striving for power is a status maximizer (maximizing his status *relative* to that of other actors irrespective of the absolute level), while an actor striving for wealth, e.g. economic or environmental benefits, is a utility maximizer²⁶. This distinction has an important theoretical impact on options for cooperation. A rationally behaving status maximizer will have to decline cooperation if he expects to gain in absolute and to lose in relative terms²⁷. A utility maximizer may cooperate in such situations and will generally be inclined to accept constraints to achieve cooperation.

In the ideal type of complex interdependence power is not fungible²⁸. Its transfer from one issue-area to another is difficult and its use is therefore limited. The realist assumption according to which force is always a relatively effective instrument is therefore abandoned. Instead, the exertion of naked power is assumed to be costly and frequently rather ineffective. Under this assumption, the distribution of military power will exert only a minor influence on outcomes in many, although not in all, areas of political conflict. As a consequence, militarily powerful actors face difficulties in transferring their high overall capabilities into capabilities that are applicable to specific issue-areas. The constellation of power and interests *within* a given issue-area gains importance²⁹. Actors may be more powerful in one issue-area and less powerful in another.

Contingent upon the dissolution of a hierarchy of issues, states may pursue competing interests in different issue-areas which may well be in conflict with each other. They may promote these distinct interests through a number of channels of communication. Consequently, the notion of 'actor' requires a refinement. States cannot any more be considered as 'unitary actors', but it must be assumed that different administrative units conduct their own external relations³⁰. If administrative units from different countries active in the same issue-area cooperate, *international* relations may be transformed into *transnational* relations³¹. Outcomes of the politi-

²⁵ See Keohane/Nye, *Power and Interdependence*, pp. 32-33.

²⁶ See Young, *Toward a New Theory on Institutions*, pp. 118-119.

²⁷ See Waltz, *Theory of International Politics*, p. 105; He summarizes the argument as follows: 'When faced with the possibility of cooperating for mutual gain, states that feel insecure must ask how the gain will be divided. They are compelled to ask not 'Will both of us gain?' but 'Who will gain more?' If an expected gain is to be divided, say, in the ratio of two to one, one state may use its disproportionate gain to implement a policy intended to damage or destroy the other'; *ibid.*

²⁸ See Keohane/Nye, *Power and Interdependence*, pp. 24-25; see also Keohane, *Theory of World Politics*, p. 194.

²⁹ See Keohane/Nye, *Power and Interdependence*, pp. 30-32.

³⁰ See Keohane/Nye, *Power and Interdependence*, pp. 33-35.

³¹ On transnational relations, see Keohane/Nye, *Transgovernmental Relations*; and also the early approach of Kaiser, *Transnationale Politik*.

cal process are not any more determined by a structure formed by the constellation of the traditional units of the international system. As an immediate theoretical consequence of the dissolution of the realist unitary state into a variety of competing governmental administrations with a varying relevance in different issue-areas, factors such as cooperation and organization may 'intervene' between structure and outcome. While these factors are located at the system level, transnational relations cannot be thought of without consideration of their repercussion on *domestic* processes. Hence, the consequences of this last relaxation of realist assumptions address the unit level and reach far beyond the scope of systemic structural theory.

The dissolution of the stable hierarchy of issues and the related existence of issue-area specific structures of power and interests is an assumption essential for regime theory at large³². It allows the investigation of confined areas of possible cooperation within a generally anarchic system. Mainstream regime theory did not, however, abandon the concept of the state as a unitary actor.

2. The Mainstream Concept of International Regimes

The influential works of Waltz and Keohane/Nye reflect the two roots of mainstream regime theory, namely structural realism and issue-area orientation. The initial prominence of the regime concept in international relations was, however, largely a consequence of empirical observations and a superficial attempt to adapt the existing analytical apparatus, rather than the result of careful theorizing. Only in a second step, was endeavour directed at the development of a theoretical framework. The two aspects of mainstream regime theory, i.e. the empirical assessment of international regimes against the backdrop of an assumed decline of the United States' hegemonic power and the theoretical concept related to situative structuralism³³, should be carefully distinguished from each other.

2.1. *Hegemonic Stability and International Regimes*

Empirically observed changes in the post-war international economic system during the 1970s were explained by realist analysis on the basis of a steady decline of the hegemonic power of the United States. The former hegemon could not any more effectively support an international economic order that had been established under its supervision. However, some sectoral arrangements persisted basically unchanged and posed puzzles to the realist explanation of world politics. Hence, the research programme was oriented at an inquiry into the problem of why major and

32 See Stein, *Coordination and Collaboration*, p. 319. On the relevance of the disaggregation of international relations into issue-areas, see also Zürn/Wolf/Efinger, *Problemfelder und Situationsstrukturen*, pp. 152-153.

33 Situative structuralism focuses on the structure of particular decision-situations. Like structural realism, it is an essentially structural approach, but like complex interdependence it assumes that structures of situations differ according to the particular constellations of power and interests of actors involved. On the implication of situative structuralism for mainstream regime theory, see below, Chapter 1, pp. 33-41.

well established regimes did *not* fall apart³⁴. Required was a device for the explanation of an observed but unexpected stability.

Apparently, some influential issue-area specific factors 'intervened' between the structure of the international system and political outcomes. They were labelled 'international regimes'³⁵. Contrary to traditional realist assumptions, these regimes did not entirely reflect the underlying structure of power and interests. If they intervened, they had to actually influence, i.e. to change, actors' behaviour. According to structural theory, they had to be sought at the system level. In addition, international regimes had to be of a lasting nature. They were to be understood as something more than temporary arrangements that change with every shift in power or interests³⁶, since they were precisely designed to explain stability *in spite of* a changing structure of power and interests. The concept of regimes that are stable at least in their more general components³⁷ seemed to be well adapted to these analytical demands³⁸, although careful case studies did not support the hypothesis of institutional stability followed by sudden change but revealed a gradual, but continuing, development of regimes³⁹.

The international trade system, GATT, became the prime example and prototype of an international regime⁴⁰. These institutions were believed to be composed of principles, norms, rules and decision-making procedures around which actors' expectations converged in a given issue area⁴¹. Following two symposia on the theory of international regimes in 1981 and 1982, Krasner gave the following account on the coming into being, development and effects of international regimes. When they are created, regimes first reflect »a high degree of congruity between power distributions and regime characteristics: powerful states establish regimes that enhance

34 See Krasner, *Regimes and the Limits of Realism*, p. 500.

35 'Modified structuralists' adopted a notion first used by 'institutionalists', as Ruggie, *International Responses to Technology*, p. 570, and Haas, *On Systems and International Regimes*.

36 Krasner, *Structural Causes and Regime Consequences*, p. 186. See also Keohane, *After Hegemony*, pp. 63-64.

37 Keohane, *The Theory of Hegemonic Stability*, p. 133, acknowledged, of course, that the institutional framework of GATT had changed with each successive round of trade negotiations. These changes were, however, only considered as minor modifications *within* the regime and not as changes *of* the regime. See also Krasner, *Structural Causes and Regime Consequences*, pp. 188-189.

38 Keohane/Nye, *Power and Interdependence*, pp. 38-60, did not inquire into the newly discovered phenomenon of 'international regimes', but instead attempted to explain 'regime change'.

39 See for instance the material produced by Keohane/Nye, *Power and Interdependence*. They admit considerable difficulty in fixing a specific date or event for regime 'change'. For the monetary system, they assume a major change at the 1971 shift in US policy, although the case study reveals that the system *as designed* worked only between 1958 and 1961 (pp. 79-82). It seems even more questionable to identify the 'change' of the oceans regime with the famous 1967 speech of the Maltesian ambassador Pardo before the UN General Assembly (p. 92). For a process-oriented interpretation of the monetary as well as the trade regime, see Ruggie, *International Regimes, Transactions and Change*, pp. 405-410.

40 See Kratochwil/Ruggie, *International Organization. A State of the Art*, p. 769.

41 See Krasner, *Structural Causes and Regime Consequences*, p. 186. On this 'consensus definition' and its implications, see below, Chapter 1, pp. 44-49.

their interests⁴². They are therefore established primarily upon major re-arrangements within the international system, usually following major wars⁴³.

This result is somewhat surprising. When 'regimes' of this type come into being, they can hardly be considered as 'intervening variables', since they closely reflect the underlying structure; they are mere Waltzian epiphenomena⁴⁴. But over time, Krasner continues, the structure of the international system and an established regime can drift apart. »Regimes may assume a life of their own, a life independent of the basic causal factors that led to their creation in the first place⁴⁵. A change of the prevailing power distribution does not always imply a change in outcomes because regimes may function as »intervening variables⁴⁶. Obviously, this concept precisely reflected the requirements for modifications of realist theory. The coming into being of GATT could be explained by structural factors, while its persistence against the backdrop of an assumed declining hegemonic power was attributed to the intervention of the regime. However, this concept implies several problems.

The international system at the time of regime creation was modelled as an Olsonian 'privileged group'⁴⁷. Irrespective of whether a benevolent hegemon accepted the costs of a liberal international trade system and thus allowed other actors to take a free ride⁴⁸ or whether these others were *forced* to contribute⁴⁹, within the realist theoretical framework political outcomes could only be explained on the basis of structural considerations. Both the hegemon and other actors acted under structural constraints, but they acted solely *in their own parochial interests*. International arrangements, such as GATT, were mere reflections of structural conditions⁵⁰. For a later period, mainstream regime theory considered the same international arrangements as intervening variables without which outcomes could not be readily explained any more. Hence, a turning point of utmost theoretical importance should have been passed⁵¹. At that point, a set of norms merely re-

42 Krasner, *Regimes and the Limits of Realism*, p. 499.

43 Krasner, *Regimes and the Limits of Realism*, p. 499, explains: »Regime creation usually occurs at times of fundamental discontinuity in the international system, such as the conclusions of major wars.« Since Krasner's articles form the introduction and conclusion to a special issue of *International Organization* containing contributions to the symposia, they may be assumed to report more than his personal views on the subject.

44 From a theoretical point of view regimes require 'adjustment' of behaviour by actors, see Keohane, *After Hegemony*, p. 51.

45 Krasner, *Regimes and the Limits of Realism*, p. 499.

46 Krasner, *Regimes and the Limits of Realism*, p. 499. Hence, contrary to the view of Rittberger, *Konflikttransformation durch internationale Regime*, p. 327, Krasner holds that international regimes *do* acquire a certain ability of self-preservation that is usually attributed to systems.

47 On the role of group-theoretical considerations for the discussion about international regimes and on Olson's typology of groups, see below, Chapter 1, pp. 34-41.

48 Hegemonic stability theory comprises different schools; on the version assuming a *benevolent* hegemon, see Kindleberger, *The World in Depression*.

49 On the *coercive* approach to hegemonic stability, see Gilpin, *War and Change in World Politics*, pp. 35-36; Gilpin, *The Political Economy of International Relations*, p. 126.

50 It is therefore somewhat surprising that Haggard/Simmons, *Theories of International Regimes*, pp. 501-504, in their review extensively discuss the role of hegemonic stability for international regimes without inquiring into the impact of hegemonic regimes on outcomes.

51 Snidal, *The Limits of Hegemonic Stability Theory*, pp. 597-602, also does not identify this turning point. Nevertheless, he assumes that from that point onwards the interests of some few larger actors in the group

flecting the power and interest structure underwent a metamorphosis into an autonomously intervening variable. Yet, this turning point is not evident per se, nor did it form a subject of inquiry for mainstream regime theory.

The assumed stability of international regimes was attributed to two mechanisms. First of all, the widening gap between a basically stable sectoral normative system and an underlying structure that drifted apart was believed to be caused by a 'time-lag'⁵². Regimes provided stability divorced from the underlying power and interest structure until a major 'regime change', i.e. the break-down of the entire normative system, occurred⁵³. However, the assumption that international regimes as sets of norms could be *based on an outdated power and interest structure* and exert a considerable and autonomous influence on political outcomes is not easily accommodated within a theoretical approach for which structure is the prime variable⁵⁴.

Considerable endeavour was devoted to the integration of the 'time-lag'-hypothesis into the body of mainstream regime theory. This was, however, neither independent deductive reasoning nor the evaluation of empirical research, but simply a collection of loosely related arguments supporting the hypothesis⁵⁵. It was argued that the transaction costs of the establishment of a new international regime following the breakdown of an outdated one might be considered too high by actors⁵⁶ or that actors could not necessarily be expected to recalculate the costs and benefits of an arrangement every now and then⁵⁷. Explanations attributing the persistence of a regime to the interests of the participating states even though it does not any more reflect the power and interest structure either leave the realm of deductive structural theory, or they risk coming close to a tautology. They will leave structural theory if they assume that actors do not know what precisely a normative system reflecting structure looks like or if they assume that actors do not behave according to their order of preferences⁵⁸. If they do not leave structural theory, they must assume that

changed fundamentally from free riding or compliance by coercion to strategically supported voluntary cooperation.

52 See Krasner, *Regimes and the Limits of Realism*, pp. 501-503. The very function of international regimes was assumed to contribute to this stability, as they were 'designed to mitigate the effects on individual states of uncertainty deriving from rapid and often unpredictable changes in world politics'. Keohane, *The Demand for International Regimes*, p. 351.

53 Wolf/Zürn, *Internationale Regime und Theorien der internationalen Beziehungen*, p. 214, argue therefore that stabilization of outdated regimes is not necessarily peace-keeping.

54 Beyond structural theorizing, regimes may play a role in conserving old structures, as they may influence and hence stabilize the *calculation* of perceived interests of actors, see Stein, *Coordination and Collaboration*, p. 323.

55 Snidal, *The Limits of Hegemonic Stability Theory*, p. 585, holds from a game theoretic perspective, which does not distinguish between the creation and maintenance of regimes, that mainstream regime theorists did 'not so much elaborate the theory ... as seek to plug the gaps between the static theory and the empirical reality with plausible, and almost non-falsifiable, theoretical filler'.

56 Keohane, *The Demand for International Regimes*, pp. 348-349, argues that 'ineffective regimes' such as GATT may nevertheless provide information and opportunities for contacts and thus create their own causes for persistence.

57 Stein, *Coordination and Collaboration*, p. 322. Note that this factor leaves the realm of rational choice and implicitly introduces the concept of 'bounded rationality'. On 'bounded rationality' see below, Chapter 9, pp. 355-356.

58 Krasner, *Regimes and the Limits of Realism*, p. 502, mentions 'custom and usage, uncertainty, and cognitive failing'. An actor complying with a set of norms because he acts under uncertainty, or even upon false calcula-

actors continue to sustain a regime as long as it is in their interest; and they must conclude from its existence that it is (still) in their interest⁵⁹. In short, the 'time-lag'-hypothesis turns out to be a poorly designed and incoherent explanation of empirical observations.

This is equally true for Krasner's second model of the effect of international regimes on outcomes, namely their 'feedback' on structure and causal variables⁶⁰. Some of these feedback effects depend on the 'time-lag'-hypothesis. Only if time-lag occurs, for example, may a regime alter the capabilities of actors and serve as a source of power⁶¹. Somewhat more sophisticated is an assumed feedback on the interests of actors⁶². Many international regimes create property rights; and property rights, in turn, create economic interests. This kind of influence may, however, exist *even as long as a regime fully reflects the underlying structure*. If it guarantees property rights, it will stabilize a situation that might have changed without such rights. This effect reaches beyond structural theory, even though it is not inconsistent with it. It emerges only over time in the process dimension which structural theory excludes from its focus. A last feedback effect addresses the incentives of actors to cooperate *voluntarily* in order to overcome a dilemma situation. As will be seen in the next section, this effect is not necessarily confined to the stabilization of existing regimes; it may also theoretically explain the creation of new ones⁶³.

While mainstream regime theory introduced sets of norms as a relevant subject of inquiry into modified realism, the conceptual basis was more informed by empirical observations than directed by intentions to develop a coherent theory⁶⁴. Apparently, mainstream regime theory focused too closely on a very limited number of post-war regimes. It missed the central characteristics of international regimes as institutions and neglected regimes established in periods of declining hegemony, or even without the participation of a hegemon.

tions, could not be considered a rationally behaving, fully informed actor according to structural theory. This is even more true if he follows custom and usage, as such behaviour could only be explained at the unit level, i.e. beyond theoretically founded structuralism.

59 See the comment of O'Meara, Regimes and their Implications for International Theory, pp. 254-255.

60 See Krasner, Regimes and the Limits of Realism, pp. 503-508.

61 Note, however, that this is true only for structuralism which excludes process from its inquiry. If it is accepted that structure does not entirely determine outcomes, a regime could exert influence on process while at the same time reflecting structure. In the ideal type of 'complex interdependence', for example, 'organization' of an issue-area becomes an independent variable that changes a decision-situation; see Keohane/Nye, Power and Interdependence, pp. 54-58.

62 See Krasner, Regimes and the Limits of Realism, pp. 504-506.

63 Provided that the empirically derived assumption according to which international regimes are created exclusively by hegemonic powers is relaxed. The hypothesis of higher transaction costs for the creation of an international regime than for its maintenance, see Keohane, After Hegemony, pp. 102-103, may have hampered inquiry into the possibility and conditions for establishment of regimes generally.

64 Focusing on this branch of regime theory, the remark by Kindleberger, International Public Goods without International Government, p. 9, does not seem to be entirely unwarranted: 'Some of the discussion of international regimes by political scientists verges on ... 'implicit theorizing', that is, convenient ad hoc theoretical explanations to fit given facts that lack generality.'

2.2. Issue-Area Structure and International Regimes

Waltz formulated the basic research question for any attempt to enhance the theoretical soundness of mainstream regime theory and to accommodate the role of norms and institutions with a structural approach:

»What are the conditions that would make nations more or less willing to obey the injunctions that are so often laid on them? How can they solve the tension between pursuing their own interests and acting for the sake of the system? No one has shown how that can be done, although many wring their hands and plead for rational behaviour. The very problem, however, is that rational behaviour, given structural constraints, does not lead to the wanted results. With each country constraint to take care of itself, no one can take care of the system.«⁶⁵

A whole branch of international relations theory tried to answer the question when, and under which conditions, cooperation may be expected to emerge despite the fact that the international system is decentralized, and the enforcement of compliance with norms is difficult.

A regime approach intended not to overthrow the realist framework of inquiry but to adapt it to empirically perceived political developments starts with the assumption of a generally anarchic international system in which the power and interest structure largely determines political events⁶⁶. It thus acknowledges that the international system is still, and will be in the medium-term future, lacking powerful centralized mechanisms for the enforcement of obligations. And it avoids the criticism of 'smuggling in'⁶⁷ assumptions of altruist motivations of actors for their compliance with norms.

Following structural realism, mainstream regime theory resorts to the theoretical simplification of unified and rationally behaving actors striving for a maximization of their well-being⁶⁸. Actors are considered as rational utility maximizers with a stable order of preferences, but they do not necessarily have to be states. If the constellation of actors in a given situation so warrants, the analytical apparatus developed may well be applied to interaction between other types of actors⁶⁹, such as multinational corporations⁷⁰ or transnational associations. Mainstream regime theory is therefore not necessarily state-centred. Yet, it vigorously externalizes developments at the unit level and replaces them by the rationality assumption. Transna-

⁶⁵ Waltz, *Theory of International Politics*, p. 109.

⁶⁶ See Keohane: *After Hegemony*, p. 29. See also Oye: *Explaining Cooperation under Anarchy*, p. 1.

⁶⁷ See Keohane, *After Hegemony*, p. 67.

⁶⁸ In order to avoid 'theoretical anarchy', see Keohane, *The Demand for International Regimes*, p. 328.

⁶⁹ See Snidal, *The Game Theory of International Politics*, p. 35.

⁷⁰ See regime analysis of the international banking business' coordination during the developing countries' debt crisis by Lipson, *Bankers' Dilemmas*; and see Cowhey/Long, *Testing Theories of Regime Change*, on arrangements for world automobile markets that are heavily influenced by a number of large corporations.

tional relations, to which 'complex interdependence' assigns a prominent place, are thus excluded⁷¹.

Most important, mainstream regime theory does not focus on the international system at large, as does structural realism, but on situations in which particular issues are at stake. It adopts the premise that different issue-areas are only to a limited extent interconnected and that they may be examined separately. Endeavour is then directed at an elucidation of structural opportunities for 'cooperation under anarchy'⁷² in confined areas. For this purpose mainstream regime theory draws upon two rational choice approaches, namely game theory and the theory of the supply of public goods⁷³.

2.2.1. Game Theory

Game models may be considered as 'natural adjuncts to third image theory, because they show the results of different combinations of actions in terms of the actors' own preferences'⁷⁴. As a specific branch of general decision theory that accounts for 'strategic' action involving two⁷⁵ or more actors, it is used in particular for the assessment of situations as to their appropriateness for cooperation and regime building. A number of frequently discussed situations can be identified on a continuum between the two extremes of insurmountable conflict with no area of common interest among actors and complete harmony with no area of conflict. Between these two extremes, a variety of different situations exist in which actors have 'mixed motives', that is, partially conflicting and partially coinciding interests in varying combinations. In these situations, conflict may prevail, but cooperation may also overcome discord. Hence, they allow a simultaneous inquiry into 'cooperation and discord'⁷⁶. Generally, only these 'mixed motive' games are of interest to mainstream regime theory.

One of the extremes of the continuum is made up by 'Deadlock' situations, in which no margin whatsoever for cooperation exists between actors. A large group of this category are zero-sum-games⁷⁷, in which either actor loses precisely as much as his counterpart wins. There is no prospect for mutually beneficial action, and, conse-

71 See Kohler-Koch, *Interdependenz*, p. 120. Keohane/Nye, *Power and Interdependence Revisited*, p. 733, claim that the two components of international regimes, namely the 'realist' part of structural analysis and the concept of complex interdependence as its 'liberal' corollary, are 'to some extent 'decomposable''. In fact, they have been largely decomposed.

72 See Oye, *Explaining Cooperation under Anarchy*; Axelrod/Keohane, *Achieving Cooperation under Anarchy*.

73 For a concise overview of this branch of international relations theory, see Abbott, *Modern International Relations Theory*. For a structural approach to institutions, Schotter, *The Economic Theory of Social Institutions*.

74 Abbott, *Modern International Relations Theory*, p. 354. For a recent excellent study in this field of theorizing, see Zürn, *Interessen und Institutionen*.

75 Generally, the type of 2 x 2 games is employed. It reduces the number of actors to two and their options for action to a choice between what is conveniently labelled 'cooperation' and 'defection'. Thus each play comprises four possible outcomes. Only by way of generalization, three or n-person games are subject to inquiry.

76 See the subtitle of Keohane, *After Hegemony*, 'Cooperation and Discord in the World Political Economy'.

77 On zero-sum games, see Junne, *Spieltheorie in der internationalen Politik*, pp. 38-46.

quently, an actor will refuse to cooperate independently of the choice of the other⁷⁸. A 'deadlock' situation also exists, however, if only one of the actors chooses non-cooperation as his dominant strategy, i.e. irrespective of the choice of the other⁷⁹. The opposite extreme of the continuum is formed by a situation in which each actor chooses 'cooperation' independently of the choice of the other⁸⁰. Neither actor has any incentive to 'defect' since collective and individual rationality are fully coinciding. Provided that actors behave rationally, as assumed, the structure of this situation, labelled 'Harmony', leads automatically to an optimum outcome, without either of the actors having to adjust his behaviour⁸¹. These extreme situations are of little interest to mainstream regime theory, since they pose no puzzles⁸².

The most important 'mixed motive' game is the *Prisoners' Dilemma*⁸³. It reflects the 'dilemma of common interest' of actors⁸⁴ that consists of three relations: (a) all actors as a group gain most by mutual cooperation (CC); (b) an actor gains even more by defection while his counterpart cooperates ($DC > CC$); (c) an actor loses most by cooperation while his counterpart defects ($DD > CD$). Because of the incentive to defect for an actor regardless of the option chosen by his counterpart, Prisoners' Dilemma situations lead to a stable outcome of mutual defection, even though the actors are aware that all of them would be better off by cooperation⁸⁵. Communication among actors alone does not suffice to overcome the dilemma as long as choices are made simultaneously and independently⁸⁶, because even upon mutual agreement both actors cannot be sure that their counterparts will keep their promises and cooperate.

78 Hence, a stable outcome is mutual defection, formalized as DD, of which the first letter indicates the choice of actor A and the second the choice of actor B. 'C' symbolizes 'cooperation', and 'D' symbolizes 'defection'.

79 See Oye, *Explaining Cooperation under Anarchy*, p. 7, and 'Rambo'-games in Zürn, *Interessen und Institutionen*, pp. 209-220.

80 In Deadlock situations $D > C$, in Harmony situations $C > D$.

81 See Oye, *Explaining Cooperation under Anarchy*, p. 6. The stable outcome of Harmony situations is thus mutual cooperation, CC.

82 Keohane, *After Hegemony*, pp. 51-53. This is true at least from a purely structural perspective. Keohane admits, however, that even in situations which come close to Harmony games, such as the establishment and maintenance of a liberal world trade system according to neo-classic economic theory, frictions frequently exist on a small-scale level due to actors' constraints (ibid., p. 54). But this reasoning is already beyond structural analysis. Likewise, a structurally determined 'Deadlock' situation may gain some leverage for cooperation due to unit level processes.

83 The tale runs as follows: Two prisoners are suspected of a major crime, but evidence suffices only for a minor sentence. If neither of the two confesses, they will both be sentenced for the minor crime only (mutual cooperation, CC). If one of them confesses, he will go free, while his counterpart will get a heavy sentence (unilateral defection, while the other cooperates, DC); if both of them confess, they get a moderate sentence (mutual defection, DD). The payoff-structure is accordingly: $DC > CC > DD > CD$; see Oye, *Explaining Cooperation under Anarchy*, p. 7.

84 See Stein, *Coordination and Collaboration*, pp. 305-308.

85 An important real-work situation modelled by the Prisoners' Dilemma is the security dilemma, see Jervis, *Cooperation under the Security Dilemma*; Snyder, *Prisoners' Dilemma and Chicken Models*, pp. 68-8. Jervis, *Security Regimes*, pp. 358-359. For examples from the economic field, see Conybeare, *Trade Wars*, p. 170; Abbott, *Trading Nation's Dilemma*; Conybeare, *Public Goods, Prisoners' Dilemmas*, p. 10 (Free Trade).

86 See Ullmann-Margalit, *The Emergence of Norms*, pp. 20-21.

However, the dilemma diminishes as soon as moves are not made simultaneously and independently, but gradually and accompanied by continuing communication⁸⁷. Equally important, the dilemma may be overcome if actors have reliable expectations about how they *ought* to behave and how they *will* behave⁸⁸. Outcomes may differ significantly if a game is not considered in isolation but as a sequence of related games. Similarly, separate issues can be linked to sequences of moves⁸⁹. This has an impact on actors' interests as they now include effects of present action on future decisions of the co-actors. The emerging 'shadow of the future' increases the probability of the return of an investment into cooperation⁹⁰.

Prisoners' Dilemma situations are located right in the centre of the mentioned continuum between the extremes of Deadlock and Harmony. They provide sufficient common interests among actors to warrant cooperation, but also a sufficiently wide margin of discord to preclude such cooperation. Structurally based strategies to overcome the dilemma exclusively focus on modifications of the disadvantageous pay-off structure, e.g. by reducing the incentive for unilateral defection or expanding the time frame⁹¹. Hence, they attempt to move Prisoners' Dilemma situations along the continuum toward the end that is more benign to cooperation. International regimes may play an important role in this regard⁹².

Modifications on either end of the pay-off structure of Prisoners' Dilemma situations considerably enhance the prospect for cooperation. Yet it renders the situations indecisive. In *Chicken* games⁹³ actors have conflicting preferential outcomes, but a common aversion⁹⁴ against the worst case. The model provides two equilibria,

87 See Haggard/Simmons, *Theories of International Regimes*, p. 505.

88 Shared expectations stemming, for example, from either's membership in the Mafia, necessarily change the game, since they modify the pay-off structure (both of the prisoners know that confessors will be assassinated); see Keohane, *After Hegemony*, pp. 73-74; cf. also Ullmann-Margalit, *The Emergence of Norms*, pp. 29-40.

89 R. Hardin, *Collective Action*, p. 125, draws attention to the fact that isolated Prisoners' Dilemma situations are rare in real life, and, it should be added, even more in international relations with a limited number of participating actors.

90 As demonstrated by Axelrod, *Evolution of Cooperation*, cooperation in open-ended Prisoners' Dilemma situations can be achieved even without direct communication. The best strategy is 'Tit for Tat' which requires strict reciprocity. It starts with cooperation and closely reciprocates the reaction of the counterpart in all following games, see also Axelrod, *The Emergence of Cooperation*, pp. 309-312. However, a strategy of pure reciprocity is frequently not appropriate in international relations; see Oye, *Explaining Cooperation under Anarchy*, pp. 15-16. Keohane, *Reciprocity in International Relations*, introduces a necessary distinction between specific, i.e. bilateral and immediate, versus diffuse, i.e. multilateral and complex reciprocity. Only specific reciprocity fits the 'Tit for Tat' strategy.

91 See Rosenau, *Before Cooperation*, p. 875.

92 On this function of international regimes, see Axelrod/Keohane, *Achieving Cooperation under Anarchy*, pp. 234-251. Ullmann-Margalit, *The Emergence of Norms*, p. 117, concludes that agreement in a Prisoners' Dilemma situation 'has to be backed by sanctions so severe as to outweigh the temptation to violate it'. Yet, it is precisely the problem that the decentralized international system lacks centralized enforcement agencies.

93 Chicken games operate along the following lines: two drivers race down the middle of the road towards each other. If one swerves and the other does not (unilateral cooperation, CD), he will be stigmatized as the 'chicken', while his counterpart will be the 'hero' (DC with $DC > CD$). If neither swerves (mutual defection, DD), both will die. If both swerve (mutual cooperation, CC), both will save their lives and most of their reputation ($CC > DD$). The pay-off structure is $DC > CC > DD$; see Oye, *Explaining Cooperation under Anarchy*, p. 8. The Cuban missile crisis has, for example, been modelled along these lines.

94 Stein, *Coordination and Collaboration*, pp. 309-311, considers both chicken and coordination games as 'games of common aversion'.

mutual cooperation and mutual defection. Cooperation and defection are both 'rational' strategies⁹⁵ that may be chosen by actors. Actors may try to achieve the preferred outcome (CD) but then risk mutual defection. They may also attempt to minimize the risk ('minimax')⁹⁶ and resort to cooperation, but then sacrifice the prospect of achieving the maximum benefit. Chicken games are far more benign to cooperation as Prisoners' Dilemmas, since even unilateral cooperation avoids the least preferred outcome and thus pays in minimizing risk. Nevertheless, the achieved cooperation remains precarious, since unilateral defection promises an even higher benefit⁹⁷.

If this incentive for defection diminishes, a Prisoners' Dilemma will be transferred into a Stag Hunt game⁹⁸ in which both actors prefer mutual cooperation (CC) most. However, as they cannot be sure of the cooperative behaviour of their counterparts, they retain a certain incentive to defect, thus achieving the second best solution and avoiding the worst. Contrary to Harmony, cooperation is *not* the dominant strategy of either party, but contrary to Prisoners' Dilemma, 'free riding' does not pay. In the isolated version of this 'assurance game'⁹⁹ achievement of the desired outcome again depends on the strategy chosen. Actors may well avoid risk and resort to the second best outcome, but they may also attempt to achieve the preferred outcome despite the risk of defection on the part of their counterparts. If all actors choose the risky strategy, cooperation will occur almost automatically. Yet, with an increasing number of actors involved, the probability of cooperation decreases rapidly¹⁰⁰. However, once a shared expectation about the cooperative attitude of co-actors has evolved, a rational actor is not inclined to defect. Contrary to the above-mentioned situations, Stag Hunt situations are highly appropriate for cooperation even under conditions of anarchy, because they are virtually self-enforcing¹⁰¹.

⁹⁵ On the notion of strategy, see *Junne*, Spieltheorie in der internationalen Politik, pp. 19-30.

⁹⁶ Minimax is the strategy that leads to the lowest possible loss; in chicken games it is 'cooperation', while in Prisoners' Dilemma it is 'defection'.

⁹⁷ With respect to Chicken games the assertion by *Stein*, Coordination and Collaboration, p. 314, that games of common aversion are self-enforcing once established, is misleading. *Oye*, Explaining Cooperation under Anarchy, p. 14, notes that iterated Chicken games may, contrary to Prisoners' Dilemma and Stag Hunt games, decrease the prospect of cooperation.

⁹⁸ The situation is illustrated by the following tale. A community of hunters sets out to catch a stag; if successful, all will eat well, but to that end, all hunters have to cooperate (CC > DC). If only one of them attempts to catch a rabbit in the meantime, the defector will eat lightly, while all others starve. Hence, defection pays if only one co-actor is expected to defect (DD > CD). The pay-off structure of Stag Hunt situations is CC > DC > DD > CD; see *Oye*, Explaining Cooperation under Anarchy, p. 8. It may be noted that from the perspective of the decision-maker there is no real difference between the two intermediate outcomes.

⁹⁹ See *Sen*, Choice, Orderings and Morality, pp. 59-60.

¹⁰⁰ *Kratochwil*, Rules, Norms, Values, pp. 314-318, argues that for three players the preferred outcome (CCC) is rendered highly improbable without shared expectations.

¹⁰¹ It should, however, not be overlooked that the distinction between a Prisoners' Dilemma situation on the one hand, and a Chicken or Stag Hunt situation on the other may well be a matter of degree, which is not reflected in these models. The familiar 'tragedy of the commons', i.e. the overgrazing of a common almeinde belonging to a village by individual cattle growers, comes close to a Prisoners' Dilemma; see *Schelling*, Micromotives and Macrobehaviour, pp. 110-115; *Stein*, Coordination and Collaboration, p. 313. But it may come close to a Chicken game, if the difference between the two worst outcomes decreases. While game theory only provides turning points, i.e. reversals of pay-off structures, human activity may be expected to account for relationships, i.e. relative differences between outcomes.

Coordination games are even more benign to cooperation¹⁰². While actors may either prefer different outcomes or be indifferent as to a number of equally beneficial outcomes, they win or lose simultaneously and, accordingly, prefer cooperation to non-cooperation. In order to ensure a beneficial outcome, choices have to be coordinated, but once this has been achieved, there is no incentive whatsoever for defection. Whereas in Stag Hunt situations actors *have* to be quite sure of the cooperative attitude of their co-actors, in Coordination games they *can* be sure (as long as rational behaviour is assumed)¹⁰³.

Although actors may play different games at the same time, and their decisions may be influenced by their own *perception* of a situation's structure rather than by 'objectively' given patterns¹⁰⁴, game theory contributes to regime analysis in providing a number of distinct models that address various combinations of coinciding and diverging interests of actors. These models generate interesting insights about the impact of structural conditions on the prospect of future cooperation, or on the stability of existing cooperation. The crucial stage of game theoretical approaches, however, is the evaluation of the orders of preferences of actors¹⁰⁵.

2.2.2. *Collective Action and the Supply of Public Goods*

Cooperation in the international system reflects the dilemma between individual and collective rationality and is a classical problem of collective action¹⁰⁶. Besides game theory, the public goods approach provides a widely used analytical tool.

The dilemma of the supply of public goods is related to the fact that the properties of these goods preclude their trading on markets. Contrary to marketable goods, no member of a relevant group can be *excluded* from the consumption of a public good once it is supplied (non-excludability). In addition, the consumption of a particular unit of the good by one actor does not reduce its availability for consumption by other ones (jointness)¹⁰⁷. Beside the provision of security, a liberal trade system and an orderly exchange rate system, the protection of the stratospheric ozone layer and of other environmental commons¹⁰⁸ reflect the properties of public goods¹⁰⁹.

102 Examples of coordination games are all kinds of standardization which may be conflicting in the standard setting stage, but not in later stages, e.g. the choice between left or right lane driving, see *Stein*, *Coordination and Collaboration*, pp. 309-311; see also *Abbott*, *Modern International Relations Theory*, pp. 371-374.

103 In a world of rational actors, this type of cooperation does not require stabilizing mechanisms, but in real-world situations it may well do so, see reasons given by *Ullmann-Margalit*, *The Emergence of Norms*, pp. 83-89.

104 See the critical comments by *Kratochwil*, *Rules, Norms, Values*, pp. 303-304.

105 See generally *Snidal*, *The Game Theory of International Politics*, pp. 40-44. Preferences of actors may be assessed empirically or deduced from the structure of the situation. Note that in the latter case the structure of the situation is a *premise* of its game theoretical analysis. This may provide a source of severe mis-assessment; see the critical comments by *Gowa*, *Anarchy, Egoism and Third Images*, p. 180, on the interpretation of World War I trench war situations as Prisoners' Dilemmas by *Axelrod*, *The Evolution of Cooperation*, pp. 73-87. See the discussion by *Zürn*, *Interessen und Institutionen*, pp. 80-90.

106 See *Snidal*, *Coordination versus Prisoners' Dilemma*, p. 923.

107 See *Snidal*, *The Limits of Hegemonic Stability Theory*, pp. 590-592.

108 Problems of environmental deterioration have long been framed in terms of the public goods approach; see *G.Hardin*, *The Tragedy of the Commons*.

According to a fundamental assumption of market theory, actors are considered as rational utility maximizers that decide unilaterally. If appropriate, they will take into account the anticipated reaction of other actors to their own behaviour. Actors will supply a good only as long as their costs of production are lower than their expected benefits. The dilemma of the supply of public goods then is reflected in the negative ratio of costs and benefits for the actors separately and in the positive ratio for the group at large. This concept has been transferred from market theory into the field of collective action of groups. It explains why the size and the composition of groups may have an impact on successful collective action¹⁰.

In a large group composed of actors of a relatively equal size, each actor holds only a very small share of the market. His decision whether to cooperate does not immediately affect the market. Due to his negligible market share, it will not even be noticed by other actors. An individual actor does not, therefore, have to take into account any reactions by his co-actors to his own behaviour. Given the supply of the good by the group, a rational actor chooses not to participate in joint supply, since cooperation would not produce noticeable collective benefits but generate noticeable individual costs. A rationally behaving actor will thus choose to take a 'free ride'. If, on the other hand, the good is not yet supplied by the group, his own contribution will not significantly alter the collective deficiency. Accordingly, a rationally behaving actor will again abstain from contributing. This rationale is valid for any individual member of the group. Consequently, the good is not supplied, even though all actors are aware that they could gain net benefits from cooperation because their individual costs of cooperation would be lower than their individual gains. Hence, the dilemma of the large group is related to the fact that any individual member has an incentive to defect unilaterally, independently of the decisions of his co-actors¹¹.

In a small group composed of relatively large members, the rationale is completely different¹². Here, benefits may outweigh costs even for individual actors. In this case, the actor with the largest market share will supply a limited amount of the public good, even though his co-actors may not be excluded from its consumption¹³. For all other actors it is rational to refrain from cooperation and to take a 'free ride', thus saving incremental costs. In this 'privileged group' the supply of the public good remains below optimum levels¹⁴, but the group receives at least a certain amount. Since in the small group all actors but one take a free ride, only the

109 R. Hardin, *Collective Action*, pp. 18-20, draws attention to the fact that true public goods according to a narrow definition are difficult to think of. The structural problem is, however, similar to the one posed by collective or group goods.

110 See Olson, *The Logic of Collective Action*, pp. 43-52.

111 The constellation is similar to an n-person Prisoners' Dilemma situation; see Snidal, *The Limits of Hegemonic Stability Theory*, p. 598.

112 On small groups, see Olson, *The Logic of Collective Action*, pp. 22-33.

113 Take, for example, the case of a price-cartel, in which a major actor controls a market share of 25%. If the price reaction to a decrease in supply by one per cent is an increase of more than four per cent, it is rational for him to take advantage of the opportunity, see Olson, *The Logic of Collective Action*, p. 26.

114 Sub-optimality is due to the fact that shares that would be supplied by smaller participants in a fully cooperative group are still lacking; see Olson, *The Logic of Collective Action*, pp. 27-29.

largest member incurs the costs of supply. The largest actor tends to be 'exploited' by his co-actors¹¹⁵. Over time, small free riders may undermine the position of the largest group member due to over-proportional gains. As a consequence, small group situations imply an inherent dynamics.

Structural characteristics of small group situations have been applied to the international system in the form of the theory of hegemonic stability. According to this approach, a 'benevolent' hegemon supplies the system at large with collective goods such as stability and a liberal trade system¹¹⁶. As in the Olsonian 'privileged group'¹¹⁷, the hegemon acts in his own interest but smaller participants gain over-proportionally since they may take a free ride. Both the establishment of major post-war international regimes, such as GATT, and their assumed decline may be analyzed on the basis of this approach.

In small and large groups, cooperation is improbable, because rational actors do not sacrifice opportunities for the maximization of their utility functions. Actors behave according to their own interests, regardless of the reaction of their co-actors to their choice. In medium size groups, the rationale is different. As in the small group, no actor has an incentive to supply the public good individually, since costs outweigh individual benefits. But actors' market shares are sufficiently large to seriously affect the market. Actors must therefore act strategically and include anticipated reactions of their co-actors into their calculations of choice. As in the small group, free riding pays at first glance, but it reduces the benefits of co-actors tangibly and may lead to a termination of the supply of the public good altogether. A rational actor may therefore be inclined to continue cooperation in his own interest. Only if he expects his co-actors to supply the good in spite of his non-cooperation, he may choose defection. Hence, depending on his evaluation of his co-actors' reaction to his own action, he is encouraged to overcome his parochial self-interest for his individual benefit but also for the benefit of the group at large.

The constellation of medium size groups provides a serious, structurally supported opportunity for cooperation among rational utility maximizers because actors are locked in a collective situation in which they have to calculate their interests strategically. Yet, the option of defection still remains open and renders cooperation precarious. Due to the relatively low number of actors in the international system, constellations resembling medium size groups may be assumed to be wide-spread in international relations. Moreover, as the international state system comprises participants of differing size, the cooperation of some major members may suffice to surpass the threshold beyond which the supply of public goods pays for these members¹¹⁸. Accordingly, a fairly large group may be divided into two sub-groups com-

115 See *Olson*, *The Logic of Collective Action*, p. 29: "There is a systematic tendency for 'exploitation' of the great by the small."

116 See *Kindleberger*, *The Great Depression*.

117 *Olson*, *The Logic of Collective Action*, p. 49.

118 See *Olson*, *The Logic of Collective Action*, p. 35; *R. Hardin*, *Collective Action*, pp. 40-41.

posed of the members necessary for a cooperative effort (k -group) and of the (smaller) members that may take a free ride¹¹⁹.

This branch of reasoning elucidates structural elements of the supply pattern for cooperation dependent upon the size and composition of groups. It suggests that cooperation in certain cases (medium size group) is possible in a world of rational egoists even without effective enforcement. In these cases, cooperation does not change the structure of the situation. It merely ensures that actors choose options that are most beneficial for the group at large and subsequently also for themselves. In some other situations (large group), cooperation required a structural change, e.g. the establishment of an effective sanctioning apparatus. Actors had to calculate and behave differently from their behaviour without such cooperation, while incentives for defection remained high and enforcement required considerably more attention.

2.3. *Consequences of the Structural Approach to International Regimes*

Neorealism and mainstream regime theory start from the premise that in the international system political outcomes are largely determined by structure. Cooperation is scarce relative to discord and requires careful explanation¹²⁰, since it is considered to flourish only in case of support by structural determinants.

The concepts of game theory and the supply of collective goods offer a theoretical framework for the assessment of the structure of situations. They are apt to explain that a mutually beneficial outcome is frequently not achieved because the prevailing structure guides actors to behave in ways that lead to sub-optimal results. However, they also identify situations with opportunities for cooperation serving the interest of the actors involved. Structurally, these situations are not fully determined. They include in particular 'mixed motive' games and medium size groups in which actors must behave strategically.

The most important contribution of mainstream regime theory is therefore the provision of evidence that even in an anarchic international system situations exist in which cooperation pays even for rational and egoist actors. In these situations, the participating actors are expected to *strive* for such cooperation even though difficulties must be overcome. In distinguishing cooperative from non-cooperative situations, mainstream regime theory opens the sterile dichotomy of those simply *believing* in the possibility of international cooperation despite the lack of an enforcement agency, and those flatly *denying* this possibility because of the lack of such agency.

¹¹⁹ On this basis, a new version of hegemonic stability theory is put forward, in which a small hegemonic group of cooperating states assumes the supply of the desired good. In that way, persistence of the international economic order may be explained despite the decline of the largest participant of the group; see *Snidal, The Limits of Hegemonic Stability Theory*, pp. 597-612; and *Keohane, After Hegemony*, pp. 78-79.

¹²⁰ See *Keohane, After Hegemony*, p. 5; and *Krasner, Structural Causes and Regime Consequences*, p. 194.

Despite mutual benefit, cooperation does not evolve automatically. As long as a situation is unorganized, an actor retains certain incentives to defect. They are due either to uncertainty about the cooperative intentions of other participants or to the benefit promised by a 'free ride'. Although even in a Prisoners' Dilemma situation cooperation may evolve without direct communication solely by strictly reciprocal behaviour, a reduced probability of unilateral defection will clearly enhance the prospects for cooperative behaviour of all (or most) participants and facilitate the achievement of an optimum outcome for the group at large. The task of organizing this cooperation is assigned to international regimes¹²¹.

In cooperative situations the behaviour of an actor is closely related to his expectations about action of his counterparts and their response to his own action. In an assurance game, an actor chooses cooperation *only* if he expects his counterparts to choose cooperation as well. In a medium-size group an actor will abstain from free riding *only* if he expects his co-actors to stop their cooperative behaviour. Accordingly, cooperation can be reinforced by the development of mutual expectations in the framework of an existing structurally determined conflict¹²². In the case of appropriately structured conflicts, shaping and stabilizing expectations of behaviour becomes a task of international politics. This, however, is nothing else than establishing norms, albeit avoiding their frequently implied moral connotation.

Accordingly, an important task of international regimes is the provision of secure normative expectations about the behaviour of individual actors, that is, expectations of how actors ought to behave to achieve cooperation in the interest of the group at large and of its members separately¹²³. As a game-theoretical prerequisite, the options of 'cooperation' and 'defection' have to be clearly distinguished from each other¹²⁴. Moreover, international regimes shall stabilize expectations of how actors *will* behave. They have to address the problem of compliance with these norms. Within the structural approach, this can be achieved by modifications of the pay-off structure of a situation with the purpose of reducing the benefit of unilateral defection and enhancing its costs¹²⁵.

As long as mainstream regime theory relies on the analytical apparatus of the theory of collective action and game theory, it argues on stable ground. It may evaluate situations as to their structural opportunities for cooperation. Yet this approach

121 See *Snidal*, *The Game Theory of International Politics*, p. 40; see also *Kohler-Koch*, *Zur Empirie und Theorie internationaler Regime*, pp. 24-25. In the terms of *Rittberger*, *Editor's Introduction*, p. 2, this is 'governance' which should be distinguished from hierarchically organized 'government'.

122 The stabilization of expectations is a prerequisite for the transformation of an iterated Prisoners' Dilemma game into an assurance game. On such a transformation, see *Sen*, *Choice, Orderings and Morality*, pp. 56-62.

123 In his 'functional theory' *Keohane*, *After Hegemony*, pp. 90-92, assigns to international regimes the function of an umbrella under whose protection a multitude of opportunities for cooperation evolves. Apparently, the prototype is again GATT. The umbrella function is discharged basically by way of stabilizing expectations.

124 See *Oye*, *Explaining Cooperation under Anarchy*, pp. 15-16. Note that this function of international regimes is already beyond structural theory, since it is based on the fact that actors have to act under conditions of uncertainty.

125 Still the authority of norms is not an inherent property of these norms, see *Eder*, *Die Autorität des Rechts*, p. 209. On compliance, see generally *Young*, *Compliance and Public Authority*.

bears some inherent difficulties¹²⁶. Situative structural approaches take the situation under examination as given. While structural realism adopts the international system at large as its unit of inquiry, situative approaches are applicable to a multitude of different and frequently changing situations. To some degree, the actual type and scope of these situations may be the result of choices that have already been made by actors individually or collectively and that may be reversed or modified. Likewise, issue-areas are not determined by an 'objective' structure. Their existence depends on actors' perceptions and decisions, although these perceptions and decisions will be influenced by structural determinants.

As soon as empirical uncertainty has been removed from the situative design, opportunities for cooperation are structurally determined. From the perspective of the analyst they are 'objectively' given. This is true even if the orders of preferences of actors are assessed empirically. Consequently, the basic outline and the general policy direction of an international regime designed to organize cooperation in a given issue-area may also be derived 'objectively' from the structural dilemma that should be overcome. It is thus not assumed to constitute a relevant matter of choice of actors individually or collectively and is excluded from scientific inquiry. Instead, the making of decisions about compliance with an established set of norms amounts to the only important field of actors' choice. Accordingly, the guarantee of compliance with existing norms and the preclusion of defection and 'free riding' gains an overwhelming importance in the scientific inquiry.

Likewise, an approach that predominantly addresses opportunities for cooperation in given situations¹²⁷ is not apt to explore the process of transfer of a situation from non-cooperation into cooperation¹²⁸. As long as the actors involved in a situation mistrust each other, they will avoid cooperation. As soon as they trust each other, they may achieve the more benign mutual cooperative outcome¹²⁹. The mechanisms for the development of mutual trust should therefore constitute an important subject of inquiry in the analysis of international regimes. It is not only relevant for the development of a coherent theory. It is even more important for the making of practical decisions in international relations.

126 This is true even when problems of application, such as the assessment of the orders of preferences of actors, are left aside. On the difficulties of applying game models to real-world situations, see *Jervis, Realism, Game Theory and Cooperation*.

127 *Rosenau, Before Cooperation*, p. 873, suggests that this branch of reasoning deals with situations 'before cooperation'.

128 See *Voss, Rationale Akteure und soziale Institutionen*; and *Kohler-Koch, Zur Empirie und Theorie internationaler Regime*, p. 50.

129 This fact may contribute to the prominence of the 'time-lag' hypothesis that emphasizes the stability of existing regimes.

2.4. The Concept of Norms in Mainstream Regime Theory

A theory about international regimes has to devote some attention to the type of international institutions that organize cooperation in the international system. Generally,

»regimes can be defined as sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice.«¹³⁰

All of these constituting components of international regimes are norms in a wider sense, albeit of differing degrees of specificity¹³¹. Hence, according to the widely used definition, international regimes are institutions entirely composed of norms. In fact, they are considered to be more or less coherent normative systems. Consequently, a theory about international regimes implies a theory about norms. Despite its primary interest in *opportunities* for cooperation, mainstream regime theory has to address the issue of norms in the decentralized international system. In this regard, it heavily draws on an existing approach to norms, namely legal positivism. It thus adopts a very formal concept that is entirely concerned with static norms, and excludes from its research programme the issues of both the coming into being of norms, and their impact on outcomes. Significantly, regime theory which re-introduces norms into international relations theory in cases in which their relevance for international politics can be established resorts to a traditional concept of international law that has been widely blamed for its inadequacy precisely because it does not acknowledge the interrelationship between norms and the underlying structure of power and interests.

Both the concepts of positive law and mainstream regime theory separate the creation of normative systems from their operation and exclude the former from their inquiry. In positive legal theory, a normative system relies on a 'basic norm' that emerges from an entirely political process, i.e. *extra-legally*¹³², or on formal 'rules of recognition'¹³³, or on a doctrine of 'sources of law'¹³⁴. These basic rules of normative systems inform about the characteristics of valid legal norms. Lower-order

130 Krasner, *Structural Causes and Regime Consequences*, p. 186.

131 Unless otherwise indicated, the term 'norm' as used in the present study comprises normative prescriptions of any degree of specificity. It must not be confused with the use of the term for the indication of one particular type of norms in the consensus-definition of international regimes referred to above.

132 See Kelsen, *General Theory of Law and State*, p. 116: »The basic norm is not created in a legal procedure ... It is presupposed to be valid because without this presupposition no human act could be interpreted as a legal ... act.«

133 See Hart, *The Concept of Law*, pp. 97-107.

134 See for example *Kimminich*, *Einführung in das Völkerrecht*, pp. 223-229; *Verdross/Simma*, *Universelles Völkerrecht*, pp. 321-423. The main sources of positive international law are referred to in Article 38 of the Statute of the International Court of Justice and comprise international treaties, international customary law, and general principles of international law.

norms that are part of the respective normative system must be systematically related to them. While changes of norms may occur within a given normative system, a modification of the basic rules amounts to a revolution of the system itself¹³⁵.

Mainstream regime theory also adopted the concept of a hierarchically arranged system of norms¹³⁶. The creation of a normative system itself originates outside the regime in question. Its emergence amounts to a largely unexplained transfer of an issue-area from anarchy to regulated cooperation. Its basic rules, the components of 'principles' and 'norms' within the regime definition, are largely determined by the structure of the situation from which cooperation arises¹³⁷. Their change indicates a structural change and amounts to a 'revolution' of the situation. If opportunities for cooperation exist, a new regime may be established. Only modifications of the more specific parts ('rules' and 'decision-making procedures') shall be considered as changes *within* an existing regime¹³⁸. However, contrary to legal positivism, mainstream regime theory did not adopt rules of constitution as its basic rules, but rules of policy. These rules do not inform about the criteria for the validity of norms, including the criteria for decision-making about valid norms. They immediately prescribe policies. This approach follows from situative structuralism. However, it raises some conceptional problems.

A major requirement for international regimes is their stability over time¹³⁹. If a regime is entirely composed of norms of different degrees of specificity, at least its more general components have themselves to be stable over time. Any development of an issue-area and, accordingly, of its structure of power and interests entails therefore either a divorce of the underlying structure of power and interests and the related international regime, as reflected in the 'time-lag' hypothesis, or it entails a breakdown of the regime that may be replaced by a succeeding one. It follows conceptionally that rapidly developing issue-areas may well be governed by a sequence of international regimes that differ only slightly from each other in their general normative components. Apparently, the mainstream theoretical terminology of 'regime change' does not address such minor modifications of principle within an otherwise unchanged normative system, but focuses on major shifts in the structure of the international system¹⁴⁰.

The alleged analytical sharpness of the distinction between change within and change of an international regime is not of much heuristic value. It is not even analytically as clear as it may seem. The line between the two categories of higher and

135 See the interesting remarks of *Kelsen*, *General Theory of Law and State*, pp. 117-118, regarding the change of a 'basic norm' after a *successful* revolution that provides with legitimacy what otherwise had to be considered state treason.

136 See *Krasner*, *Structural Causes and Regime Consequences*, pp. 187-188; *Kohler-Koch*, *Zur Empirie und Theorie internationaler Regime*, p. 35.

137 See above, Chapter 1, pp. 41-43.

138 See *Krasner*, *Structural Causes and Regime Consequences*, pp. 187-188.

139 See *Krasner*, *Structural Causes and Regime Consequences*, p. 186; *Keohane*, *After Hegemony*, pp. 63-64; see also *Efinger/Rittberger/Zürn*, *Internationale Regime in den Ost-West Beziehungen*, p. 69.

lower order norms, i.e. the boundary between the components of 'norms' and 'rules' within the consensus definition, is somewhat arbitrary and difficult to delimitate¹⁴¹. Consequently, the distinction between change *within* and change *of* an international regime becomes arbitrary, too¹⁴². Yet, the implications of this admitted arbitrariness have not been of much theoretical interest¹⁴³, even though 'regime change' understood as change *of* (and not *within*) an international regime was an important subject of inquiry¹⁴⁴.

According to legal positivism, a normative system is essentially a constraint system. Its purpose is the preclusion of certain options of behaviour otherwise open to legal subjects. Therefore, norms must be accompanied by the threat of sanctions¹⁴⁵. However, norms are considered to be valid as soon as they meet the relevant criteria of the normative system to which they belong. They *ought* to be followed by legal subjects, but compliance is not a matter of a precise cause-effect relationship. As a consequence of this logical-systematic approach, valid norms may or may not be effective¹⁴⁶. While the 'validity' of norms refers to the legal system, their 'effectiveness' is a behavioural category to be measured, for example, in the degree of compliance.

Mainstream regime theory adopts the concept of normative systems as constraint systems. The purpose of international regimes is generally the constraining of choice of the participating actors to overcome sub-optimal outcomes. To fulfil their purpose, norms should not only fit into a more or less coherent normative system. The normative system at large must also be effective¹⁴⁷.

'Effectiveness' rests on two conditions. As in any approach to norms, it is measured in terms of behavioural compliance¹⁴⁸. However, a second condition is

140 Consequences of this close relationship between changes in structure and assumed changes of institutions are discussed below, Chapter 8, pp. 343-346. Mainstream regime theory, in fact, avoids addressing institutions in rapidly changing issue-areas; see *Strange, Cave ! Hic Dragones*, pp. 488-490.

141 See *Krasner, Structural Causes and Regime Consequences*, p. 188; *Haggard/Simmons, Theories of International Regimes*, p. 493.

142 Admitted by *Keohane, After Hegemony*, p. 58.

143 In an attempt to delimitate the boundary more exactly, *Müller, Selbsthilfe oder Kooperation*, p. 13, explicitly refers back to the formal concept of international law. He suggests that the component of 'rules' may consist of legally relevant prescriptions, while the component of 'norms' may regulate behaviour in areas that are not (or not yet) regulated in a legally binding way. Hence, while 'rules' are positive international law, 'norms' are not. This suggestion introduces, however, the category of 'legally binding' prescriptions, without any further discussion of its impact. To be relevant for the concept of international regimes, it had to refer to differences in effect of legally binding and legally non-binding prescriptions, for example as a consequence of differing application mechanisms for the two categories of prescriptions. But this seems to be hardly possible.

144 See *Keohane/Nye, Power and Interdependence*, pp. 19-22.

145 According to *Kelsen, Principles of International Law*, pp. 18-89, the sanctioning force in the international legal system consists of reprisals by other subjects of international law, and of wars if legitimated by 'the law'. A legal concept based on sanctioning force has been put forward by *Weber, Wirtschaft und Gesellschaft*, pp. 181-194. On the relevance of sanctions for theories of international law, see *Blenk-Knocke, Zu den soziologischen Bedingungen völkerrechtlicher Normbefolgung*, pp. 42-48.

146 For international legal norms, *Kelsen, General Theory of Law and State*, pp. 29-44, explicitly distinguishes between 'validity' and 'effectiveness'. A similar distinction between 'Geltung' and 'Wirkung' is adopted by *Verdross/Simma, Universelles Völkerrecht*, pp. 52-53.

147 On the strength of international regimes, see *Zacher, Trade Gaps, Analytical Gaps*, pp. 177-178; 189-190.

148 See *Keohane, International Institutions: Two Approaches*, p. 387.

added. International regimes should establish *meaningful* constraints, that is, they should exclude options that would otherwise be attractive for actors. 'Cooperation' emerges only in 'mixed motive' situations characterized by non-coinciding interests and not in situations that are governed by complete coincidence of interests ('Harmony'). *By definition*, it involves an active adjustment of the behaviour of an actor according to the expected behaviour of his counterparts¹⁴⁹. Mainstream regime theory considers the exertion of an autonomous influence on political outcomes an essential precondition for the existence of an international regime¹⁵⁰.

According to the two elements of the 'effectiveness' requirement, three ideal types of possible normative systems may be distinguished.

First, normative systems may be complied with although their norms do not rule out attractive options for action and do not require an adjustment of behaviour by actors. Normative systems of this type closely reflect the structure of the international system. Their norms *may appear* to govern the behaviour of actors. They may be used as 'rules of thumb' by decision-makers for the facilitation and acceleration of decision-making¹⁵¹. However, a careful structural analysis of a given situation without regard to existing norms would lead to similar decisions. These norms are mere epiphenomena of structure¹⁵². Normative systems of this type do not meet the requirements of the mainstream concept of international regimes. They draw attention to the fact that an evaluation of the behavioural performance of actors is not considered a sufficient condition for the identification of an international regime¹⁵³. Much of the existing disagreement between the mainstream and other, 'reflective' approaches to international regimes¹⁵⁴ rests on the rigid exclusion of normative systems of this category from regime analysis.

Second, normative systems may require effective adjustment of behaviour without being complied with. Apparently, systems of this type also do not effectively constrain actors' choices. Their norms may be based on moral or ethic premises, but the actual performance of actors demonstrates that compliance cannot be ensured. Norms of these systems may be broken at will as the situative structure militates against normative demands. Accordingly, rational actors cannot be assumed to base their decisions on these norms. Normative demand and the structure of power and

149 See Keohane, *After Hegemony*, p. 51; see also the discussion above, Chapter 1, Sections 2.2. and 2.3.

150 See Krasner, *Regimes and the Limits of Realism*; see also Wolf/Zürn, *International Regimes und Theorien der internationalen Politik*, pp. 204-205.

151 See Keohane, *After Hegemony*, pp. 110-116.

152 See for this realist argument against an autonomous influence of international regimes *Strange, Cave ! Hic Dragones*, p. 487.

153 See Zacher, *Trade Gaps, Analytical Gaps*, p. 176: 'Norms, rules and decision-making procedures in an issue-area may be mere reflections of the principle of self-help and thus not part of the regime' (emphasis added); see also Haggard/Simmons, *Theories of International Regimes*, pp. 494-495; Stein, *Coordination and Collaboration*.

154 For the discussion of 'reflective' approaches to international regimes, see below, Chapter 1, pp. 50-57. Among the authors arguing that patterned behaviour could be identified in almost all existing issue-areas, and that therefore almost all issue-areas were directed by 'international regimes', see e.g. Fuchala/Hopkins, *Lessons from Inductive Analysis*; and Young, *Regime Dynamics*.

interests are simply too far divorced from each other to allow norms to exert a tangible influence on the political process.

Only the *third* category of normative systems meets the conditions of both necessary adjustment of behaviour and compliance with norms. It is characterized by a considerable closeness of norms to structural demands, but not by their coincidence. The underlying structure of power and interests provides actors with a sufficiently high incentive to comply with normative prescriptions. The incentive does not stem from the norm itself but from the prospect of a cooperative benefit, i.e. from the self-interest of actors. Only normative systems of this third category meet the criteria for international regimes developed by mainstream regime theory. By adopting a notion of effectiveness that includes the condition of an effective influence *on the political outcome*, i.e. on the actual behaviour of actors, mainstream regime theory considers the 'autonomous influence' of international regimes as an *independent variable*¹⁵⁵.

Unfortunately, the boundaries between these three categories are not always clearly delimited. Mainstream regime theory is remarkably silent as to the evaluation of the boundary between regimes and mere epiphenomena. Although the 'time-lag' hypothesis relies upon the transformation of a non-cooperative into a cooperative situation¹⁵⁶, the turning point remained in the dark. The conceptional separation of regimes requiring effective adjustment of behaviour and mere epiphenomena is entirely blurred in the case of normative systems that are established for the sole purpose of *stabilizing* existing situations¹⁵⁷.

A particularly intricate theoretical and practical problem is the assessment of the adjustment requirement. In order to establish whether a normative system is in fact an international regime according to mainstream regime theory, an analyst requires an 'objective' yardstick that allows a comparison between behaviour in the norm-governed existing situation and assumed behaviour in the hypothetical absence of relevant norms. The assessment of behaviour in the hypothetical unregulated situation can only rest on a structural analysis. It must be assumed that, in the absence of norms, a given actor would, in fact, determine his behaviour exclusively by structural considerations. But a structural analysis alone does not suffice to predict outcomes in specific situations¹⁵⁸. The assessment could also exceed the realm of structural analysis and explore internal decision-making processes. Yet then, it had to determine whether and how internal decision-making in the regulated real situation is already influenced by the existence of international norms. Again, the influence of norms and other factors influencing outcomes could not be readily separated

155 Apparently, the condition of effective influence upon outcomes is far beyond positive legal theory. It is, however, not easily accommodated within any concept of norms.

156 See above, Chapter 1, p. 31.

157 No adjustment of behaviour will, for example, be noted in cases of a mere understanding to accept a status quo that evolved on the basis of an existing situative structure; see Nye, *Nuclear Learning*, p. 393, on the understanding between the superpowers about European territorial questions, including Berlin and Germany.

158 Mainstream regime theory acknowledges that it cannot predict outcomes because it does not account for factors located at the unit level; see *Keohane*, *International Institutions: Two Approaches*, p. 388.

from each other. The analysis of hypothetical behaviour is not only precluded on practical, but also on theoretical grounds¹⁵⁹.

Even the distinction between the second and third categories of normative systems is not as clear as may be desirable. Normative systems of both categories require adjustment of behaviour, but those of category three are complied with while those of category two are not. However, normative systems are usually not fully complied with. Almost always a certain margin of non-compliance exists and is tolerated by the community of actors concerned. Beyond that, within a single normative system (international regime) some norms may be generally complied with while others are widely ignored. It may therefore be assumed that most normative systems may be placed somewhere on the continuum between the two extremes of total compliance and complete non-compliance.

Mainstream regime theory generally employs a dichotomy of defection or compliance with the prescriptions of a regime. It does not consider the stage of application of a general norm to a specific case, and it does not assume that this stage has an impact on the prescriptive content of that norm. In this regard, mainstream regime theory again heavily draws upon legal positivism. Theories on international regimes and positive theories of international law generally focus on abstract sets of norms and rules, be they formalized or not. Necessarily these norms and rules have to be interpreted and applied to specific cases¹⁶⁰. Any application of abstract norms to specific cases involves a choice of policy. Even judicial institutions in highly integrated, hierarchically organized normative systems have a certain margin of discretion to develop and change law as applied to specific cases *without* changing statutes¹⁶¹. The margin of discretion available in applying normative prescriptions in a horizontal society that lacks effective institutions for the application of norms and their enforcement will be even larger. Hence, the evaluation of a given behaviour in light of the norms of an international regime, and the process of application of these norms to a specific case, become relevant¹⁶². The relevance of this stage is, however, not addressed by the concept of norms employed by mainstream regime theory assuming that existing norms are largely stable and prescribe behaviour clearly.

In contrast to political realism, regime theory recognizes that norms matter in the decentralized international system. Since, however, it is evident that not all formal *legal* norms matter, while some formally non-legal norms do, it develops criteria for the identification of those norms that are relevant to international politics. This is a first step towards a more appropriate concept of norms, but the concept actually employed is largely insufficient. It heavily draws upon legal positivism and is thus fraught with the difficulties inherent in this concept. Moreover, in contrast to legal

159 See, however, the remark by *Keohane/Nye*, *Power and Interdependence Revisited*, pp. 742-743, on the necessity of this analysis.

160 On the fundamental difference between a 'command', related to specific actors in specific situations, and a 'rule' that is generally applicable but must be applied to specific cases, see *Hart*, *The Concept of Law*, pp. 19-25; similarly *Ross*, *Directives and Norms*, p. 99.

161 The term 'judicial law' emphasizes this margin of discretion.

162 See *Schachter*, *The Nature and Process of Legal Development in International Society*, p. 756.

positivism the normative concept of mainstream regime theory is incoherent in itself.

3. Other Approaches to International Regimes

Mainstream theory on international regimes leaves a host of questions unresolved, and poses new ones due to its rigid basic assumptions. However, the debate on international regimes is not confined to rational choice approaches. On the contrary, 'regime theory' is a cluster of more or less related theories¹⁶³. A number of authors have addressed the deficits and inconsistencies of the mainstream, without having been able to form a coherent research programme. Despite considerable differences, these approaches are frequently summarized under such labels as 'reflective'¹⁶⁴, 'cognitive'¹⁶⁵, or 'Grotian'¹⁶⁶ concepts. In this section, the basic premises of three of these concepts shall be identified against the backdrop of mainstream regime theory. In a fourth sub-section, some important aspects of the German debate on international regimes shall be discussed.

3.1. *International Regimes and Social Institutions*

Rational choice approaches strip real-world situations of much of their empirical complexity so that the 'pure structure' appears at the surface. Actors are not only considered as 'rational' utility maximizers, but also as being able to collect and process an infinite amount of information that is necessary for the calculation of their interests in decision situations. From this perspective behaviour according to the structure is the simple option for an actor, while norms, including international regimes, *increase* the complexity of the situation and pose many new problems.

A sociological, as opposed to an economic or structural, approach to international institutions and regimes tackles the decision-making problem from the opposite perspective¹⁶⁷. Its starting point is an actor faced with the overwhelming complexity of actual situations in which he decides while having at his disposal only a limited capacity for the processing of information¹⁶⁸. For this actor, patterns of behaviour and conventions provide welcome devices to *reduce* complexity because they stabi-

163 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 21; Haggard/Simmons, *Theories of international Regimes*; Efinger/Rittberger/Wolf/Zürn, *Internationale Regime und internationale Politik*, pp. 267-273.

164 See Keohane, *International Institutions: Two Approaches*, p. 389.

165 See Haggard/Simmons, *Theories of International Regimes*, p. 509.

166 See Krasner, *Structural Causes and Regime Consequences*, pp. 193-194.

167 On the difference, see Barry, *Sociologists, Economists and Democracy*; and Zürn, *Interessen und Institutionen*, pp. 35-62.

168 See e.g. Young, *Compliance and Public Authority*, pp. 16-17. Complexity is even further increased, since interests of actors in the international system result to a large extent from internal conflicts and bargaining, see Young, *Anarchy and Social Choice*, p. 242. As far as can be seen, Young is the only active participant in the debate on international regimes explicitly drawing on this concept. The further argument of this sub-section shall therefore be developed on the basis of his contributions.

lize expectations of outcomes. If actors attribute a high legitimacy to social institutions reflecting these patterns, they will acquire a normative connotation¹⁶⁹. According to this concept, meaningful norms and normative systems guide actors' behaviour, regardless of whether they reflect structural patterns or require adjustment of behaviour¹⁷⁰.

Arguing - not entirely without justification - that the current concept of international regimes is 'conceptually thin'¹⁷¹, Young proposes to employ sociological approaches to institutions as a theoretical framework for the analysis of international regimes¹⁷². His approach, however, runs into difficulties if transferred to the analysis of international regimes without appropriate modifications. It necessarily leads to an unsharp and over-inclusive notion of 'international regime' that contributes more to the confusion of regime analysis than to its clarification. According to Young, international regimes are, as other social institutions, 'recognized practices consisting of easily identifiable roles, coupled with collections of rules or conventions governing relations among the occupants of these roles'¹⁷³. They are not always voluntarily, some of them not even deliberately, entered into by actors¹⁷⁴. On the contrary, almost all areas of international relations are considered to be governed by international regimes of one kind or another¹⁷⁵. This wide and unmanageable notion of 'international regime' has been frequently criticized¹⁷⁶ and appears to be largely unnecessary. In fact, Young's own empirical work did not reveal how these wide categories, including spontaneous and coerced regimes, could contribute to the understanding of the phenomenon of international regimes¹⁷⁷.

However, these critical remarks do not dismiss an inquiry into the similarities of social institutions and international regimes. On the contrary, the concept addresses a number of important issues that are excluded from the research programme of mainstream regime theory. It draws attention to the fact that actors, including cor-

169 See *Young, Resource Regimes*, p. 19; *Young, Regime Dynamics*, pp. 278-279.

170 Accordingly, considering an international regime as an intervening variable loses precision; see the claim made from a similar position toward mainstream regime theory by *Kratochwil/Ruggie, International Organization: A State of the Art*, p. 768.

171 *Young, Toward a New Theory of Institutions*, p. 106.

172 See, e.g. *Young, International Cooperation*, pp. 197-202.

173 *Young, Toward a New Theory of Institutions*, p. 107.

174 *Young, Regime Dynamics*, pp. 282-285, develops three modes of emergence: international regimes may come into being by coercion (e.g. colonial regimes), by negotiation (e.g. multilateral treaty regimes), or spontaneously (e.g. the 'market').

175 See also *Puchala/Hopkins, Lessons from Inductive Analysis*, p. 247. 'Non-regime' situations may exist in issue-areas of new human activity, e.g. outer space or deep sea-bed mining, and in issue-areas formerly governed by an international regime that has broken down, see *Young, Resource Regimes*, p. 42.

176 See *Efinger/Rittberger/Zürn, Internationale Regime in den Ost-West Beziehungen*, p. 67; *Zürn, Gerechte internationale Regime*, p. 13; *Haggard/Simmons, Theories of International Regimes*, pp. 493-494.

177 Far from analyzing spontaneous regimes, such as 'the market', he examines several well formalized, or at least deliberately negotiated, international resource and environmental regimes, for example, regimes on marine fisheries, deep seabed mining, and Arctic shipping, see *Young, International Cooperation*. More recently, he explored the formation of negotiated regimes; see *Young, The Politics of International Regime Formation*. This empirical focus on negotiated regimes even leads *Haggard/Simmons Theories of International Regimes*, pp.

porate actors¹⁷⁸ operating in the international system, have at their disposal only a restricted capacity for the processing of information and calculation of decisions to be made permanently. This minor relaxation of the rigid assumptions of rational choice approaches may have a great impact on such issues as the generation and properties of norms and compliance with norms by individual actors. In fact, social institutions do not usually rely upon a centralized enforcement system¹⁷⁹. The mechanism that assures wide compliance with these institutions is the process of 'internalization' of generated normative expectations. Its transfer into the international system could offer explanations of rule-compliance beyond narrow utilitarianism. The latent risk of an implicit or explicit comparison of the decentralized international system with developed domestic legal systems and their centralized enforcement mechanisms may be avoided. However, 'internalization' is a difficult concept that risks being used as a mere behavioural description and as a theoretical filler for the explanation of phenomena that would otherwise remain unexplained¹⁸⁰. More important, it could draw attention to the gradual development and continuing evolution of social institutions and direct the focus of inquiry beyond the stability and eventual break-down of international regimes. Developments proceeding *within* international regimes, including their largely ignored procedural and organizational components, could become subject to examination¹⁸¹.

3.2. *International Regimes and International Law*

In a series of contributions with intensive reference to the on-going debate on international regimes, Friedrich Kratochwil examines the role of norms in the international system from the perspectives of legal theory and philosophy. He vehemently criticizes the epistemologically positivistic approach of mainstream regime theory toward norms and blames their widespread consideration as 'variables'¹⁸². The

495-496, to the erroneous assumption that Young suggests a very narrow and formal definition of 'international regimes'.

178 Corporate actors are in fact groups of individuals with a sufficiently homogeneous behaviour. They always act through individuals.

179 Even though they may exist under the umbrella of a centralized state, such institutions as 'marriage' or 'Christmas celebrations' exert their tangible influence independently of that state.

180 As far as can be seen, meaningful hypotheses in respect of the concept of 'internalization' have not been introduced into the debate about international regimes. *Efinger/Rittberger/Wolf/Zürn*, *Internationale Regime und internationale Politik*, p. 276, consider the 'internalization' of norms as one mode of influence of international regimes. Note, however, the conceptional difficulty involved in the internalization of norms *by states* participating in regimes. The question arises whether states can internalize norms, and if so, how they do so.

181 According to *Young*, *International Cooperation*, pp. 15-20, and *Young*, *Problems of Concept Formation*, pp. 333-338, international regimes comprise three elements, besides a 'core' of rights and rules, a procedural element for the making of social choices and an implementation mechanism. Young suggests a clear distinction between 'regimes', considered as practices composed of recognized roles, and 'organizations'. While he considers GATT an international regime (despite its Secretariat employing more than 200 officials), the initially discussed International Trade Organization (ITO) would have added an organization to the regime; see *Young*, *Toward a New Theory of Institutions*, p. 108. On the relevance of what they call the 'organizational' component, see also *Kratochwil/Ruggie*, *International Organization. A State of the Art*, pp. 772-773.

182 See *Kratochwil*, *The Force of Prescriptions*, p. 685; *Kratochwil*, *Rules, Norms, Values*, pp. 301-303; *Kratochwil/Ruggie*, *International Organization. A State of the Art*, pp. 764-765.

focus of his inquiry is directed at the issue of how norms affect political outcomes in the decentralized international system.

The concept starts from a similar premise as that of social institutions. It assumes that actors permanently decide in over-complex situations. The general function of norms is, accordingly, the desired reduction of complexity and the orientation of decision-making. As an immediate consequence, and contrary to rational choice assumptions, human activity may be considered to be generally norm-governed¹⁸³. Norms do not usually 'intervene' between actors desiring to achieve their individually assessed interests and political outcomes. Due to their inter-subjective quality, they affect the process of calculation of these interests¹⁸⁴. As in all other approaches to international regimes, actors are generally considered to behave rationally. But 'rational behaviour' does not necessarily imply action according to a narrow instrumental rationality focusing at immediate goal achievement. It may also imply the rationality to behave according to a given norm¹⁸⁵. To avoid Prisoners' Dilemma situations, for example, it may be far more 'rational' to follow an existing norm requiring cooperation than to choose the instrumentally rational option of defection with the anticipated effect of achieving a collectively *and individually* sub-optimal result.

Having so far advanced the argument, the question arises *why* actors should behave norm-rationally and why they should abandon instrumental rationality in their decisions, if this required behaviour contrary to relevant norms. Kratochwil does not simply replace behaviourally observed 'internalization' of norms with the more theoretical term of 'norm rationality'. He sets out to demonstrate that the process of legal reasoning as a specific form of verbal communication determines the authority of legal decisions. Contrary to legal positivism which endeavours to apply the 'appropriate rule' to a given case, he observes that legal decisions always involve a margin of discrete choice. They cannot, therefore, be deduced 'objectively' from a coherent legal system. Instead, the demands and arguments of conflicting parties are framed according to the requirements of a discursive decision process¹⁸⁶. Norms and rules, around which common expectations converge, are used as 'persuasive reasons' in this process. They gain an essentially rhetorical function¹⁸⁷.

In respect of the debate on international regimes, an immediate consequence is that a regime's strength results from »the deference to authoritative decisions that establish what 'the law' is, or from the acceptance of norm-regulated practices. ... The crucial variable here is institutionalization, i.e. the acceptance of decisions as

¹⁸³ See Kratochwil, *Rules, Norms and Decisions*, p. 10. Despite this common starting point of scientific inquiry, and despite their common interest in the debate on international regimes, Kratochwil and Young took surprisingly little note of each other.

¹⁸⁴ See Kratochwil/Ruggie, *International Organization. A State of the Art*, pp. 767-768.

¹⁸⁵ See Kratochwil, *Rules, Norms, Values*, pp. 306-324.

¹⁸⁶ See Kratochwil, *Rules, Norms and Decisions*, pp. 33-44.

¹⁸⁷ For an early discussion of this concept, see Kratochwil, *Is International Law Proper Law?*, pp. 36-44.

authoritative which are either rendered by dispute-settling organs or which have been made collectively»¹⁸⁸.

The concept draws attention to the norm-related dimension of international regimes. It demonstrates how compliance with norms may be explained beyond both the rigid utilitarianism employed by mainstream regime theory and the rather unsatisfactory concept of 'internalization'. It emphasizes the function of norms, including those of international regimes, in a continuing communicative decision process and points to processes *within* established regimes that are rarely considered by the regime literature. By its focus on inter-subjective communication, it recognizes the important margin of discretion for the making of decisions by actors.

However, despite its many explicit references to the scientific discussion on international regimes, the concept remains largely unrelated to the empirically informed debate. Moreover, it does not assess the theoretical relevance of the empirically observed combination of prescriptions of behaviour and prescriptions of procedure for the legal decision-process proceeding in and around international regimes¹⁸⁹. In fact there is no distinction between the norms of international regimes and those of international law. With his exclusive focus on the process of decision of cases in the light of established norms, Kratochwil inevitably arrives at a discussion of the role of the judge in the legal process¹⁹⁰. He does not, however, indicate how to transfer domestically generated insights to the international system. Despite the emphasis on the role of persuasion and authority of decisions, he does not address the generation of norms according to which cases shall be decided. Yet, in a decentralized system based upon persuasion, the norms invoked must be acceptable to actors. These norms may be expected to be somehow related to the existing (and changing) structure of power and interests¹⁹¹. Necessarily, legal decisions on particular cases are taken in specific contexts, and they may have an impact on the further acceptability of the norms involved.

To be sure, these deficiencies do not warrant a neglect of the central argument, according to which communication about norms is a core issue of a well-founded approach to international regimes. To some degree, however, they may explain the limited feedback to this concept in the debate so far.

3.3. *International Regimes and Knowledge*

Cognitive approaches to international regimes introduce the dimensions of 'knowledge' and 'learning' into the discussion and address their relevance at differ-

188 Kratochwil, *Rules, Norms and Decisions*, pp. 63-64.

189 On the contrary, Kratochwil, *Rules, Norms and Decisions*, p. 57, criticizes the »lumping together of rules and formal institutions« as well as the »conflating of informal understanding ... with explicit norms«.

190 Kratochwil, *Rules, Norms and Decisions*, chapter VIII.

191 On the subject of the permanent creation and modification of norms in international regimes, see the interesting remarks by an international lawyer, Schachter, *The Nature and Process of Legal Development*, p. 782. It is

ent levels. Cognitivists neither accept 'objectively' given issues nor their automatic combination in issue-areas. They challenge structural approaches which consider clear-cut situations that may or may not be overcome by the establishment of appropriate international regimes. From a cognitive perspective, international issues arise when the existing state of affairs is effectively challenged by one or more of the actors concerned¹⁹² which have, for one reason or another, *re-calculated* their interests on the subject. Likewise, formerly unrelated issues are clustered in issue-areas when actors *consider* their relationship close enough for simultaneous treatment¹⁹³. Actors may add or subtract issues from an existing issue-area as appropriate. Moreover, decisions on the scope of issue-areas depend on the approach adopted to regulate a given problem. Haas demonstrates that even issues generated by scientific and technological development may be clustered into a multitude of different hypothetical issue-areas¹⁹⁴.

In short, the existence, scope, size and quality of a given problem to be overcome by the formation or operation of an international regime depends on the *perception* of this problem by actors on the basis of available knowledge. Knowledge includes both 'political knowledge', e.g. values and preferences on what should be done, and 'scientific knowledge' supported by validity-claims¹⁹⁵. Similar to concepts of social institutions, cognitive approaches are based on the assumption of an over-complex world in which actors make choices on the basis of limited information under conditions of uncertainty¹⁹⁶. The calculation of preferences may be revised in the light of newly emerging knowledge that modifies the basis of former decisions. 'Learning' becomes a major cognitive source of change¹⁹⁷. As soon as learning occurs and affects the calculation of the preferences of actors, situations develop and the prospect of the formation of international regimes or the development of existing ones changes.

In its most simple theoretical version, learning about a new problem *precedes* the formation of international regimes¹⁹⁸. From a cognitive perspective, this type of learning is trivial since it separates the stage of learning, during which problems are shaped and situations are structured, from the stage of regime formation or devel-

surprising that this author does not refer to the on-going discussion in the discipline of international relations and vice versa.

192 See E. Haas, *Why Collaborate*, p. 362.

193 See E. Haas, *Why Collaborate*, pp. 364-367. Haas defines an issue-area as 'a recognized cluster of concerns involving interdependence not only among the parties but among the issues themselves'; see *ibid.*, p. 365.

194 See the list of hypothetically construed issue-areas addressing issues under the heading of 'ocean space' (law of the sea) negotiations; E. Haas, *Is there a Hole in the Whole*, pp. 834-835.

195 See Haas, *Is there a Hole in the Whole*, pp. 848-850. Contrary to 'political knowledge', scientific knowledge has to be replaced upon falsification.

196 Uncertainty cannot be expected to be overcome; it is less important whether this stems from the limited information processing capacity of actors or from a principal indeterminateness of decision-situations.

197 As Haggard/Simmons, *Theories of International Regimes*, p. 510, note, 'learning' does not necessarily imply development toward better, or collectively more desirable, outcomes.

198 See the argument by Smith, *Explaining the Non-Proliferation Regime*, pp. 276-277; see also Efinger/Rittberger/Wolf/Zürn, *International Regime und internationale Politik*, p. 272.

opment. In this case, the latter stage may be approached by assessing the situative structure that already incorporates actors' re-calculated preferences.

More interesting is the case that 'learning' occurs *during* the process of regime formation or development¹⁹⁹. Here, the process has steady repercussions on perceived interests by individual actors. In fact, even bargaining may be considered as a permanent process of learning and re-assessment of preferences²⁰⁰, if the actors are not aware of the exact 'contract zone'²⁰¹. Another factor of possible learning in the framework of international regimes is the resolution of prevailing disputes by the gradual emergence of commonly acceptable scientific knowledge on which political agreement may be founded in turn²⁰². Hence, political disputes may be solved by the generation of scientific knowledge which is based on validity-claims and may be challenged by rational argumentation.

Lastly, learning may occur *after* a regime has been established or as a side-effect, e.g. due to the very fact that decision-makers representing conflicting actors meet and communicate. Misperceptions of the counterparts' intentions may thus be reduced²⁰³.

Cognitive approaches to international regimes draw attention to the flexibility and structural indetermination of many notions that are frequently taken as given and assumed to be stable. Actors generate interests and establish issues as well as issue-areas. These factors influence the structuring of situations. While cognitive approaches may appear to be diametrically opposed to structural ones, many areas of agreement exist in respect of concrete situations. Past learning has an impact on the present structure of situations, while structural components will enter the knowledge of actors and influence the calculation of their preferences.

However, the anticipated effects of structure affect the preferences of actors only by the processing and evaluation of relevant information against the backdrop of accumulated knowledge. Acting under uncertainty, actors, be they individual decision-makers or corporate bureaucracies, can never elaborate a structural analysis as clear-cut as assumed by mainstream regime analysis. Therefore, 'learning', i.e. the *process* of modification of existing knowledge involving the re-calculation of preferences by actors, points to another mode of influence of international regimes on political outcomes²⁰⁴.

Cognitive contributions to the debate on international regimes have almost entirely focused on the political process leading to the formation of international regimes. They do not consider such issues as the characteristics of norms or compliance of actors with norms that are addressed by all other approaches to international

199 See P. Haas, *Saving the Mediterranean*; P. Haas, *Do Regimes Matter*, p. 377.

200 See E. Haas, *Words Can Hurt You*, p. 213.

201 See Young, *The Politics of International Regime Formation*, p. 361.

202 See E. Haas, *Is there a Hole in the Whole*, pp. 850-851.

203 See Nye, *Nuclear Learning*, pp. 398-400. Although not irrelevant, this mode of learning related to international regimes may be assumed to be the most difficult to assess.

204 Haas, *Words Can Hurt You*, p. 213, emphasizes that «we must focus on notions of process in dealing with the question of how regimes actually work».

regimes discussed so far. Instead, their focus is the process of international interaction for the regulation of issue-areas²⁰⁵ during which norms, rules and procedures are moulded, but that is also guided by norms, rules and procedures. They introduce the distinction between political and scientific knowledge, but they may at times over-emphasize the role of science and learning as compared to structure.

3.4. *The German Debate on International Regimes*

Similar to mainstream regime theory in the United States, the German debate²⁰⁶ has not addressed the genesis and character of international regimes and their inherent processes. Both a workshop on international regimes²⁰⁷ and a major project on regimes in East-West relations²⁰⁸ relied upon the 'consensus definition' of 1982²⁰⁹. Inevitably, the German debate suffers from a largely insufficient concept of norms. Despite much criticism as to the 'state-centredness' of regime analysis²¹⁰ and the lack of recognition of aspects of interdependence²¹¹, most theoretically informed case studies as well as deductive reasoning heavily rely on the United States' mainstream regime theory with its focus on stability and its exclusion of process²¹².

Initially, the German debate explored the (distributive) effects of regime-governed cooperation for different actors²¹³. Under the heading of 'equitable international regimes'²¹⁴, the types of inclusive ('benign') regimes benefiting all actors in a given issue-area and 'malign' regimes²¹⁵ benefiting a limited number of participating actors at the expense of those remaining outside²¹⁶ have been distinguished.

More recently, a group of scholars based in Tübingen has invested considerable effort in the examination of the role of international regimes in East-West rela-

²⁰⁵ See the early definition by Haas, *Why Collaborate*, p. 358: 'Regimes are norms, rules, and procedures agreed to in order to regulate an issue-area'.

²⁰⁶ On the German debate, see generally *Rittberger, Research on International Regimes in Germany*.

²⁰⁷ See *Kohler-Koch, Zur Empirie und Theorie internationaler Regime*, p. 18; contributions are reprinted in *Kohler-Koch, Regime in den internationalen Beziehungen*.

²⁰⁸ See *Efinger/Rittberger/Zürn, Internationale Regime in den Ost-West-Beziehungen*, pp. 68-69.

²⁰⁹ See *Krasner, Structural Causes and Regime Consequences*, p. 186.

²¹⁰ See *Hüttig, Regime in den internationalen Beziehungen*, pp. 408-409.

²¹¹ See *Kohler-Koch, Zur Empirie und Theorie internationaler Regime*, pp. 50-52. *Rittberger/Wolf, Problemfelder internationaler Beziehungen*, stress that the billiard-ball model of international relations should be replaced by that of trans-governmental and transnational relations which accounts for sub-state and non-state actors.

²¹² As far as can be seen, there has been no attempt so far to use either of the three approaches referred to in the preceding sub-sections. However, studies trace the process of development of regimes, see *Wolf, Das antarktische Regime für die Nutzung mineralischer Rohstoffe*, and *Wolf, Internationale Regime zur Verteilung globaler Ressourcen*; or they discover the relevance of this process implicitly, see *List, Umweltschutz in zwei Meeren. Müller, Die Chance der Kooperation*, pp. 50-52, introduces the notion of 'regime evolution'.

²¹³ See *Wolf/Zürn, International Regimes and Theorien der internationalen Politik*, pp. 203; 207.

²¹⁴ See *Zürn, Gerechte internationale Regime*; and *Wolf, 'Gerechter Frieden' durch internationale Regime? Wolf, Das antarktische Regime für die Nutzung mineralischer Rohstoffe*, p. 151, analyzes the Antarctic mineral regime against the backdrop of 'equitable peace' (gerechter Friede).

²¹⁵ See *Zürn, Gerechte internationale Regime*, pp. 40-47; prime examples of the latter group are cartels and defence alliances.

²¹⁶ On the distinction of 'exclusive' and 'inclusive' groups, see *Olson, The Logic of Collective Action*.

tions²¹⁷. The project does not approach the East-West conflict as an overall ('holistic') conflict between two adverse blocks, but as a multitude of different low- and high-politics conflicts that can be, and in fact are, managed and regulated separately²¹⁸. An open conflict may be 'transformed' into a diplomatic dispute²¹⁹. As a theoretical consequence, the examination of international regimes focuses on their security component. The collective good to be supplied by regimes is, in the first place, security on the basis of agreement on rules commonly accepted by the parties involved. Substantive cooperation in the issue-area is required only as far as necessary for the achievement of this goal²²⁰. Accordingly, a given conflict may be solved, but it does not have to be. It suffices that it is regulated in a mutually acceptable manner²²¹. The project developed a typology of issue-area conflicts according to their suitability for international governance that expands the dominant situative structuralism. In particular, it suggests that the problem-structure of international conflicts has a high impact on the probability of successful regulation²²².

The reliance of a project that assumes a generally beneficial role of international regimes for the management of international conflicts²²³ on a basically structural and static approach toward norms is somewhat surprising. International regimes as one form of response to international conflicts are strictly separated from conference diplomacy as another form²²⁴, even though in the understanding of the project international regimes are usually moulded and developed at international conferences, and international conferences will frequently only be successful if they facilitate the adoption of norms of existing or newly established regimes.

The project considered behavioural compliance with normative prescriptions as a core criterion for the existence of an international regime²²⁵. This criterion is

217 For the design of the Tübingen-project, see *Efinger/Rittberger/Zürn*, Internationale Regime in den Ost-West-Beziehungen. Interim results have been published in *Rittberger*, International Regimes in East-West Relations. See in particular *Rittberger/Zürn*, Towards Regulated Anarchy in East-West Relations. For a comparison of East-West and West-West regimes in the field of the environment; see *Efinger/Zürn*, Umweltschutz und Ost-West Konflikttransformation.

218 Despite the end of the East-West conflict as an overall conflict many of these substantive issue-areas continue to exist; see *Rittberger/Zürn*, Transformation der Konflikte in den Ost-West Beziehungen.

219 See *Rittberger*, Konflikttransformation durch internationale Regime. In this approach the notion of 'conflict' extends to all kinds of diverging interests. It does not imply violence or an overall dispute between parties, see *ibid.*, p. 326.

220 On the basis of a strict structural analysis (and only on that basis), however, the margin for agreement on substance will be determined by the structural dilemma that renders individually achieved outcomes sub-optimal and has therefore to be overcome.

221 This position is sharply opposed to that of *Haggard/Simmons*, Theories of International Regimes, pp. 508-509, who consider the functional view of international regimes as too positive, precisely because they may become arenas of conflict and sources of legitimacy for powerful actors.

222 Conflicts are ordered according to their probability of regulation as follows: Conflicts about values (very low probability); about relatively assessed goods (low probability); about means (medium probability); and about absolutely assessed goods (high probability); see *Rittberger/Zürn*, Towards Regulated Anarchy in East-West Relations, p. 31.

223 See *Efinger/Rittberger/Zürn*, Internationale Regime in den Ost-West Beziehungen, pp. 72-75; the project has been developed not least from a peace research perspective; see *Rittberger*, Peace Structures through International Organizations and Regimes, and *Rittberger*, Frieden durch Assoziation und Integration?

224 See *Rittberger*, International Regimes in the CSCE Region, pp. 352-353.

225 See *Rittberger*, International Regimes in the CSCE Region, p. 353.

beyond the traditional regime definition, although not beyond US mainstream regime analysis²²⁶. While the latter approach *assumed* effects of an existing regime on political outcomes, here these effects may be subject to inquiry. The distinction of norm-guided and structurally motivated behaviour constitutes a major difficulty in both approaches²²⁷, but these difficulties are now primarily of empirical relevance (and not, as in mainstream regime theory, of a conceptual quality)²²⁸.

It has been suggested that the effectiveness of an international regime be measured by the degree to which its goals have been achieved²²⁹. Apart from the fact that this suggestion does not overcome the difficulty of empirically evaluating the impact of the regime on goal-achievement, it opens a Pandora's box of new problems. It is based on the assumption that either international regimes themselves pursue, or that participating actors *commonly* pursue by the device of regimes a clear-cut set of goals, presumably reflected in the 'principles' component of regimes²³⁰. The goals of an international regime would then be stipulated in the preamble of the multilateral treaty on which it is based²³¹. However, international regimes may be based upon implicit principles that are not expressly mentioned in any official document²³². Moreover, it is arguable whether agreement about common goals is a condition for regime establishment. In a regime established for the sole purpose of *managing* a conflict, as implied by the Tübingen project, actors may well agree to disagree about substantive goals to be achieved in the issue-area. They may, nevertheless, agree on some substantive preambular paragraphs hiding this disagreement. Success of such a regime would have to be measured in terms of the intensity of conflict and *not* in terms of substantive goal achievement. Hence, basing an evaluation of the success of an international regime on its general preambular clauses may turn out to be seriously misleading.

To summarize, the German debate extended the scope of the predominant structural approach to international regimes because it was not hampered by the purely American discussion of hegemonic stability. It did not, however, take up contributions of the 'reflective' branch of the theory of international regimes²³³.

226 See Keohane, *International Institutions: Two Approaches*, p. 387. See also above, Chapter 1, pp. 33-49.

227 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 45.

228 On the conceptual difficulty involved in mainstream regime theory, see above, Chapter 1, pp. 44-49.

229 See, for instance, Prittwitz, *Internationale Umweltregime*. See also Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 46.

230 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 37.

231 See Müller, *Regimeanalyse und Sicherheitspolitik*, p. 282.

232 Ruggie, *International Regimes, Transactions and Change*, pp. 405-410, suggests that GATT is not only based on the principle of free trade, but also on the principle of state intervention for social purposes (which is not mentioned in the formal agreement). This may be due to the fact that regimes usually do not emerge 'ex nihilo' but as an answer to a problem, i.e. in a specific context. They may therefore reflect primarily *changing* elements of the existing state of affairs and not its stable constituents.

233 See, however, comments suggesting that this *should* be done, Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, pp. 51-58; and Efinger/Rittberger/Wolf/Zürn, *Internationale Regime und internationale Politik*, p. 271.

4. The Current State of the Concept of International Regimes

The analysis of international regimes focuses on sets of norms in a wider sense. Despite frequent criticism²³⁴ the 'consensus definition', achieved in 1982 by a group of United States scholars with differing theoretical traditions, still forms the point of reference. According to this definition, international regimes are defined as sets of principles, norms, rules, and decision-making procedures²³⁵ that are widely believed to be hierarchically ordered, with principles being the most general and decision-making procedures the most specific components²³⁶.

The concept of international regimes reflected in this definition is a formal one that has been borrowed from international law²³⁷. This is not surprising considering its empirical origin. It focuses primarily on multilateral normative systems and was, in fact, empirically derived especially from the formal appearance of GATT²³⁸. Although recognizing that 'norms' ('standards of behaviour defined in terms of rights and obligations') and 'rules' ('specific prescriptions and proscriptions for actions') form the core of international regimes²³⁹, the concept modifies and widens traditional concepts of international law in several ways.

It introduces general 'principles' ('beliefs of fact, causation and rectitude') that outline the general intention of cooperating actors and the basis of their commonly accepted knowledge²⁴⁰. Hence, principles form the foundation of envisaged cooperation²⁴¹. However, principles are not an unambiguous concept²⁴². They are often contradictory and appear in dichotomies. They may be invoked simultaneously and have to be balanced against each other. From principles alone, prescriptions and proscriptions cannot be deduced. An *additional* element of choice is essential²⁴³. Principles require elaboration by the 'norms' and 'rules' of international regimes²⁴⁴. And it cannot be excluded that this elaboration will affect the content of the principles elaborated.

Besides the components addressing material prescriptions and proscriptions, international regimes are believed to comprise 'decision-making procedures' ('prevailing practices for making and implementing collective choice'). Apparently, it is

234 See Young, *Toward a New Theory of Institutions*, p. 104; Frank, *The First Oil Regime*, p. 587; Efinger/Rittberger/Zürn, *Internationale Regime in den Ost-West-Beziehungen*, p. 64.

235 See above, Chapter 1, p. 44.

236 See Krasner, *Structural Causes and Regime Consequences*, pp. 187-188; Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 35.

237 See Nye, *Nuclear Learning*, p. 374; and Haas, *Why Collaborate*, p. 396: 'the concept of an 'international regime' is almost as old as international law itself.

238 See Kratochwil/Ruggie, *International Organization: A State of the Art*, p. 769.

239 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 36.

240 No doubt, international law recognizes the legal relevance of all four components of international regimes according to the consensus-definition provided that they appear in an appropriate form.

241 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 41.

242 See discussion by Kratochwil, *Rules, Norms and Decisions*, pp. 138-152.

243 See Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, p. 40; Krasner, *Structural Causes and Regime Consequences*, p. 187.

assumed that international regimes are related to a process of continuous interaction of regime members. The procedural component thus addresses collective choice and suggests a process of development and internal change. However, the relevance of this dimension of international regimes is hardly reflected in regime analysis²⁴⁵.

There is virtually no challenge of another aspect of the concept of international regimes. These institutions are considered throughout as sets of norms that apply *exclusively to confined issue-areas*. An international regime existing in one issue-area is not assumed to be related to regimes co-existing in other issue-areas. Consequently, international relations at large are believed to be governed by a number of independent sectoral normative systems related to issue-areas. This constitutes a major, and possibly the major divergence from traditional approaches to international law that are based on the premise of one comprehensive legal system.

If the subjects of inquiry in the disciplines of international relations and international law coincide largely, the perspectives vary widely. International institutions are only effective if actors' expectations *in fact* converge around these norms and guide their behaviour. The past one and a half decades of intensive discussion on international regimes have revealed a lot of insights into the conditions under which 'rational' actors should accept normative constraints for their own benefits, that is, regardless of altruistic motives for compliance with norms. These inquiries were to some degree apt to overcome the fruitless antagonism between 'idealists' and 'realists'²⁴⁶. It was shown that even under rigid assumptions the decentralized international system provides room, although limited in extent, for cooperation in the interest of individual cooperating actors and at the same time in the interest of the community of actors concerned. Some empirically informed work was done on the prospects of regime formation under varying conditions²⁴⁷.

There is, however, not much known about the ways in which international regimes actually affect political outcomes²⁴⁸. »One of the more surprising features of the literature on regimes is the relative absence of sustained analyses of the significance of regimes ... as determinants of collective behaviour at the international level«²⁴⁹. More empirical work has been called for on the effects of international regimes at the national (unit) level²⁵⁰. This lack of knowledge about the effects of international regimes may be largely attributed to the fact that the theoretical rigidity of methodological individualism employed by mainstream regime theory does not provide much room for the existence and relevance of norms. In fact, not norms and rules

244 Kelsen, *Principles of International Law*, p. 303, also emphasizes that the creation of lower-level norms is at the same time an application more general norms.

245 Kratochwil, *Rules, Norms and Decisions*, p. 57, recognizes the different quality of material and procedural prescriptions but dismisses their combination in the regime concept.

246 See Haggard/Simmons, *Theories on International Regimes*, p. 492; and Keck, *der neue Institutionalismus*.

247 See Young, *The Politics of International Regime Formation*; see also the 'problem structural' approach of the Tübingen project, Rittberger, *International Regimes in the CSCE Region*; and Rittberger/Zürn, *Transformation der Konflikte in den Ost-West Beziehungen*.

248 See Keohane/Nye, *Power and Interdependence Revisited*, p. 742: »We know even less about the effects of international regimes on state behaviour than about regime change.«

249 Young, *Toward a New Theory of Institutions*, p. 115.

but cooperation and discord²⁵¹ are the subjects of inquiry of this branch of research. While 'cooperation' may be considered to be reflected in the material components of international regimes, the procedural component is not easily accommodated within this approach. Structure either provides opportunities for cooperation reflected in norms or it does not.

However, with the adoption of the essentially norm-based concept of international regimes, international relations theory is faced with a much broader set of research questions. Once international institutions come into being and may not any more be dismissed as entirely irrelevant, inquiry will have to include an examination of the nature of developments in and/or around such institutions. Since norms should constitute the core of international regimes, the moulding and application of international norms must be explored. Traditional mainstream regime theory cannot discharge these tasks without drawing on the insights produced by the 'reflective' approaches²⁵².

All reflective approaches accept either explicitly or implicitly that reality is complex while information is scarce and/or the information processing capacity of actors is limited. They draw attention to the relevance of gradual development, as compared to stability and sudden change. Accordingly, they do not focus on sharp junctions but on process. They suggest that international regimes governing particular issue-areas be not necessarily stable over time. On the contrary, the effects of learning and adaptation may be expected to affect the calculation of actors' preferences and the development of international regimes.

The following exploration of international governance in two environmental issue-areas sets out to reconcile this somewhat superficial concept of international regimes conceived as a particular type of institutions in the international system with the fruitful research programme of mainstream regime theory that focuses predominantly, if not entirely, on cooperation.

²⁵⁰ See Keohane/Nye, *Power and Interdependence Revisited*, pp. 743-44.

²⁵¹ See Keohane, *After Hegemony*, p. 5; and Kratochwil/Ruggie, *International Organization. A State of the Art*, p. 762.

²⁵² See Keohane, *International Institutions: Two Approaches*, pp. 392-393. See also the suggestions of Kohler-Koch, *Zur Empirie und Theorie internationaler Regime*, pp. 50-58.

Part II: The International Regime on Long-range Transboundary Air Pollution

Chapter 2

Early Initiatives for the Formation of an International Regime on Long-range Transboundary Air Pollution

The process of the formation of the international regime on long-range transboundary air pollution from its initiation to the adoption of the Geneva Convention on Long-range Transboundary Air Pollution lasted an entire decade. International deliberations proceeded within a number of different arenas. Eventually, the regime was negotiated within the UN Economic Commission for Europe. The present chapter explores the two different roots of the process of regime formation, namely the environmental claims of the Nordic countries to modify international norms governing the field of transboundary air pollution and a highly political Soviet initiative for a European conference on security and cooperation. The linkage of these different developments provided the ground for the formation of the international regime.

1. Nordic Initiatives for the Reduction of Transboundary Air Pollution

During the 1960s, Scandinavian scientists discovered that a large number of Swedish and Norwegian lakes increasingly acidified. Environmental damage resulted in a reduction or elimination of the fish population and other aquatic life. The problem of 'acid rain' had been known for more than a century¹. The adverse effects of sulphur pollution on human health had forced governments to adopt pollution abatement programmes for the relief of heavily industrialized high-pollution areas such as London and the Ruhr valley in West Germany. However, these pollution abatement programmes were only partly designed to reduce emissions. The construction of high stacks which dispersed pollutants over wider areas constituted a major instrument².

The Scandinavian damage could not be related to identifiable near-by emission sources. It was caused by air pollutants transported over long distances and appearing in the form of 'acid rain'³. They originated both from the major industrialized countries of Western Europe, e.g. the United Kingdom, West Germany and France, and from heavily polluting Eastern European countries, e.g. East Germany,

1 See *Brunnée, Acid Rain and Ozone Layer Depletion*, pp. 8-9.

2 On the policy of tall stacks, see *Prittitz, Umweltpolitik*, pp. 49-80.

3 For a survey of environmental problems related to acid rain, see *Swedish Ministry of Agriculture, Proceedings*.

Poland and the Soviet Union⁴. Acidification of remote Nordic lakes was only one type of environmental damage due to long-distance air pollution. During the 1980s, the large-scale deterioration of forests in Central Europe became another major subject of public awareness⁵. On the North American continent, a similar conflict on long-range transboundary air pollution emerged between Canada and the United States⁶. Yet, early initiatives to address the issue at the international level in a number of arenas were closely related to the diplomatic activities of Sweden and Norway, since these countries suffered in the late 1960s and 1970s the most severe environmental damage due to long distance air pollution.

The Council of Europe was the first international organization to respond to the Nordic initiative. In 1968, it adopted a Declaration of Principles on the Control of Air Pollution⁷ according to which member states should take the necessary action to prevent or abate air pollution. However, a Resolution on Air Pollution in Border Areas adopted in 1971⁸ already marked the retreat of the Council of Europe from the issue of *long-range* transmission of air pollutants which is, by definition, *not* limited to border areas.

Upon a Swedish initiative, the UN General Assembly adopted in 1968 a Resolution on the holding of a major 'Conference on the Human Environment' (UNCHE)⁹ to be convened in June 1972 in Stockholm. The conference was preceded by comprehensive preparations and a number of special fora addressing particular issues¹⁰. Sweden had prepared a case study on the acidification of the environment, i.e. on the environmental problem of particular concern to it. The conference contributed considerably to raising awareness of environmental problems, including that of acidification. It led to the foundation of the United Nations Environment Programme (UNEP) and to the adoption of a Declaration of Principles¹¹. Yet, since

4 Reliable 'country budgets' attributing immissions in European countries to emissions broken down by source countries are calculated within the international regime on long-range transboundary air pollution. See also below, Chapter 8, pp. 325-334.

5 On the technical and scientific side of the problem, see *Alcamo/Runca*, Some Technical Dimensions of Transboundary Air Pollution.

6 On the Canadian-United States dispute, see *Carroll*, Environmental Diplomacy, pp. 239-274.

7 See Resolution (68) 4, 8 March 1968; reprinted in *Rüster/Simma/Bock*, International Protection of the Environment, Vol. XV, p. 7522.

8 See Resolution (71) 5, 26 March 1971; reprinted in *Rüster/Simma/Bock*, International Protection of the Environment, Vol. XV, p. 7580, and *Levin*, Protecting the Human Environment, pp. 63-64.

9 See Resolution 2398 (XXIII); General Assembly Official Records 1968, Suppl. 18, p. 2, and *Caldwell*, International Environmental Policy, p. 43. On the preparations for the conference, see *Luchins*, The United Nations Conference on the Human Environment, pp. 50-233.

10 See *Kilian*, Umweltschutz durch internationale Organisationen, pp. 237-239.

11 Declaration of Principles, A/Conf.48/14/Rev.1, reprinted in 11 International Legal Materials 1972, pp. 1416-1421. On the Declaration, see *Sohn*, The Stockholm Declaration on the Human Environment. The most important of these principles is Principle 21 which combines the right of states to exploit their national resources without interference from abroad and the obligation not to cause damage beyond the limits of national jurisdiction. It thus combines and applies to environmental issues the traditional principles of state sovereignty and prohibition to cause damage to other states.

damage to Nordic lakes was far from being a problem of global concern, a global forum¹² did not appear to promise quick results on this latter issue.

The Nordic countries did not promote their claim within UNEP. Instead, they launched another initiative within the Organization for Economic Cooperation and Development (OECD), which comprised 24 advanced Western industrialized countries, among them the major emitters of Scandinavian immissions from the Western hemisphere¹³. In 1972, the OECD started a major research project to assess the relevance of the long distance transport of air pollutants. Eleven European countries participated in the project¹⁴ and reported monthly measurements from aircraft sampling as well as from about sixty ground-based stations to the Norwegian Institute of Air Research. Results were published in 1977 and 1979¹⁵ and identified net exporting and net importing countries. Out of the eleven countries participating in the programme, net importers turned out to be Austria, Finland, Norway, Sweden and Switzerland, while the member countries of the European Community were principal net exporters or had a balanced budget¹⁶.

The environmental work of the OECD is principally directed at providing reliable information intended to tacitly influence domestic decision processes. Only to a limited degree is it reflected in decisions and recommendations¹⁷. In this regard, the project provided an important cognitive input into the process of regime formation. In an internationally coordinated manner, it verified and largely corroborated for the first time the Scandinavian claims as to the relevance of the long distance transport of air pollutants¹⁸. However, despite this cognitive progress and contrary to the initial focus of the Nordic claims toward air pollution originating from Western European states, a *Western European* regime on transboundary air pollution did not emerge¹⁹. Instead, by the end of the 1970s, the Economic Commission for Europe

12 The conference lacked true global attendance since a number of key socialist countries refused to participate following an unsettled dispute about the participation of East Germany. East-West cooperation as a matter crucial for European environmental policy was thus excluded from the agenda, see *Kiss/Sicault*, *La Conférence des Nations Unies sur l'Environnement*, pp. 608-609.

13 The OECD is de facto a regional organization, albeit not in a geographical sense, see *Stein*, *The Potential of Regional Organizations in Managing Man's Environment*, p. 257. On OECD environmental policy, see *Bungarten*, *Umweltpolitik in Westeuropa*, pp. 250-267; and *Kilian*, *Umweltschutz in internationalen Organisationen*, pp. 114-121.

14 The OECD Programme on Long Range Transport of Air Pollutants (1979). These countries were Austria, Belgium, Denmark, Finland, France, West Germany, Netherlands, Norway, Sweden, Switzerland, and the United Kingdom, see *ibid.*, pp. 1-2.

15 See the OECD Programme on Long Range Transport of Air Pollutants (1977). An update is contained in the OECD Programme on Long Range Transport of Air Pollutants. Measurements and Findings (1979).

16 See table in OECD Programme on Long Range Transport of Air Pollutants (1977), pp. 9-13.

17 See *Bungarten*, *Umweltpolitik in Westeuropa*, pp. 265-267.

18 On the relevance of the Programme and other action adopted by the OECD, see *Weststone/Rosencranz*, *Transboundary Air Pollution*, pp. 93-100. The organization elaborated a number of other important studies and reports on issues related to transboundary air pollution, see *Weststone/Rosencranz*, *Acid Rain in Europe and North America*, pp. 137-140.

19 The enthusiasm of the states participating in the 'Transfrontier Pollution Group', in particular of some larger member states, decreased considerably towards the end of the 1970s, see *Lang*, *Die Verrechtlichung des internationalen Umweltschutzes*, p. 297; and *Weststone/Rosencranz*, *Transboundary Air Pollution*, p. 99.

(ECE) had emerged as the major forum for the subject of long-range transboundary air pollution.

2. Initiatives for a European Security Conference

A second line of international activities seemed at first to be only very slightly related to the formation of the international regime on transboundary air pollution. Since 1965, the Soviet Union and its allies had promoted the project of a European security conference²⁰. The initiative, which eventually led to the Conference on Security and Cooperation in Europe, was not entirely limited to military or security matters in a narrow sense but increasingly included proposals concerning the intensification of inter-systemic economic, scientific and environmental relations. While it is outside the scope of this study to discuss the diplomatic process in all its aspects, the development of environmental issues within the broad agenda, as well as the conference process in which this development was embedded, shall be outlined in some detail.

2.1. Initial Proposals

Since 1966, an indirect dialogue²¹ through a series of communiques and statements had developed between the two adversary military organizations, i.e. NATO and the Warsaw Treaty Organization (WTO), in respect of the initiative for an all-European conference.

In 1966, member states of the WTO elaborated the idea of a European security conference²² which should adopt a declaration of principles of European security contributing to the establishment of a European system of collective security. Such principles should include obligations concerning the peaceful settlement of disputes and the comprehensive development of economic, scientific and cultural relations²³. The initiative for a security conference was a purely political one, directed at

20 The prime motive of the Soviet Union was apparently the recognition of the status quo of European states and borders, in particular the Western recognition of territorial revisions after World War II including the existence of East Germany. It may also have been an attempt to terminate military presence of the United States in Europe; see *Shulman*, Sowjetische Vorschläge für eine europäische Sicherheitskonferenz, pp. 2-3.

21 See *Frank*, Zielsetzungen der Bundesrepublik Deutschland, p. 41.

22 Bucharest Declaration of July 1966, German translation reprinted in *Jacobsen/Mallmann/Meier*, Sicherheit und Zusammenarbeit in Europa, Vol. I, pp. 81-87. For a discussion of the Declaration see *Shulman*, Sowjetische Vorschläge für eine europäische Sicherheitskonferenz, p. 4. The Declaration calls for a dissolution of the two adverse treaty organizations and proposes as an interim step the withdrawal of troops behind national frontiers, thus calling for a termination of the American military presence in Europe. It also proposes other measures regarding force reductions and disarmament, draws attention to the danger of West German efforts to acquire control of nuclear arms as well as to the necessity to recognize existing frontiers in Europe and to elaborate a German peace treaty on the basis of equal participation of the two German states.

23 See Bucharest Declaration, para. 7.

widening the margin of choice between political options²⁴. However, elsewhere, i.e. not in connection with the conference proposal, the Bucharest Declaration contains some unspecific remarks concerning the promotion of mutually advantageous cooperation between states of different social systems in the areas of economy, commerce, science, technology, culture, art, and any other appropriate area²⁵.

The Eastern proposal for a European security conference was not refused by any country concerned, nor did it meet with sufficient support²⁶. In 1969, the member states of the Warsaw Treaty Organization repeated their proposal and suggested that »a lasting system of European security would allow large projects to be realized through combined efforts in the areas of energy, transport, water management, *air* and health services with an immediate impact on the prosperity of the entire continent«²⁷. For the first time, '*air*' entered the discussion of a possible CSCE agenda. '*Air*' can only refer to the joint management of air quality or, negatively, to joint responses to the problem of air pollution. The proposal to include '*air*' in the agenda was not detailed and well elaborated. Moreover, it was combined with the Eastern concept of large European projects that should become one of the centres of discussion for the following decade. Yet, only shortly before, the Nordic countries had learned about the hazardous effects of sulphur dioxide immissions on their environment. In the year of the Budapest Declaration (1969), Sweden had officially launched the initiative to hold a United Nations Conference on the Human Environment²⁸. It may, therefore, be assumed that the proposal to set the issue of *air* on the agenda of a future security conference was closely related to the Swedish diplomatic initiatives in the area of the environment. The socialist countries depended, to a certain degree, on cooperation with neutral states²⁹.

The Eastern concept of the relationship between political and military security on the one hand and economic cooperation on the other hand is important not only for the understanding of the initiative for a European security conference but also for the understanding of later Soviet initiatives in connexion with the formation of the international regime on long-range transboundary air pollution. Western observers and decision-makers have suspected that the socialist countries attempted to achieve a twin goal, namely the reinforcement of European security including a recognition of the existing territorial status quo and a large-scale transfer of Western technology

24 See *Nehrlich*, *Der Wandel des europäischen Systems*, p. 23, who considered the European constellation of powers of the 1960s as a 'stalemate system' (Patt-System) in which all participants had hardly any margin of choice between different policy options.

25 See Bucharest Declaration, para. 1.

26 A stumbling block was the slow progress in the German question, see *Bingemer*, *Die KSZE aus sowjetischer Sicht*, pp. 66-68.

27 Budapest Declaration, March 1969, German translation reprinted in *Jacobsen/Mallmann/Meier*, *Sicherheit und Zusammenarbeit in Europa*, Vol. 1, pp. 120-122 (translation provided, emphasis added).

28 See above, Chapter 2, pp. 64-65.

29 They preferred not to launch a specific invitation to conference preparations themselves, but had not succeeded in convincing Austria to launch the initiative, see *Shulman*, *Sowjetische Vorschläge für eine europäische Sicherheitskonferenz*, p. 12. Eventually a Nordic country, namely Finland, responded positively, see below. This is, of course, not to say that the Nordic interest in the conference had been confined to or concentrated on environmental issues.

into these countries. This Western point of view led to serious difficulties in understanding Soviet political behaviour³⁰. It explains, however, the Western resistance against the joint undertaking of large cooperative projects.

The proposed integration of European security and economic relations is based on the general idea that an increasing amount of mutually beneficial economic interdependence and cooperation reduces the risk of a transformation of political tension into violent disputes³¹. Common investment in mutually beneficial projects links economies, secures a permanently institutionalized cooperation in a multitude of specific areas and thus raises the price of such disputes³². Consequently, economic cooperation between the Eastern and Western hemispheres was not desirable in spite of but rather *because* of their different social systems³³. The economic aspect of this cooperation was secondary to its political and security aspects which aimed at a gradual transformation of international political relations into mutually beneficial social relations³⁴.

2.2. Finnish Diplomatic Activities

Less than two months after the WTO meeting in Budapest and in accordance with the Soviet proposal, Finland communicated a memorandum »to all European states, the governments of East and West Germany and the governments of the United States of America and Canada«³⁵ offering to host a security conference as well as preparatory meetings. With this step, the initiative left the stage of an indirect dialogue between the two blocks. European governments were now faced with a specific proposal and were forced to react to it.

In their response, the West generally emphasized the importance of the participation of the USA and the necessity to carefully prepare the conference³⁶. A conference of the foreign ministers of the WTO states later in 1969 welcomed the Finnish initiative, urged early bilateral or multilateral preparations for the conference and proposed that it be held in the first half of 1970³⁷. The socialist countries suggested two topics for its agenda, namely (a) European security and non-aggression and (b) the

30 Western expectations in this regard turned out to be 'unrealistic'; see *Schwerin*, Die Solidarität der EG-Staaten, p. 487. The author was a representative of the European Community at the CSCE.

31 See *Bingemer*, Die KSZE aus sowjetischer Sicht, pp. 33-34.

32 For this line of argument, see *Schitkov*, Einleitung, p. 11: »it is of utmost importance ... to form the material web of peaceful co-operation in Europe, a web that reinforces relations between European states and that promotes their interest in the preservation of peace for many years« (translation provided).

33 See *Bingemer*, Die KSZE aus sowjetischer Sicht, p. 38.

34 See *Bingemer*, Die KSZE aus sowjetischer Sicht, p. 36.

35 Finnish Memorandum, May 1969, German translation reprinted in *Jacobsen/Mallmann/Meier*, Sicherheit und Zusammenarbeit in Europa, Vol. I, pp. 128-129 (translation provided).

36 See, for example, the West German note, reprinted in *Jacobsen/Mallmann/Meier*, Sicherheit und Zusammenarbeit in Europa, Vol. I, p. 152, and the press release on the Swedish note, German translation reprinted in *Jacobsen/Mallmann/Meier*, Sicherheit und Zusammenarbeit in Europa, Vol. I, pp. 148-149.

37 See Prague Declaration, October 1969, German translation reprinted in *Jacobsen/Mallmann/Meier*, Sicherheit und Zusammenarbeit in Europa, Vol. I, pp. 155-159. For an analysis of the Declaration, see *Wagner*, Die sozialistischen Staaten, pp. 12-19.

expansion of relations in the fields of commerce, economy, science and technology. For each topic they proposed the adoption of a fairly unspecific and short document not addressing specific projects. They did not refer to European large scale cooperative projects, nor to environmental cooperation. Apparently, the socialist countries considered the holding of a European security conference as a goal in itself. Their interest in a *procedural goal*, as distinguished from the substance agreed upon during such a conference, had an important impact on the development of the CSCE and on the formation of the international regime on long-range transboundary air pollution.

While the NATO Council of Ministers had reacted harshly to the WTO Declaration of Budapest³⁸, it now submitted its own proposals for the agenda of the security conference³⁹. NATO countries made their willingness to participate in the conference conditional upon progress in the field of the mutual reduction of forces and on the questions concerning the status of Germany and Berlin. In addition to economic cooperation, they suggested the topics of greater freedom for people and the exchange of ideas and information as well as issues related to the human environment. While the socialist countries had dropped the issue of environmental cooperation, now the Western block, which includes Norway as one of the Nordic countries heavily affected by transboundary air pollution, considered it as a suitable topic for East-West cooperation.

Hence, by the beginning of 1970 both military blocks discussed concrete proposals for the agenda within and across block-boundaries⁴⁰. In June 1970, the WTO countries accepted⁴¹ the NATO proposal to include environmental questions and 'cultural' relations on the agenda, thus responding at least partially to the suggested topic of human contacts. In addition, they proposed as a new topic the establishment of a permanent organ on European security. In summer 1970, agreement was achieved that the security conference would be open to all European countries, including the two German states⁴², and to the two North American countries⁴³. The stage of unorganized, bilateral talks came to an end and Finland invited the coun-

38 See Final Communiqué, April 1969, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 125-127.

39 See Declaration, December 1969, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 167-170.

40 The Finnish government strengthened this network of contacts and deliberations by the appointment of a special ambassador for conference matters, see Declaration, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 201-202.

41 See Memorandum of the conference of foreign ministers of member countries of the Warsaw Treaty, Budapest, June 1970, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 225-227.

42 Western countries insisted that the participation of East Germany did not imply its recognition, see the Belgian Minister of Foreign Affairs, *Harmel, Auf der Suche nach neuen Formen*, p. 37.

43 See WTO Memorandum, June 1970; see also Austrian Memorandum communicated to all European states, the USA and Canada, July 1970, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 234-236.

tries concerned to enter into informal multilateral consultations that would not prejudice a later decision to participate in the conference⁴⁴.

2.3. Helsinki Consultations

It took still another two years, until the Helsinki Consultations began⁴⁵. As indicated by the rules of procedure of the Consultations, the participants agreed on a rather formal commitment to informality⁴⁶. All states should participate on an equal basis, i.e. consultations would be held outside of existing military blocks or groups of states. Sessions would be private and not recorded. Decisions would be taken by consensus⁴⁷. The task of the Helsinki Consultations was the preparation of the mandate for the envisaged Conference on Security and Cooperation in Europe.

The Soviet Union proposed three general topics for the agenda, namely (a) the guarantee of security in Europe, (b) cooperation in all sectors, and (c) a special organ for all matters dealing with security and cooperation in Europe⁴⁸. The Western countries proposed the three topics of (a) political security, (b) commercial, economic and technical cooperation, and (c) increased human contacts and cultural relations⁴⁹. It was agreed to collect specific proposals in four 'Baskets', namely Basket I for political, Basket II for economic, Basket III for human affairs, and Basket IV for institutional issues and questions of follow-up⁵⁰.

The Western countries considered the issues of all three substantive Baskets closely linked to each other and carefully observed that progress in all areas proceeded at an equal pace. They refused the Soviet suggestion to discuss the separate issues in parallel sessions fearing that simultaneous deliberations were intended at fragmenting the debate *»and at avoiding that global approach to which the West attached great importance«*⁵¹.

It is worth noting that Basket I consisted of two separate projects. One of the primary objectives of the Eastern initiative for an all-European security conference was the elaboration of a document on general principles. Although the content of certain principles was hotly debated, the project was not contested as such. While the two blocks had agreed to conduct parallel negotiations on arms reductions out-

44 See Finnish Aide-mémoire, November 1970, reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 244-245.

45 November 22, 1972 to June 8, 1973.

46 See Rules of Procedure, German translation reprinted in *Jacobsen/Mallmann/Meier, Sicherheit und Zusammenarbeit in Europa*, Vol. I, pp. 442-443. States holding representations in the Finnish capital were bound to send the heads of these missions, only other countries were free to choose their delegations.

47 Consensus being defined as *»the absence of any objection expressed by a Representative and submitted by him as constituting an obstacle to the taking of a decision in question«*; Rules of Procedure, English text quoted from *Sizoo/Jurjens, CSCE Decision-making*, p. 57.

48 See *Ferraris et al., Report on a Negotiation*, p. 13. The account of the Helsinki Consultations as well as of stage two of the CSCE is, due to the fact that records do not exist, largely based on this rather detailed report of several diplomatic eye-witnesses from the Italian delegation.

49 See *Ferraris et al., Report on a Negotiation*, p. 14.

50 See *Ferraris et al., Report on a Negotiation*, pp. 15-17.

side the CSCE, neutral countries emphasized the inseparable link between military and political security. They managed to establish a second part of Basket I that dealt with confidence building measures in the military sector short of disarmament negotiations⁵². Basket III which focused on expanded human contacts and the free dissemination of information was an almost exclusively Western project, supported by neutral countries. A certain balance existed between Baskets I and III.

In contrast, Basket II had to be balanced in itself⁵³. The socialist countries suggested that a 'European programme' of cooperation be elaborated and that principles for the development of economic cooperation in Europe be defined⁵⁴. The West, in turn, refused to accept the elaboration of general principles and generally focused on measures to facilitate commercial exchange through an increased flow of information, mechanisms to settle commercial disputes etc. It also rejected large-scale European projects, not least »because of their anti-Common Market tendencies«⁵⁵. An ambitious programme of European economic integration involving large-scale projects was conceived as threatening economic integration at the EEC level. All-European integration should follow Community integration rather than precede it.

Contrary to these principled disputes, the texts submitted by Czechoslovakia on Science and Technology and by East Germany on the Environment were uncontroversial⁵⁶. No dispute whatsoever arose about the mandate of the CSCE in regard to the environment, which is reflected in the Final Recommendations⁵⁷ submitted to the first stage of the CSCE. The mandate provided for »discussing questions of environmental protection and improvement and in particular for determining the fields that are important for the participating States and can best lend themselves to the development of cooperation between them, such as: protection of the seas surrounding Europe, of the waters and of the atmosphere ...«⁵⁸. For these areas the most appropriate forms and methods of cooperation should be elaborated.

Hence, the CSCE would *not* be mandated to identify and subsequently elaborate the most urgent and pressing subjects in the field of environmental protection, as would have been reasonable from an environmental perspective. The primary criterion for the identification of areas was their appropriateness for the development of *cooper-*

51 *Ferraris et al.*, Report on a Negotiation, p. 21 (emphasis added).

52 See *Neuhöf*, Die neutralen Staaten Europas, p. 449.

53 See the not entirely convincing attempt by *Müller*, Sicherheitspolitische Aspekte der Ost-West Wirtschaftsbeziehungen, p. 277, to model the Baskets I and III as 'zero-sum' games, in which one partner could win only as much as the other loses, while Basket II could be modelled as a non-zero sum game characterized by the opportunity to achieve mutual gains.

54 They submitted a draft preamble to the mandate of Basket II which included the principles of non-discrimination and most-favoured-nations; see *Ferraris et al.*, Report on a Negotiation, p. 24.

55 *Ferraris et al.*, Report on a Negotiation, p. 25. Due to the low interest on the part of the United States, the European Community acquired the leading role within the Western camp and became the prime interlocutor of the Soviet Union, which led the Eastern camp. On the coordination of the foreign policies of the member states of the European Community, see generally *Höhn*, Außenpolitik der EG-Staaten.

56 See *Ferraris et al.*, Report on a Negotiation, pp. 25, 36.

57 'Final Recommendations of the Helsinki Consultations' reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. I, pp. 5-29.

ation between the participating states⁵⁹. Accordingly, the section on environmental cooperation was, like the entire Basket II, not directed at economic (or environmental) cooperation as an end in itself. It was intended to facilitate the political process of détente *by means of* developing economic, including environmental, cooperation⁶⁰.

The Final Recommendations provided for a three-tier conference organization. The first stage of the CSCE consisted of a meeting at the level of foreign ministers which would adopt the Recommendations including the mandate of the Conference and its rules of procedure. In the second stage a number of specialized committees and subcommittees would elaborate specific subjects and draft one or more final texts. These texts would be adopted in a third stage to be convened at a level and at a time to be decided depending on the progress achieved⁶¹. A Coordinating Committee would coordinate and supervise the work of the second stage, and decide upon follow-up measures including those in the field of organization⁶². The states participating in the Helsinki Consultations could thus not agree on an institutionalization of the conference process and on follow-up activities. While a part of the initial Eastern proposals referred to the establishment of a permanent organ, Western countries refused any institutionalization.

2.4. Conference on Security and Cooperation in Europe, Stage I

In July 1973⁶³, the foreign ministers from 33 European states⁶⁴ as well as from Canada and the USA met in Helsinki to launch, after the long period of Cold War, the Conference on Security and Cooperation in Europe. Stage I of the CSCE did not adopt important decisions as the basic document had already been agreed upon during the Helsinki Consultations. The relevance of this stage is closely related to the very fact of its occurrence. It symbolized the successful conclusion of a period of lengthy negotiations concerning security and cooperation in Europe. It also symbolized the start of another round of negotiations. Once the decision about its holding had been made, stage I of the CSCE had already discharged most of its functions.

Although most speeches were of a general nature and did not give particular indications of future developments, some remarks seem warranted. The socialist countries emphasized the aspect of political security and the relevance of a declaration of common principles (Basket I), in particular the principle of inviolability of fron-

58 See Final Recommendations, Basket II, Section 4, 'Environment' (emphasis added).

59 For a somewhat different perspective, see *Füllenbach*, *Umweltschutz zwischen Ost und West*, pp. 169-176.

60 See *Neuhold*, *Die neutralen Staaten Europas*, p. 449.

61 See Final Recommendations Part I, 'Organization of the Conference on Security and Cooperation in Europe'.

62 See Final Recommendations, Basket IV 'Follow-up to the Conference'.

63 July 3 - 7, 1973.

64 Andorra and Monaco had initially not been invited, although Monaco later on signed the Final Act, and Albania did not react to the Finnish invitation, see *Sizoo/Jurrijens*, *CSCE Decision-making*, p. 77.

tiers⁶⁵. In contrast, Western states emphasized the equal importance of all ten principles⁶⁶ and the necessity to support détente by progress in the sector of human contacts (Basket III)⁶⁷. Neutral countries drew particular attention to the close relationship between military and political détente and the necessity to develop the former⁶⁸.

There were comparatively few comments on the issues of Basket II. This may be due to the fact that Baskets I and III formed the most controversial sections of the Recommendations and were expected to create major disputes in the second stage of the Conference. Part of this negligence is, however, also due to the Western attitude to economic cooperation which was frequently considered to be separate from the political sphere⁶⁹. On the other hand, the socialist and neutral countries stressed the political relevance of economic cooperation. Such cooperation should be considered »first of all a political action which can serve the aim of security, the relaxation of tensions and peace on our continent. Seen from this point of view, co-operation in the fields of economics, science and technology and of the environment ... is a political means of achieving the political aim of peaceful development on our continent«⁷⁰. If successful, economic cooperation could *also* produce economic gains in specific fields. The socialist countries underscored the particular relevance of large projects of mutual interest for the preservation of peace⁷¹.

A year after the United Nations Conference on the Human Environment, several speakers mentioned the importance of environmental cooperation. Norway introduced a link between the notions of 'security' and 'environmental protection' with far-reaching consequences. »Together with the efforts towards peace, security and co-operation, the urge to preserve our environment has gained increased momentum. *The concept of security should therefore be given a new dimension* - that is, security against the deterioration of our common environment«⁷². Norway therefore welcomed the instructions of the Final Recommendations related to environmental cooperation »as an expression of political will on the part of all participating States to pursue such cooperation on a concrete and binding basis«⁷³. It announced its intention to submit specific proposals.

65 See, for example, Soviet Union, CSCE/I/PV.2, pp. 54-56; Poland, CSCE/I/PV. 2, pp. 72-73. Documents cited concerning stage I of the Conference are reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics and the Helsinki Accord, Vol. I.

66 All ten principles are mentioned in the Helsinki Recommendations, Basket I, Section 1. They include a principle on »respect for human rights and fundamental freedoms, including the freedom of thought, conscience, religion or belief« (Principle 7) which implicitly refers to Basket III.

67 See Great Britain, CSCE/I/PV. 5, p. 200.

68 See Sweden, CSCE/I/PV. 4, p. 142; Yugoslavia, CSCE/I/PV. 5, p. 212; Austria, CSCE/I/PV. 5, p. 219.

69 In this sense, the British foreign minister proposed to remit most issues of Basket II to appropriate fora since the CSCE was not a trade conference; see CSCE/I/PV.5, p. 200.

70 Austria, CSCE/I/PV. 5, p. 220; see also Greece, CSCE/I/PV. 7, p. 325.

71 See statement of Hungary: »Any possible oscillation of international tension may put commercial relations to a severe test, and new tensions of the cold war can sweep away trade relations, but long-term co-operation in industrial production between countries having different systems is capable of resisting any possible increase in tensions and even reduces its impact«, CSCE/I/PV. 6, p. 265.

72 CSCE/I/PV. 3, p. 116 (emphasis added).

73 CSCE/I/PV. 3, p. 117.

Hence, a political commitment to cooperate *inter alia* in the field of the environment as *one* (comparatively minor) part of a comprehensive commitment to political détente and development of peaceful relations was interpreted as an expression of the political will to enter into binding obligations for the sake of environmental protection. Norway did not choose the approach of remitting economic issues to proper international fora outside the CSCE, nor that of considering Basket II cooperation primarily as a means to achieve and stabilize political détente. It did not even attempt to establish cooperation in this sector as an end in itself that could be pursued side by side with the political process. Instead, it intended to transmit the momentum generated by the Conference at the political level into progress at the technical level of environmental cooperation. This approach precisely reflected the Nordic strategy adopted both during stage II of the Conference and a number of years later during the process of the formation of the international regime on trans-boundary air pollution. While the general approach of the Conference was to use economic and environmental cooperation as an instrument of foreign policy, Norway used foreign policy as an instrument for the promotion of environmental cooperation⁷⁴.

2.5. Conference on Security and Cooperation in Europe, Stage II

For almost two years⁷⁵, delegations met in Geneva to negotiate texts of the various parts of the mandate provided for in the Final Recommendations. Work concerning each of the three substantive Baskets proceeded within a separate Committee and was, in turn, coordinated in the Coordinating Committee as the supreme decision body of stage II. The three Committees on substantive questions established, according to the sub-sections of the Final Recommendations, a number of sub-committees and special groups in which the actual negotiations took place. Accordingly, Committee I established sub-committees on the declaration of principles and on military problems as well as a special group on the implementation of principles, which addressed in particular the issue of a dispute settlement mechanism and specific proposals concerning the use of force and the prohibition of occupation⁷⁶. Committee III established subcommittees in the four fields of human contacts, information, culture, and education. Deliberations in these areas touched very general questions of utmost importance for the countries participating. Many of them could only be solved during the last weeks of the Conference within comprehensive 'package deals'. The final settlement was not least facilitated by considerable time constraints on the part of the socialist countries which urged an early decision about a high-level meeting for the adoption of a final text⁷⁷.

⁷⁴ On the distinction between means and ends, see *Lung*, *Internationaler Umweltschutz*, pp. 173-176.

⁷⁵ September 1973 to July 1975.

⁷⁶ See *Ferraris et al.*, *Report on a Negotiation*, pp. 165-166.

⁷⁷ On the 'time factor', see *Ferraris et al.*, *Report on a Negotiation*, pp. 402-427.

Committee II established five sub-committees on commercial exchange, industrial cooperation, science and technology, environment, and other economic and technical sectors. It was concerned with disputes of a general nature about the special treatment of (European) developing countries and the most favoured nations principle, which were settled without an immediate link to issues pending in other Baskets. Generally, details of Basket II were considerably less controversial than those of Baskets I and III. The negotiations were not least facilitated by the many years of preparations within the UN Economic Commission for Europe (ECE)⁷⁸ with a membership almost identical to that of the CSCE.

2.5.1. *Environmental Aspects*

Within this comprehensive and highly political framework, environmental cooperation was of only limited significance. However, these general political developments within the CSCE were of utmost importance for European environmental cooperation. The Conference was the first *political* East-West forum dealing with environmental questions⁷⁹.

A separate sub-committee to Committee II negotiated the environmental part of the comprehensive mandate of the Conference⁸⁰. During an uncontroversial general phase of discussions⁸¹ eight initial working papers were presented, most of which were in line with the very general mandate of the sub-committee to *identify* areas and, subsequently, forms of environmental cooperation rather than to draft commitments to specific programmes or obligations. Suggestions on forms of cooperation focused in particular on the exchange of information as well as on contacts and the exchange of scientists and specialists, on the organization of conferences and symposia, on strengthening existing means of cooperation and on establishing possible joint monitoring programmes⁸². Not a single proposal was as specific as suggesting, for example, the development of internationally agreed environmental standards.

⁷⁸ See *Bailey/Bailey-Wiebecke*, All-European Cooperation, p. 395.

⁷⁹ In 1967, the ECE had decided to convene a political meeting on the environment, see *Bailey/Bailey-Wiebecke*, All-European Cooperation, p. 391. However, due to disagreement about the participation of an East German delegation, see *Siotis*, Die ECE und Gesamteuropa, pp. 65-70, the status of the meeting was eventually reduced to that of a symposium; on the circumstances, see *von Groll/Wiskemann*, Umweltpolitik in den Ost-West-Beziehungen, pp. 273-274; and *Bishop/Mundro*, The UN Regional Economic Commissions and Environmental Problems, pp. 197-198. The United Nations Conference on the Human Environment (Stockholm 1972) was not attended by several socialist countries.

⁸⁰ See Final Recommendations, paras. 39-40.

⁸¹ See *Ferraris et al.*, Report on a Negotiation, p. 282. «This more or less ideal atmosphere was obviously a result of the nature of the material being dealt with, lacking as it was in any major controversial obstacles, technical and yet of undoubted general interest.»

⁸² See proposal of the Eastern group, CSCE/II/G/1; and Community proposal, introduced by West Germany, Belgium, Denmark and France, CSCE/II/G/6. Documents cited concerning the sub-committee on Environment are reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. IV.

Contrary to the spirit of all other documents submitted in this initial phase, Norway introduced a 'Proposal for an Expansion of a Project on Long Range Transport of Air Pollutants'⁸³. This document referred to the Norwegian concept of security that included security against degradation of the environment. While it accepted the general approach to develop comprehensive long-term co-operation in the field of the environment, it argued that *»concrete immediate steps should also be initiated«*⁸⁴. One such concrete step could be the expansion of the OECD project, which assessed the relevance of the long distance transport of air pollutants, to all ECE member states on the basis of cooperation between the two international organizations⁸⁵. Since the OECD project was coordinated in the Norwegian Institute of Air Research, Norway was prepared to provide technical information and even considered inviting experts from interested countries to a meeting to be held in 1974.

This proposal was remarkably distinct from all other documents submitted. In an area of particular interest to it, Norway promoted the adoption of a specific commitment that did not require further protracted negotiations at the technical level like most other proposals. The Norwegian project would not meet resistance from Western countries, many of which had already committed themselves to a similar programme within the OECD. It was also not generally opposed to the interests of the Eastern group, which had suggested that the *»joint preparation and implementation of programmes and projects in the field of basic and applied sciences«*⁸⁶ be promoted in respect of the environment. Hence, specific interests of both prime interlocutors, namely the Soviet Union leading the Eastern group and the European Community, were accounted for.

Early in 1974 drafting began on the basis of a revised Community document⁸⁷. When the deliberations reached the relevant paragraph on air pollution, Norway introduced a new version of its project of an all-European monitoring programme in the form of a draft resolution. It comprised a short single-paragraph preamble and operative paragraphs committing states to promote *»an extensive programme for the monitoring and evaluation of long range transport of air pollutants in Europe«*⁸⁸. The document referred only implicitly to the OECD and its programme and thus eliminated a reference to an organization that was not directly involved in East-West cooperation. It reiterated the Norwegian preparedness to host a meeting of experts to elaborate technical details. This specific project was favourably received *»even by the countries of the East«*⁸⁹.

The Norwegian solution of incorporating the single specific proposal into the general context of the Conference implied the preparation of a separate document on the monitoring programme. Accordingly, it involved delicate political questions

83 CSCE/II/G/5.

84 CSCE/II/G/5, para. II (emphasis added).

85 For the OECD project, see above, Chapter 2, p. 65.

86 See the joint submission by East Germany and Hungary to stage I of CSCE (CSCE/I/7), that is reflected in document CSCE/II/G/1 as far as the environmental section is concerned.

87 See Ferraris et al., Report on a Negotiation, p. 283.

88 Norwegian submission, CSCE/II/G/10.

on the status and number of texts eventually to be adopted⁹⁰. While a separate resolution allowed for stronger language («States agreed to promote...») as compared to the rest of the document on the environment, its incorporation into the text would be more in line with the general approach of the different negotiating sub-committees. The situation became even more complicated when the USA introduced a second specific proposal concerning a 'Study on Procedures and Experiences in Predicting of Environmental Consequences'⁹¹ to be carried out in the framework of the ECE that was also drafted in language appropriate for a resolution. Upon informal consultations, Norway and the United States abandoned their formal approach and a few weeks later re-phrased their projects in a joint proposal⁹² as a recommendation on specific measures to be incorporated into the text⁹³.

During this phase of informal negotiations, the proposal underwent two important changes. First of all, the commitment to establish the monitoring programme was confined to a single pollutant, although the most important one⁹⁴. While the original Norwegian suggestion had been directed at a variety of air pollutants⁹⁵, the compromise proposal which became, almost without modification, part of the Final Act of the CSCE was directed at monitoring «air pollutants, starting with sulphur dioxide and with a possible extension to other pollutants»⁹⁶. The impact of this change on the process of regime-building, insignificant as it might appear, should not be underestimated. The decision taken in spring 1974 during the negotiations on a paragraph of the Final Act of the CSCE regarding a European monitoring programme was kept almost unchanged until 1983. For a decade sulphur dioxide would be the prime pollutant to be dealt with in the emerging regime on air pollution.

⁸⁹ *Ferraris et al.*, Report on a Negotiation, p. 284; the Italian eye-witness did not conceal his surprise.

⁹⁰ While Western states preferred a single comprehensive document, the Soviet Union attempted to underscore the relevance of the general principles of Basket I by their adoption in a separate document, see *Ferraris et al.*, Report on a Negotiation, pp. 395-397. Paragraphs on which a sub-committee had agreed were provisionally registered at the Co-ordinating Committee accompanied by the following or a similar clause: «Text provisionally registered subject to a subsequent decision as to its place in the final document(s) and to an agreement on the text as a whole»; CSCE/II/G/128. The issue of the number of texts was settled only during the last weeks of stage II.

⁹¹ CSCE/II/G/16.

⁹² See CSCE/II/G/124.

⁹³ Some authors report that the section on the environment of the Final Act of the CSCE had initially been negotiated as a (formally binding) convention which only later had been adapted to the less strict language of the document, see *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 21, and *von Groll/Wiskemann*, Umweltpolitik in den Ost-West Beziehungen, p. 275. There is no evidence that this had in fact been so. Neither the comprehensive report of Italian eye-witnesses, *Ferraris et al.*, Report on a Negotiation, nor the almost complete reproduction of documents by *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. IV, contain any indication in this regard. Re-phrasing has, however, been undertaken in respect of resolutions initially submitted by Norway and the United States. However, the re-phrasing did not take place in the final stages of the Conference in connexion with the decision on the number of documents to be adopted, but already in May 1974, i.e. more than a year before this decision. Document CSCE/II/G/124 containing the re-phrased texts is dated 24th May 1974.

⁹⁴ In this regard, the approach of the OECD project provided a precedent.

⁹⁵ It mentioned «e.g. sulphur dioxide, sulphur in particles, acid precipitation, nitrogen oxide, nitrates in precipitation, special components in aerosols»; CSCE/II/G/10.

⁹⁶ CSCE/II/G/124, para. 1.

Second, the participating states agreed, according to the text provisionally registered in spring 1974, that it was »desirable to hold in the near future a technical meeting with experts from interested countries and international bodies concerned in order to prepare the technical modalities of such a programme«⁹⁷. Furthermore, within the official text they took note of the Norwegian invitation. This explicit reference to a technical meeting outside the framework of the CSCE is unique within the later Final Act and emphasizes the degree of consensus achieved in this specific issue-area. Norway had been able to reach agreement on a first step of implementation of the monitoring programme in spring 1974, more than a year prior to the successful conclusion of the CSCE. While the chapter on the environment had been the least controversial section of the Final Act⁹⁸, the paragraph on the monitoring programme was the most rapid to be implemented. After the technical meeting had taken place in December 1974, the sub-committee updated the respective sub-clause. Hence, in the Final Act states were expressly recommended to take into account, in developing the monitoring programme, »basic elements of a co-operation programme which were identified by the Experts who met in Oslo in December 1974 at the invitation of the Norwegian Institute of Air Research«⁹⁹.

Besides the specific monitoring programme, the text on the environment addresses 'air pollution' as one area among others for future cooperation. It identifies a number of specific aims and particular forms of environmental cooperation that are also applicable to air pollution. Moreover, it mentions several specific issues to be addressed within the field of air pollution¹⁰⁰, but it does not relate these categories to particular projects.

To summarize, while air pollution is identified as a field of environmental cooperation, the Final Act introduces through its specific recommendation on a monitoring programme what later became the nucleus of the international regime on long-range transboundary air pollution. Later dynamics within the ECE were not least generated by the unusual swiftness in the implementation of the monitoring programme. Norway had successfully attempted to transfer the political dynamics of the CSCE process into the field of air pollution.

97 CSCE/II/G/124, para. 1.

98 The sub-committee on the environment concluded its negotiations as early as June 1974 as the first negotiating committee of the CSCE. It met, however, occasionally to consider adaptations of the text in the light of developments in connexion with other issues of the Conference, see *Ferraris et al.*, Report on a Negotiation, p. 286. *Schwerin*, Die Solidarität der EG-Staaten, p. 491, considers the document on the environment to be among those richest in substance.

99 CSCE/II/G/129, which later became part of the Final Act.

100 Namely »desulphurization of fossil fuels and exhaust gases; pollution control of heavy metals, particles, aerosols, nitrogen oxides, in particular those emitted by transport, power stations, and other industrial plants; systems and methods of observation and control of air pollution and its effects, including long-range transport of air pollutants«, Final Act of the Conference on Security and Cooperation in Europe, Section on the Environment, reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. VI.

2.5.2. *The Role of the ECE for the Implementation of Basket II*

As in all processes of transition, the follow-up was closely related to the decision of whether a static or a dynamic approach was more appropriate. Was the task of the Conference fulfilled with the adoption of a final act, or should issues be further developed even after an important stage of agreement had been reached?¹⁰¹. Decisions about the type of follow-up to the CSCE had a considerable impact on the process of regime-formation within the ECE during the following years.

Already during stage I of the Conference, the socialist countries had submitted a proposal reflecting their preference for a permanent body on European security¹⁰². They suggested establishing an 'advisory committee' that would organize future all-European conferences, exchange views on security-related questions and set up working groups and expert meetings on particular issues. Hence, in the view of the socialist countries permanent political consultations constituted an important component of enhanced security.

The Western group, on the other hand, insisted on a strict distinction between the *implementation* of commitments already agreed to, which should proceed at the 'technical' level, and the *extension* of the cooperative basis in a process of negotiations at the political level. Members of the European Community feared that the establishment of a permanent organ on European security which provided socialist countries with rights to control political developments in Europe might hamper the unification process within the Community¹⁰³. Accordingly, a Community proposal¹⁰⁴ suggested that in the period following the Conference decisions should be carried out unilaterally, bilaterally and multilaterally in the framework of existing international organizations, as envisaged by the Conference. According to this concept the part of Basket II requiring multilateral implementation should be assigned to the Economic Commission for Europe (ECE). A second component of the European proposal envisaged a political follow-up conference in 1977 that would assess the implementation process and decide about further development. The document thus reflected the concept of ad hoc meetings which decided on future steps in light of the progress made.

The group of neutral and non-aligned (N+N) countries were interested in a continuing process of consultations. For the first time they were involved in the organization of European security that had so far been a prerogative of the two superpowers and the related military alliances. The N+N group did not insist on establishing a permanent body and agreed to continue the process at intervals as long as

¹⁰¹ See *Ferraris et al.*, Report on a Negotiation, p. 340.

¹⁰² See CSCE/I/5, submitted by Czechoslovakia, reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. I.

¹⁰³ On the position of the Community member states, see *Ferraris et al.*, Report on a Negotiation, p. 343.

¹⁰⁴ CSCE/CC/WG/IV/2, submitted by Denmark. Documents cited concerning the Working Group to the Coordinating Committee on Item IV (Follow-Up) are, if not otherwise indicated, reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. III.

it was not limited to the present Conference¹⁰⁵. Accordingly, Yugoslavia suggested establishing a 'Continuing Committee'¹⁰⁶ that would meet at least once a year and thus reflect both a periodical review of the progress made in implementing the Final Act of the CSCE and a periodical further development of cooperation. Finland submitted a document¹⁰⁷ combining the Western idea of a 'technical follow-up' and the Eastern concept of a permanent body.

The dispute about the follow-up mechanism was settled only during the last days of the Conference, basically in line with the Community proposal. The Final Act of the CSCE envisages a two year intermediate or 'probation' period¹⁰⁸ during which its provisions would be implemented unilaterally, bilaterally and multilaterally. A first political follow-up conference would be convened in June 1977 in Belgrade at the level of representatives from foreign ministries¹⁰⁹, i.e. at a lower level than the two high-level stages of the Conference. It would exchange views on the progress made in implementing the provisions of the Final Act and on opportunities for the further deepening of mutual relations. Progress made at this first follow-up meeting would thus influence the future of the CSCE process.

The Final Act assigned the multilateral implementation of Basket II to the ECE¹¹⁰. Among the relevant areas to be implemented inter alia at the multilateral level were both the development of an 'extensive programme for the monitoring and evaluation of long range transport of air pollutants in Europe' and cooperation in the area of air pollution at large¹¹¹. Hence, progress in these particular areas of European cooperation was closely linked to the future development of European political cooperation and would be apt to influence the political follow-up meeting in Belgrade.

2.6. Conference on Security and Cooperation in Europe, Stage III

Upon final settlement of the negotiations, stage III of the CSCE was convened. In summer 1975¹¹², heads of governments and states from 33 European countries as well as from Canada and the United States assembled in Helsinki for the solemn

105 This latter possibility was denounced by members of the group as 'suicide theory', as the deliberation process would, in fact, decide about its own termination; see *Ferraris et al.*, Report on a Negotiation, p. 344.

106 See CSCE/CC/WG/IV/1.

107 See CSCE/CC/WG/IV/3.

108 See *Valsalice*, The CSCE Follow-up Process, p. 78, and Final Act of the Conference on Security and Cooperation in Europe, reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. VI.

109 Representation of foreign ministry officials symbolized the 'political' character of the meeting, while the technical follow-up proceeding in the meantime would ideally be attended by experts from functional ministries. Actual attendance of both political and technical follow-up meetings was, however, rather mixed, at least as far as Basket II was concerned.

110 The organization is mentioned in the preamble of Basket II and not less than 12 times in the text, see *Bailey-Wiebecke/Chossudovsky*, Folgewirkungen der KSZE, p. 320.

111 Both areas are, however, not expressly assigned to the ECE, see Final Act of the CSCE, Section on the Environment.

112 July 30 - August 1, 1975.

adoption of the Final Act of the Conference on Security and Cooperation in Europe. During the very final phase of stage II the issue of whether the European Community should be mentioned in the Final Act was heavily disputed. Although not being a state, the Community had been the primary interlocutor of the Soviet Union and was invested with genuine competences concerning economic cooperation. Throughout the negotiations of stage II, Community representatives had participated in the respective delegations of the acting presidencies, albeit not in the form of a separate delegation¹¹³. Only in July 1975 did Community member states demand that the signature of the country holding the acting presidency, namely that of Italy, should be made in a double capacity¹¹⁴. They classified this claim as 'non-negotiable' and succeeded¹¹⁵.

Although the Final Act of the Conference on Security and Cooperation in Europe is not a legally binding treaty¹¹⁶, and especially not a peace settlement¹¹⁷, the unprecedented Conference symbolized the end of the post-war period. On the one hand, the attendance of the participating states at the highest political level invested the document as a whole and, subsequently, each of its provisions with considerable authority¹¹⁸. On the other hand, its adoption formed the first step in a process of European cooperation that would continue in the future. It reflected the degree of cooperation possible at a particular time and would be revised as soon as further progress could be achieved. The Final Act formed thus part of a comprehensive *interaction process* in Europe which was designed to *change* the political situation¹¹⁹.

¹¹³ After some initial protest, the East European countries acquiesced and implicitly accepted that these representatives spoke on behalf of the Community; see *Ferraris et al.*, Report on a Negotiation, pp. 373-375.

¹¹⁴ *Ferraris et al.*, Report on a Negotiation, p. 377, note that the response of the US delegation was «reserved but not negative», while Soviet reactions were «extremely negative». On the diplomatic dispute and its solution, see *ibid.*, pp. 377-383.

¹¹⁵ The Final Act was signed by Aldo Moro as «Prime Minister of the Italian Republic and in his capacity as President in Office of the Council of the European Communities». Signatures formed an official part of the Final Act. A similar claim was advanced upon adoption of the Geneva Convention on Long-range Transboundary Air Pollution, see above, Chapter 3, pp. 124-127.

¹¹⁶ On its legal relevance, see *Delbrück*, Die völkerrechtliche Bedeutung der Schlussakte, and *Schachter*, The Twilight Existence of Non-binding International Agreements. It is less evident *why* states did not transform the document into an international treaty. *Van Dijk*, The Final Act of Helsinki, pp. 115-116, argues that the subjects dealt with were still too rapidly changing to approve rules with a long-term effect. The concept of dynamic international regimes developed in Part V of the present study suggests a different explanation: having agreed upon a first set of norms, the community of actors intended to retain permanent political control over the application and possible modification or development of these norms.

¹¹⁷ See in particular the British Prime Minister Wilson, CSCE/III/PV.1, p. 15. Documents concerning stage III of the Conference are reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. VI.

¹¹⁸ *Blech*, Die KSZE als Schritt im Entspannungsprozeß, p. 683, notes that with their signature, states accepted that carrying out provisions of the Final Act did not contradict their value-orientation in principle, even more so as all decisions had been adopted by consensus.

¹¹⁹ See *Zellenthin*, Zur Rolle der Konferenzdiplomatie. In this overall political perspective the relevance of the question posed by *Füllenbach*, Umweltschutz zwischen Ost und West, p. 185, whether such a mammoth conference was justified to enhance environmental cooperation, diminishes. The CSCE was neither intended to promote environmental cooperation nor cooperation in any other specific field as an end in itself.

2.7. A Further Soviet Initiative

Less than five months after the conclusion of the CSCE, the Soviet Union launched another initiative to reinforce the all-European conference diplomacy. In December 1975, it proposed the holding of European congresses or inter-governmental conferences in the three areas of environmental protection, transport, and energy¹²⁰. These 'Brezhnev-proposals' received wide attention and were of concern to multi-lateral East-West diplomacy for a number of years.

The three areas mentioned form two different categories¹²¹. For many years, the socialist countries had promoted the idea of large-scale cooperative projects of common interest with the intent to stabilize the relationship of societies with different systems and to link their economies in mutually advantageous ways¹²². The Final Act of the CSCE refers to these proposals. Basket II expressly mentions four areas in which »possibilities for projects of common interests with a view to long-term economic co-operation ... exist«¹²³, namely (a) exchange of electric power¹²⁴, (b) cooperation in the development of nuclear energy, (c) cooperation in the field of road networks and cooperation aimed at establishing a coherent navigable network in Europe, and (d) cooperation regarding multi-modal transport and handling of containers. Two of these areas are related to the supply of energy and two others to transport. While the concept of large-scale cooperative projects had never been favourable to Western countries, the 'Brezhnev-proposals' referred to those areas in which general agreement about the possible usefulness of such projects had already been achieved. This general agreement could be invoked by the Soviet Union in the name of European security and cooperation¹²⁵.

The third area for which the Soviet Union suggested European congresses, namely environmental cooperation, had turned out to be the least controversial section of CSCE-negotiations. No trade-offs with other sections had been necessary, the negotiations had been concluded earliest of all sections, and several neutral countries attached particular relevance to this part of East-West cooperation. Further-

120 At the caucus of the Polish United Workers' Party, Leonid Brezhnev, the leader of the Soviet communist party said: »In our opinion, useful things could be done already in the next time. For example, the holding of all-European congresses or inter-governmental conferences on questions of co-operation in the fields of protection of the environment, development of transport, and energy would surely produce positive results«; *Brezhnev, Auf dem Wege Lenins*, p. 461 (translation provided).

121 On the Soviet interests in these particular fields, see *Bailey/Bailey-Wiebecke*, All-European Cooperation, p. 404.

122 Proposals in this regard had been put forward in the Budapest Declaration of 1969, see above, Chapter 2, pp. 67-68.

123 Final Act of the Conference on Security and Cooperation in Europe, Basket II, Section on 'Industrial Cooperation and Projects of Common Interest'.

124 The idea was to use time-differences between Western Europe and easterly parts of the European Soviet Union to reduce the necessary peak-level power capacities, see *Siotis*, The United Nations Economic Commission for Europe, pp. 806-808.

125 As a close observer of the CSCE-process notes: »Everybody knew that the final documents to be adopted by the CSCE would not have the character of juridically binding commitments. But the political utility of declarations that could be invoked to mobilize support for specific objectives of individual States or groups of States in the

more, one cooperative project of common interest in the field of the environment, namely the jointly organized monitoring and evaluation programme for long-range transmission of air pollutants, was already agreed upon¹²⁶. Hence, the overall political constellation in this latter field was significantly different from that of the two former ones¹²⁷.

The Soviet initiative to hold European congresses in the three fields of environment, transport and energy was necessarily related to the Final Act of the Conference on Security and Cooperation as the basic document of East-West cooperation¹²⁸. It was designed as an element of the so-called 'technical follow-up'. Meetings of the 'technical follow-up' would have to be confined to experts¹²⁹, but this did not necessarily imply a low level of representation as long as representatives came from expert bureaucracies and not from foreign ministries¹³⁰. The Soviet proposals were thus directed at expert meetings in the framework of the technical follow-up of the CSCE, but independently of the ECE as the relevant international organization. Yet, Western states having refused to institutionalize the CSCE process made abundantly clear that they were not prepared to consider the proposal outside the ECE¹³¹ and the Soviet Union introduced it in that forum.

Accordingly, the ECE was faced with another project that was related to CSCE developments but did not immediately arise from the Final Act. It was basically an independent project located at the *procedural* and not the substantive level.

3. Conclusion

From the late 1960s onwards, the issue of long distance transboundary 'air pollution' entered the agendas of a number of international organizations. During the 1970s, the awareness of the problem and the recognition of its relevance as an international issue increased considerably. This development resulted not least from the intensive diplomatic activities of some Nordic countries which suffered severe

name of pan-European security and co-operation was similarly recognized by all involved. • Birnbaum, East-West Diplomacy, p. 141 (emphasis added).

126 The Soviet Union considered, however, the promotion of further projects; see the Soviet delegate at the 1976 ECE session proposing the discussion of «a number of major projects for joint action» at the congress on the environment, E/ECE (XXXI)/SR. 5, para. 41 (emphasis added).

127 For an Eastern perspective toward the relationship between détente and environmental cooperation, see Helmbold, Internationaler Entspannungsprozeß und Lösung globaler Umweltprobleme.

128 Western observers suspected the proposals to be part of an Eastern strategy to limit the impact of Basket III provisions concerning human relations; see Wettig, Die Einschätzung der KSZE-Folgewirkungen, p. 110.

129 See 'Basket IV' of the Final Act: «The participating States ... 1. Declare their resolve, in the period following the Conference, to pay due regard to and implement the provisions of the Final Act of the Conference: (a) unilaterally ...; (b) bilaterally ...; (c) multilaterally, by meetings of experts of participating states ...» (emphasis added).

130 The suggestion that the technical follow-up extended to experts at any level of representation was to some degree plausible, since the 'political' follow-up to the Conference was organized in the form of 'meetings' the first of which would be held at Belgrade in 1977, «at the level of representatives appointed by the Ministries of Foreign Affairs», see Final Act, Basket IV (emphasis added).

131 See Bailey-Wiebecke, Die Europäische Gemeinschaft, pp. 198-199.

environmental damage from acid precipitation originating from the major industrial countries of Western and Eastern Europe. While the countries concerned were able to create an international issue, internationally coordinated action to solve the underlying problem remained scarce.

However, the newly emerging issue proved to be suitable as a topic for the Conference on Security and Cooperation in Europe. In view of the general and broad deliberations on the future political order in Europe, environmental questions promised to provide a field of mutually beneficial cooperation widely lacking principled considerations. At times, both the Eastern and Western camps proposed its inclusion in the agenda of the Conference. In this context, the Nordic countries introduced a very specific project to jointly monitor and evaluate the relevance of the long-range transport of air pollutants which did not raise any resistance. It effectively linked the 'technical' issue of 'long distance air pollution' to the general political process of détente and European cooperation and development.

This linkage between overall political and technical multilateral deliberations proved to have an important impact on the process of the formation of the international regime on long-range transboundary air pollution. It invested the technical issue so far of interest only to a few European fringe countries with overall political relevance.

Chapter 3

Formation of the International Regime on Long-range Transboundary Air Pollution

The ECE, one of the regional economic commissions subsidiary to the United Nations Economic and Social Council (ECOSOC)¹, had greatly facilitated the cooperation between Eastern and Western industrialized countries during the Cold War period. It had so far been involved in environmental issues within the framework of its current work in the sectors of energy, technical equipment of cars, and management of water resources. Its institutional structure comprised a Working Party of Air Pollution Problems and a new permanent 'Principle Subsidiary Body' of the Commission, namely the 'Senior Advisers to ECE Governments on the Environment' (SAEP)². However, so far the relevance of the ECE was confined to specific cooperation in technical issue-areas³.

The Conference on Security and Co-operation in Europe and the provisions of its Final Act reinforced environmental cooperation within the organization and 'politicized' its technical work. The ECE was responsible for the implementation of Basket II of the Final Act as far as it required multilateral cooperation. Political developments in the CSCE process were now closely related to specific activities of the ECE. Whereas states reluctant to implement the highly politicized Baskets I and III would tend to promote the dynamics of Basket II issues, states insisting on a parallel implementation of all three Baskets at a comparable pace would carefully observe that one part, namely Basket II, did not move too far ahead of the other parts. In both cases, technical work within specialized ECE bodies would be undertaken with a view to overall political détente in Europe.

As far as environmental cooperation with implications for the area of transboundary air pollution was concerned, three distinct tasks were implicitly or explicitly assigned to the ECE. First, at the most technical level the extended programme for the monitoring and evaluation of transboundary air pollution was to be implemented. Its extent and function had been agreed upon politically by the CSCE. *Poli-*

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- 1 Its Membership comprised almost all European and the two North American states. West Germany joined in 1956, while East Germany (1972), Switzerland (1972) and Canada (1973) joined in the course of the preparations for the Conference on Security and Cooperation in Europe; see 'Three Decades of the United Nations Economic Commission for Europe', E/ECE/962, p. 13.
 - 2 Due to the political dispute about the participation of an East German delegation, SAEP could not meet until the German question was settled in 1973, see *Siotis*, The United Nations Economic Commission for Europe, pp. 808-809; von *Groll/Wiskemann*, *Umweltpolitik in den Ost-West-Beziehungen*, p. 274.
 - 3 This is reflected in the institutional structure of the ECE. Its two-level decision-making apparatus separated the substantive work from overall political quarrels, see 'Three Decades of the United Nations Economic Commission for Europe', E/ECE/962. Technical cooperation was developed within Principal Subsidiary Bodies or expert groups meeting in private. It was supervised by the ECE Commission as the highest decision-making organ, meeting in annual public sessions and providing a forum for the debate of political matters in East-West relations.

tical obstacles were not expected in this field of East-West cooperation. Second, the provisions of the Final Act in respect of environmental cooperation, including cooperation in the field of air pollution had to be implemented, at least to some degree, multilaterally. In this regard, instructions were less specific and coordinated environmental policies would still have to be agreed upon. However, within the institutional structure of the ECE, air pollution undoubtedly constituted an area of 'technical cooperation'.

Finally, the Soviet Union introduced its entirely political initiative to convene European conferences in the three areas of transport, energy and environment. These proposals were not technically specified. Their objective was not the promotion of cooperation in specific areas of mutual interests for its own sake. Instead, they clearly advocated political cooperation between the Eastern and Western hemispheres within Europe. Accordingly, the Soviet proposals in fact constituted a political follow-up to the CSCE, albeit in technical areas.

While all three tasks were immediately related to the CSCE follow-up, they required different forms of cooperation and proceeded at different levels within the institutional structure of the ECE. They became, however, increasingly interrelated. The present chapter explores the process of the formation of the international regime on long-range transboundary air pollution as a consequence of this interrelationship.

1. Extensive Programme for the Monitoring and Evaluation of the Long-range Transport of Air Pollutants

The section on the environment of the Final Act contains two 'recommendations on specific measures'. One of them, implicitly assigned to the ECE, provides a first cornerstone of the later international regime on long-range transboundary air pollution. The participating states agreed

*to develop through international co-operation an extensive programme for monitoring and evaluation of the long-range transport of air pollutants, starting with sulphur dioxide and with possible extension to other pollutants, and to this end take into account basic elements of a co-operation programme which were identified by the experts who met in Oslo in December 1974 at the invitation of the Norwegian Institute of Air Research*⁴.

The ECE Commission held its session in spring 1975 parallel to the final phase of stage II of the CSCE. It was heavily influenced by the expectation of future tasks, but as the final compromise had not been agreed upon within the CSCE, the Commission abstained from an early adaptation of its work programme to these

4 Final Act of the Conference on Security and Cooperation in Europe, Section on the Environment, reprinted in *Kavass/Granier/Dominick*, Human Rights, European Politics, and the Helsinki Accord, Vol. VI. The other specific measure recommended was a study on the prediction of environmental consequences of economic and technological activities.

new tasks. It merely requested the Secretariat and the Principal Subsidiary Bodies to adapt their respective work programmes as soon as possible⁵.

However, the document on the environment had already been finalized in the summer of 1974⁶. Subsequently, the implementation of the provision on the monitoring programme had already begun within the CSCE process⁷. Likewise, the ECE Working Party on Air Pollution Problems as a subsidiary body of the 'Senior Advisers of ECE Governments on Environment Problems' (SAEP) started in 1975 to develop the monitoring programme⁸.

Formally acting within the institutional framework of the ECE but apparently responding to developments at the CSCE, the Working Party agreed early in 1975 on a 'Co-operative Programme for the Monitoring and Evaluation of the Transmission of Air Pollutants in the ECE Region'. Furthermore, it agreed that two rapporteurs nominated by the governments of Norway and the USSR respectively elaborate «a methodology for an inventory of SO₂ emissions from stationary sources in the ECE region»⁹. Hence, agreement reached at the CSCE on the monitoring of air pollution was immediately transformed into an active programme¹⁰. Despite its very technical nature, the political dimension of East-West cooperation in this field is apparent. Apart from Sweden, Norway had been particularly active for several years in respect of air pollution. The Soviet Union, in turn, had been particularly active in terms of East-West cooperation. Norwegian-Soviet collaboration thus underscored the East-West dimension of the programme. Despite general consent on the monitoring programme, a coalition between Nordic and socialist countries emerged while major Western countries remained inactive¹¹.

At its session in January 1976, the Working Party established a task force on the subject with Norway as the lead-country¹². Its terms of reference stipulated that «the main objective of this co-operative project is to provide governments with informa-

⁵ See Resolution 2 (XXX); ECE-Report, ECOSOC Official Records 1975, Suppl. 8, pp. 59-60.

⁶ See above, Chapter 2, pp. 76-78.

⁷ In December 1974, experts had met at the Norwegian Institute of Air Research which conducted the OECD Programme on Long Range Transport of Air Pollutants; see above, Chapter 2, p. 78.

⁸ So far the promotion of cooperation in the field of air pollution had not been a priority task of the ECE; see the report of the Executive Secretary on 'The Commission's Activities and Implementation of Priorities', E/ECE/891, para. 37.

⁹ See report of the Executive Secretary on 'The Commission's Activities and Implementation of Priorities', E/ECE/891, para. 40. Countries may offer rapporteurs working at their expense to push issues of concern to them; see E/ECE/962.

¹⁰ It was announced that the Working Party would, «if necessary» hold an additional ad hoc meeting on the modalities of the programme, see ECE Report, ECOSOC Official Records 1975, Suppl. 8, p. 90. In October 1975, a second seminar on the topic was held at the Norwegian Institute of Air Research.

¹¹ However, the US representative at the Commission debate appreciated the programme, see ECE Report, ECOSOC Official Records 1975, Suppl. 8, para. 126. The USA was the designated host country of a seminar on 'Desulphurization of Fuel and Combustion Gases', see *ibid.*, p. 90.

¹² Similar to rapporteurs, task forces are a specific type of institutional device developed within the ECE. They are invested with legitimacy of the respective ECE parent body. Yet, they comprise only countries interested in the subject and draw upon resources of one or more lead countries. They thus allow the promotion and substantiation of issues, progress on which might otherwise be hampered by lack of resources or attendance by ECE members.

tion on the quantity of long-range transport and deposition of air pollutants¹³. Eleven European countries participated in the project and were prepared to provide data about domestic emissions¹⁴. All but one of them were highly industrialized countries of Western Europe and most of them were already participating in the parallel OECD programme¹⁵. The sole exception was the Soviet Union which, again, expressed utmost interest in East-West cooperation in this technical area. Significantly, the two North American states which participated in the CSCE process and were members of the ECE¹⁶ did not join the task force. Hence, the environmental dispute on transboundary air pollution between the United States and Canada did not become a matter of multilateral East-West cooperation. It remained a bilateral issue of exclusive concern to the countries involved¹⁷.

In 1976, the task force adopted a work plan for the programme prepared by Norway¹⁸ and a meeting of modelling experts was held at the Norwegian Institute of Air Research¹⁹. Data about air pollution would be collected under national control according to agreed upon procedures²⁰, while their evaluation would be carried out under the joint control of the participating countries. The task force recommended that the Norwegian Institute »be responsible for coordinating the chemical measurement and analysis part of the programme«, while »two meteorological institutes in different parts of Europe will be selected for the final evaluation of the meteorological data, both working in close co-operation with the centre responsible for the chemical measurements«²¹.

The modelling of the atmospheric transmission of pollutants depends considerably on assumptions and methodology. From a purely scientific point of view, two competing modelling centres may well produce better results than a single one, in particular if their data processing methods differ. However, the programme was not agreed upon for its own sake. It was closely related to Scandinavian claims that

13 ENV/WP.1/6, para. 37. In particular, the monitoring programme should elucidate the issues of (a) the amount of transboundary air pollution within the region concerned, (b) the altitude at which the transport of pollutants takes place, (c) the amount of air pollutants deposited at ground level in relation to transport, and (d) the origin of the total amount of pollution deposited on an annual basis. Initially, the project should be devoted to the study of SO₂ emissions.

14 See ENV/WP.1/6, para. 38; namely Denmark, Finland, France, Italy, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the USSR. During the session, West Germany declared its interest to participate, see *ibid.*, para. 39.

15 See above, Chapter 2, p. 65. Significantly, the issue of the long-range transmission of air pollutants had not only extended in its East-West dimension, but also in its North-South dimension. This is evidenced by the Italian participation, while Italy had not participated in the parallel OECD programme, see OECD Programme on Long Range Transport of Air Pollutants (1979), pp. 1-2. In that case, mere specific agreements concerning the collection of data had been concluded with Italy and Iceland.

16 In 1973, Canada joined the ECE because of the close relationship between developments within this organization and the CSCE process; see 'Three Decades of the United Nations Economic Commission for Europe', E/ECE/962, para. 13.

17 On the Canadian-United States dispute, see *Carroll*, *Environmental Diplomacy*, pp. 240-247. While exporting some pollutants to the United States, Canada was believed to be a net importer of air pollution.

18 See Note of the Executive Secretary on 'Selected Topics for Special Attention', E/ECE/918, paras. 27-28.

19 See 'Recommendations of the Task Force', ENV/WP.1/8/Annex II, para. 4.

20 The Working Party agreed that it was 'desirable' to communicate national SO₂ emission figures; see ENV/WP.1/8, para. 10.

21 'Recommendations of the Task Force', ENV/WP.1/8/Annex II, para. 11.

environmental damage to Nordic lakes was caused by foreign emissions. Any substantiation of these claims required the *common* appraisal of findings. The processing of data in two different centres involved a certain risk that results would differ widely. This would endanger the primary task of the programme, i.e. the generation of a *mutually agreed* data basis for coordinated international cooperation of air pollution control. Yet, the selection of two different meteorological institutes reflected the political dimension of East-West cooperation in the technical field. Not surprisingly, a Soviet institute located in Moscow and a Norwegian Institute were chosen later on.

The recommendations of the task force were endorsed by the Working Party at its 1977 session²². The Working Party further agreed to recommend the establishment of a Steering Committee²³ responsible for all matters concerning the effective implementation of the programme. The parent body of the Working Party, i.e. SAEP, in 1977 endorsed the establishment of the Steering Committee of the European Monitoring and Evaluation Programme (EMEP)²⁴ and assigned the Programme the highest priority in the activities of the Senior Advisers²⁵. SAEP invited the member states to indicate 'in writing' their participation.

Hence, in 1977 the process of the institutionalization of EMEP was well under way. The programme had become a matter of purely technical concern. Its development was observed at the political level, but the responsible technical bodies, namely the Steering Committee of EMEP and the Working Party on Air Pollution Problems as its supervisory organ, acquired considerable independence in the actual elaboration of the programme²⁶.

2. Cooperation in the Field of Air Pollution

Like other sections of the Final Act, the section on the environment was a rather unspecific declaration of intent. It identified a number of general aims of international coordination of environmental policies and a number of fields that are particularly relevant for international cooperation, including air pollution, fresh water pollution and protection of the marine environment. Moreover, it mentioned 'forms and methods' of environmental co-operation, including exchange of information and experts, joint preparation and implementation of programmes, harmonization of

²² See ENV/WP.1/8, para. 36.

²³ See ENV/WP.1/8, para. 36.

²⁴ See ECE/ENV/15, para. 92.

²⁵ See ECE/ENV/15, para. 88.

²⁶ SAEP, the Principal Subsidiary Body of the Commission on environmental issues, agreed that policy directives should only be given by the Working Party on Air Pollution Problems. The EMEP programme of work should not be discussed in detail by SAEP; see ECE/ENV/15, para. 92. This decision may be primarily attributed to the annual schedule of meetings, according to which EMEP reports could have been considered by SAEP only in the second year upon their submission. The decision indicated, however, that political decisions were not any more required.

norms and standards, consultations and the development of international environmental law in various ways²⁷.

Having still awaited the results of the CSCE in 1975, the political level of the institutional framework of the ECE, i.e. the Commission appraised the impact of the Final Act on the work of the organization at its 1976 session and discussed necessary adjustments of the work programme. Several delegations pointed out that this should be done with a view to the first major follow-up conference to the CSCE in Belgrade in 1977²⁸.

The ECE Commission was faced with the task of establishing priorities and guiding the work of its subsidiary bodies²⁹. This task now became all the more relevant as the ECE was not working upwards any more, but downwards. During the Cold War period, ECE activities had been relevant because limited issues of mutual concern were discussed at the technical level, while the results were endorsed politically. Now technical work had to be carried out within the framework of a general *political* commitment by all participating states³⁰ to cooperate actively. On the basis of a set of criteria³¹, the Executive Secretary proposed within a modified work plan priority problems for the subsidiary bodies. In the area of air pollution, the plan identified the 'extensive programme for monitoring and evaluation of long-range transport of air pollutants' as one of the priorities³². The Commission endorsed these priorities and stressed the importance of four issues, including EMEP, which were addressed in the Final Act but whose implementation was not explicitly assigned to the ECE³³.

Beside EMEP, ECE activities on transboundary air pollution were so far confined to an annual programme on 'Review and Analysis of the Existing Situation and Future Prospects in the Prevention of Air Pollution' carried out within the Working

27 See Final Act of the Conference on Security and Cooperation in Europe, Section on the Environment.

28 See for example the statement of Luxembourg on behalf of the EEC, E/ECE (XXXI)/SR. 2, para. 40. While the ECE Commission is the political decision-making organ of the ECE, its work which was related to the CSCE formed part of the technical follow-up concerning the implementation of the provisions of Basket II. The envisaged Belgrade meeting constituted the political follow-up to the CSCE and would thus supervise Commission activities.

29 See the annual report of the Executive Secretary on 'The Commission's Activities and Implementation of Priorities', E/ECE/900, para. 15.

30 Albania was the only member country of the ECE which did not attend the CSCE. It declared that «the so-called Conference on Security and Co-operation in Europe (CSCE) had made no positive contribution in the economic and social fields and had served only to disguise the imperialist designs of the USSR and the United States», E/ECE (XXXI)/SR. 4, para. 60. The Albanian attitude toward the CSCE became a particularly delicate problem for ECE decision-making as Albania announced that it would vote against any resolution or decision referring to the CSCE. The ECE, traditionally bridging the political gap between two adverse camps of states, had long resorted to consensus decision-making as an unwritten rule, see 'Three Decades of the United Nations Economic Commission for Europe', E/ECE/962, para. 16. Thus, Albanian objections could preclude the taking of effective decisions. Apparently following heavy political pressure, it became eventually the practice that the Albanian delegation left the conference room for the time of decision-making; see note in ECE-Report, ECOSOC Official Records 1976, Suppl. 8, para. 79.

31 Including the likelihood of achieving results of interest to member governments and the importance of topics; see E/ECE/900, para. 113.

32 Beside the two traditional ECE projects on 'emissions of particular industries' and the problem of 'fine particulates'; see E/ECE/900, Annex E, p. 2.

33 Decision D(XXXI); ECE-Report, ECOSOC Official Records 1976, Suppl. 8, pp. 99-100.

Party on Air Pollution Problems. The project was officially intended to keep member governments informed of developments in this field³⁴. However, it provided a communicative channel designed to facilitate the regular exchange of information about national policies that could generate international pressure on polluting countries³⁵. In addition, seminars on air pollution abatement and control technology designed to bridge information gaps in the technical and research areas were held.

The principal subsidiary body of the Commission in the field of the environment held its annual session prior to the session of the Commission. Implementation of the policy-decisions taken by the Commission in response to the Final Act had therefore to await the 1977 session of SAEP³⁶. Norway and Sweden seized the opportunity to launch a new substantive initiative directed at a harmonization of national air pollution control policies³⁷. The Norwegian delegation pointed out that, as far as EMEP was concerned, the Final Act had already been implemented and underlined the need for measures to reduce emissions causing transboundary air pollution in the region. It proposed to initiate discussions on the regional harmonization of national control policies and to develop a plan of action for the reduction of emissions preferably to be implemented in the form of an international convention³⁸. Specifically, Norway suggested that a task force for the further development of internationally coordinated policies to control air pollutants be established which would have the tasks of (a) evaluating the possibilities of a reduction of SO₂ emissions and (b) proposing certain measures³⁹.

Substantively, the Norwegian proposal implied that the issue of long-range transboundary air pollution was sufficiently ripe and important for the development of a programme of action and, more specifically, for law-making. Norway thus claimed priority for the issue within the work programme of SAEP. It continued its policy of linking air pollution matters to the CSCE process. This project was obviously not specifically provided for in the Final Act, although it was covered by the general provisions of the section on the environment. Therefore, Norway announced that it would strive at the Belgrade follow-up meeting to the CSCE for a mandate for discussions on the development of such measures within the ECE. Politically, Norway thus appreciated the role of the *political* follow-up to the CSCE that would start only a few months later in Belgrade. It recognized the necessity, or at least the desirability, of a political mandate to extend the cooperation in the field of air pollution. In addition, it intended to solicit the views of other governments on this

34 See the Programme of Work of the Commission, E/ECE/911/Add. 2, p. 22.

35 Regular reporting is a frequently used instrument to control implementation of commitments of international agreements, for example, in the field of human rights, see *Donnelly*, International Human Rights. On reporting requirements in international organizations, see *Sohn*, Procedures Developed by International Organizations, pp. 51-52.

36 See *Bailey-Wiebecke/Chossudovsky*, Folgewirkungen der KSZE im multilateralen Bereich, p. 322.

37 See ECE-Report, ECOSOC Official Records 1977, Suppl. 9, para. 189. On the substantive topics of the 1977 session of SAEP, see *Connelly/Ducet*, Fifth Session of Senior Advisers, pp. 6-8.

38 See ECE/ENV/15, para. 17.

39 See statement at the session of the Commission, E/ECE (XXXII)/SR. 4, para. 21.

proposal. It would also be prepared to *host the first meeting*⁴⁰, thus suggesting that this meeting be held outside Geneva. From a political perspective, it initiated a follow-up process to the CSCE that was somewhat distinct from the 'technical follow-up' taking place within the ECE⁴¹. Implicitly, it suggested that this could be done in connection with a European congress on the environment. But Norway would accept any form, provided that the control and reduction of air pollution was facilitated.

While other Nordic countries supported the initiative, the United Kingdom on behalf of the member states of the European Economic Community responded hesitantly⁴². Neither the priority of air pollution within the work programme of SAEP nor the establishment of the proposed task force could be agreed upon. It was merely accepted that *long-range transboundary* air pollution should have priority within the area of air pollution at large⁴³. Since Norway had explicitly related its claim to the CSCE follow-up and implicitly to the Soviet initiative on European congresses, the matter could not be decided at the technical level. The appropriate decision forum was not SAEP but the ECE Commission.

3. Soviet Proposal for European Congresses

Not having been able to launch the proposal of European congresses in the three areas of transport, energy and environment outside the ECE⁴⁴, the Soviet Union introduced it in the 1976 session of the ECE Commission⁴⁵. Beside the adaptation of its work programme to the multitude of specific provisions of the Final Act of the CSCE, the Commission was faced with a procedural proposal to which the socialist countries attached utmost *political* importance. Their attempt to insist on a separate debate on this topic was thwarted by the Western group. Instead, the delegations were able to decide themselves whether to take the floor separately on this topic or to deal with it during the general debate. Apart from the socialist states, only two neutral countries, namely Finland and Switzerland, took the floor separately.

40 See ECE/ENV/15, para. 17.

41 It is an established practice within the ECE that governments invite ECE bodies to hold important sessions or meetings in their countries. Therefore, the proposal to hold the first meeting in Norway did not imply that this should be done *outside* the framework of the ECE. The later SO₂-Protocol was, for example, signed in Helsinki, the NO_x-Protocol in Sofia. Nevertheless, the holding of a meeting outside Geneva usually stressed its importance.

42 See ECE/ENV/15, para. 17. Note that in the same year (1977) the OECD published its first report on its Programme on Long Range Transport of Air Pollutants which identified several participating member states of the European Community as net exporters, and thus verified the Nordic claim; see above Chapter 2, p. 65.

43 See Secretariat note on 'Future Activities of the Commission and the Implementation of the Final Act of the CSCE', E/ECE/911, para. 2. For SAEP, it notes that »in the work area devoted to pollution problems, significant importance has been given to the intensification of activities related to problems resulting from long-range transport of air pollutants«, Annex III, p. 9.

44 See above, Chapter 2, pp. 82-83.

45 See E/ECE/908.

The Soviet Union emphasized that the holding of European congresses was covered by the provisions of the Final Act. These congresses were not intended to weaken the ECE. After all, they would be prepared within this organization and decisions would be implemented here⁴⁶. The Soviet Union thus reacted to a common Western argument that conferences outside the ECE were not desirable as they would weaken the organization⁴⁷. The congresses should be held as soon as possible. They could, however, be convened over the following two or three years⁴⁸. In the light of their wide scope, the meetings should be held 'at Governmental level'⁴⁹, while their preparation would involve a multitude of lower level experts. The Soviet Union offered to host the meeting on energy⁵⁰.

The Soviet Union proposed with its initiative on European congresses in the first place *a form* of multilateral contact. Outlines as to the *substance* to be discussed in these fora were remarkably unspecific⁵¹. These outlines did not suggest specific projects, but merely listed possible issues. Hence, the Soviet Union repeated its approach toward the CSCE, even though it had turned out that this strategy of attaching priority to the form of diplomatic activity involved the risk of having to accept undesirable substantive issues that might eventually be moved into the centre of the deliberations⁵².

Reactions to the Soviet proposal were divided. Not surprisingly, several socialist countries commented on the initiative favourably⁵³. The EEC⁵⁴ and the USA expressed doubts as to the advisability of holding large conferences on unspecific issues. The USA, furthermore, doubted that such meetings were covered by the follow-up provisions of the Final Act⁵⁵. Therefore, the Belgrade follow-up meeting of 1977 should be awaited. Having always supported an intensified East-West dialogue, several neutral countries responded generally positively⁵⁶.

Norway and Sweden, i.e. the two states most severely affected by transboundary air pollution, again attempted to link progress on the substantive issue of concern to them to the dynamics generated by East-West détente. Being a NATO member country, Norway stated that it had not yet determined its position on the Soviet proposal, but it was »convinced that useful work was being done particularly at the

46 See E/ECE (XXXI)/SR. 5, para. 41.

47 On the Western position, see *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 15.

48 See E/ECE (XXXI)/SR. 5, para. 47. That is, the Soviet Union proposed a very narrow time horizon.

49 E/ECE (XXXI)/SR. 5, para. 46. This was presumably to be read 'at a high Governmental level', or even 'at ministerial level'; see *Chossudovsky*, East-West Diplomacy, pp. 26-27.

50 See Decision B (XXXI); ECE-Report, ECOSOC Official Records 1976, Suppl. 8, pp. 98-99.

51 On the proposed content of the meeting on the environment, see E/ECE (XXXI)/SR. 5, para. 41.

52 A possible explanation of this Soviet behaviour is related to socialist countries' conception of mutual security. *Bingemer*, Die KSZE aus sowjetischer Sicht, pp. 43-44, emphasizes that this conception focuses on a continuing process of organized relations as a *precondition* for a satisfactory solution of specific issues. In contrast, the Western concept underscored the relevance of progress on an increasing number of specific subjects.

53 See statements of Hungary, E/ECE (XXXI)/SR. 2, para. 47; East Germany, SR. 3, para. 11; Czechoslovakia, SR. 3, paras. 64-65.

54 See E/ECE (XXXI)/SR. 5, para. 16.

55 See E/ECE (XXXI)/SR. 2, para. 57.

56 See statements of Austria, E/ECE (XXXI)/SR. 3, paras. 88-89; and Switzerland, E/ECE (XXXI)/SR. 5, para. 70.

technical level⁵⁷. It did not deny the possible appropriateness of a high-level meeting on the environment, but emphasized the necessity to achieve substantive agreement. Nevertheless, Norway implicitly suggested some kind of linkage between the substantive work done at the technical level and the Soviet proposal. Sweden as a neutral country was more explicit. It agreed with the representative of the Soviet Union on the importance of co-operation in the three areas of the environment, transport and energy, and it hoped that the recommendations of the Conference on Security and Co-operation in Europe regarding those areas would be fully implemented⁵⁸. Both Sweden and Norway seemed to offer political support for the Soviet initiative in exchange for progress in the field of their special interest.

Due to politically motivated Western resistance to the Soviet proposal, a positive decision could not be agreed upon. The topic was postponed, but remained on the agenda. However, the continuing and highly political struggle on the *form* of future multilateral cooperation raised the level at which ECE priorities were decided in Western capitals⁵⁹. The Commission agreed to invite governments to communicate their position on the proposal and requested the Executive Secretary to compile the responses in a report for the 1977 session⁶⁰.

Consequently, the Commission session of 1977 was again faced with the Soviet proposal to hold European congresses. The discussion was now immediately linked to the first political follow-up conference to the CSCE, preparations of which were scheduled to commence in June 1977 in Belgrade. Political results achieved during the session would have a direct impact on the CSCE meeting.

The Secretariat had requested governments to state their position on the subject. Immediately prior to the session, a number of letters were circulated. A letter by the USSR explained and further elaborated the proposal⁶¹. Statements were also received on behalf of the EEC⁶², from Finland and from Sweden which related the European congress on the environment to the issue of air pollution. In his preparatory report, the Executive Secretary outlined a possible compromise formula. He recalled that in 1973⁶³ he had already suggested that occasional meetings of ministers to consider precise and carefully prepared agendas concerning limited economic sectors might prove valuable. High-level meetings were not, of course, an end in themselves. They would have meaning and purpose only if the subject-matter

57 E/ECE (XXXI)/SR. 4, para. 10, see also paras. 8-9.

58 E/ECE (XXXI)/SR. 4, para. 33; nevertheless, «the Commission seemed to be the most suitable international organization.» It should be recalled that a full implementation would include the question of industrial projects of common interest.

59 See *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 17.

60 See Decision B (XXXI), ECE-Report, ECOSOC Official Records 1976, Suppl. 8, pp. 98-99.

61 See ECE-Report, ECOSOC Official Records 1977, Suppl. 9, para. 34.

62 On the decision process within the European Community, after all the most important Western actor, see *Bailey-Wiebecke*, Die Europäische Gemeinschaft, pp. 211-213. For a description of the West German position prior to the 1977 session of the ECE-Commission, see *Füllenbach*, Umweltschutz zwischen Ost und West, pp. 192-194.

63 That is, well before the Soviet Union submitted its proposal.

required such a level of representation and if they held promise of important decisions⁶⁴.

The general debate demonstrated a certain convergence of opinions toward the general acceptance of European congresses. Key Western actors mitigated their reservations expressed during the previous session. The USA did not address the issue and thus indicated that it would not use its political weight any more to block the holding of such congresses⁶⁵. The United Kingdom, speaking on behalf of the EEC members, acknowledged in turn that »there might be instances where a meeting within the framework of the Commission at a higher level than customary might enhance the co-operation among experts«⁶⁶. The Community agreement was, however, linked to several pre-conditions: »Any high-level meeting which was held within the framework of the Commission would have to be carefully prepared, and would have meaning only if there was high-level representation and if it held promise of important decisions. The topics considered should be of concern to the region as a whole and the normal venue would be Geneva.«⁶⁷ It was of utmost importance for Western countries to avoid high-level meetings *outside* the framework of the ECE, as implied by the Eastern proposal⁶⁸.

The Eastern proponents of the initiative urged the adoption of a decision at the 1977 session and appeared inclined to accept as a first step agreement on only one of the envisaged congresses, e.g. the meeting on the environment⁶⁹. In this area, Western resistance seemed easier to overcome⁷⁰ and due to the Nordic initiative diplomatic momentum was considerably higher than in the areas of transport and energy.

Hence, the West established preconditions for the acceptance of topics on the agenda of a high-level meeting without specifying issues that could meet these conditions. The East was compromising on its initial proposal and endeavoured to fill the suggested diplomatic form thematically without, however, substantiating its proposal either⁷¹. In this situation of stalemate between the two entrenched camps,

64 See 'Future Activities of the Commission and the Implementation of the Final Act of CSCE', E/ECE/911, para. 48.

65 See E/ECE (XXXII)/SR. 3, para. 21.

66 E/ECE (XXXII)/SR. 3, para. 6.

67 E/ECE (XXXII)/SR. 3, para. 7.

68 See, for example, the reply of Czechoslovakia: »A speaker ... had suggested that high-level meetings should be held in ECE itself, but his delegation did not think that ministerial meetings in ECE would be a *proper substitute for well-prepared congresses*«, E/ECE (XXXII)/SR. 6, para. 22 (emphasis added).

69 See ECE-Report, ECOSOC Official Records 1977, Suppl. 9, para. 37.

70 The delegate from Poland noted that Western reservations about the diplomatic initiatives in the other two areas referred to the proposal to invest in large-scale industrial projects such as East-West electricity lines, transport ways and industrial projects, see E/ECE (XXXII)/SR. 6, para. 9.

71 The USSR suggested the issues of transboundary pollution, marine pollution, and low- and non-waste technology, E/ECE (XXXII)/SR. 5, para. 22. Hungary offered a catalogue that lost, by its very complexity, any specificity: »The congress on the protection of the environment should deal *in particular* with the technical economic and legal regulation of air, water and soil pollution; it should promote the establishment of unified environmental quality standards and should adopt a resolution on a network and methods for the monitoring, forecasting, measurement and evaluation of environmental changes. Participants in the congress should also explore possibilities of co-operation in the manufacture of equipment used for the observation and protection of the environment, and should take up the questions of the development of low-waste technologies and the use of

the Nordic countries seized the opportunity to elaborate a substantive issue appropriate for deliberation at a high-level meeting on the environment. Norway recalled that it had launched within SAEP an initiative directed at the reduction of SO₂ emissions that could be framed into a convention. In regard to a high-level meeting on the environment, Norway now adopted an entirely positive position. »The time was ripe for such a meeting on environmental problems, *particularly those relating to the long-range transport of air pollutants*«⁷². If agreement could be reached on this issue, an agenda for a high-level meeting could be elaborated »that would also take into account the relevant proposals made by the Soviet Union in 1976«⁷³. Hence, Norway now formally suggested merging the Nordic initiative on substance and the Soviet initiative on procedure. Sweden adopted a similar approach, adding that the question of transboundary air pollution might be dealt with either at a conference devoted solely to transboundary air pollution, or as one item among others within a comprehensive agenda⁷⁴.

Accordingly, an open coalition between Eastern and Nordic countries emerged. While the Nordic countries had not been able to generate sufficient momentum at the environmental-economic level to promote effectively the problem of transboundary air pollution, the Eastern initiative embedded in the CSCE process seemed able to generate the necessary dynamics. On the other hand, the Nordic countries provided a substantive issue that was technically well prepared and ripe for international cooperation. It would thus warrant a high-level representation at an environmental meeting.

However, Western countries, in particular the EEC and the USA, were still not prepared to agree on a high-level meeting prior to the elaboration of its agenda and possible instruments to be adopted. Hence, the Commission was not able to decide in favour of a meeting⁷⁵, but it recognized that such meetings were covered by the provisions of the Final Act⁷⁶. The Executive Secretary was requested to evaluate the positions of the member states on possible topics to be discussed. The Commission established criteria for the selection of topics, namely »that any such high-level meeting within the framework of the ECE would require a precise and carefully prepared agenda; that the subject-matter should require a high level of representation; that such a meeting should hold promise of important decisions; that the topics under consideration should be of concern to the region as a whole, and not lead to

urban and individual waste products as secondary raw materials»; E/ECE (XXXII)/SR. 3, para. 33 (emphasis added).

72 E/ECE (XXXII)/SR. 4, para. 22 (emphasis added).

73 E/ECE (XXXII)/SR. 4, para. 23.

74 See E/ECE (XXXII)/SR. 4, para. 32.

75 On the tensions during the meeting, see *Bailey-Wiebecke/Bailey*, ECE und die KSZE-Folgekonferenz, pp. 268-271. The socialist countries threatened to withhold their approval of the ECE report to ECOSOC. This was expected to have the consequence that future funding of the organization was likely to be withheld. Negotiations on the decision dragged on for two days until a compromise was found; see *Jackson*, The ECE Convention on Long-range Transboundary Air Pollution.

76 See Resolution 1 (XXXII), Section II; ECE-Report to ECOSOC, Official Records 1977, Suppl. 9, pp. 96-97. It was recognized that »such meetings could provide further expression of the will of member countries to implement those provisions of the Final Act of the CSCE which call for multilateral implementation«.

unnecessary duplication of work of other international organizations⁷⁷. Moreover, the Commission invited the Executive Secretary of the ECE to carry out in consultation with member governments and with the assistance of SAEP a »detailed analysis of topics which, in the light of views of member Governments, may be appropriate for consideration at a high-level meeting within the framework of ECE on the protection of the environment«⁷⁸. The Commission agreed that the matter should be discussed constructively at its 1978 session with a view to taking a decision. The impression prevailed that a high-level meeting on the environment could take place late in 1978⁷⁹.

4. Toward a Decision about the High-level Meeting on the Environment

While the outlines of the *form* of a possible high-level meeting were rather clear, for the first time the identification of suitable *subjects* for its agenda moved into the centre of the process. Up to this point only proposals had been submitted. Although the informal process of agenda-setting gained momentum since the Nordic countries had suggested concluding a convention on transboundary air pollution, this project had not at all reached the stage of substantive agreement. While the selection process was influenced by the technical work done by SAEP and its subsidiary bodies, *there was no inherent causal relationship between this technical work and a high-level meeting on the environment*. The process moved the other way round: the form was decided upon at the political level, i.e. the Commission, while national prerogatives still prevailed at the technical level.

4.1. Identification of Subjects for the Agenda of the High-level Meeting

The ECE Secretary General circulated a letter inviting governments to state their opinion on possible topics⁸⁰. The proposals received were listed in a background document⁸¹ together with a list of issues derived from the Final Act. From these two lists the secretariat refined a list of eleven possible topics for a high-level meeting⁸².

⁷⁷ Resolution 1 (XXXII), Section II; ECE-Report to ECOSOC, Official Records 1977, Suppl. 9, pp. 96-97.

⁷⁸ Resolution 1 (XXXII), Section II; ECE-Report to ECOSOC, Official Records 1977, Suppl. 9, pp. 96-97.

⁷⁹ See *Europe Environment* 48/1977, p. 7.

⁸⁰ Letter dated 9 May 1977, see ECE/ENV/17/Add.1, para. 2. 21 replies were received in time, including one for the nine members of the European Economic Community. Three more were received at a later date, see *ECE Moves Towards a High-level Meeting*, 4 Environmental Policy & Law 1978, p. 82. Accordingly, almost all ECE member countries replied.

⁸¹ See ECE/ENV/R.67, circulated in July 1977; see also Chossudovsky, *East-West Diplomacy*, pp. 39-46.

⁸² These topics were (1) transboundary air pollution, (2) control of toxic substances and toxic wastes, (3) protection of the marine environment, (4) transboundary rivers, (5) low- and non-waste technology, (6) land use and land-use planning for environmental protection, (7) environmental aspects of human settlements, (8) co-operation of environmental research centres, (9) monitoring of the state of the environment in the ECE region, (10) elaboration of a legal and administrative basis for settling disputes between states as a result of transboundary pollution and other environmental damage, (11) environmental aspects of the use of chemical fertilizers and

In September 1977, SAEP was called for an extraordinary 'Consultative Meeting' with the task of discussing the list of possible topics contained in the background document, but not with the task of deciding about or recommending priorities. SAEP as a Principal Subsidiary Body of the Commission was thus not called to take any action or decision at the collective level. It merely provided the forum for consultations. Nevertheless, the Consultative Meeting was of a highly official nature. Contrary to the established practice of ECE subsidiary bodies to discuss matters informally without records⁸³, an extensive 'substantive record of the discussion' reflecting *individual* statements of governments was prepared. After all, *written* statements, i.e. the replies to the letter of the Executive Secretary, had to be corrected or withdrawn *orally* in order to facilitate the decision process in the upcoming session of the Commission.

The discussion revealed that transboundary air pollution was the only topic that received wide support and virtually no resistance. Sweden underlined⁸⁴ the fact that the subject was perhaps the only one listed in the background paper that was likely to fully meet the criteria laid down by the Commission in its Resolution. However, opinions in regard to the appropriate scope of the topic differed considerably. Norway reiterated its proposal to conclude a framework convention and suggested incorporating the recently established monitoring programme (EMEP)⁸⁵. In addition to the Norwegian proposal, the USA suggested including four other areas, namely coordinated monitoring, research on effects, research on environmental impact assessment and an agreement to communicate plans for major projects with potential negative effects on transboundary air pollution⁸⁶.

The United Kingdom as one of the major source states of long-range transboundary air pollution to Scandinavia expressed the view that »it was not certain at the present stage to whether its consideration in a high-level meeting in the relatively near future would lead to the required results«⁸⁷. It thus denied the appropriateness of the topic for inclusion in the agenda of a high-level meeting. In a second statement on the topic it modified its harsh rejection. However, it was still »concerned that the purpose of such a framework convention ... was to be the reduction of SO₂ emissions, *whereas it was in fact surely to bring about a reduction of the pollution caused by such emissions*«⁸⁸. Although the reduction of SO₂ emissions was clearly one way of achieving that purpose, a framework convention should also cover other subjects. The UK proposed the inclusion of greater exchange of information, monitoring, research on the effective use of energy and alternative energy sources. Moreover, an effective machinery for the settlement of disputes arising from transboundary air pollution could be established, »perhaps through the harmonization of

pesticides; see Chossudovsky, *East-West Diplomacy*, pp. 41-45. As a twelfth topic an EEC proposal on 'conservation of endangered species of flora and fauna' appeared, although not listed in the background paper.

83 See 'Three Decades of the United Nations Economic Commission for Europe', E/ECE/962, para. 23.

84 See ECE/ENV/17/Add.1, para. 33.

85 See ECE/ENV/17/Add.1, para. 16.

86 See ECE/ENV/17/Add.1, para. 32.

87 ECE/ENV/17/Add.1, para. 35.

88 ECE/ENV/17/Add.1, para. 172 (emphasis added).

legal provisions, including the establishment of the principle of non-discrimination before national courts⁸⁹.

The Soviet Union still favoured a broad agenda. However, since agreement had already been reached that only a few items should be discussed at a high-level meeting, the USSR proposed to integrate several of the eleven subjects of the background paper into compound items. While at one time it suggested that transboundary air pollution was »closely linked to a number of other topics proposed, including low- and non-waste technology, monitoring and legal provisions»⁹⁰, at a later time it even proposed to integrate the control of toxic wastes into the topic⁹¹.

Two other topics gathered wide support. The subject of 'low- and non-waste technology' was supported by Eastern and Western countries. It was of fundamental importance for the West, because, »industries could not be expected to introduce waste reducing measures if that meant a corresponding reduction in their commercial competitiveness or even that they were forced out of business»⁹². The West thus expected a development in the direction of international standard setting. The East expected progress in the field of transfer of technology⁹³. The issue of transboundary river pollution, proposed by the socialist countries and possibly to be merged with the protection of the marine environment, also gathered fairly wide support. It met, however, with resistance from a number of industrialized Western countries. Two items, namely the establishment of a legal framework⁹⁴ and monitoring, lost their independent existence as subjects for the agenda of a high-level meeting since they could appropriately be merged with other subjects. A number of further topics gained only little support *as appropriate topics for a high-level meeting*⁹⁵.

On the basis of written statements by governments and the discussion within the unique Consultative Meeting of SAEP, the ECE Secretariat submitted a report to the Commission. This report again listed a number of proposed topics, including a list of countries having expressed their support. For five possible subjects, it proposed action that could be taken by the projected high-level meeting⁹⁶. In respect of

89 ECE/ENV/17/Add.1, para. 36. This system of dispute settlement at the private level was promoted, for example, by the OECD; see *OECD, Problems of Transfrontier Pollution*. It was, however, hardly appropriate for long-range transboundary pollution which lacks a chain of causal relationship between specific occurrences of damage and particular sources.

90 ECE/ENV/17/Add. 1, para 40.

91 See ECE/ENV/17/Add. 1, para 47.

92 United Kingdom statement, ECE/ENV/17/Add. 1, para 100.

93 See, for instance, the statement of the Soviet Union listing a number of sub-items that could be discussed, including »fifthly, commercial questions such as patents, licenses and know-how, including the creation of data and patent banks», ECE/ENV/17/Add. 1, para. 115.

94 One country, supposedly Canada, had suggested the drafting of a framework convention on state liability for transnational environmental damage, see the Norwegian statement, ECE/ENV/17/Add. 1, para 18. On another Canadian approach in this direction within the OECD, see the Canadian paper on 'Transfrontier Pollution (TFP): Liability and Compensation'; reprinted in *OECD, Legal Aspects of Transfrontier Pollution*, pp. 283-305.

95 However, for one of these subjects, namely the flow of toxic substances, the following regular session of SAEP (1978) established an ad hoc group to facilitate the work *within SAEP*.

96 These five pre-selected topics were: (A) transboundary air pollution, (B) low- and non-waste technology, (C) transboundary water pollution, (D) control of toxic substances and toxic wastes, and (E) protection of native flora and fauna and their habitat, see E/ECE/936.

of the cooperative basis but on the review of the implementation of existing provisions. The US delegation blamed the Soviet Union and other socialist states in closed meetings and publicly for the non-implementation of Basket III provisions¹⁰³. As a consequence, substantive decisions could not be agreed upon¹⁰⁴. The Concluding Document merely stated that controversies could not be overcome and provided for the calling of a second political follow-up meeting in 1980 in Madrid¹⁰⁵.

4.3. *Decision about Substantive Preparations*

The 1978 session of the ECE Commission which began after the conclusion of the Belgrade meeting¹⁰⁶ was heavily influenced by the disaster of the first meeting of the political follow-up to the CSCE. Nevertheless, the Soviet Union, supported by several socialist countries¹⁰⁷, attempted to increase the diplomatic momentum of its proposal to hold European congresses and requested again that the topic be placed separately on the agenda of the Commission session as »the presence of such an item would enable delegates, *without prejudice to other topics*, to concentrate more closely on the consideration of that proposal«¹⁰⁸.

In 1977 the Commission had agreed to consider constructively the holding of a high-level meeting as soon as practicable *with a view to taking a decision*. Western countries now expressed reservations and stressed that a decision to hold such a meeting was primarily a *political* and not an environmental question. Canada, being environmentally engaged and particularly interested in matters of transboundary air pollution, expressly related the projected high-level meeting on the environment to other issues of the Helsinki-process. It had been disappointed by the results of the Belgrade meeting and found that »unless visible progress was made in other areas such as humanitarian questions, it would be difficult to advance in the economic sphere«¹⁰⁹. The Soviet delegate, in turn, flatly denied the relationship between the economic issues at stake within the ECE and these other subjects. He expressed the view that »it would be naive to think that his Government would be willing to pay

¹⁰³ On the United States strategy and its domestic background, see *Davy*, The United States. In this respect, the US-strategy was in partial conflict with the preferences of the European Community, see *Alting von Geusau*, The Nine and Détente.

¹⁰⁴ The Committee responsible for Basket II had agreed on a document which could not be adopted due to general disagreement, see *von Groll/Wiskemann*, Umweltpolitik in den Ost-West Beziehungen, p. 278. Toward the end of the Belgrade meeting, the Western countries including the member states of the European Community had indicated their acceptance of the Soviet initiative of a high-level meeting on the environment, see *Gasteyer*, The Soviet Union and Belgrade, p. 34.

¹⁰⁵ See Concluding Document of the Belgrade Meeting; reprinted in *Andrén/Birnbaum*, Belgrade and Beyond, pp. 161-163.

¹⁰⁶ The Belgrade meeting was officially terminated as of 9 March 1978, and the Commission session took place 11 - 22 April 1978. *Von Groll/Wiskemann*, Umweltpolitik in den Ost-West Beziehungen, p. 278, note that several delegates travelled from Belgrade directly to Geneva.

¹⁰⁷ See letters circulated from Czechoslovakia (E/ECE/952), Poland (E/ECE/953), Bulgaria (E/ECE/955), Hungary (E/ECE/956), Byelorussia (E/ECE/957), Ukraine (E/ECE/958), GDR (E/ECE/959).

¹⁰⁸ See letter circulated, E/ECE/951 (emphasis added). As in the previous years, the request was not successful.

¹⁰⁹ E/ECE (XXXIII)/SR. 3, para. 58.

some countries in order to have the conference on environment convened¹¹⁰. Some Western European countries argued that the preparations should go ahead without, however, being prepared to take a definite decision on the holding of a high-level meeting at the 1978 session. The US delegation declared itself prepared to consider constructively *the possibility of such a meeting* on one of the topics fulfilling the criteria, namely transboundary air pollution¹¹¹. France suggested that SAEP should consider the list of topics again and report to the next session of the Commission¹¹². On behalf of the European Community, the Danish delegation drew attention to the many open questions, as could be seen from the Secretariat reports¹¹³.

Several member states of the European Community had previously demonstrated reluctance to endorse the Norwegian initiative directed at an effective reduction of SO₂ emissions in Europe¹¹⁴. While the West refused to take a decision at the current session primarily for political reasons, the secondary effect of slowing down the pace of work on the emerging main topic of transboundary air pollution was welcomed by at least some major member states of the EEC.

The socialist countries insisted on taking the decision at least on one of the high-level meetings, i.e. on that on the environment during the session¹¹⁵. They had accepted transboundary air pollution as a major item on the agenda of the meeting, including the direction of the Nordic proposal to *reduce* air pollution¹¹⁶. The meeting should be held later in 1978¹¹⁷. The Soviet Union proposed that 'such a conference might begin with general statements by representatives and then proceed to work on the precise mandate to be given to the experts'¹¹⁸. Hence, the high-level meeting as part of a three-tier system would not adopt final documents but a mandate for further deliberations. Subsequently, in a third stage a second high-level meeting could be held to adopt resulting agreements¹¹⁹. This model closely resembled the organizational structure of the CSCE. Contrary to this concept, the Executive Secretary had proposed first to prepare draft agreements and to adopt them at a high-level meeting. It would be 'most logical' that preparations be made within SAEP or in an ad hoc committee¹²⁰. This generally reflected the Western position.

While the two adverse political blocks continued the inconclusive struggle of Belgrade, several neutral countries played an active role in bridging the political gaps as they had done all the way during the Helsinki process. Hence, addressing the socialist countries, Switzerland acknowledged that the Belgrade meeting had produced meagre results because it had been unable to achieve a balance leading to

110 E/ECE (XXXIII)/SR. 6, para. 4.

111 See E/ECE (XXXIII)/SR. 5, para. 41.

112 See E/ECE (XXXIII)/SR. 5, para. 37.

113 See E/ECE (XXXIII)/SR. 3, para. 65.

114 See e.g. the United Kingdom position at the SAEP-Consultative Meeting in 1977, above, Chapter 3, pp. 98-99.

115 See statement of the USSR, E/ECE (XXXIII)/SR. 4, para. 37; and Poland, E/ECE (XXXIII)/SR. 4, para. 53.

116 See, for example, statement of the GDR, E/ECE (XXXIII)/SR. 4, para. 18.

117 See statement of Hungary, E/ECE (XXXIII)/SR. 3, para. 25.

118 E/ECE (XXXIII)/SR. 6, para. 5.

119 See Czechoslovakia proposing a three-stage model, E/ECE (XXXIII)/SR. 4, para. 80.

120 See E/ECE/937.

the full implementation of the Final Act of CSCE. Addressing the Western countries, it insisted that clarity of vision was a necessity for the understanding of a situation, *»but it should not be an excuse for inaction*. The Economic Commission for Europe must carry on with its work¹²¹. Sweden recalled that the Nordic countries had made a proposal for increased cooperation within the ECE and a reinforcement of the Commission's authority. It added that *»authority would unquestionably be strengthened by the organization within the framework of the Commission of a high-level meeting on the protection of the environment¹²²*.

Offering a compromise solution and at the same time attempting to shift the primary attention from the political to the environmental aspects at stake, Sweden and Switzerland suggested selecting topics for the high-level meeting immediately and assigning preparatory work to SAEP¹²³. They did not, however, propose to decide about *the meeting itself* prior to the conclusion of the preparatory work. This was of particular advantage to the Nordic countries which emphasized that it was now time to start *negotiations on a real programme of action*¹²⁴ that could be embodied in a binding convention¹²⁵. It seemed obvious that this task required time and that it was not desirable to prejudice results by an early decision on a date for the holding of the high-level meeting. Whereas Western countries refused it for *political* reasons the Eastern states demanded a decision about a high-level meeting prior to the successful conclusion of substantive negotiations. The Nordic countries supported the refusal for *environmental* reasons. It was now clear that the subject of transboundary air pollution was virtually unanimously accepted and would become one of the most important items on the agenda of a high-level meeting on the environment. The Nordic countries succeeded once again in transferring political dynamics generated by a Soviet initiative into progress on substantive aspects of concern to them.

The Commission agreed to settle along the suggestions made by the neutral and Nordic countries. The relevant Resolution of the Commission¹²⁶ reflected the agreement that further preparatory work by SAEP was needed to prepare important decisions. It expressed a determination to make every effort to bring the preparatory work to a successful conclusion in time for a high-level meeting to be held (and not: to be decided upon) in 1979. Furthermore it pre-selected topics for the meeting in so far as it singled out 'long-range transboundary air pollution' and 'low- and non-waste technology and re-utilization and recycling of wastes'. In respect to these two items, the Commission expressed confidence that they would, following satisfactory preparations, *»permit the prompt convening of a high-level meeting¹²⁷*.

¹²¹ E/ECE (XXXIII)/SR. 5, para. 32 (emphasis added).

¹²² E/ECE (XXXIII)/SR. 3, para. 16.

¹²³ See statements of Sweden, E/ECE (XXXIII)/SR. 3, para. 17, and Switzerland, E/ECE (XXXIII)/SR. 5, para. 30.

¹²⁴ See statement of Sweden, E/ECE (XXXIII)/SR. 3, para. 18.

¹²⁵ See statement of Norway, E/ECE (XXXIII)/SR. 4, para. 46.

¹²⁶ See Resolution 1 (XXXIII), Section II; ECE-Report, ECOSOC Official Records 1978, Suppl. 7, pp. 110-112.

¹²⁷ Resolution 1 (XXXIII), Section II; ECE-Report, ECOSOC Official Records 1978, Suppl. 7, pp. 110-112. The Resolution listed sub-items to be considered. On the mandate on long-range transboundary air pollution, it

SAEP was, however, authorized also to examine any of the three other subjects from the Secretariat report¹²⁸ provided that agreement could be reached. SAEP was requested to meet as soon as possible, preferably in June 1978, for a first special session. Finally, the Commission decided to consider at its next session the establishment of a new Principal Subsidiary Body on energy problems whose mandate might include preparations for a high-level meeting in this sector¹²⁹. It thus tentatively connected progress in two of the three areas for which the 'Brezhnev-proposals' had originally suggested the holding of European congresses.

5. Substantive Preparations for an Agreement

In 1978, the Commission had postponed a *political* decision on the holding of a high-level meeting. It had delegated the issue to the subsidiary level for a discussion of substantive issues. It was apparent that a positive decision by the Commission in spring 1979 to hold a high-level meeting was contingent upon progress made at the technical level. The pending political decision thus formed the background of the substantive negotiations without being part of them. SAEP dealt solely with the *content* of instruments to be adopted at a possible high-level meeting.

The mandate to negotiate 'recommendations and concrete proposals for important decisions to be submitted to a high-level meeting' was taken seriously. SAEP met in early June for a first special session to discuss organizational matters¹³⁰. The ECE Secretariat attached utmost importance to the preparations for a high-level meeting on the environment as compared to other subjects pending within the organization¹³¹.

The Commission had singled out two topics on which SAEP was requested to elaborate recommendations. SAEP was, however, also authorized to discuss three more topics. Accordingly, SAEP entered into another discussion on possible topics of a future high-level meeting. While it was clear that two working groups would be established on the two topics already agreed upon, a dispute arose on the prepara-

included the following detailed provisions: (i) Development of policies and strategies as a means of combating the discharge of atmospheric pollutants, including the harmonization of emission control policies relevant to the reduction of long-range transboundary air pollution, starting with sulphur dioxide, and taking account of all relevant factors including damage caused by the pollutants, cost estimates, and the cost of reducing discharges, and of local remedies; (ii) Intergovernmental co-operation in research and development on methods to reduce sulphur dioxide discharges and to study their effects on health and the environment; (iii) Exchange of information concerning new and existing sources of pollution; (iv) Implementation and further development of the Co-operative Programme for the Monitoring and Evaluation of Long-range Transmission of Air Pollutants in Europe; (v) Development of procedures aimed at avoiding disputes concerning damage caused to the environment by atmospheric pollution; (vi) Possible form of an agreement on the above points.

128 See E/ECE/936, para. 4. These topics were (a) transboundary water pollution, (b) control of toxic substances and toxic wastes, and (c) protection of native flora and fauna and their habitat.

129 See *ECE Moves Towards a High-level Meeting*, Environmental Policy & Law 4 (1978), pp. 83-84; and Resolution 1 (XXXIII), Section II; ECE-Report, ECOSOC Official Records 1978, Suppl. 7, p. 112.

130 June 7 - 9, 1978.

tion of the three remaining subjects. The Soviet Union was particularly interested in topic E of the secretariat report ('protection of native flora and fauna and their habitat')¹³² and considerable support existed for the topic of transboundary water pollution. While socialist countries insisted on a third working group on the three remaining items¹³³, the EEC countries and Sweden feared that an agenda of more than two items would bear the risk of leading to insubstantive declarations and of hampering careful preparation of the primary subjects.

SAEP decided to establish two Special Groups on topics A ('transboundary air pollution') and B ('low- and non-waste technology and re-utilization and recycling of wastes') which should meet as early as July for a first meeting¹³⁴. They should report to the second special session of SAEP scheduled for October 1978. The other three topics should be discussed at an expert meeting on environmental topics to be held in September¹³⁵. But this meeting should report to the regular session of SAEP in February 1979¹³⁶. Hence, while the preparation of the topics A and B was accelerated, the other three topics would be considered, but not in time for the upcoming session of the Commission. Subjects for the high-level meeting had de facto been selected.

Another political obstacle underlined that the negotiations proceeded in the highly politicized framework of East-West diplomacy. While the Eastern and the Western countries proposed to elect four officers¹³⁷ for the Special Groups¹³⁸ to be evenly divided between the two blocks, a number of small and neutral countries insisted on a total of five officers¹³⁹. Eventually, they obtained one seat in the 'Bureau' of each Special Group¹⁴⁰.

131 The Executive Secretary personally opened the meeting and assured the meeting that SAEP had priority in respect of secretariat and conference service capacities, see ECE/ENV/21, para. 10. SAEP sessions were normally opened by the Director of the Environment and Human Settlement Division of the ECE Secretariat.

132 See *ECE Moves Towards a High-level Meeting*, Environmental Policy & Law 4 (1978), p. 84.

133 See *ibid.* The third of these topics was the control of toxic substances and wastes.

134 See ECE/ENV/21, para. 13.

135 On this meeting, see *Expert Meeting on Environmental Topics*, Environmental Policy & Law 4 (1978), pp. 156-158.

136 See ECE/ENV/21, para. 16.

137 Officers forming the 'Bureau' played an important role, not only in preparing meetings, but also concerning matters of substance.

138 See *ECE Moves Towards a High-level Meeting*, Environmental Policy & Law 4 (1978), p. 84.

139 In an unusual way that reflects continuing differences in opinion, the report notes that Austria, Finland, Greece, Portugal, Romania, Sweden, Switzerland and Turkey supported a different mode of election.

140 The following officers were elected for the three Special Groups: Special Group on air pollution: United Kingdom (Chair); Poland (Vice); Norway and Soviet Union (two Rapporteurs); Special Group on low- and non-waste technology: Soviet Union (Chair); France (Vice); GDR and Sweden (two Rapporteurs); Special Group on topics C to E: Czechoslovakia (Chair); Yugoslavia (Vice); Hungary and USA (two Rapporteurs); see ECE/ENV/21, paras. 13 and 16. Apparently, Norway with its positions on air pollution considerably differing from positions held by the majority of Western countries, was considered as 'neutral', even though it was a member of NATO and OECD.

5.1. General Approach

The Special Group on transboundary air pollution was concerned with a major conceptional problem of an emerging international regime. The regime could address the European, and possibly the North American atmosphere as a regional common that would be jointly managed and protected from deterioration. In this case, it had to regulate emissions of air pollutants regardless of whether such emissions caused transboundary or (only) domestic environmental damage. Moreover, if the regime were also to have the objective of furthering research on air pollution, as indicated by the mandate agreed upon by the Commission, it could not be strictly confined to air pollution with a transboundary impact. However, a political regime directed primarily at furthering international co-operation and at avoiding international disputes arising from transboundary air pollution would in the first place have to control *transboundary* flows of air pollutants. Developments within the territories of member states constituted, according to that approach, not an international issue as long as they did not create *transboundary* harm¹⁴¹.

5.1.1. Nordic Drafts

In the first meeting of the Special Group¹⁴², the five Nordic countries immediately seized the opportunity to initiate deliberations about specific instruments. They submitted a 'Draft Convention for the ECE Region on Reduction of Emissions Causing Transboundary Air Pollution' and a 'Memorandum on Major Elements to be Considered for Inclusion in an Annex on Emissions of Sulphur Compounds'¹⁴³. These Nordic proposals reflected the general approach toward an international regime supported by the pollution-prone Nordic countries and were de facto accepted as the basis for further negotiations.

The Nordic proposals suggested the elaboration of two instruments. A convention was envisaged to establish a legal *framework* for internationally coordinated action to reduce transboundary air pollution. *Specific measures* and obligations in respect to the reduction of particular air pollutants should be attached in the form of annexes. The concept was based upon the consideration that a legal framework and general principles would be largely stable over time, while specific prescriptions and proscriptions could be expected to be regularly adapted to changing conditions¹⁴⁴. Accordingly, the Nordic countries proposed that amendments of the

141 On the different legal approaches to addressing international environmental problems, see Kiss, *The International Protection of the Environment*.

142 July 3 - 7, 1978.

143 Both instruments are reprinted in 4 *Environmental Policy and Law* 1978, pp. 191-193. They were submitted on behalf of Denmark, Finland, Iceland, Norway and Sweden.

144 The institutional concept of international environmental regimes consisting of a framework instrument and technical annexes subject to simplified amendment procedures had been developed during the preparations of the 1972 Stockholm Conference on the Human Environment. On the concept, see Contini/Sand, *Methods to Expedite Environmental Protection*.

convention should be subject to the consensus of the contracting parties at a conference of plenipotentiaries. In contrast, annexes should be adopted and amended by a two-thirds majority of the parties by an organ established under the convention. Amendments of annexes would enter into force for all parties that had not 'opted out' within a specified period of time¹⁴⁵.

The preamble of the carefully formulated Nordic Draft Convention referred to Principle 21 of the United Nations Conference on the Human Environment¹⁴⁶ as well as to the relevant provisions of the Final Act of the CSCE. It thus recognized that the international regime on air pollution control would be rooted in predominantly environmentally oriented initiatives *and* in the highly political process of détente. Other clauses referred to the consciousness of the parties that transboundary air pollution 'may have adverse' effects outside the territory of the source state, that 'it raises' (and not: may raise) »problems which require international co-operation and action«, and that »international co-operation and action at the regional level aiming at co-ordination of environmental policies and strategies *are essential* for the reduction and prevention of emissions causing transboundary air pollution«¹⁴⁷. The Nordic proposal did not imply that *all cases* of air pollution have international consequences. Yet, it implied that if they did, it would be the duty of the source states to cooperate at the international level. Hence, the triggering element would be the establishment that transboundary air pollution *existed*, and not that it caused transboundary damage.

The Draft Convention contained two basic obligations. The contracting parties would be committed to »control, reduce and as far as possible prevent the emissions to the atmosphere of substances which cause *or may cause* transboundary air pollution«¹⁴⁸. This general commitment would be accompanied by the second basic obligation according to which the parties should, »as far as possible, coordinate their national emission policies, ..., with a view to controlling, limiting and preventing emissions«¹⁴⁹ with transboundary implications. The following four articles specified the substantive side of the obligation to coordinate policies along the lines of the Commission's mandate to SAEP¹⁵⁰. They referred to the coordination of research (article 4), EMEP (article 5), the exchange of information and consultations on emissions and concentration of pollutants (article 6), and informa-

¹⁴⁵ On the instrument of 'opting out', see Sand, *Lessons Learned in Global Environmental Governance*, pp. 17-18.

¹⁴⁶ See Report of the UN Conference on the Human Environment, A/CONF.48/14/Rev.1, Declaration of Principles, Principle 21: »States have ... the sovereign right to exploit their own resources pursuant to their own environmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.«

¹⁴⁷ Nordic Draft Convention, preamble (emphasis added).

¹⁴⁸ Nordic Draft Convention, article 2 (emphasis added). Note that while the aspects of 'control' and 'reduction' of emissions are 'hard' obligations, only the element of 'prevention', i.e. total avoidance, is mitigated. Note also that the commitment is directed at 'emissions to the atmosphere' and not at fluxes across boundaries.

¹⁴⁹ Nordic Draft Convention, article 3.

¹⁵⁰ See Norwegian explanation that articles 2-3 correspond with sub-paragraph (i); article 4 with sub-para. (ii); article 5 with sub-para. (iv); articles 6-7 with sub-para. (iii); articles 17-18 with sub-para. (v); statement reprinted in ENV/AC.9/Annex I, p. 1. The last element is concerned with dispute avoidance and settlement.

tion and consultations on new emission sources with possible effects on transboundary air pollution (article 7).

The Nordic Draft Convention envisaged the establishment of a permanent conference of the parties that should »meet at regular intervals and at any time when it is so decided«¹⁵¹. The Conference was not provided for in the Commission's mandate to SAEP. It should »exercise overall supervision over the implementation of this Convention and its Annexes«¹⁵². The implementation process, inevitably proceeding at the national level, would be supervised in an internationally coordinated manner. Non-compliance with obligations became less advantageous and more costly. Furthermore, obligations agreed upon under the Convention were not envisaged to be stable. One task of the permanent Conference was the continuing supervision of transboundary air pollution, of »the efficacy of the control measures adopted, and the need for any additional or different measures likely to promote the objectives of this Convention«¹⁵³. It would be authorized to recommend amendments to the Convention and to »consider and adopt proposed amendments to the Annexes«¹⁵⁴. The very detailed Nordic Draft Convention contained the outlines of the Geneva Convention eventually adopted.

The Nordic proposal included in the form of the Memorandum also the outline of a possible annex on the reduction of sulphur dioxide emissions, which was, however, not drafted in treaty language. The 'Memorandum on Major Elements to be Considered for Inclusion in an Annex on Emissions of Sulphur Compounds' was designed to elaborate the framework and implement the basic obligations in respect of one major type of pollutant, i.e. sulphur compounds. It proposed, in very careful and tentative language, as a first step »after a certain number of years following the entry into force of the Convention« a stand-still »of the total man-made emissions of sulphur compounds to the atmosphere«¹⁵⁵.

The next step in the implementation of the Convention would be to reduce »by a certain percentage the total national emissions«¹⁵⁶. Exceptions would have to be considered for states already having implemented measures leading to the reduction of total national emissions and »where there is adequate and unambiguous technical-scientific evidence that changes in total national emission levels do not affect the atmospheric concentrations and deposition of sulphur compounds in areas under the jurisdiction of another Contracting Party«¹⁵⁷. A third type of exception¹⁵⁸ would apply in cases of temporary difficulties in respect of energy supply¹⁵⁹.

The Nordic countries proposed a two stage system with obligations to negotiate and, in case of failure, to submit disputes to third party settlement.

151 Nordic Draft Convention, article 8.

152 Nordic Draft Convention, article 9.

153 Nordic Draft Convention, article 9.

154 Nordic Draft Convention, article 9.

155 Memorandum on Major Elements, para. 1 (emphasis added).

156 Memorandum on Major Elements, para. 2.

157 Memorandum on Major Elements, para. 3.

The concept promoted by the Nordic countries was based upon a state responsibility approach. While *measures* were directed at a reduction of emissions, the *policy* behind these measures was a reduction of *transboundary* air pollution in the *ECE region*. The Nordic countries assumed that in view of the relatively small states in Europe a reduction of emissions would lead to a *corresponding reduction of transboundary fluxes of pollutants*¹⁶⁰. They were prepared to exclude from the regime emissions which did not cause air pollution of a transboundary nature, i.e. which were only domestically relevant. They were also prepared to exclude emissions causing pollution to countries outside the ECE region or to areas not under national jurisdiction, for example the high seas beyond national jurisdiction or control. Accordingly, the proposed policy of the internationally coordinated programme on a reduction of transboundary air pollution did not conceive of the atmosphere as a *regional common* that should be protected by a joint effort in the interest of all participants. Instead the atmosphere was considered as a *national resource* whose utilization was subject to the sovereignty of each state as long as its consequences did not harm neighbouring states. Consequently, the initiative focused on the principle of international law not to cause appreciable transboundary harm. This general approach to the problem of air pollution is emphasized by the reference in the preamble to (the state responsibility) Principle 21 of the Declaration of Stockholm. Contrary to environmental approaches focusing on a preservation of natural resources across national boundaries, state responsibility is based upon the traditional principle of state sovereignty.

Beyond doubt, the initiative of the Nordic countries was directed at reducing transboundary air pollution. However, the initiative emphasized the importance of an institutionalization of a continuing and dynamic process on the basis of a binding agreement to deliberate specific commitments and to supervise their implementation. Within this process, national policies and strategies would be reviewed and interpretations or specifications of basic obligations could be agreed upon. The significantly less elaborated Memorandum reflected a proposal for a first (interim) agreement on substance intended to guide action as long as it was not replaced by further agreement. Hence, the Nordic concept of an international regime on transboundary air pollution was of an evolutionary type. This implied that the establishment of the process would require priority over early substantive commitments, however desirable the latter might be.

¹⁵⁸ Norway indicated also that it was prepared to negotiate other exceptions, taking account of differences between countries in the rate of emissions per head of population and gross national product; see ENV/AC.9/4/Annex I, p. 2.

¹⁵⁹ See Memorandum on Major Elements, para. 4. This was obviously a response to disturbances in the world supply of crude oil at a time following the first and immediately preceding the second oil crisis.

¹⁶⁰ See Norwegian statement, reprinted in ENV/AC.9/4/Annex I, p. 1.

5.1.2. Dispute about Information on Emission Sources

The Nordic countries advocated a conceptionally ambiguous approach which focused on reductions of *transboundary* air pollution but attempted to achieve this task by *overall emission reductions*. No group of participating actors favoured the environmental concept of protecting the atmosphere as a regional common that would have partially pierced the traditional concept of state sovereignty. Nevertheless, a conflict arose about the collection of information about emission sources.

Although hesitating to accept *any* obligation to reduce emissions, the Western group was prepared to make available detailed information about sources of SO₂ emissions broken down into groups of sources and industrial branches. Their preference was in line with the Nordic initiative. The Soviet Union, however, held that »in order to resolve the problems of transboundary air pollution, it was not necessary to receive information from governments concerning specific national sources of emission but it would be sufficient to consider the flows across boundaries«¹⁶¹.

In a compromise solution, the Special Group agreed to request states to provide information about »figures on total emission of man-made sulphur compounds in your country for 1975, or a more recent year«¹⁶² as well as estimates on emission figures for the years 1990 and 2000. Member countries of the European Community related the success of a high-level meeting to sufficiently detailed information¹⁶³. The Western strategy of insisting on detailed information, however justified from an environmental perspective, appears to have been based primarily on tactical considerations. It could have been apt to split the increasingly flourishing coalition between the Nordic and the socialist countries. The EEC, having utmost difficulty in agreeing on a unified negotiating position for its nine member states¹⁶⁴, would align itself with the Nordic countries if the issue of the provision of detailed information became a key dispute. This attempt was, however, not successful. Other participants, among them the Nordic countries, felt that »the success of a high-level meeting would depend on the political will of the governments to take important decisions and solve serious environmental problems in the ECE

161 ENV/AC.9/2, para. 17.

162 ENV/AC.9/2, Annex I. This request was part of a questionnaire circulated to governments and international organizations regarding paragraphs (i) ('development of policies and strategies...') and (ii) ('intergovernmental co-operation in research...') of the SAEP mandate to negotiate an instrument on long-range transboundary air pollution.

163 The West German delegation requested, on behalf of the European Community, the inclusion of the following statement in the report: »On the occasion of the adoption of the 'Invitation to ECE member governments to provide information', contained in Annex I to this report, the delegation of the Federal Republic of Germany stated that the delegation of the EEC member countries would have wished a more detailed elaboration on the points reflected in that annex. However, they have accepted the annex as it now stands in the expectation that all parties concerned will fully participate in the exercise and provide all information necessary to make effective the preparatory work for recommendations and concrete proposals for important decisions to be submitted to a high-level meeting. In the view of those delegations the success of any high-level meeting will entirely depend on sufficiently detailed information returned by member governments in response to the above-mentioned Annex«; ENV/AC.9/2, para. 18.

164 Out of the EEC member states at least Denmark realigned with the Nordic countries and was among the five sponsoring countries of the initial Nordic proposal.

region¹⁶⁵ and not on the provision of information. Accordingly, during the first session of the Special Group East-West considerations still dominated the negotiations, even though they were now disguised by arguments of substance.

The issue of the provision of information did not result in a slow down of the negotiations. Already in 1974, all participating countries had agreed to establish an extensive monitoring and evaluation programme on long-range transboundary air pollution. Politically, this agreement was not immediately related to the Nordic proposal for a convention on transboundary air pollution, but to the Final Act of the CSCE¹⁶⁶. Moreover, in 1977 the same countries had agreed within the ECE to implement the relevant provision of the Final Act through a Steering Body of EMEP¹⁶⁷. Short of an explicit verification of compliance with the future international agreement to reduce emissions, information about emission sources remained largely a matter for EMEP. Accordingly, in the second meeting of the Special Group¹⁶⁸ the United States suggested that the matter be referred to the Steering Body and separated from the current negotiations, although it recognized that «the ECE should not precipitate on the basis of information which is - in the ECE-wide context - largely incomplete»¹⁶⁹. The matter was referred to the Steering Body and did not arise again during the negotiations¹⁷⁰.

5.2. *Agreement to Cooperate*

The reactions to the Nordic proposals were ambiguous. During the second session of the Special Group, some socialist states suggested amendments to article 2 of the draft in a rather ad hoc and uncoordinated manner. They proposed to mitigate the obligation of a clear commitment to limit emissions relevant to transboundary air pollution and to introduce the criterion of feasibility¹⁷¹. Moreover, they submitted a draft agreement on European monitoring of pollutants that reached far beyond the area of air pollution¹⁷² and thus underscored their intention to achieve an agenda as broad as possible for the high-level meeting. The socialist countries did, however,

165 ENV/AC.9/2, para. 19. The socialist countries related the success of a high-level meeting to «the effective completion of the preparatory work and the wide participation of member governments, as well as the nature of the decision to be taken»; ENV/AC.9/2, para. 20.

166 See above, Chapter 2, pp. 75-78.

167 See above, Chapter 3, pp. 86-89.

168 October 2 - 4, 1978.

169 ENV/AC.9/4/Annex III, p. 2. In a rather unusual way, the US statement is, following the precedent of the Norwegian explanation of the Nordic Draft Convention, attached to the report of the Special Group.

170 Within the Steering Committee, it was agreed to collect data on the basis of a grid of 150 km width; see article 8 of the later Geneva Convention.

171 Hence, the GDR proposed that «the Contracting Parties undertake permanently technical and economic measures for limiting transboundary air pollution according to their possibilities»; the Soviet Union proposed to «apply all technically and economically feasible measures to limit and as far as possible prevent transboundary air pollution»; see ENV/AC.9/4/Annex II, p. 1.

172 See ENV/AC.9/R.1/Annex II. The draft was «considered to be separate» from the Nordic draft, i.e. it was not meant to replace it; see ECE/ENV/23, para. 22.

not raise general objections against the Nordic proposals and they did not object to their discussion.

The member countries of the European Community adopted a different strategy. Already during the first meeting of the Special Group, they refused to enter into negotiations on concrete proposals as long as the scientific and technological issues of air pollution had not been settled. These technical issues would be dealt with in a 'synthesis report' which was discussed by the 'Bureau' of the Special Group at a separate meeting in September. The report would be adopted by the Special Group at a later meeting and would, subsequently, be submitted to SAEP¹⁷³. The claim of priority for technical issues implied a reduction of the time available for the preparation of legal measures. In this regard, the Western position was diametrically opposed to that of the Nordic countries. During the second meeting of the Special Group, the dispute arose again¹⁷⁴ and was eventually transferred to SAEP. Several members of the European Community refused even to negotiate the Nordic Memorandum on a possible stand-still and roll-back of emissions¹⁷⁵. The United Kingdom, moreover, rejected any obligation as to consultations about new emission sources with a possible transboundary impact¹⁷⁶.

However, several delegations felt that the Nordic proposal constituted a basis for discussions¹⁷⁷ and 'some elements' within the draft of the socialist countries »received wide support«¹⁷⁸. The meeting agreed that these two drafts as well as any other element proposed or to be proposed would constitute the basis for the discussions of SAEP and further meetings of the Special Group¹⁷⁹.

Only a week after the second meeting of the Special Group, the second special session of SAEP was convened¹⁸⁰ to evaluate the work in progress and to determine the future activities of the Special Groups. The Norwegian delegation was represented at ministerial, i.e. at an unusually high level demonstrating the importance which the country attached to the negotiations. Norway refused any further delay and attempted to reinforce the existing coalition. It referred to the Resolution of the Commission as »an important step towards responsible management of the natural and human environment in the ECE region and a strengthening of east-west co-operation«¹⁸¹. It insisted that »it was not possible indefinitely to accept the transmission of large quantities of air pollutants into the country«. Therefore, »Governments should be prepared to supplement measures at the national level with a binding

173 The report was adopted at the fourth meeting of the Special Group, see ECE/ENV/23, para. 15, and submitted to the third special session of SAEP held in December 1978. It did not play a major role in later stages of the negotiations.

174 The United Kingdom was particularly active on this issue, see ENV/AC.9/4, para. 16 and ECE/ENV/23, para. 14.

175 See ENV/AC.9/4/Annex II, p. 3.

176 See ENV/AC.9/4/Annex II, p. 3.

177 See ENV/AC.9/4, para. 10.

178 See ENV/AC.9/4, para. 11.

179 See ENV/AC.9/4, para. 16.

180 October 11 - 13, 1978.

181 ECE/ENV/23, para. 16 (emphasis added).

commitment to international action. There was no other viable solution; declarations and recommendations were no longer sufficient¹⁸².

Western countries continued to insist on the priority of technological and scientific questions of the projected synthesis report. They were not prepared to enter into negotiations as long as this report had not been completed¹⁸³. They even attempted to extend the deadline for the finalization of the report¹⁸⁴.

This strategy proved to be unsuccessful. SAEP did not take a decision to postpone the date of submission of the synthesis report, nor did it attach priority to the discussion of technological and scientific questions. As consensus had not been reached on these two points, the agreed procedure was not changed. Against this background, the French delegation expressed concern at the outcome of the second special session, particularly with regard to Long-range Transboundary Air Pollution. In its view it was premature to envisage a convention on the subject; further studies and research activities within the ECE should be undertaken¹⁸⁵.

Not having gathered wide support for their former strategy, the larger members of the European Community changed their approach. From the outset of the third meeting of the Special Group¹⁸⁶, they did not any more refuse to negotiate. Without having dropped their general reluctance to accept 'hard' obligations, they began to influence the emerging draft instrument¹⁸⁷. They were not, however, prepared to consider the question of *form* of the envisaged document¹⁸⁸. This meant that the negotiations *on the substantive paragraphs* of the Nordic draft were cleared, while the parts related to the proposed form of a legally binding convention were postponed¹⁸⁹.

Meanwhile the socialist countries, among them a number of large-scale producers of SO₂ compounds, had generally accepted the form of a convention to be adopted at a high-level meeting but they were also prepared to accept any other appropriate form. In general terms, they had even accepted the proposed annex, *including its commitment to reduce SO₂ emissions*. The GDR, presumably in general agreement with other socialist countries, submitted amendments to the Nordic Memorandum in respect of two important aspects¹⁹⁰. As a matter of principle, the GDR did not accept the concept of 'total man-made emissions of sulphur compounds produced

182 ECE/ENV/23, para. 16.

183 See ECE/ENV/23, para. 14.

184 See ECE/ENV/23, para. 15.

185 This statement is reflected in the report under the topic 'Other Business'; ECE/ENV/23, para. 34.

186 November, 2 - 3, 1978.

187 Accordingly, the EEC submitted its own proposals. An introductory statement by the West German representative on behalf of the EEC indicated that the implementation of Principle 21 of the Stockholm Declaration required a programme including exchange of information, monitoring and research; the statement is reprinted in ENV/AC.9/6/Annex II.

188 The delegations from France, West Germany, Italy and the United Kingdom stated that their willingness to discuss the 'Nordic proposal' did not in any way prejudice their eventual position regarding the form of any agreement which might be reached in the preparations for the high-level meetings, ENV/AC.9/6, para. 9.

189 Thus, deliberations on the final clauses were excluded and the question of the participation of the European Economic Community did not arise at that stage.

190 See ENV/AC.9/6/Annex I, p. 1.

within a state' as the basis for a stand-still and roll-back. Instead, it proposed a stand-still and subsequent roll-back of 'transboundary air pollution caused by emissions' produced within a state. Hence, the socialist countries clung to their strict state responsibility approach and rejected any international interference into their domestic affairs. It should be recalled that the control and reduction of *emissions* in the Nordic draft were *not* intended to protect the atmosphere as a regional common but merely provided a practicable means for controlling and reducing the *transboundary effects* of such emissions. Moreover, the Nordic countries were well prepared to exclude air pollution with an exclusively domestic impact from the scope of the international regime. Yet, while the policy behind the two proposals was similar, particular measures to be adopted and specific data to be communicated differed.

The GDR, presumably in line with other socialist countries, accepted the first (stand-still) step of the Nordic Memorandum. It proposed, however, to mitigate the second (roll-back) step, and suggested that the qualification of economic feasibility be introduced. »The next step in the implementation of the Convention should be to reduce, by a certain percentage, the total level of *transboundary air pollution* in a given period of time, *without any decrease in the national economy* of the Contracting Parties«¹⁹¹. The GDR initiative underscores the fact that the socialist countries were not particularly interested in a rapid and thorough decrease of SO₂ emissions or their transboundary fluxes. Yet, they were interested in not hampering the negotiations as a precondition for the holding of the envisaged high-level meeting. *For this reason*, they did not, like several EEC member states, oppose the conclusion of a binding agreement including substantive commitments.

Although the third meeting ended inconclusively, serious negotiations on substantive articles had begun. They continued on the basis of a revised Nordic proposal at the fourth meeting of the Special Group¹⁹². At the end of this meeting, a text entitled 'Elements for a Document on Long-range Transboundary Air Pollution'¹⁹³ emerged and was submitted to the third special session of SAEP. These 'Elements' »were part of the recommendations and concrete proposals«¹⁹⁴ which could be submitted by SAEP to the Commission.

The document reflects the areas of agreement achieved so far. Several paragraphs of the preamble, referring to international cooperation, the role of the ECE, and the relevant part of the Final Act had been agreed upon. Near agreement had been achieved on a reference to Principle 21 of the Stockholm Declaration¹⁹⁵. All other preambular paragraphs, including those recognizing the possibility of adverse

191 ENV/AC.9/6/Annex I, p. 1 (emphasis added, emphasis indicates proposed amendments of the Nordic Memorandum).

192 November 28 to December 1, 1978.

193 ENV/AC.9/8, Annex I.

194 ENV/AC.9/8, para. 14.

195 The clause was 'subject to confirmation', that is, one or more delegations could not agree on the clause as long as their agreement was not positively confirmed by their home capitals; on the meaning of this qualification in diplomatic language, see *Sizoo/Jurjens*, CSCE Decision-making, p. 113.

effects of transboundary air pollution and the requirement of international cooperation were still disputed.

Large parts of the subsidiary obligations concerning monitoring, research and exchange of information¹⁹⁶ were agreed upon¹⁹⁷. But the participants had not agreed whether the basic obligation of the agreement (article 2 of the Nordic proposal) should be phrased in 'hard' terms, as the Nordic countries wished ('undertake' to limit, reduce and possibly prevent transboundary air pollution) or in 'soft' terms ('endeavour' to limit, reduce and possibly prevent), as the Western group preferred. Moreover, the only substantive issue on which the socialist countries had a decisive opinion, namely the question whether to base the international regulation of air pollution upon emissions or their transboundary fluxes, remained disputed. The document notes, that »if future obligations are placed upon countries, the Group could not agree on which of the alternatives would be preferable«¹⁹⁸.

Hence, a number of specific obligations in respect of international cooperation in the field of long-range transboundary air pollution had been agreed upon. But the basic obligation was still heavily disputed. Worse still, no compromise was in sight regarding the form of an agreement, the section of the Nordic draft referring to the establishment of an international machinery and the proposed annex on a stand-still and roll-back of SO₂ emissions. Due to the modest progress achieved so far, the Swedish delegation placed a general reservation on the text and »urged that the Senior Advisers give further guidance to the Special Group for a rapid and successful conclusion of the work«¹⁹⁹.

5.3. *Agreement to Establish a Permanent Process*

The third special session of SAEP was convened in December²⁰⁰ to review the work done so far. The adverse positions had converged to some extent, but the basic conflict remained unsettled between the group of participants stressing »that a political commitment should be made to a co-operative programme in the form of a binding agreement to control transboundary air pollution, including a step-by-step procedure and machinery for its implementation in the future«, and another group holding

196 An element surprisingly qualified as 'agreed' refers to communication not only of »the extent of damage caused by transboundary air pollution«, but also of »its cost where possible«, ENV/AC.9/8/Annex 1, p. 4 (emphasis added). An agreement to address estimates of costs caused by transboundary air pollution would suggest that its impact on possible claims for compensation had been considered and was widely accepted. This was obviously not the case, as demonstrated by the further development of this clause. Its crucial part referring to 'costs' was not only deleted in later drafts. In a footnote, a general disclaimer was attached to the remaining section; see footnote to article 8 of the Convention: »The present Convention does not contain a rule on state liability as to damage.«

197 This is true in particular for what later became articles 3-4 and 6-7 of the Geneva Convention. Definitions of air pollution and long-range transboundary air pollution had also been agreed upon and indicated that the regime was not intended to address the problem of locally confined air pollution.

198 ENV/AC.9/8/Annex I, p. 4.

199 ENV/AC.9/8, para. 16, accompanied by Canada which announced to submit new proposals, see ENV/AC.9/8, para. 17.

200 December 13 - 15, 1978. On the session, see *van Beek*, Continuous Preparation for High-level Meeting.

that »before Governments could commit themselves to a binding agreement, further study of effects would be necessary, but [that] this should not preclude international co-operation to control long-range transboundary air pollution«²⁰¹. The former group was led by the Nordic countries and Canada, and the latter by the large EEC member states.

Several new proposals were submitted. West Germany proposed a clause on compulsory consultations triggered by the request of one of the parties concerned in case of activities involving the risk of transboundary air pollution²⁰². The United States suggested (in vain) to introduce the concept of air quality standards based upon mutually agreed criteria. This concept would inevitably address not only transboundary but also exclusively domestic air pollution²⁰³. However, SAEP did not settle the principal dispute. A fifth meeting of the Special Group was convened in January, prior to the regular session of SAEP in February. The Group was mandated to elaborate proposals on open questions, including the exchange of information and consultation, the *implementation machinery and the settlement of disputes*²⁰⁴. As time for preparations was running out, the mandate to deliberate these institutional and procedural issues thus kept open the decision about the form of the agreement. The meeting would be definitely the last of the Group prior to SAEP and the session of the Commission. Failure to reach a compromise would have a negative effect not only on international cooperation in the field of air pollution but also on East-West détente in general. Hence, the deliberations came increasingly under political pressure.

The fifth meeting of the Special Group²⁰⁵ made progress on two important subjects. The United States continued to adopt a mediating role between the two adverse camps of Nordic and European Community countries. It submitted a compromise paper which »did not prejudice whether the eventual document would take the form of a formal agreement or a framework convention plus annexes«²⁰⁶. Nevertheless, the paper proposed to separate the framework agreement and a possible annex containing concrete targets and measures in respect of reductions of SO₂ emissions or their transboundary fluxes. The US text proposed in particular, that (a) amendments to the agreement should be adopted by consensus of the representatives of parties, that (b) »an annex to the agreement shall *be opened for signature* when at least twenty-four of the parties agree to its adoption«, and that (c) »each annex shall specify its own amendment procedure«²⁰⁷.

201 ECE/ENV/26, para. 13 (emphasis added).

202 See ECE/ENV/26/Annex I, p. 1. The proposal was, subject to confirmation by governments, agreed upon at the fifth meeting of the Special Group; see ENV/AC.9/10/Annex I, p. 1. It became article 5 of the Convention.

203 See ECE/ENV/26/Annex I, p. 2. While this concept did not enter the Convention and the later SO₂-Protocol, the NO_x-Protocol, adopted in 1988, recognized it in the form of 'critical loads'; see below, Chapter 4, pp. 182-185.

204 See ECE/ENV/26, para. 14.

205 January 15 - 19, 1979.

206 ENV/AC.9/10, para. 11.

207 ENV/AC.9/10, para. 31 (emphasis added).

While the Nordic draft provided for mandatory annexes that were integral parts of the convention and could be amended by a simplified procedure, the US text in fact suggested the adoption of optional protocols. This opened the way for accepting the framework convention, while at the same time rejecting further annexes. Neither Western nor Nordic countries immediately agreed to this proposal. The Nordic countries still adhered to the solution of a mandatory annex regarding SO₂ emissions²⁰⁸ and the Western countries refused any indication of future obligations²⁰⁹. The Group agreed, however, to reproduce a section of the US draft *in the report* and not, as usually done, in an annex to it²¹⁰. While the Group was not able to settle the dispute on the form of the envisaged agreement, the US compromise formula was conceived as indicating the direction of a possible solution, without binding delegations at this stage of the negotiations.

Agreement was achieved on another element of the emerging international regime. On behalf of the EEC, France »supported, and considered essential, the establishment of a well-defined mechanism« within the ECE²¹¹. On that basis, 'elements for a follow-up mechanism' could be drafted. The Group agreed that any follow-up mechanism would be entrusted to a body, that »would have operational responsibility for the implementation of any agreement including development of policies and strategies« (articles 2-3 of the later Convention), »co-ordination of activities envisaged« (articles 4-8), »and review and revision functions«²¹². Accordingly, the agreement to be adopted would comprise an institutional framework for *a continuous and dynamic deliberation and decision process*.

In the fifth session, a conflict between Canada and the USA similar to the dispute between the Nordic and EEC countries emerged. At the very end of the meeting Canada stated its disappointment about the slow progress achieved so far »towards defining elements of an agreement which would bring significant progress toward ... reducing and eliminating transboundary air pollution«²¹³. The Canadian delegation added an interpretation to the basic obligations of the instrument under discussion as to its »understanding that actions relating to the control of air pollution are to be considered in the context of the contribution which such air pollution might make to transboundary air pollution«²¹⁴. This initiative was obviously directed against the US reluctance to reduce *in particular* the part of air pollution with a transboundary implication²¹⁵.

208 See ENV/AC.9/10, para. 22.

209 The US text reflected, however, precisely the solution adopted later in the form of the SO₂-Protocol; see below, Chapter 4, pp. 150-155.

210 See ENV/AC.9/10, para. 31.

211 ENV/AC.9/10, para. 24.

212 ENV/AC.9/10/Annex I, p. 8.

213 ENV/AC.9/10, para. 40.

214 ENV/AC.9/10, para. 40.

215 On the Canadian-United States conflict about transboundary air pollution, see *Weistone, Acid Rain. The International Perspective*, pp. 32-33.

5.4. *Agreement on Basic Commitments*

At the time of the Senior Advisers' regular session²¹⁶, »differences still existed concerning the degree of commitment different governments were prepared to accept«²¹⁷. But all important groups of participating countries for different reasons desired to achieve a compromise. The Nordic countries could not be sure that an inflexible position would further their environmental approach. It risked jeopardizing the decision about a high-level meeting during the 1979 session of the Commission. The high-level meeting had no genuine link to the issue of transboundary air pollution. Hence, postponement of the decision bore the risk that the subject would lose its top rank among the issues on the agenda of the meeting²¹⁸. For all three groups, general political considerations in connection with the future of détente were involved. While the decision on the holding of a high-level meeting had been rejected by Western countries in 1978 mainly for political reasons, another postponement could only be considered as a political affront against the socialist countries. Furthermore, while the first political follow-up meeting of the CSCE had failed²¹⁹ the second follow-up meeting was scheduled for 1980. Postponement of the decision on a high-level meeting to the 1980 session of the Commission implied that the meeting would have to be held simultaneously to the CSCE follow-up meeting or its preparations. This time-table involved an undesirable mutual disturbance of the two political processes proceeding in the distinct fora of ECE and CSCE. In addition, the socialist countries, being less interested in the substance of a high-level meeting on the environment than in the political profit derived from its convening, favoured a definite decision at the 1979 session of the Commission. Whereas substantive preparations of instruments to be submitted to the Commission had been widely influenced by environmental and economic considerations, political implications gained increasing importance²²⁰.

Against this background, the parties moved toward a compromise²²¹. As a new major concession, the Nordic countries indicated their readiness to accept that concrete measures to control transboundary air pollution caused by sulphur compounds could be taken later than originally proposed, and that these measures could be

216 February 19 - 23, 1979.

217 ECE/ENV/28, para. 13.

218 During the regular session of SAEP, many delegations considered the topic of 'transboundary water pollution' also suitable for the high-level meeting as the ECE 'Committee on Water Problems' was finalizing a 'Declaration of Policy on the Prevention and Control of Water Pollution'; see ECE/ENV/29, para. 24.

219 See above, Chapter 3, pp. 100-101.

220 The Commission attached high political importance to the preparatory work achieved in SAEP. This is illustrated by the fact that the Bureau of the Commission requested SAEP to submit besides its regular report a separate one concerning the work done in regard to the preparation of the high-level meeting; see ENV/ECE/26, para. 24. The Bureau of the Commission consists of state representatives elected as officers, to be distinguished from the staff of the ECE Secretariat.

221 The comparatively uncontroversial atmosphere concerning the other topic prepared for the high-level meeting may be attributed to the fact that no participant insisted on a binding agreement and on a thorough substantive breakthrough. The regular session of SAEP approved several documents prepared on the topic of 'low- and non-waste technology' for submission to the Commission; see ECE/ENV/26, p. 10. On the development of this topic, see Chossudovsky, *East-West Diplomacy*, pp. 83-85.

implemented progressively, following a timetable established by common agreement and set out in an annex to the framework convention or framework agreement²²². They suggested disconnecting the entry into force of the framework agreement from that of an annex containing specific obligations. While the US text had proposed to disconnect signatures, the Nordic suggestion still implied that *the signature of the Convention* committed the parties to undertake action according to an accepted timetable. The source states should recognize *that* internationally coordinated action was necessary and they should clearly state *which* action would be adopted.

This suggestion was still not acceptable to the large Western countries. The United States, although having »expressed the hope that it would be possible to provide real relief to those countries adversely affected by transboundary air pollution *and in this way carry forward the objectives of the Final Act of the Conference on Security and Co-operation in Europe*»²²³, did not accept the obligations contained in the annex of the Nordic proposal. It did not consider a timetable negotiable. Contrary to certain EEC countries, the United States favoured, however, the conclusion of a binding agreement that contained those parts on which consensus could be reached²²⁴. While it considered the solution of this subject as a precondition for a positive decision on the holding of the high-level meeting, it was not prepared to accept any internationally coordinated plan of action directed at the reduction of SO₂ emissions. The United States made thus clear that its resistance against the modified Nordic proposal was now of an economic/environmental and not of a political nature as in the previous years.

The EEC member states were prepared to engage in »a strong and serious political commitment«, namely »the use of the best technology economically feasible; joint research with an exchange of information; and the creation of a permanent mechanism for consultation«²²⁵, but they did not offer any new concessions.

The Soviet Union, speaking on behalf of the socialist countries (except Romania) and eager to a facilitate compromise, did not defend any substantive position. It referred to the Nordic proposal as a sound basis for negotiations, although certain parts should be subject to amendment, and regretted that some EEC members could not accept it. It made clear that the socialist countries would accept both a convention and an agreement of a less binding nature. However, »a clear objective should be formulated *and a sound organizational structure should be created* for the future development of all-European co-operation«²²⁶. The Soviet position confirmed once more that the socialist countries had no immediate interest in the environmental, but all the more in the political aspects of the development. As a new component, they welcomed the institutionalization of a European cooperative process in a particular

²²² See ECE/ENV/28, para. 16.

²²³ ECE/ENV/28, para. 23 (emphasis added).

²²⁴ See *Toward a High-level Meeting*; Environmental Policy & Law 5 (1979), p. 78.

²²⁵ ECE/ENV/28, para. 17.

²²⁶ ECE/ENV/28, para. 18.

area of East-West relations. They were prepared to accept binding obligations, if necessary, but they would not at all regret if they had not to do so.

Even though informal consultations continued and a new 'provisional text for negotiation'²²⁷ submitted by France was agreed upon as a negotiating basis²²⁸, a fourth special session of SAEP²²⁹ was scheduled immediately prior to the session of the Commission. This session basically functioned as an 'open-ended drafting group'. Sweden »indicated that all the Nordic delegations were prepared to endorse this text 'in toto' as a realistic basis for negotiation, *on the understanding that this would lead to a binding agreement*²³⁰. Some EEC member states were, however, still not prepared to do so. These delegations, »while also accepting the general approach adopted in the text, indicated that they would find it difficult to support its development in a binding agreement²³¹. The text still contained a reference to immediate future negotiations on an annex addressing the reduction of emissions²³².

The Nordic countries were forced to give up their attempt to place in the agreement an obligation to negotiate an annex containing specific measures to reduce emissions. Norway suggested that »an acceptable compromise might be found by utilizing the text to develop two documents, one of these would assemble those elements which would become constituent parts of a binding agreement; the other would be a statement of intent²³³. This proposal to exclude disputed elements in order to pave the way for the conclusion of an agreement containing accepted parts of a more comprehensive package is by no means a new solution²³⁴. However, a precondition for the exclusion of substantive parts of a subject from the binding instrument and its transfer into a declaration of intent is the establishment of a continuing process of multilateral consultations and negotiations. This precondition had already been accepted.

Accordingly, SAEP was able to agree upon two related documents, a 'possible draft 'Convention on Long-range Transboundary Air Pollution'' and a 'Working document for a draft resolution'²³⁵ which was introduced by the United Kingdom, also on behalf of France, Norway and Sweden, i.e. four of the protagonists of the negotiations. The latter document contained »some elements that had been found controversial as part of a draft convention. It was proposed that it should be recommended

227 See ECE/ENV/28, para. 30 and ECE/ENV/29, para. 21.

228 See *Toward a High-level Meeting*, Environmental Policy & Law 5 (1979), p. 78.

229 March 21 - 23, 1979.

230 ECE/ENV/31, para. 10 (emphasis added).

231 ECE/ENV/31, para. 11.

232 For alternatives discussed, but not agreed upon, see bracketed articles 8-9 of the later document 'possible draft 'Convention on Long-Range Transboundary Air Pollution''; reprinted in 5 Environmental Policy & Law 1979, pp. 104-107.

233 ECE/ENV/31, para. 12.

234 As Chossudovsky, East-West Diplomacy, p. 82, believes. To give but one example, the negotiations on the 'oil pollution liability regime' proceeded in two stages, see Gehring/Jachtenfuchs, Haftung und Umwelt, pp. 162-163.

235 Both documents are reproduced in ECE/ENV/29/Annex A and in ECE/ENV/31/Annex I and II. Both documents are reprinted in Environmental Policy & Law 5 (1979), pp. 104-107. Note that in this reprint of the possible draft 'Convention' several sub-paragraphs of draft para. 10 appear erroneously under para. 9.

for submission to a high-level meeting for consideration *in conjunction with the possible draft 'Convention'*²³⁶.

The 'possible draft 'Convention'' still left open a number of questions which had to be decided during the session of the Commission. Although the text had been redrafted and appeared, including a preamble and final clauses, widely in the wording of a Convention, the EEC member states insisted that the Commission should decide on the 'form'. Accordingly, the word 'Convention' appeared in square brackets and the later 'articles' were labelled 'paras'. Even though being a part of the compromise package achieved at the fourth special session of SAEP, the decision on form turned out to be far from constituting a mere formality. Moreover, the degree of commitment of the basic obligation, namely whether states were obliged merely to '*endeavour*' (as was agreed later on) or to '*undertake*' to limit and, as far as possible reduce and prevent air pollution, had to be decided. A paragraph indicating that annexes would be required to implement the Convention was still retained in square brackets. This paragraph was later dropped altogether.

The Nordic countries had officially related their acceptance to withdraw several bracketed paragraphs of the Convention to the adoption of the Resolution. An attached footnote informed that these paragraphs »would be withdrawn if a resolution based on the 'Working document for a draft resolution' were adopted«. One of the paragraphs, according to which »the Parties will develop, without delay, further co-operation in problem areas ... within the scope of this document« was transferred into the Resolution. Another of these paragraphs referred in one alternative to the compilation of a document on national policies and was likewise transferred into the Resolution. A second more ambitious alternative referring to future negotiations of an annex to the Convention on internationally agreed policies and strategies to reduce sulphur emissions was later dropped.

Still pending was an Austrian demand to include into the scope of the emerging international regime on long-range transboundary air pollution also air pollution caused by nuclear power plants. However, any explicit reference in this regard was later dropped²³⁷. Still pending was also a Canadian proposal for a sub-paragraph on the 'elaboration of methodologies to evaluate in economic terms the damage caused

²³⁶ ECE/ENV/31, para. 17 (emphasis added).

²³⁷ As early as the Consultative Meeting of SAEP in summer 1977, Austria had launched an initiative to integrate protection against nuclear pollution into the framework of transboundary air pollution; see ECE/ENV/17/Add.1, para. 15. But this claim proved to be unsuccessful for at least two reasons. Issues related to the peaceful use of nuclear energy are internationally treated almost throughout separately from other issues, however similar they might be. They are dealt with in particular by the Nuclear Energy Agency as part of the OECD and by the International Atomic Energy Agency as part of the UN system. Furthermore, the emerging international regime on long-range transboundary air pollution was from its very beginning primarily designed to combat air pollution by sulphur compounds. It was in fact going to become an SO₂ regime, and even this confined task had turned out to be painful enough. An extension to such distant pollutants as nuclear compounds was completely inconceivable. After initial resistance, see E/ECE (XXXIV)/SR. 6, para. 16, Austria settled with the following interpretation: »Air pollution' as defined in paragraph 1 included possible adverse emissions resulting from the operation of nuclear power plants, because these emissions were nothing else than the introduction of substances and energy into the air. It went without saying that the fundamental

by transboundary air pollution' that bore the risk of establishing an agreed upon basis for claims of compensation for damage suffered. It was placed under the heading of 'research and development' involving multilaterally agreed cooperation. Later it was substantially weakened and transferred to the title 'exchange of information' which addressed *unilateral* action²³⁸. Lastly, the Resolution envisaged to accompany the Convention still had to be drafted, taking into account the sparse working document agreed upon by SAEP and clauses of the Convention that were not accepted.

Apart from these points and several minor drafting problems, SAEP did not consider the final clauses. The 'possible draft 'Convention'' submitted to the Commission contained the clauses as they had appeared in the report of the fifth meeting of the Special Group. They comprised the United States text regarding the adoption of annexes and the initial Nordic proposal in respect of Settlement of Disputes, Signature and Accession, Ratification, Acceptance and Approval as well as Entry into Force and Withdrawal²³⁹. Even though these clauses were not marked with square brackets, they had not been agreed upon²⁴⁰. During the session of the Commission, the provisions on 'Signature and Accession' turned out to be highly controversial.

6. Political Decisions

In an advance note to the 1979 session of the Commission²⁴¹, the secretariat stated that the preparation of the high-level meeting was »in the forefront of the Commission's activities during the past year«²⁴². From the point of view of conference diplomacy, which does not necessarily coincide with an environmental perspective, a breakthrough had been achieved. Accordingly, the expected positive decision to hold the projected high-level meeting on the environment in 1979 became the major focus of the general debate of the session. While the holding of the meeting did not seem to pose insurmountable problems any more, it was closely related to the final settlement of issues in the area of transboundary air pollution. The general agreement was, moreover, linked to a decision on the installation of a new Principle Subsidiary Body for energy questions and its possible mandate in regard to the preparation of a second high-level meeting.

principles laid down in paragraphs 2 to 4 of the Draft Convention applied to air pollution originating from nuclear power plants»; ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 102.

238 Accompanied by a footnote, it forms now article 8 f of the Convention.

239 See report of the meeting, ENV/AC.9/10, para. 31.

240 This is illustrated by the clause on Dispute Settlement. While the Nordic Draft Convention provided for compulsory third party settlement of disputes, the socialist countries refused to accept this clause during a short discussion at the fifth meeting of the Special Group; see statements of the Soviet Union, ENV/AC.9/10, para. 36, and the GDR, *ibid.*, para. 37. This position reflected a long-established practice of these countries. The later revision of the clause did not pose major difficulties.

241 March 27 to April 27, 1979.

242 'The Commission's Activities and Implementation of Priorities'; E/ECE/964, para. 11.

6.1. Agreement on the Convention

The text of the 'possible draft 'Convention'' elaborated by SAEP only a weekend before the session of the Commission was still a rather incomplete text with a number of square brackets and posed many open questions. Therefore, a priority task for the Commission was the finalization of the documents to be submitted to the high-level meeting. Informal negotiations proceeded in several groups, including an EEC group, a group of Western states, a group of socialist states and an East-West contact group²⁴³. Most open problems concerning substantive, i.e. environmental issues were removed from the East-West agenda and had to be settled *within* the Western group. Among the disputed issues was the question of the appropriate *form* of the agreement on long-range transboundary air pollution. The form of a legally binding convention was still not accepted by all Western states, although the proposal to adopt an annex containing detailed obligations had been withdrawn by the Nordic countries. Norway reminded the delegations during the general debate, that the Nordic states had made a number of concessions²⁴⁴ and that their acceptance of the compromise agreement had been based on the understanding that the proposals would be accepted as a package for submission to the high-level meeting. Unless the package was accepted, Norway »would find it difficult to consider that the Commission's criteria for the convening of a high-level meeting had been satisfied«²⁴⁵. This Norwegian strategy deliberately linked the decision about a high-level meeting and the agreement on a binding convention. Since traditionally decisions were made by consensus, all participating countries had a veto power. The Western countries would be blamed if their stubbornness prevented the decision altogether.

Sweden likewise emphasized the importance of an agreement including the dynamic element that would transfer the international policy to abate air pollution from a static commitment into an institutionalized and continuous process. »The Convention should not provide only for the exchange of information, consultation and research: it must provide a framework within which policies and strategies for combating transboundary air pollution could be elaborated. It must include provisions laying down procedures for implementation and entering into further commitments.«²⁴⁶ Only if this was accepted, could delegations enter into final negotiations on the draft instrument.

France, holding the acting presidency of the EEC, attempted to bridge the diverging opinions of member states. Addressing the socialist countries it indicated that the

243 See Chossudovsky, *East-West Diplomacy*, p. 89. Generally, decision-making within the ECE was influenced by the existence of two 'caucuses', namely an Eastern caucus formed by the socialist countries and a Western caucus formed by all other countries, including Yugoslavia. Negotiations proceeded in two steps. First agreement had to be achieved *within* the respective caucuses and only subsequently *between* them via contact groups, see Bailey-Wiebecke, *Gesamteuropäische Zusammenarbeit im Rahmen der ECE*, p. 598, and Chossudovsky, *Die Rolle internationaler Institutionen*, pp. 179-180.

244 See E/ECE (XXXIV)/SR. 3, para. 33.

245 E/ECE (XXXIV)/SR. 3, para. 34.

246 E/ECE (XXXIV)/SR. 4, para. 59.

establishment of a new Principle Subsidiary Body for energy questions was considered favourably²⁴⁷. The Community thus made clear that remaining difficulties in respect of the convention were not related to East-West tensions. Issues pending were confined to questions of substance. Following the withdrawal of the proposed annex, the United States did not consider serious national interests involved any more. It insisted, however, that the agenda »and any agreements that might be adopted at a high-level meeting must be worded out before the meeting could be convened«²⁴⁸ as it did not consider such a meeting as a »political forum« but »as an opportunity to solve common problems jointly and obtain negotiated results«²⁴⁹.

This obstacle established by the United States was fundamentally opposed to the interests of the socialist countries. Without major national interests at stake at the substantive level, they favoured the taking of an immediate decision to hold the high-level meeting and considered preparations to have advanced sufficiently far. The Soviet Union proposed that »problems pending could be solved before the meeting, *or even during it* because the idea that agreement on certain points could be reached only at a high level must not be excluded. Otherwise the preparations might drag on endlessly, especially if adequate efforts were not made to overcome the difficulties; in that respect, the position of the European Economic Community was quite clear«²⁵⁰. Hence, the danger of inconclusive negotiations and a further postponement of the desired decision was lingering.

A second, but at this stage of the preparations presumably minor issue was the drafting of the agenda of the high-level meeting. The socialist countries²⁵¹ attempted anew to place, beside the two subjects on which documents had been drafted, other topics including transboundary water pollution on the agenda²⁵². By the scheduled end of the session²⁵³, questions of substance had been settled within the Western group and an agenda was ready for approval by the Commission²⁵⁴.

6.2. *Dispute about the Signature of the European Community*

However, a new and this time highly political problem arose. The draft convention still contained the final clauses of the initial Nordic proposal, including the clause on 'Ratification and Accession' which provided that the Convention should be open,

247 See E/ECE (XXXIV)/SR. 3, para. 18.

248 E/ECE (XXXIV)/SR. 3, para. 55.

249 E/ECE (XXXIV)/SR. 3, para. 55.

250 E/ECE (XXXIV)/SR. 4, para. 18 (emphasis added).

251 See Hungary, E/ECE (XXXIV)/SR. 3, paras. 7-10; Bulgaria, E/ECE (XXXIV)/SR. 3, para. 43.

252 This subject had gathered wide support. The report of the session notes that »most delegations felt that in view of the importance of water quality for the ECE region and the work already carried out within the ECE, a related topic should be considered«, ECE-Report, ECOSOC Official Records 1979, Supplement 12, para. 52 (emphasis added). For the Western position, see Canada, E/ECE (XXXIV)/SR. 2, para. 44. Sweden however associated itself with the Eastern position, see E/ECE (XXXIV)/SR. 4, para. 60.

253 According to the 'Provisional Agenda', the adoption of Resolutions and Decisions was scheduled for Friday, April 6, 1979; see E/ECE/963.

254 See Chossudovsky, *East-West Diplomacy*, p. 93.

apart from states having consultative status within ECE, for member states of the ECE, i.e. for all states having participated in the CSCE process plus Albania, *and for the European Economic Community*. Participation of the EEC as an independent signatory turned out to be unacceptable to the Soviet Union. The clause had by no means been newly introduced into the discussion as one commentator believes²⁵⁵. On the contrary, it formed part of the initial Nordic proposal submitted in July 1978²⁵⁶. However, at that time the discussion had focused on issues of substance. Furthermore, the report of the fifth meeting of the Special Group noted that, although agreement on the form of the future instrument had not been reached, the Group agreed to include in the report several provisions on annexes from the United States compromise text *as well as final clauses taken from the Nordic Draft Convention, including the proposed article of signature and accession*²⁵⁷. The clause was in a virtually unchanged form transferred into the 'possible draft 'Convention'', a document adopted by SAEP at its forth special session immediately prior to the session of the Commission²⁵⁸. Hence, the clause itself was by no means *new*.

Throughout the preparations, deliberations concentrated on substantive issues. Elaboration of final clauses was prevented by member states of the European Community which refused to accept the form of a legally binding *convention*. Only during the session of the Commission was this form eventually agreed upon. Nevertheless, it is somewhat peculiar that the highly political issue of the signature of the Community did not gain any particular relevance in the initial debate of the session. Apparently, both sides did not raise the issue at a political level. Community member states did not refer to the issue as long as possible in order to avoid lasting debates and linkages with other issues²⁵⁹.

The Soviet Union and other socialist countries were anxious not to disturb the protracted negotiations on substance between the EEC and the Nordic countries. Introducing the issue of the EEC signature would have endangered the tacit coalition between Eastern and Northern countries. The opening of a new highly political dispute on the membership of the Community would have strengthened the Western position to settle below the level of a binding agreement while it was not clear whether the Nordic countries would eventually be prepared to accept such a result. The Soviet strategy to facilitate agreement within the Western camp supports the assumption that the Soviet Union attached priority to the settlement of substantive

255 'When the Western group had completed its work on the draft Convention and showed it to its Eastern colleagues, the East European countries were prepared, grosso modo, to go along with it. However, *one new draft article* providing for the adherence to the proposed Convention of the European Economic Community had been introduced'; Chossudovsky, *East-West Diplomacy*, p. 93 (emphasis added).

256 See Article 21 of the Nordic Proposal.

257 See ENV/AC.9/10, para. 31.

258 See unnumbered Article on 'Signature and Accession' of the 'possible draft 'Convention''.

259 Compare the very similar situation immediately prior to the conclusion of the negotiations of the Final Act of the CSCE; see above, Chapter 2, pp. 80-81. Linkage of the issue of Community participation in international treaties with substantive issues would risk division of Community members on the former question if they were divided on the latter. In the present case, at least Denmark had joined the Nordic group and had thus de facto left the Community group.

questions²⁶⁰. Obviously, this strategy bore the risk that the desired decision on a high-level meeting would have to be paid with what the Soviet delegate called an »unconditional recognition of the European Economic Community«²⁶¹. Now, in the final stage of the negotiations the socialist countries were in the odd position of promoting the amendment of a document which was accepted by all other participating countries without reservation.

The issue was of utmost importance for both sides involved, i.e. the Soviet Union and the European Community. On behalf of the Western group, Belgium introduced the proposal to postpone the Commission session for the first time in the history of the ECE, as »the western group of countries considered it necessary to settle this question before taking a decisive step forward«²⁶². France stated on behalf of the EEC countries that since EEC »participation was essential in an increasing number of international conventions, for well-known reasons of international competence and international law, the delegations concerned could not subscribe to the texts prepared as long as their partners had not formally given their agreement to the signature of the Convention by the EEC«²⁶³. The USA, not interested in the subject as such but supporting the Community for political reasons, emphasized that it was not prepared to confront the ministers at the high-level meeting with this question²⁶⁴. The Soviet Union in turn, although not objecting to the postponement of the final meetings of the session, regretted the further delay of the decision on the high-level meeting²⁶⁵.

Western delegates indicated two fields for possible compromise short of a signature of the Community. The Community stated its preparedness to negotiate *modalities* and *procedure* of its claim. This opened the way for the solution adopted later. Compromise on modalities referred to the wording of the clause that would imply a right of signature for the EEC. In the Convention the EEC is not any more expressly mentioned. The right to sign the instrument is granted to 'regional integration organizations' fulfilling certain requirements²⁶⁶. These requirements were only fulfilled by the EEC, but principally any regional integration organization

260 An incident at the third special session of SAEP in December 1978 corroborates this suggestion. When the delegate from West Germany spoke 'on behalf of the European Economic Community' (ECE/ENV/26, para. 18, emphasis added), the Soviet Union »observed that, in accordance with the terms of reference and rules of procedure of the Economic Commission for Europe, the members of the Commission are the States ... and not international organizations; subsequently, the text ... should indicate that the proposals by the delegation of the Federal Republic of Germany were submitted on behalf of the member states of the European Economic Community and not on behalf of the Community as such«; ECE/ENV/26, para. 19 (emphasis added). The protest was never reiterated during negotiations and the Soviet Union apparently acquiesced on the EEC wording.

261 ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 84.

262 ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 89.

263 ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 91 (emphasis added).

264 See ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 97.

265 See ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 83. It is clear that the postponement had been subject to prior informal agreement and that statements summarized in the report merely recorded the official positions of the different groups of states.

266 See Geneva Convention, article 14: »1. The present Convention shall be open for signature ... by regional integration organizations, constituted by sovereign states members of the Economic Commission for Europe, which have competence in respect of the negotiation, conclusion and application of international agreements in matters covered by the present Convention« (emphasis added).

would have the right to sign the Convention. Hence, the clause opened at least *the possibility* for the socialist countries that one of their organizations might also join the Convention²⁶⁷. In the field of procedure, the compromise envisaged that, contrary to the procedure adopted at the CSCE, the signature of the Convention would not be made at the high-level meeting and would not be recorded in the report of the meeting²⁶⁸.

Western countries indicated a second field for possible trade-offs. Immediately prior to the postponement of the session, Belgium noted in respect of energy that, »through the creation of a new subsidiary organ, *information indispensable for the taking of decisions* could be made to form the basis of further co-operation in Europe, and this exchange of information *might even lead to the exploration of topics for an eventual high-level meeting*«²⁶⁹. Accordingly, Western countries offered progress toward preparation of another high-level meeting²⁷⁰.

After more than two weeks of highly secret negotiations²⁷¹, a comprehensive 'package' was agreed upon that included the text of the Convention and the Resolution as later adopted, the decision to hold the high-level meeting as well as its agenda and procedure, and the decision to establish a new Principle Subsidiary Body on energy²⁷².

The Commission decided to convene a High-level Meeting within the Framework of the ECE on the Protection of the Environment in November 1979. It agreed to submit to this meeting the prepared documents, i.e. the 'Convention on Long-range Transboundary Air Pollution', the 'Resolution on Long-range Transboundary Air Pollution' and a 'Declaration of Intent and Recommendations for National Action and International Co-operative Activities including Follow-up Activities within the Framework of ECE in the Field of Low- and Non-waste Technologies and Re-

267 One author notes that the Soviet Union may have attempted to acquire the necessary competences for the Council for Mutual Economic Assistance (CMEA); see *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 35. Success of such endeavour appeared, however, to be remote in the light of a Romanian disclaimer at the end of the session: »The Romanian delegation interpreted the wording on the subject of participation in the Convention of regional economic integration organizations constituted by States members of the ECE as referring exclusively to any such organization to which its member States had transferred competence to sign, conclude and apply international agreements on their behalf and to exercise their rights and responsibilities in the matter of transboundary air pollution.«, ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 119 (emphasis added).

268 See *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 34.

269 ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 88.

270 *Bailey-Wiebecke*, Die UN-Wirtschaftskommission für Europa, p. 30, suggests that the Soviet refusal to accept the elaborated draft in time was merely part of a bargaining tactic directed toward a positive decision on this second high-level meeting. But this may be an all too westerly interpretation.

271 See *Europe Environment* 92/1979, p. 9.

272 'Senior Advisers to ECE Governments on Energy'. Statements in the reconvened session suggest that its mandate had been an important part of the package; see, for example, US-Statement; ECE-Report, ECOSOC Official Records 1979, Suppl. 12, para. 124. The mandate includes in para. 2 »(c) to examine problems related to a possible High-level Meeting on energy organized within the framework of ECE« and in para. 3, that the Commission »Declares its willingness to consider, as of its next session, an assignment to the Senior Advisers to ECE Governments on Energy for the exploration of the topics for a possible High-level Meeting on energy within the framework of ECE on the assumption that satisfactory progress has been made in all areas of the mandate of the new body«; Decision B (XXXIV), ECE-Report, ECOSOC Official Records 1979, Suppl. 12, pp. 112-113.

utilization and Recycling of Wastes'. The Commission, moreover, decided to convene an ad hoc group of experts to finalize the legal and linguistic editing of these documents and it adopted the agenda for the high-level meeting which provided for a general debate »on the environmental situation in the ECE region« and was not confined to the two subjects on which documents had been prepared²⁷³.

6.3. High-level Meeting on the Protection of the Environment

The High-level Meeting on the Protection of the Environment was convened in November 1979²⁷⁴. Although formally related to the institutional structure of the ECE, it was an event of its own type without any precedent in the history of the organization. It was attended by all ECE member states except Albania²⁷⁵. Most countries were represented at ministerial rank²⁷⁶.

The meeting was not a negotiating forum. All three substantive documents to be dealt with, including the two texts related to transboundary air pollution, had been carefully prepared in advance and were adopted at an early stage 'by acclamation'²⁷⁷. The importance of the meeting was related to the very fact of its holding. For a number of years *the prospect of its holding* had generated an unexpected political-diplomatic dynamics within the ECE. Once the meeting was decided upon after a dramatic climax of informal negotiations, it had already discharged most of its functions. It *symbolized* the results achieved during the preceding years of conference diplomacy and emphasized the increasing attention for European environmental cooperation. In its functions within an on-going process, it resembled the third stage of the CSCE.

Western delegations generally emphasized the environmental aspect of the emerging European cooperation. Delegations from socialist countries attributed particular relevance to the political impact of European environmental cooperation and referred to the close relationship of the meeting to the CSCE process and to the necessity of arms reductions. In an attempt to further enhance the importance of the meeting with regard to its political impact on the process of détente, including the 1980 Madrid follow-up meeting within the framework of the CSCE, leaders of five socialist countries sent messages reproduced in the report²⁷⁸.

273 Decision A (XXXIV), ECE-Report, ECOSOC Official Records 1979, Suppl. 12, pp. 110-112.

274 November 13 - 15, 1979.

275 In addition, three parties in a consultative status and, 'at the invitation of the Secretary General', the European Community participated.

276 See Chossudovsky, *East-West Diplomacy*, p. 101.

277 See report of the meeting, ECE/HLM.1/2, para. 10.

278 See messages of Brezhnev (Soviet Union); Laazaar (Hungary); Gierek (Poland); Zhivkov (Bulgaria); and Honecker (GDR); ECE/HLM.1/2/Add. 1/Annex V. Contrary to normal ECE documents, the report of the High-level Meeting appeared in a single version containing the report proper, the three documents adopted (Annex I to III) and the messages of the socialist party leaders (Annex V) in three ECE working languages. In contrast, statements of ministers and representatives (Annex IV) are reproduced only in their language of delivery. Note that the Statement of the Soviet Union is, contrary to traditional practice, not delivered in Russian but in English, while the representatives of Byelorussia and the Ukraine spoke in Russian.

The Convention on Long-range Transboundary Air Pollution was not signed *at* the meeting, but *at its occasion* in the Geneva United Nations Headquarters by 34 attending parties plus the European Community. The Resolution on Long-range Transboundary Air Pollution, however, which established an interim mechanism to bridge the period of time required for ratification of the Convention, was adopted *by the meeting*²⁷⁹. It was thus invested with the political authority of a high-level meeting ranking well above ordinary sessions of the ECE Commission. The establishment of an interim mechanism and the commitment to ratify and implement the Convention without undue delay were thus removed from the bulk of normal relations between states.

7. Conclusion: Climax and End of the Stage of Regime Formation

A long process of regime formation culminated in the form of the unique High-level Meeting. This process was the result of a linkage of two distinct initiatives advocated by two distinct groups of countries. For more than a decade the Nordic countries endeavoured to force major polluters from Western and Eastern Europe to adopt an internationally coordinated strategy for the reduction of air pollutants, in particular of SO₂ emissions. The socialist countries led by the Soviet Union promoted their concept of a continuing process of political deliberations between the European and the two North American countries, initially in the form of the CSCE, later also in the form of European congresses with a more limited agenda. Only the linkage between the Nordic initiative of substance and the Eastern initiative of form led to the establishment of the international regime on long-range transboundary air pollution.

The High-level Meeting symbolized a turning point in the process of regime development. Up to this point, the bulk of deliberations had been devoted to the *establishment* of the institutional framework of the international regime. The regime consisted now of a comparatively strong procedural and a relatively weak material component. In its early initiative, the Nordic countries had suggested a two-track approach which comprised negotiations about specific measures to reduce transboundary air pollution *and* the establishment of an on-going deliberation process about the control of transboundary air pollution. The Nordic countries never assumed that a comprehensive solution of the substantive problem at stake could be achieved at once. They always anticipated the necessity for continued cooperation and suggested an adequate procedural arrangement to facilitate this cooperation²⁸⁰.

In terms of substance, the regime as established in 1979 was comparatively weak because of the complete lack of reduction targets. However, it reflected a certain agreement *that* transboundary air pollution should be controlled, limited and

279 Resolution on Long-range Transboundary Air Pollution, reprinted in the report of the meeting, ECE/HLM.1/2/Annex II.

280 On the relevance of the Convention, see *Sion*, Regional Approach to Environmental Protection; and *Kiss*, Du nouveau dans l'air.

prevented, and *that* the best technology available and economically feasible should be employed. Apparently, these obligations were not detailed enough to create tangible and concrete duties, but they indicated the direction in which the regime would develop in the future and permanently established the issue of long-range transboundary air pollution on the international agenda. The institutional framework of the regime as established in 1979 could be used to specify and implement the general material commitments.

Although a well-institutionalized process became even more important as it turned out that material obligations were not acceptable to the majority of participants, demands of strong procedural arrangements had not been solely a matter of trade-off for measures to reduce emissions. Hence, one of the two goals promoted by the Nordic countries, namely the procedural one, was immediately successful, while the other, namely the material one, proved, at least temporarily, to be unsuccessful.

Chapter 4

Development of International Governance in the Issue-area of Long-range Transboundary Air Pollution

The adoption of the Convention on Long-range Transboundary Air Pollution marked a turning point in the decade-long struggle of the Nordic countries for internationally coordinated action to combat transboundary air pollution. Early initiatives had been launched during the late 1960s and early 1970s in a number of different international fora. Among these initiatives was the attempt to link the problem of transboundary air pollution with the on-going process of détente and East-West cooperation. This linkage between a specific and rather technical issue and a highly political process had proven to generate sufficiently high dynamics to establish the institutional framework of the international regime.

The Convention adopted in 1979 did not solve the substantive problem. It merely established a framework for future international cooperation in the issue-area. A major function of this framework was to ensure that issues related to transboundary air pollution retained their place on the international agenda after 1979, although a first attempt to establish internationally coordinated measures to reduce emissions or transboundary fluxes of air pollutants had been rejected. After all, even those (many) countries having rejected this initial claim committed themselves to participation in future deliberations about measures to implement the Convention.

The present chapter explores the development of the international regime. Over time, the structure of the regime expanded considerably. Several protocols addressing particular issues within the issue-area and stipulating specific measures and obligations were adopted. Each of these instruments comprises its own community of contracting parties that is smaller than the community of regime participants at large. Nevertheless, each of these instruments has been developed within the institutional structure of the international regime and has been influenced by it. The process of regime operation thus underscores the relevance of the institutional framework for later developments. If so, the institutional framework of the international regime may be considered to be one factor that influences political outcomes in the issue-area concerned.

1. Interim Implementation

The international regime as established in 1979 did not contain sufficiently detailed obligations to exert a significant immediate influence on domestic policies and strategies to combat air pollution. It provided in particular a framework for the development of cooperation among the participating countries. Accordingly, its

major instrument to promote cooperation in the issue-area was the support of a continuing process of deliberations among the actors concerned.

Since the framework was codified in a convention, i.e. in an independent international treaty, its formal entry into force required ratification according to time-consuming domestic procedures. Bridging an otherwise inevitable period of inactivity of several years, the High-level Meeting had adopted a Resolution on Long-range Transboundary Air Pollution¹ providing for an immediate start of the process of provisional implementation.

Three months after the High-level Meeting, SAEP, the Principal Subsidiary Body of the ECE for environmental issues, dealt with organizational aspects of this continuing process². It agreed to establish an 'Interim Executive Body' (IEB) under its own political supervision³. The body was assigned »the mandate to be responsible for the implementation of the Resolution on Long-range Transboundary Air Pollution adopted by the High-level Meeting, and the provisional implementation of the Convention, pending its entry into force«⁴. The new body was requested to utilize the Steering Body of EMEP to develop the monitoring programme. Whereas from a formal point of view SAEP set up a new subsidiary body, in fact, it established a predecessor of the envisaged Executive Body of the Convention⁵.

SAEP decided to »attach the highest priority to the completion of a document on national policies and strategies for the abatement of air pollution caused by sulphur compounds based on agreed guidelines, to be reviewed by the Interim Executive Body«⁶ which was referred to in the Resolution adopted at the High-level Meeting. It also adopted the necessary guidelines and requested states to submit reports to the Secretariat.

Less than a year after the High-level Meeting the Interim Executive Body met for its first session⁷. The major topic on its agenda was the review of national policies and strategies on the basis of the Resolution adopted at the High-level Meeting. These policies and strategies should »be implemented progressively and regular review of progress achieved shall take place. The review of the first session of the Interim Executive Body *is therefore the start of a co-operative process with both a national and international dimension*«⁸. Over time, review activities could focus more specifically on particular countries or subjects. The IEB decided to

1 See report of the High-level Meeting, ECE/HLM.1/2/Annex II.

2 February 18 - 22, 1980.

3 See ECE/ENV/33, para. 24.

4 ECE/ENV/33, para. 24.

5 Chossudovsky, East-West Diplomacy, p. 127, argues that, 'strictly speaking', the Interim Executive Body was a body of the signatories of the Convention. SAEP made clear that the body was only for formal reasons its subsidiary. The documentation would be clearly identifiable as that of the 'Interim Executive Body'; see ECE/ENV/33, para. 20. Decisions adopted by the IEB did not require approval by any body within the institutional structure of ECE.

6 ECE/ENV/33, para. 24.

7 October 27 - 31, 1980.

8 ENV/IEB/R. 2, para. 5 (emphasis added). The report contained a summary of national statements and, in its 26 addenda, national communications.

repeat this review every year, with a major review every four years⁹. It also reviewed the progress of EMEP and the financial situation of the programme¹⁰ as well as a report of the Working Party on Air Pollution Problems about control techniques for SO₂ emissions. Finally, it established a Working Group on Effects of air pollution. To sum up, the first session of the Interim Executive Body assured that several programmes for the preparation of future activities as well as the elaboration and compilation of necessary information were under way. The IEB increasingly assumed de facto control of a number of activities related to transboundary air pollution which were still conducted in the framework of different ECE subsidiary bodies.

The second session of the Interim Executive Body¹¹ was again primarily devoted to an analysis of reports on national policies and strategies. It was decided to conduct at the third session the first major review to be repeated every four years¹². The IEB considered again the financial situation of EMEP and requested the Secretariat to elaborate proposals¹³ for a continued support of the programme. The second session of the IEB was almost entirely a routine meeting.

As far as continuing programmes were concerned, the implementation process was well under way, but new initiatives were not launched. Interested countries awaited the formal entry into force of the Convention. Accordingly, the Interim Executive Body urged Signatories to proceed with ratification with a view to the possibility that the Convention may enter into force by 1982¹⁴. The Body did not schedule its third session for the end of 1982 but for February 1983¹⁵. This session would be transformed into the first session of the regular Executive Body if the Convention entered into force during 1982.

Expecting the entry into force of the Convention during 1982, SAEP endeavoured in its 1982 session¹⁶ to strengthen the provisional structure of the regime. It requested the EMEP Steering Body to formally report to both SAEP and the IEB. Moreover, it requested the Working Party on Air Pollution Problems to prepare reports to the IEB on projects related to the Convention and undertaken at the request of the IEB¹⁷. In the future the work of these two subsidiary bodies to SAEP would also be subject to directives from the IEB. Further coordinating functions were thus delegated to the Interim Executive Body.

9 See ECE/ENV/IEB/2, para. 14.

10 Several countries pledged voluntary contributions to the established Trust Fund; see ECE/ENV/IEB/2, paras. 30-32.

11 November 2 - 5, 1981.

12 See ECE/ENV/IEB/4, para. 30.

13 See ECE/ENV/IEB/4, para. 26.

14 ECE/ENV/IEB/4, para. 10.

15 See ECE/ENV/IEB/4, para. 34.

16 February 9 - 12, 1982.

17 ECE/ENV/38, para. 26.

2. Developments beyond the Regime's Confines: The Stockholm Conference

Against the backdrop of the cumbersome process of ratification of the Convention, the Nordic countries prepared another major initiative to raise international attention for the problem of transboundary air pollution. The primary task was the acceleration of the formal entry into force of the Convention preferably by 1982 to assure that the international regime would be fully operable by 1983. It would provide an institutional framework suitable for the launching of a new substantive initiative *within* the regime that could already be prepared *outside* the regime¹⁸.

Sweden invited all signatories of the Convention to a conference in Stockholm on the occasion of the tenth anniversary of the United Nations Conference on the Human Environment in June 1982¹⁹. The major event of 1972 hosted by Sweden and held in the framework of the United Nations had comprised an almost *global attendance*. In its new initiative, Sweden focused more precisely on the subject of its concern. Invitation was limited to the *signatories of the Convention*, and the subject-matter dealt with reflected more closely the immediate concern of the host country, namely 'acidification of the environment'²⁰. Most countries which attended the global Conference in 1972 were not invited to the 1982 event and most issues dealt with in 1972 were not addressed in 1982. While the commemoration of the tenth anniversary of the UNCHE merely provided a welcome occasion, the new initiative was entirely directed at the international regime and its participants²¹.

During the 1982 session of SAEP, Sweden reported about the preparations and announced that the conference would be convened »at the ministerial level«²². Thus, Sweden attempted to repeat the success of the 1979 High-level Meeting, desiring to generate as much political dynamics as possible. However, the Swedish initiative remained an exclusively unilateral activity that was not co-sponsored or approved by any official ECE body.

The Conference, convened in Stockholm in June 1982²³ consisted of two separate parts²⁴. In the first part, experts explored the scientific and technological ground for political and legal action. Meetings were held on the two topics of 'Ecological Effects of Acid Deposition' and of 'Strategies and Methods to Control Emissions of Sulphur and Nitrogen Oxides'²⁵. These meetings were attended by experts in an '*individual*' (as opposed to an official) capacity. Participants coming from govern-

18 The strategic situation concerning long-range transboundary air pollution had significantly changed as the deterioration of Central European forests had become a major issue of public concern in a number of countries participating in the regime. There is, however, no indication that these developments had contributed to the Swedish decision to convene the Stockholm Conference. On the state of international coordination of national air pollution abatement policies at that time, see Prittwitz, *Europäische Zusammenarbeit in der Luftreinhaltung*.

19 See ECE/ENV/35, para. 30.

20 See title of the meeting: 'Stockholm Conference on Acidification of the Environment'.

21 The commemoration of the UNCHE with a global attendance took place in Nairobi during a special session of the UNEP Governing Council.

22 ECE/ENV/38, para. 23.

23 June 21 - 30, 1982.

24 For an account of the Conference see *Acid Rain Conference*, Environmental Policy & Law 9 (1982), pp. 73-87.

mental agencies did not represent these institutions and political considerations were excluded as far as possible. The expert meetings were convened to elaborate mutually agreed technological, scientific and environmental information with the intent to undermine entrenched political positions and to influence the rather reluctant attitude of some of the major polluting countries through agreement on scientific results and provision of consensual information²⁶. The expert meetings adopted reports that were submitted to the ministerial part of the Conference²⁷.

The second part of the Conference consisted of a meeting of European ministers responsible for the environment. Although faced with the outcomes of the expert meetings, the ministers were not officially called to consider and approve the resulting reports. Instead, they chiefly engaged in a general review of national policies and strategies as well as possibilities of internationally coordinated action. A final declaration containing several 'Conclusions and Recommendations' was adopted²⁸, but did not contribute anything substantially new²⁹. It did not reflect a concerted attempt to supplement the Convention prior to its entry into force with a binding document containing specific commitments to abate air pollution³⁰. Instead, it urged states to accelerate the ratification of the Convention to allow its entry into force in the course of 1982³¹ and to effectively implement the Convention. Far from establishing a second framework for internationally coordinated action in the issue-area of transboundary air pollution, its primary focus was to *strengthen the Geneva*

25 See *Swedish Ministry of Agriculture*, Proceedings, p. 98.

26 The *Swedish Minister of Agriculture* emphasized that «without clarification of the scientific position, the Ministers would not be able to act effectively to reduce the hazards of acidification»; *Swedish Ministry of Agriculture*, Proceedings, p. 98.

27 See *Swedish Ministry of Agriculture*, Proceedings, pp. 101-121.

28 Reprinted in *Swedish Ministry of Agriculture*, Proceedings, pp. 84-85.

29 Except that it classified 'high stacks' as an «obsolete abatement mechanism». It is therefore not clear why *Rosencranz/Weistone*, *Transboundary Air Pollution*, p. 110, consider it a 'quite strong' final statement. *Europe Environment* 166/1982, p. 4, noted «a certain reluctance» on the part of the UK and the USA to accept the document. *Pallemerts*, *International Legal Aspects of Long-range Transboundary Air Pollution*, p. 197, notes that the United Kingdom as a member of the Geneva regime was not prepared to adopt additional measures outside the regime.

30 The relative silence of the 'Conclusions and Recommendations' as to specific obligations and as to the future direction of internationally coordinated pollution abatement measures is even more remarkable in light of the complete turn-over of the West German position. While West-Germany had been one of the major hard-line countries during the 1978/79 negotiations, due to the public discovery of serious damage to its forests it changed sides and became an important ally of the group of environmentally concerned states, see *Weststone/Rosencranz*, *Acid Rain in Europe*, pp. 79-80. Compare the statements of the Federal Minister of the Interior at the 1979 High-level Meeting; ECE/HLM.1/2/Add.1/Annex V, p. 34, emphasizing the economic aspects, i.e. the costs of enhanced environmental standards, and at the Stockholm Conference; *Swedish Ministry of Agriculture*, Proceedings, p. 38, concluding that the survival of mankind was at stake.

31 At the time of the Conference, 13 countries had deposited their instruments of ratification, including the Soviet Union, the Nordic countries and France. The relevance of the Stockholm Conference for national ratification procedures is illustrated by the debate within the European Community. The EEC Council of Ministers had generally agreed to deposit the instruments of all ten member states as well as that of the EEC in a concerted action on July 15, 1982. This action should emphasize the relevance of the EEC in the issue-area. Yet, Denmark insisted on depositing its instrument *prior* to the Conference (while the deposition of the French instrument in 1981 was claimed to constitute an error and Greece could not hold to the date of the envisaged concerted action). On the internal decision process of the EEC, see *Europe Environment* 165/1982, pp. 1, 6-7. Besides Denmark, also Spain and the GDR deposited their instruments immediately prior to the Conference; see *Status of the Convention*; *The State of Transboundary Air Pollution*, Air Pollution Studies No. 6, p. 20.

regime. Hence, the Stockholm Conference was closely related to the regime process, even though it was not part of that process in a formal sense.

However, the Stockholm Conference referred exclusively to one of the two roots of the international regime, namely its environmental component. Contrary to the Geneva Convention, its concluding document did not refer to the Helsinki process, to the role of the ECE in the regime-formation process and to the development of inter-systemic and European cooperation. Although the invitation was extended to all signatories of the Convention, several major socialist countries, namely the Soviet Union, Bulgaria, Poland and Czechoslovakia, did not attend the Conference³². Apparently, these countries were less interested in the *environmental* than in the *political* aspects of international cooperation in the field of transboundary air pollution. While the Stockholm Conference constituted a major forum for the former, the latter were chiefly dealt with in the framework of the ECE. *For political reasons*, the socialist countries supported the Geneva regime and did not hamper the entry into force and implementation of the Convention³³, but they were not prepared to enter into commitments in respect of environmental protection without the prospect of a political profit.

The Stockholm Conference marked a turning point in respect of the participants in the regime process beyond state actors. So far, the process of regime-formation had proceeded within the framework of the ECE largely without participation of non-governmental organizations (NGOs). Partly due to the highly political aspects of East-West cooperation, even negotiations on substantive issues had been confined to governmental representatives. The Special Group deliberating the draft convention had not been attended by any NGO, while only very few environmental NGOs had been represented at SAEP meetings. In contrast, the Stockholm Conference was attended by a large number of observers representing NGOs, universities, scientific institutions etc.³⁴. For the first time in the process of regime-formation and operation, environmental NGOs were granted the opportunity to deliver an official statement in the course of the general debate³⁵.

In the final document »the Conference recognized the value of developing a continuing public dialogue and the role of non-governmental organisations in this regard in order that scientific information is made available in an appropriate form«³⁶.

32 See *Rosencranz/Wetstone*, Transboundary Air Pollution, p. 107, noting »among the most important results« of the Conference »the unexpected absence of Eastern European's heaviest polluters«. However, Romania, Hungary and the GDR attended the meeting.

33 The three Soviet signatories, i.e. the Soviet Union, the Ukraine and Byelorussia, were the first parties to deposit ratification instruments already in May/June 1980, see *Status of the Convention; The State of Transboundary Air Pollution*, Air Pollution Studies No. 6, p. 20.

34 See list of observers, *Swedish Ministry of Agriculture*, Proceedings, pp. 93-95. Swedish NGOs had been active in acid-rain campaigns throughout the 1970s, see *Wetstone/Rosencranz*, Acid Rain in Europe, p. 58. Early in 1982, they opened an office to foster the campaign inter alia by issuing a news-letter, see *Europe Environment* 160/1982.

35 See NGO statements on behalf of the European Environmental Bureau (an EEC-directed lobbying office), of a group of US and Scandinavian environmental NGOs as well as of the Environmental Liaison Centre (representing NGOs at UNEP headquarters); *Swedish Ministry of Agriculture*, Proceedings, pp. 80-83.

36 Conclusions and Recommendations, *Swedish Ministry of Agriculture*, Proceedings, p. 84.

Hence, ministers of the environment representing states or governmental departments expressly referred to the contribution of NGOs and, perhaps, indicated that they favoured the strengthening of the transnational relationship within the field of environmental protection. Non-governmental organizations would increasingly observe and attempt to influence the deliberation process of the international regime on long-range transboundary air pollution.

The Stockholm Conference underscored that after the politically fraught High-level Meeting on the Environment ministerial meetings became a familiar instrument for the promotion of cooperation in specific fields. It introduced the mechanism of multilateral conferences outside of the international regime exclusively designed to influence the regime process. To some degree, it removed environmental cooperation from the level of exclusively inter-governmental relations and opened it for transnational participation. In several aspects, the Conference thus marked a new phase of pan-European cooperation in the issue-area of long-range transboundary air pollution.

3. Entry into Force of the Convention

The Convention entered into force March 16, 1983, three months after the deposition of the 24th ratification³⁷. The interim mechanism ceased to exist and matters were transferred to the formal implementation mechanism established under the Convention.

3.1. Institutional Matters

At its 1983 session³⁸, SAEP constituted the Executive Body of the international regime (EB). While the Interim Executive Body had been based upon the Resolution adopted at the High-level Meeting of 1979 and upon a decision of SAEP, the new Executive Body was founded on the Convention. Formally it comprised only countries for which the Convention had entered into force. Not all countries had, however, concluded their internal ratification processes. Yet, the international regime on long-range transboundary air pollution, now formally independent from the ECE institutional framework, had overtaken the task of implementing a number of provisions from the Final Act of the CSCE, including EMEP. Clearly, it was designed as a regionally comprehensive institution.

Accordingly, SAEP reached the understanding that »for all practical purposes, *Signatories to the Convention* are encouraged to take an active part in the work of

37 It entered into force March 16, 1983. Following the Romanian ratification in 1991, it was in force as of December 31, 1991 for 31 states and the European Community, i.e. for all signatories.

38 February 14 - 17, 1983. For an account of the SAEP session see *Progress in Most Areas*, Environmental Policy & Law 10 (1983), pp. 85-87.

the Executive Body³⁹, while other ECE members, i.e. Albania, and countries with an observer status within ECE would be given the status of observers. Hence, in fact no distinction would be made between countries for which the Convention had already become formally binding and other signatories except for the taking of decisions.

The Senior Advisers also decided to transfer EMEP, so far carried out under the auspices of SAEP, into the framework of the Executive Body. SAEP urged that »not only the Contracting Parties, but all Signatories are encouraged to join and fully implement the EMEP⁴⁰. Otherwise, the constitution of the Executive Body threatened not to enhance, but to reduce substantive cooperation in the field of monitoring and evaluation of air pollution.

The Executive Body met for its first session in June 1983⁴¹. It constituted the highest decision-making and supervisory organ of a formally independent international institution. It would establish working groups and expert groups on a permanent or ad hoc basis for particular issues. The Interim Executive Body had already established a Working Group on Effects of Sulphur Compounds on the Environment (WG.1) and a Group of Experts on Cost-Benefit Analysis (GE.1). The Steering Body of EMEP was transformed into a second Group of Experts (GE.2). While the regime process would thus proceed through the year in a number of subsidiary organs, it would culminate in the annual sessions of the Executive Body.

The Convention provided that secretariat functions should be performed by the ECE Secretariat. Considering the growing work-load of meetings and documentation, the regime would increasingly draw upon ECE resources. At the first session, the ECE Secretariat therefore outlined that three of the four professional posts assigned to the implementation of the Convention were financially supported by the ECE, while another one was so far financed by UNEP. The Secretariat proposed that the Contracting parties to the Convention should contribute to maintain this post when the UNEP support terminated⁴². This request was, however, declined by states. »*All delegations* were of the opinion that it would be difficult to meet the request to finance staff resources considering that Article 11 of the Convention requested the Executive Secretary of ECE to carry out, for the Executive Body, the secretariat functions of implementing the Convention.⁴³ Putting aside this rather formal argument as well as considerations as to the saving of financial expenditures, the fact remains that states were not prepared to transfer the regime into an international organization proper. The Executive Body remained a pure, although permanent, conference of contracting parties that was not to be further institutionalized by establishing its own secretariat resources, *and be it only one single professional post*.

39 ECE/ENV/40, para. 27 (emphasis added).

40 ECE/ENV/40, para. 27.

41 June 7 - 10, 1983.

42 See ECE/EB.AIR/1, para. 39.

43 ECE/EB.AIR/1, para. 40 (emphasis added).

3.2. EMEP Protocol

The Executive Body was concerned with another financial issue, namely the financing of EMEP. This programme was not concerned with servicing facilities, but represented a fully fledged internationally coordinated research programme.

From the beginning, the measurement of pollution concentrations at national stations was the exclusive financial and supervisory responsibility of states. The international part of the programme undertaken in three centres located in Norway and the Soviet Union received contributions from UNEP during the first two phases of EMEP (from 1976 - 1983). Due to the very recent entry into force of the Convention, UNEP contributions were extended to 1984. In addition, voluntary contributions were raised and collected in a Trust Fund since 1981⁴⁴. Despite the urgency of the matter, it was obvious that the Executive Body could not immediately adopt the modalities for the long-term financing of EMEP. An ad hoc sessional committee recommended the elaboration of a draft protocol for the next session of the Executive Body that should recognize the special role of the two North American parties to the Convention, since they were geographically outside the range of EMEP⁴⁵.

On the basis of a text elaborated by the Secretariat, an ad hoc committee of government representatives met twice to finalize the draft protocol. As had become clear in the sessional committee, the United States refused to make mandatory contributions to the financing of EMEP, which does not extend to the North American continent⁴⁶. In order to provide stable financial support for the programme, most countries favoured mandatory contributions. The ad hoc committee was able to settle this issue⁴⁷ during its first session⁴⁸. Contributions would be made in convertible currency, in non-convertible currency, or in kind. However, the first meeting of the ad hoc committee could not agree on the sharing of costs⁴⁹. Sharing is frequently made on the basis of the scale of assessment of the United Nations, but the European Community, although an independent signatory of the Convention and the future protocol, was not a member of the UN and thus not accounted for in the scale of assessment. Moreover, the members of the European Community claimed an aggregate ceiling of 50 % for the Community and its member states⁵⁰ thus un-

44 See ECE Report; ECOSOC Official Records 1981, Suppl. 13, para. 41. Accordingly, one regular topic of the annual meetings of the Steering Body was a ritual pledging ceremony during which states announced the sum of money they would be prepared to contribute and/or in which way they would contribute 'in kind', primarily through expert advice; see, for example, for 1983 EB.AIR/GE.1/2, para. 22.

45 See 'Recommendations on short- and long-term financing of the co-operative programme for monitoring and evaluation of long-range transboundary air pollutants in Europe (EMEP)': ECE/EB.AIR/1/Annex II.

46 Some parties, including Canada, suggested in contrast that EMEP *should* be extended to cover the conflict over transboundary fluxes of sulphur dioxide between Canada and USA; see EB.AIR/AC.1/4, para. 5.

47 Although some countries, including Romania, were opposed to the principle of mandatory contributions; see EB.AIR/AC.1/2, para. 9.

48 7 - 9 November, 1983.

49 See bracketed article 4 of the draft protocol; EB.AIR/AC.1/2/Annex I.

50 See statement of the European Community, EB.AIR/AC.1/4, para. 7.

derscoring the relevance of the Community as an integrated actor within the regime.

The projected EMEP Protocol required that a list of signatories appeared as part of a legally binding document. The 1979 dispute on the Community participation was overcome on the understanding that the signatures would not be reproduced in the report of the High-level Meeting⁵¹. This compromise was contingent upon the fact that all signatories were committed to the same obligations. In contrast, in the envisaged financial protocol the amount of contributions of each party would be adjusted according to its relative economic strength. Accordingly, the signatories entered into different obligations and precise commitments had to be listed. Moreover, the European Community claimed that member countries should be listed in a separate block and not in the alphabetical order. Consequently, the general political conflict between the Soviet Union and other socialist countries on the one hand and the European Community on the other hand reappeared.

The problem was solved during the second meeting of the ad hoc committee⁵² in a package. The Community withdrew its claim for an aggregate ceiling and the socialist countries acquiesced on the en bloc listing of the Community and its member countries in the annex to the EMEP Protocol⁵³. Whereas the substantive issues had been settled, political questions arising from the annex were not entirely solved⁵⁴. They were again raised during the second session of the Executive Body and had to be settled in informal negotiations. While the text of the annex to the Protocol was not modified any more, a footnote was attached to the list of contributing states⁵⁵. Accompanied by explanations from the Soviet Union⁵⁶ and from the European Community⁵⁷, the second session of the Executive Body⁵⁸ adopted the EMEP Protocol⁵⁹. It also adopted a Resolution⁶⁰ urging the parties to contribute voluntarily the amount stipulated in the Protocol during the period until its entry

51 See above, Chapter 3, pp. 126-127.

52 May 28 - 30, 1984.

53 See explanation by the European Community in the ad hoc committee, EB.AIR/AC.1/4, para. 7.

54 See Draft Protocol, reprinted in *Environmental Policy & Law* 13 (1984), pp. 117-118.

55 It reads: »The order in which the Contracting Parties are listed in this Annex is specifically made in relation to the cost-sharing system agreed upon by the Executive Body for the Convention. Accordingly, the listing is a feature which is specific to the protocol on the financing of EMEP«.

56 The »USSR as well as other socialist countries strongly supported the listing of States and Organizations in the Annex to the Protocol in alphabetical order, which is generally utilized in ECE. ... It is regretted that in this case the alphabetical order for listing established in ECE was not followed. This is regarded as a departure from traditional practice used in ECE. However, considering the necessity for future development of international co-operation and the need to ensure the long-term financing of EMEP, the Soviet Union and other socialist countries did not wish to prevent a reaching of consensus on this question.« ECE/EB.AIR/4, para. 44.

57 The EEC »expressed regret that the presentation of the list ... should have caused difficulties«; ECE/EB.AIR/4, para. 45.

58 September 25 - 28, 1984.

59 Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP). During the session, the Protocol was signed by 10 parties, including the three Soviet parties. It entered into force January 28, 1988 and is in force as of December 31, 1991 for 29 states and the European Community. Of the 31 parties to the Convention, only Iceland and Romania refrained from participation in the Protocol.

60 See ECE/EB.AIR/4/Annex III.

into force. Hence, the Protocol was accompanied by some interim mechanism bridging the ratification period.

The instrument on the financing of EMEP was the first protocol adopted within the framework of the international regime. As a consequence of the intensive dispute between Community members and Nordic countries during the regime formation period (1978/79)⁶¹, the Convention did not contain any reference to protocols, let alone a formal procedure for their adoption by the Executive Body. The EMEP Protocol thus provided a precedent for the adoption of other protocols containing, for example, control measures. Reports of the two meetings of the ad hoc committee, including the draft protocol, had been circulated several weeks before the second session of the Executive Body⁶². Implicitly, the Body considered itself competent to adopt protocols and did not refer the matter to a diplomatic conference as would have been conceivable⁶³. The EMEP Protocol provided that amendments should be discussed within the Executive Body and decided upon by the parties to the Protocol⁶⁴. Hence, a distinction was made between the two stages of deliberation and formal decision-making. A sub-community of actors on matters concerning the Protocol is only created for the latter of these stages. This procedure was transferred to all further protocols within the international regime on long-range transboundary air pollution.

4. Toward International Control of Sulphur Dioxide and Nitrogen Oxide Emissions

By the beginning of 1983, the increasing deterioration of forests in Central Europe resulting from acid precipitation had gained wide observance. It alerted the public and politicians alike in many member countries of the regime. At the same time, the entry into force of the Convention marked a turning point in respect of institutional arrangements in the issue-area of long-range transboundary air pollution. The EEC-focused news agency 'Europe Environment' summed up: »The appeals launched by governments, politicians, international and non-governmental organizations to combat acid rains all add to the argument that 1983 will probably be a prolific year in Europe for studies or measures aimed at limiting atmospheric pollution, *especially as the quorum required ... to make the Convention on transboundary atmospheric pollution operationable has now been achieved*«⁶⁵.

⁶¹ See above, Chapter 3, 104-128.

⁶² See ECE/EB.AIR/4, para. 40.

⁶³ The Geneva Convention was also not adopted by a diplomatic conference but by an ECE meeting, although at an exceptionally high level.

⁶⁴ See EMEP-Protocol, article 6.

⁶⁵ *Europe Environment* 180/1983, p. 1 (emphasis added).

4.1. Initiatives within the Executive Body

Against the background of these developments in the issue-area, the advocates of effective internationally coordinated measures to implement the Convention launched new initiatives at the first session of the Executive Body⁶⁶. Four Nordic countries, namely Norway, Sweden, Finland and Denmark, circulated in advance⁶⁷ a 'Proposal for a Concerted Programme for the Reduction of Sulphur Emissions'⁶⁸. The proposal was based on the concept of a 30 % overall reduction of national sulphur emissions or their transboundary fluxes by 1993, using the emissions of 1980 as a basis. It forced the European Community to develop a common position. Apparently, a severe dispute arose on the matter among the member states of the Community. While West Germany and Denmark favoured a binding commitment on a 30 % reduction of SO₂ emissions, other members preferred to settle without a concrete figure⁶⁹. Denmark had already attached priority to Nordic over Community solidarity when it deposited its instrument of ratification of the Geneva Convention prior to the Stockholm Conference⁷⁰. Co-sponsoring the new Nordic proposal, it faced high political pressure to realign with the other Community countries. Eventually, it refrained from officially co-sponsoring the Nordic proposal that appeared to be unacceptable to some EEC members⁷¹.

However, West Germany officially left the Community alignment. It supported the Nordic proposal on SO₂ emissions, but considered an extension of the international regime to NO_x emissions necessary and urgent. It promoted an extension of EMEP to NO_x as well as heavy metals⁷². In cooperation with Switzerland and Austria, it co-sponsored a 'Proposal for a Common Strategy of the Contracting Parties to Implement the Convention on Long-range Transboundary Air Pollution'⁷³ that was directed at a reduction of nitrogen oxide emissions.

The two initiatives to develop the legal framework of the regime reflected the changing constellation of interests in the issue-area of transboundary air pollution. The Nordic countries continued to promote their long-term goal of an internationally coordinated strategy to reduce the emissions and transmissions of *sulphur compounds*. A number of Central European countries in which awareness of damage to forests was particularly high emerged as a second pressure group with a slightly different focus. Their initiative was not confined to SO₂ but included NO_x emissions. Their proposals were not as specific as those on SO₂ because the NO_x issue had still, as a preliminary step, to be placed on the international agenda. This

66 June 7 - 10, 1983.

67 In March 1983, Sweden submitted a proposal to the EEC Commission, see *Europe Environment* 181/1983, p. 1.

68 See ECE/EB.AIR/1, para. 15.

69 See *Europe Environment* 186/1983, p. 7.

70 See above, Chapter 4, p. 135

71 The document was officially submitted to the Executive Body by Finland, Norway and Sweden; see ECE/EB.AIR/1, para. 15.

72 See *Europe Environment* 186/1983, p. 7.

73 See ECE/EB.AIR/1, paras. 15 and 17.

intermediate goal could be furthered, inter alia, by an extension of EMEP and by the compilation of an inventory of existing technologies for the abatement of NO_x emissions. However, the initiatives were close enough to allow the formation of a comprehensive and powerful coalition of both groups⁷⁴.

In an attempt to generate political pressure, eight countries, among them all sponsors and would-be sponsors of the two initiatives, declared their unilateral commitment to a 30 % reduction of SO₂ emissions⁷⁵. This was the target outlined in the Nordic proposal. For different reasons and with a somewhat distinct approach, a ninth country joined this environmental pressure group: the *Soviet Union* likewise declared their acceptance of the unilateral commitment of a 30 % reduction⁷⁶. However, in conformity with the socialist countries' position during the regime-formation phase, it did not commit itself to a reduction of *emissions* but of *transboundary fluxes* of SO₂. As the target year for the reduction it chose 1995 (and not 1993 as the Western countries did)⁷⁷.

Even though the European part of the Soviet Union is a country suffering net imports of SO₂ pollutants from the ECE region⁷⁸, there is no indication that the Soviet Union was particularly concerned by transboundary air pollution or the damage that acidification might cause. The Soviet Union did not attend the Stockholm Conference which was concerned with the environmental component of the regime process. The motive behind the Soviet commitment must therefore be identified in the field of political cooperation between the Eastern and Western hemispheres. For the Soviet Union, followed by most socialist countries, the Convention was in the first place a result of *its own diplomatic efforts* toward an intensified pan-European political cooperation. This task had always prevailed over economic or environmental considerations. The Soviet move to join the group of self-committing, environmentally concerned countries was thus primarily an attempt to maintain the position of a key actor within the international regime. Likewise, the fact that it adopted the approach of a reduction of transboundary fluxes and not of emissions may be attributed largely to its interest in reinforcing a traditional *political* position according to which only emissions causing *transboundary*, i.e. international harm should be subject to international regulation⁷⁹. Similar to the stage of regime forma-

74 The group of environmentally concerned states raised the importance of the first session of the Executive Body by their representation at a high political or even at ministerial level. The Nordic countries, Austria, Switzerland, France and West Germany were represented at a particularly high level; see Vygen, *Urging for a Firm Clean-Air Policy*, p. 34.

75 These countries were Finland, Norway, Sweden and Denmark, i.e. the actual and would-be sponsors of the Nordic proposal; West Germany, Austria and Switzerland, i.e. the sponsors of the NO_x proposal; and Canada with parallel interests on the North American continent.

76 See the account of a member of the West-German delegation; Vygen, *Urging for a Firm Clean-Air Policy*, p. 35. The report of the Executive Body refers to these states but does not name them expressly.

77 Hence the reference of the Decision of the Executive Body to note «with appreciation that a number of Contracting Parties are resolved to initiate measures for implementing a 30 per cent reduction of national sulphur emissions or their transboundary fluxes by 1993-1995, using 1980 emission levels as a basis for calculation of reductions»; ECE/EB.AIR/1, para. 25.

78 See EMEP calculations, *The State of Transboundary Air Pollution*, Air Pollution Studies No. 5, p. 28.

79 Due to the vast geographical extension, a considerable part of Soviet emissions does not have an international impact. The Soviet Union thus committed itself to less than a 30 % reduction of national *emissions*, see Vygen,

tion, a coalition of two groups of states with completely different motives for cooperation emerged. This coalition comprised a number of environmentally concerned states, considerably strengthened as compared to the pre-1979 period, and the leading socialist country which would sooner or later be followed by several of its allies.

Compared to the ambitious proposals submitted to the meeting, results were modest. Determined to take decisions only by consensus, the Executive Body could not agree on the substance of the two proposals. It could also not agree to launch negotiations between sessions within a subsidiary body. It recognized, however, »the need to decrease effectively the total annual emissions of sulphur compounds, or their transboundary fluxes, by 1993/1995, using 1980 emission levels as a basis for calculation«⁸⁰. While formal action on a legal instrument containing specific obligations to reduce SO₂ emissions or their transboundary fluxes was postponed for another year, the decision already reflected the outlines of such an agreement on the basis of the Nordic proposal and the self-commitment of nine parties. Only the United States gave an interpretative statement regretting »that it was obliged to abstain from the consensus on the decision The Government of the United States was in the process of considering a major review of options for addressing the acid precipitation problem, and had to avoid specific commitments at present which might in any way prejudice the outcome of this review«⁸¹. Accordingly, the USA could not even accept that a decrease of emissions was desirable, let alone to what extent.

The attempt of the Central European group to extend the international regime to NO_x emissions was even less successful. This goal is not mentioned at all in the final Decision. The continued concentration of the regime on sulphur compounds has to be judged in the light of almost one and a half decades of active diplomatic struggle by the Nordic countries in this area. From its outset in the Final Act, EMEP was directed primarily at the measurement of SO₂ transmissions. The priority of a reduction of SO₂ emissions or their transboundary fluxes under the Convention had never been disputed. The awareness of dangers arising from transboundary fluxes of NO_x emissions was of a comparatively recent nature. It should be recalled that West Germany as the most powerful country among the proponents of the NO_x issue had been less than four years earlier among the group of states endeavouring to preclude the establishment of the international regime.

Nevertheless, some minor developments indicated that the NO_x issue was gaining relevance within the framework of the regime. While the priority of EMEP activities still focused on SO₂ emissions, NO_x emissions were included on a voluntary basis⁸². Accordingly, the Steering Body of EMEP placed NO_x data sampling and

Air Pollution Control, p. 7. However, this consideration should not be overestimated as there was no immediate requirement to join the small group of self-committing countries at all.

80 Decision A (I); ECE/EB.AIR/I, para. 25.

81 ECE/EB.AIR/I, para. 26 (emphasis added). The Canadian delegation immediately regretted this statement; see ECE/EB.AIR/I, para. 27.

82 See the Work Plan; ECE/EB.AIR/I/Annex III, p. 2.

processing on a voluntary basis in its 'minimum measurement activity' for the third phase of the programme (1983-1986)⁸³. Moreover, the Working Party on Air Pollution Problems, formally not being subsidiary to the Executive Body but to SAEP⁸⁴, was entrusted with ... drawing up an inventory of technologies that are already applied at mobile or stationary sources to reduce emissions of nitrogen oxides⁸⁵. Hence, at both the monitoring and the technical level preparations for an extension of the regime to NO_x emissions were under way.

4.2. *Generating Pressure on the Regime Process: Conferences of Ottawa and Munich*

Even though the initiatives submitted to the first session of the Executive Body had not been successful, pressure towards an extension of the legal framework of the Convention was generated by the unilateral self-commitments of a number of environmentally concerned countries. The eight Western countries having done so had already adopted or were in the process of adopting national programmes to reduce emissions. Commitments would thus not exert significant influence on the pollution abatement policies of these countries and, accordingly, on the air quality in the ECE region. The major objective of the self-commitments was the promotion of internationally agreed legal measures or the adoption of unilateral measures by further countries. At stake was the extension of the self-committing group of countries preferably to most or all signatories of the Convention.

Early in 1984, Canada invited the environmental ministers of like-minded countries that were prepared to accept the 30 % reduction commitment and its incorporation into a legally binding instrument as part of the Geneva international regime to an 'International Conference of Ministers on Acid Rain'⁸⁶. Like the Stockholm Conference of 1982, the Ottawa Conference did not reflect the overall political aspects involved in the international regime process. Accordingly, no socialist country attended the Conference, even though the Soviet Union had joined the group of countries which had committed themselves to emission reductions at the first session of the Executive Body. However, contrary to the Stockholm Conference, it was not intended to serve as a general deliberation forum, but primarily to promote specific initiatives for emission reductions⁸⁷. The meeting was attended by only ten

⁸³ See Work Plan, EB.AIR/GE. 1/2/Annex III, paras. 4-5. Some countries, namely Portugal, were reluctant to accept this extension, apparently mainly for technical and financial reasons, see EB.AIR/GE. 1/2, para. 30.

⁸⁴ SAEP gave priority to tasks arising in connexion with the implementation of the Convention, see report of the 1984 session of SAEP; ECE/ENV/43, para. 49.

⁸⁵ See Work Plan, ECE/EB.AIR/1/Annex III, p. 4.

⁸⁶ March 20 - 21, 1984 in Ottawa.

⁸⁷ See the opening statement of the Canadian Minister of the Environment: «This Conference is being convened to address the urgent need for all parties to the Convention to join in our commitment to implement measures now to reduce sulphur emission»; quoted in: *Acid Rain Meeting*, Environmental Policy & Law 12 (1984), p. 71.

Western countries⁸⁸ which transformed their so far unilateral action into a concerted multilateral commitment. The so-called '30 %-Club' was founded as an international pressure group⁸⁹. The Declaration adopted⁹⁰ spelled out the details of an international regulation as envisaged by the group of initiating countries and extended the commitments to an unspecified reduction of NO_x emissions as of 1993.

Even though the Declaration adopted at the Ottawa Conference contains detailed obligations on the reduction of emissions, the participating countries did not intend to establish an agreement outside and parallel to the Geneva regime⁹¹. On the contrary, the Declaration addressed expressly the other signatories of the Convention⁹². It did not seek to establish a parallel regime but to influence the decision process within the international regime.

Two groups of countries relevant to the issue-area of long-range transboundary air pollution had abstained from the Ottawa meeting. These were Western countries reluctant to engage in specific commitments to reduce emissions, e.g. the United Kingdom and the United States, and the socialist countries. The Federal Republic of Germany initiated the next step intended at a further extension of the 30 %-Club. In November 1983, well before the Ottawa Conference, the West German government circulated a memorandum announcing its intention to host an international conference on acidification to be held at ministerial level early in summer 1984 in Munich⁹³. The memorandum referred to both the Convention and its Executive Body as well as to the concluding document of the Madrid meeting in connexion with the Helsinki process⁹⁴. It outlined the intention, among other goals, to »seek to achieve a breakthrough towards political acceptance for ... and an effective general reduction of emissions«⁹⁵. The invitation was extended to all signatories of the Convention.

88 Participants were the eight Western countries having declared their commitment to reduce SO₂ emissions at the Executive Body, and in addition France and the Netherlands; see *Acid Rain Meeting*, Environmental Policy & Law 12 (1984), p. 71.

89 See Vygen, Air Pollution Control, p. 6.

90 Reprinted in Environmental Policy & Law 12 (1984), p. 86.

91 It was thus not intended as a mutual reinsurance of commitments as suggested by Schwarzer, Weiträumige grenzüberschreitende Luftverschmutzung, pp. 24-26.

92 See the following paragraphs: »(4) The Signatories call upon other Parties to the Convention to join them, within the framework of the Convention, in implementing reductions of national annual sulphur emissions or of their transboundary fluxes by at least thirty per cent by 1993, using 1980 emission levels as the basis for the calculation of reductions;

(5) The Signatories further stress the necessity of establishing within the framework of the Convention additional action for the purpose of achieving substantial reductions of emissions of other pollutants, especially nitrogen oxides.« (emphasis added).

93 Surely, this step was partly motivated by internal political considerations as in 1983 the issue of damage to German forests acquired top public awareness.

94 The Concluding Document of the Madrid meeting, dated September 1983, expressly refers to the adoption of the Geneva Convention and calls for its early ratification and its effective implementation; see Concluding Document of the Madrid meeting, Section on Co-operation in the Fields of Economic, of Science and Technology and of the Environment, para. 13; reprinted in Sizoo/Jurjens, CSCE Decision-making, pp. 296-315. Both the Madrid Concluding Document and the German initiative thus reinforced the linkage between transboundary air pollution and pan-European cooperation.

95 German Memorandum, reprinted in Environmental Policy & Law 11 (1983), p. 116.

While the Canadian project, designed to organize a pressure group of like-minded countries, was not discussed within ECE fora⁹⁶, the West German project became an important issue for SAEP⁹⁷ and the ECE Commission. The socialist countries announced that they would be prepared to participate if two conditions of a purely political nature were met. The Bulgarian delegation «expressed its willingness to participate in the Munich conference *providing it was held under ECE auspices* and with the observance of all provisions of the Quadripartite Agreement⁹⁸» of 1971 on Berlin⁹⁹. The first condition seemed somewhat peculiar since eight years ago the socialist countries had preferred to hold pan-European conferences outside the ECE framework. At that time the West had insisted on holding the 1979 High-level Meeting within the framework of the ECE. Now Bulgaria «underlined the role of the Commission in pan-European cooperation in the field of the environment resulting from the CSCE and furthered by the High-level Meeting in the Framework of ECE on the Protection of the Environment»¹⁰⁰.

Apparently, the socialist countries were seeking to avoid a situation in which they would find themselves participating in a purely environmental conference and faced with heavy pressure to join the 30 %-Club without an opportunity to gain *political* side-payments. Contrary to the type of conferences that had been held in Stockholm and Ottawa, an official involvement of the ECE promised due regard for the political aspects of pan-European cooperation. As the operation of the international regime was closely related to the ECE, this request did not establish an insurmountable obstacle to a wide attendance of the Munich conference¹⁰¹.

The second condition put West Germany in a difficult position. Its Federal Environment Agency (Umweltbundesamt) is located in West Berlin. Since the socialist countries considered this location to violate the Quadripartite Agreement on Berlin, they regularly deposited letters of protest as soon as an official of this agency was formally listed as a member of the West-German delegation to an ECE meeting¹⁰². Hence, fulfilling the second condition would have amounted to a declaration that the West German delegation at the Munich Conference would not comprise any official of the Federal Environment Agency. For practical *and for political* reasons this was not acceptable to West Germany as the host country. For general political reasons, it was also not acceptable to the three Western powers. However, Bulgaria, supported by the GDR, Ukraine and the Soviet Union, announced that «its partici-

96 Only after the meeting did the participating countries call upon other members of the Commission to join them; see ECE-Report; ECOSOC Official Records 1984, Suppl. 13, para. 43.

97 See ECE/ENV/43, para. 80.

98 Quadripartite Agreement on Berlin.

99 ECE-Report; ECOSOC Official Records 1984, Suppl. 13, para. 44.

100 ECE-Report; ECOSOC Official Records 1984, Suppl. 13, para. 204.

101 On the implications of the demand to link the Conference to the ECE, see Chossudovsky, *East-West Diplomacy*, p. 170.

102 These letters of protest were frequently reprinted in annexes to reports of the respective bodies, accompanied by replies from Western powers.

pation would be contingent on receiving an *official and satisfactory reply* concerning the conditions¹⁰³.

This time the West was not prepared to enter into another round of general political struggle. The report notes no Western reply to the Eastern conditions. In informal diplomatic consultations a classical compromise was hammered out. The Western countries accepted one of the two Eastern conditions and the Eastern countries withdrew the other. The Commission adopted a separate Decision on the Munich Conference¹⁰⁴ requesting the Executive Secretary to participate in the preparation and proceedings of the Conference and its preparatory meeting, and to report to the next session of the Commission. Having made the Conference a project co-sponsored by the ECE, the Commission enhanced its relevance through an invitation to the Executive Body to consider the report of this Conference. Hence, the ECE Commission expressed its opinion that developments proceeding at the Munich Conference would be of relevance to the work of the Executive Body and to the implementation of the Convention as a whole. Accordingly, the Munich Conference, although likewise proceeding outside the formal framework of the international regime, gained far more *political* relevance than its predecessors of Stockholm and Ottawa. In fact, it was transferred into a veritable High-level Meeting that would prepare important decisions. These decisions would, subsequently, be implemented within the Executive Body. If it succeeded in rendering both the obligation of a 30 % reduction of SO₂ emissions or their transboundary fluxes and the recognition of the necessity for an important reduction of NO_x emissions or their transboundary fluxes generally acceptable, the second session of the Executive Body would simply have to transfer these decisions into an acceptable legal form.

The 'Conference on the Causes and Prevention of Damage to Forests and Waters by Air Pollution in Europe' took place in June 1984¹⁰⁵. During the general debate¹⁰⁶ several countries announced that they would launch or that they had launched programmes that would lead to a reduction of SO₂ emissions by far more than 30 % by 1993/95¹⁰⁷. Some smaller countries explained why they could not join the 30 %-Club due to their economic situation and their limited contribution to the problem of transnational air pollution¹⁰⁸. The United States and the United Kingdom as major polluters refused to enter into any detailed obligation. They still argued that scien-

103 ECE-Report; ECOSOC Official Records 1984, Suppl. 13, para. 204 (emphasis added).

104 See Decision E (XXXIX), ECE-Report; ECOSOC Official Records 1984, Suppl. 13, p. 83. The Commission also adopted a specific Decision on the work of the first session of the Executive Body; see Decision D (XXXIX), ECE-Report; ECOSOC Official Records 1984, Suppl. 13, pp. 82-83.

105 June 25 - 27, 1984.

106 As had been the case in the report of the High-level Meeting of 1979, the 'Summary Records of the Multilateral Conference of the Environment' reproduced speeches exclusively in the language of their original delivery.

107 See statements of France, Summary Records, p. 5, Canada, *ibid.*, p. 1, Sweden, *ibid.*, p. 2, Denmark, *ibid.*, p. 1.

108 See statements of Hungary, Summary Records, p. 3, Ireland, *ibid.*, p. 4, and special declaration of Turkey, *ibid.*, Annex 9. However, the proposal of a binding commitment to reduce SO₂ emissions was never directed at this group.

tific research had to be done to obtain additional information as to how and where to intervene with the best possible results¹⁰⁹.

The adoption of a declaration through which all participating states entered into strong new commitments was intended to form the core of the Munich project. A preparatory meeting had met in May 1984 to elaborate a draft declaration. However, this meeting had not been able to develop generally acceptable formulas. The commitment to reduce SO₂ emissions by 30 % by 1993 on the basis of 1980 figures, and the commitment to reduce NO_x emissions by 1993/1995 were heavily disputed. It was agreed to reconvene the experts a day before the opening of the Conference to overcome this obstacle to a joint declaration¹¹⁰. They would continue to meet in sessions parallel to the Conference.

The draft version of the Declaration had contained the 30 % reduction commitment¹¹¹. The adoption of this version would therefore have implied an extension of the 30 %-Club to all participating states. Yet, the British representative had to say bluntly that we do not see our way to joining the '30 % Club' in its present form with its 1995 deadline¹¹². He made clear that the relevant paragraph of the declaration had to be watered down to gain British acceptance¹¹³.

Short of an agreement on the 30 % reduction target concerning SO₂ emissions, the Munich Conference produced a number of results that accelerated the implementation process of the Convention. The 30 %-Club expanded considerably. In addition to the ten Ottawa-states, three more Western countries declared that they would accept a 30 % reduction of SO₂ emissions by 1993¹¹⁴. In addition to the Soviet Union, four more socialist signatories to the Convention declared their intention to reduce the transboundary fluxes of sulphur compounds by 1993 (!) by the same rate¹¹⁵. Accordingly, membership of the informal 30 %-Club increased to 18 parties and comprised now the majority of signatories to the Convention.

The Conference agreed to 'request'¹¹⁶ that, at its second meeting, the Executive Body for the Convention as a matter of highest priority adopts a proposal for a specific agreement on the reduction of annual national sulphur emissions or their

109 See the British statement: «We see no point in making heroic efforts, at great cost, to control one out of many factors unless there is reasonable expectation that such control will lead to real improvement in the environment»; Summary Records, p. 1.

110 See Summary Records of the Multinational Conference on the Environment Munich 1984, annotated agenda (apparently erroneously titled 'list of participants'), p. 3.

111 This can be concluded from the statements of the EC Commission, Summary Records, p. 8, and of Switzerland, *ibid.*, p. 5.

112 UK statement; Summary Records, p. 3.

113 The British delegation apparently felt somewhat uncomfortable in its isolated position as evidenced by a second statement welcoming the final version of the Declaration and fully supporting any of its provisions; see Summary Records, Annex 6.

114 Namely Belgium, Luxembourg and Liechtenstein, see Summary Records, annotated agenda, p. 6.

115 Namely the GDR, Bulgaria, Byelorussia and Ukraine, see Summary Records, annotated agenda, p. 6.

116 This was a particularly strong wording that is usually adopted to convey binding directives. It is evident that the Munich Conference was not authorized to give binding directives to the Executive Body. Its level of attendance was, however, significantly higher than that of the Executive Body which comprised the same group of countries.

transboundary fluxes by 1993 at the latest¹¹⁷, taking into account the self-commitment of the 30 %-Club countries. Hence, the participating states reached consensus on immediate further action that had not been achieved during the first session of the Executive Body.

The Conference also agreed that it deems it necessary that total annual emissions or transboundary fluxes of nitrogen oxides from stationary and mobile sources be effectively reduced by 1995¹¹⁸, considering that several countries had already entered into commitments in this regard. Hence, the group of environmentally concerned states succeeded in placing NO_x emissions as an issue on the agenda of the Executive Body.

5. Action on Sulphur Dioxide Emissions within the International Regime

The Munich Conference contributed to the facilitation of the regime process in a number of ways. It re-linked the environmental and the overall political branches of the regime process. It generated momentum for the conclusion of a protocol on one or two of the most important air pollutants. It determined the general outline of an international agreement, at least concerning SO₂ emissions. However, the Conference also demonstrated that not all regime members were prepared to accept an agreement along these lines.

While the Munich Conference was not formally related to the international regime, developments immediately influenced the decision process of the Executive Body. If the Munich decision to request the Executive Body to *adopt* at its forthcoming meeting in September a proposal on a specific agreement on the reduction of air pollution by sulphur compounds was to be taken seriously, preparatory work had to start at once. During the Munich Conference, the 'Bureau' of the Executive Body met¹¹⁹ and decided to revise the provisional agenda of the forthcoming session. It requested the Secretariat to prepare a background document to facilitate the deliberations of a Working Group scheduled to meet during the session.

The background document of the Secretariat¹²⁰ focused exclusively on SO₂ emissions. It suggested that a Working Group elaborate a protocol by the third session of the Executive Body (1985). It proposed several preambular paragraphs and a number of possible elements for the content of operative articles. These elements included the obligation to reduce national annual sulphur emissions or their transboundary fluxes by at least 30 % using 1980 levels as a basis for calculation, the recognition that further reductions are necessary, the obligation to make available

117 Munich Declaration, operative paragraph 11, reprinted in *Environmental Policy & Law* 13 (1984), pp. 72-73.

118 Munich Declaration, operative paragraph 12.

119 June 27, 1984. The 'Bureau' consisted of four governmental representatives elected as officers at the first session, namely the Chairman, the Vice-chairman and two Rapporteurs. As the Executive Body is a regularly meeting conference of the parties to the Convention with no permanent structure, the 'Bureau' primarily conducts inter-sessional work and prepares the sessions.

120 Note of the Secretariat, EB.AIR/R.7.

figures of total national sulphur emissions for the base and the target years, the calculation by EMEP of transboundary fluxes for the base and target years, and the obligation to develop national programmes to implement the agreed targets and to report them to the Executive Body.

The background document was surely prepared in intensive consultations with interested parties. It reflected by and large the content of the later SO₂-Protocol. Its outlines were guided by the 30 %-Club proposals and disregarded the positions of parties to the Convention that were not members of the Club. Significantly, the document accommodated the distinct Eastern and Western concepts to reduce air pollution. It proposed to allow reductions of either total emissions or their transboundary fluxes, but made the calculation of transboundary fluxes subject to control by EMEP.

On the basis of this preparatory document, Norway elaborated a draft protocol and submitted it prior to the session to the signatories¹²¹.

5.1. Decision to Draft a Protocol on Air Pollutants

At the Munich Conference it had been decided to elaborate an instrument on the control of SO₂ emissions. It was up to the Executive Body at its second session¹²² to determine the approach to be adopted. The concept suggested by the Secretariat and elaborated by Norway would lead to a protocol that was unacceptable to some signatories of the Convention. It threatened to establish different standards of implementation of the Convention applicable to separate groups of parties. Accordingly, it threatened to reduce the political value of pan-European cooperation in the field of long-range transboundary air pollution. The United Kingdom and others supported a more comprehensive and more flexible approach and »suggested that the document should provide also for the countries which are in the process of limiting pollution but not yet in a position to accept a fixed level of reduction of emissions«¹²³. However, the majority of parties to the Convention, including important Western, neutral and socialist countries, had already accepted the commitment to reduce SO₂ emissions or their transboundary fluxes by 30 %. During the session, two more countries accepted this commitment¹²⁴.

The concept proposed by the Secretariat and Norway was also limited in scope. It did not address pollutants beyond SO₂. In particular, it did not address the issue of NO_x emissions which were of major concern to some Central European countries, namely West Germany, Austria and Switzerland. The Munich Conference had deemed it necessary to reduce NO_x emissions by 1995 and to recommend that the

¹²¹ See ECE/EB.AIR/4, para. 14.

¹²² September 25 - 28, 1984.

¹²³ ECE/EB.AIR/4, para. 15.

¹²⁴ Italy and Czechoslovakia declared that they would commit themselves to a 30 % reduction of SO₂ emissions or their transboundary fluxes respectively; see ECE/EB.AIR/4, para. 18. Hence, the 30 %-Club increased to twenty countries.

issue be included in the work programme of the Executive Body¹²⁵. Interested Central European countries attempted to link the comparatively new problem of NO_x emissions with the SO₂ issue¹²⁶. »It was generally accepted, however, that the knowledge of combating air pollution was most advanced for sulphur dioxide emissions«¹²⁷. Hence, the Executive Body tended to adopt a gradual approach with priority on SO₂ emissions. It postponed the decision on whether the scope of the document to be elaborated would be extended at a later stage to include measures addressing NO_x emissions or whether such measures would be regulated in a separate instrument¹²⁸. Accordingly, parties particularly interested in the NO_x issue were able to come back to their integrative approach if appropriate.

Table 4.1: The 30 % Club

| Occasion | Date | State |
|-------------------------------|------------|--|
| Executive Body first session | June 1983 | <i>Denmark, Sweden, Norway, Finland, Austria, Switzerland, FRG, Canada, Soviet Union*</i> (9) |
| Ottawa | March 1984 | <i>Denmark, Sweden, Norway, Finland, Austria, Switzerland, FRG, Canada, France, Netherlands</i> (10) |
| Munich | June 1984 | <i>the above-mentioned ten, Soviet Union*, Ukraine*, Byelorussia*, Bulgaria*, Belgium GDR*, Liechtenstein, Luxembourg</i> (18) |
| Executive Body second session | Sept. 1984 | <i>the above-mentioned 18, Czechoslovakia*, Italy</i> (20) |
| Executive Body third session | July 1985 | <i>the above-mentioned 20, Hungary*</i> (21) |

States having committed themselves to the reduction of SO₂ emissions by 30 %; *) indicates 30 % reduction of transboundary fluxes; italics indicate new members of the 30 %-Club.

The Executive Body launched negotiations on an SO₂ instrument and established a Working Group with the mandate »(a) to document in a systematic way all observations and proposals made during the discussion both in the plenary session and during the meeting of the Working Group; (b) to prepare a draft specific agreement, keeping contradictory, or otherwise not generally accepted suggestions, in brackets; (c) to propose the legal nature, form and title of the specific agreement as well as its

125 See Munich Declaration, operative paragraphs 12 and 13.

126 See the proposal 'Possible Elements of an Agreement', EB.AIR/R.11/Annex. It was even proposed to include hydrocarbons and heavy metals into the protocol; see ECE/EB.AIR/4, para. 16. Hydrocarbons are responsible for so-called 'summer-smog'. They were mentioned as a problem of long-range transboundary air pollution in the Munich Declaration, operative paragraph 16.

127 ECE/EB.AIR/4, para. 16.

128 See ECE/EB.AIR/4, para. 17.

possible relation to the convention¹²⁹. The Working Group began immediately to hold its first meeting parallel to the session of the Executive Body.

The Executive Body also agreed that »the problem of NO_x emissions requires the full attention of the Executive Body and its subsidiary bodies¹³⁰. It decided to recognize »the need to reduce effectively the total annual national emissions of nitrogen oxides from stationary sources and mobile sources or their transboundary fluxes by 1995¹³¹. States should include in their annual reports of national policies and strategies also measures adopted to reduce NO_x emissions. They should, before the third session of the Executive Body (1985), transmit data on annual national emissions of NO_x for 1982 or 1983, if available. NO_x emissions were included into the work plan of the regime. The Steering Body of EMEP was requested to estimate the costs of an inclusion of NO_x emissions into the Programme. Moreover, the Working Party on Air Pollution Problems was examining existing control technologies for NO_x emissions. West Germany became the lead country of a task force which elaborated an inventory of NO_x abatement technologies¹³².

Hence, the Executive Body recognized NO_x as the second group of air pollutants under particular scrutiny within the international regime on long-range transboundary air pollution.

5.2. *Preparation of the Protocol on Sulphur Dioxide Emissions*

The Working Group met for its first session¹³³ during the session of the Executive Body. It began its work on the basis of the background document elaborated by the Secretariat and of 'extensive comments' made by some delegations¹³⁴. The Working Group primarily dealt with the two disputes already discussed but not settled at the session of the Executive Body, namely the scope of the protocol in terms of parties and in terms of pollutants.

There was no disagreement that the reduction targets concerning SO₂ reflected in the self-commitments of the majority of parties of the Convention would become the core of the protocol. The environmental pressure group established in Ottawa advocated the adoption of a facultative protocol. Its signature and entry into force would not depend upon acceptance by all parties to the Convention¹³⁵. This approach clearly distinguished the members of the regime into those accepting the instrument and those refusing to do so. In contrast, parties which did not accept the 30 % reduction target favoured a more flexible approach¹³⁶. A number of exceptions were proposed for three groups of countries. Some countries, e.g. the United

129 ECE/EB.AIR/4, para. 20.

130 ECE/EB.AIR/4, para. 38.

131 See Decision A(II); ECE/EB.AIR/4, para. 101.

132 See ECE/EB.AIR/4, paras. 61-65.

133 September 26 - 28, 1984.

134 See EB.AIR/WG.2/2, para. 10. The latter refers especially to the Norwegian draft.

135 See EB.AIR/WG.2/2, para. 12.

Kingdom, claimed to have made considerable progress before 1980 and did not accept the envisaged base year. Some countries did not accept the reduction target of 30 % and suggested that they could be obliged to reduce emissions by 1993 without specification¹³⁷. Yet others suggested that the basic obligation should not apply to countries which could establish that their contribution to the problem of transboundary air pollution was insignificant.

The conflict between the Ottawa-group and the group of countries not accepting the 30 % target was largely confined to the Western hemisphere. It repeated once more the dispute which had already dominated within the OECD and during the regime-formation stage. The socialist countries, several of which had joined the 30 %-Club, endeavoured to mediate between the two groups and favoured an agreement acceptable to all parties to the Convention¹³⁸. In particular the Soviet Union demonstrated again that it was not immediately interested in tough environmental standards but that it would accept them if necessary to facilitate agreement. The single versus double standard controversy could not be solved during the session¹³⁹.

However, the Working Group settled the other open issue. It agreed that *first priority* should be given to an agreement on sulphur dioxide emissions¹⁴⁰. The matter of whether to include other substances should be taken up at a later stage. It was eventually to be decided by the Executive Body¹⁴¹. Hence, the Working Group now envisaged the adoption of an instrument solely addressing SO₂ emissions. In response to this preliminary decision of the sessional Working Group, the Executive Body adopted the separate decision on NO_x emissions mentioned above¹⁴².

A particular problem was the scope of the protocol. Should it be confined to Europe, or should it apply also to North America which was part of the ECE-region and thus covered by the Convention. As a founding member of the 30 %-Club Canada advocated that the Canada/USA dispute about acid rain be covered by the protocol, but the United States did not accept the 30 % reduction target. The Munich Declaration had already specifically addressed the controversy¹⁴³. The United States now proposed a preambular paragraph by which the parties would note »that transboundary air pollution in North America presents a unique set of

circumstances«¹⁴⁴. The Canada/USA dispute would have been removed from the agenda of the multilateral regime. By multilateral agreement, it would have been transferred into a bilateral matter to be settled between the two states concerned. However, the participants were not inclined to accept country-specific references in the draft protocol¹⁴⁵.

The second session of the Working Group¹⁴⁶ settled many minor issues. It was, however, not able to solve the major dispute pending, namely the single versus double standard controversy. As a possibility of operationalizing the double standard, annexes could be moulded in which countries accepting the 30 % reduction target and those merely accepting an unspecific obligation to reduce emissions would be listed¹⁴⁷. However, following intensive informal consultations the Working Group agreed in its third session¹⁴⁸ to mould a package consisting of two instruments. While the protocol would be confined to countries accepting the 30 % reduction target, a second document would set out the positions of all parties to the Convention, including those not prepared to sign the protocol¹⁴⁹. The latter document contained the exempt clauses proposed during the negotiations and a reference to 'the majority' which had accepted the 30 % reduction target¹⁵⁰. Whether it should be drafted in the form of a decision or simply be inserted into the report of the third session of the Executive Body would be decided by the Executive Body¹⁵¹.

5.3. Adoption of the Protocol on Sulphur Dioxide Emissions

Almost exactly ten years after the solemn adoption of the Final Act of the CSCE, the third session of the Executive Body¹⁵² was convened in Helsinki at the invitation of the Finnish government. Without further deliberations it adopted and opened for signature the 'Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at Least 30 per Cent'¹⁵³. It also adopted the additional document reflecting the posi-

136 See EB.AIR/WG.2/2, para. 13.

137 Spain even proposed that these countries should only be committed to stabilizing their emissions by 1993; see EB.AIR/WG.2/R.2.

138 A proposal submitted by the Soviet Union and Bulgaria suggested a clear double standard applicable to 30 %-countries and others; see EB.AIR/WG.2/R.1.

139 The Working Group merely collected the different proposals which were reflected in the draft protocol annexed to the report, EB.AIR/WG.2/2/Annex.

140 See EB.AIR/WG.2/2, para. 14. Note that the notion of a *first priority* implied that a *second priority*, in respect of NO_x emissions, existed.

141 The draft protocol annexed to the report of the Working Group outlined the way in which some Central European countries desired to account for NO_x emissions. It contained a proposed draft article providing for the commitments (a) to effectively decrease national annual NO_x emissions or their transboundary fluxes by 1995, without specification of the target rate, and (b) to establish within the international regime more precise obligations by 1986; see EB.AIR/WG.2/2/Annex. The proposal was later withdrawn.

142 See above, Chapter 4, p. 153.

143 See Munich Declaration, preambular paragraphs 19-20.

144 See draft protocol, EB.AIR/WG.2/2/Annex, somewhat revised in the later version EB.AIR/WG.2/4/Annex I.

145 See EB.AIR/WG.2/2, para. 17. The proposal was later withdrawn.

146 November 19 - 21, 1984.

147 See draft article 2 of the draft protocol annexed to the report, EB.AIR/WG.2/4/Annex I.

148 February 20 - 22, 1985.

149 See EB.AIR/WG.2/6, para. 8. The two documents were the 'Draft Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per Cent'; EB.AIR/WG.2/6/Annex I; and 'Positions and Strategies of the Different Contracting Parties to the Convention on Long-range Transboundary Air Pollution Concerning the Reduction of Sulphur Emissions or their Transboundary Fluxes'; EB.AIR/WG.2/6/Annex II.

150 See 'Positions and Strategies of Different Contracting Parties', operative paragraph 1.

151 See EB.AIR/WG.2/6, para. 9.

152 July 8 - 12, 1985.

153 The Protocol was signed at the meeting by 21 parties; see ECE/EB.AIR/7, para. 17. Hungary joined the 30 %-Club as the 21st member. The European Community made clear that it could sign only on the condition that all of its member countries signed the Protocol; see EB.AIR/WG.2/6, para. 15. The Protocol entered into force September 2, 1987 and is in force for 20 parties. From the 21 members of the 30 %-Club, the GDR signed the instrument but did not ratify it.

tions of the contracting parties¹⁵⁴. The Executive Body interpreted the Protocol by a 'common understanding' as follows: »The reduction of emissions or their transboundary fluxes by 30 per cent means either the reduction of emissions from sources within their territory by 30 per cent, or the reduction of emissions from sources within their territory creating transboundary fluxes, which result in reduction of their transboundary fluxes by 30 per cent in the ECE region.«¹⁵⁵ For the majority of geographically small states, a reduction of national emissions could be expected to lead to a similar reduction of transboundary fluxes. Hence, the choice between the two approaches was relevant only for geographically very large states with major sources that had no transboundary impact on the ECE region beyond the national territory. These were principally the United States, which did, however, not sign the Protocol, and the Soviet Union¹⁵⁶.

The approach of an optional Protocol adopted by the community of regime members is remarkable in a number of ways. It accounts for the different degrees of preparedness of countries participating in the regime process to adopt measures to combat air pollution. Although in the decentralized international system countries (usually) cannot be forced to adopt measures which they do not accept, the SO₂-Protocol does not follow the 'lowest common denominator'. However, the prize for the adoption of comparatively tight standards was the division of the regime members into two sub-groups.

In a community of actors deciding by consensus, a facultative protocol may only be adopted if parties not accepting its commitments acquiesce on the selective approach. Insistence on a comprehensive instrument acceptable to all signatories to the Convention would have severely hampered environmental cooperation. However, the regime on long-range transboundary air pollution is closely related both to East-West détente and overall political considerations *and* to an internationally coordinated response to a mere 'technical', although important, issue. The adoption of the SO₂-Protocol thus marks a turning point in the process of regime development. Environmental aspects gained relevance, while overall political considerations lost their predominant role. The predominantly political regime embedded in the process of East-West deliberations gradually transferred into an environmental regime tackling substantive questions pending in the issue-area.

6. Nitrogen Oxides: The Second Priority of the Regime

At its second session, the Executive Body did not only launch negotiations on the SO₂-Protocol. It also reached the understanding to recognize »the need to *reduce effectively* the total annual national emissions of nitrogen oxides from stationary and

¹⁵⁴ 'Positions and Strategies of the Different Contracting Parties to the Convention on Long-range Transboundary Air Pollution Concerning the Reduction of Sulphur Emissions or their Transboundary Fluxes', annexed to the report of the session; ECE/EB.AIR/7/Annex II.

¹⁵⁵ ECE/EB.AIR/7, para. 15.

¹⁵⁶ See Vygen, Air Pollution Control, p. 7.

mobile sources or their transboundary fluxes by 1995...¹⁵⁷. Moreover, the Executive Body launched a comprehensive fact-finding programme to gather information, including an assessment of the relevance of the long-range transmission of NO_x and of the availability of abatement technologies. Technical preparations having lasted an entire decade in case of SO₂ emissions should be achieved in a year or two in respect of NO_x.

6.1. Decision to Launch Negotiations on the Control of NO_x Emissions

Having discharged its work on SO₂ emissions, the Executive Body at its third session¹⁵⁸ established a Working Group on Nitrogen Oxides. However, negotiations on an internationally coordinated strategy to control NO_x emissions was a considerably more difficult task than controlling SO₂ emissions. Due to the accelerated pace of the regime process, a widely agreed basis of commonly accepted scientific and technological information had not been established. Even more important, sulphur dioxide emissions in many countries reached their peak in the mid-1970s, and later *decreased*¹⁵⁹ slowly but steadily. In contrast, emissions of nitrogen oxides were still rapidly *increasing*¹⁶⁰, primarily as a consequence of growing automotive traffic. Hence, the trend regarding this new priority item was far worse than that for sulphur compounds.

While the fact *that* a Working Group should be established was not controversial, a dispute arose about its mandate. Some particularly environmentally concerned states, led by West Germany, urged That it should proceed to draft a legal instrument that would stipulate effective reductions of NO_x emissions. Other countries attempted to slow down the process and preferred first to engage in the preparation of scientific and technological information.

The mandate of the Working Group eventually agreed upon was limited to *prepare the necessary substantiation* for appropriate internationally agreed measures and proposals aimed at the reduction of emissions of nitrogen oxides or their transboundary fluxes, and/or other effective air management measures having due regard to the relationship of oxides of nitrogen emissions and of hydrocarbon emissions in the formation of secondary pollutants¹⁶¹. Hence, the Working Group would adopt a far-reaching scientific approach directed not only at an evaluation of the contribution of nitrogen oxides to acid precipitation but also at its contribution, partly in connexion with hydrocarbons, to photo oxidants (summer smog). Summer smog was believed to be an important source of damage to forests.

The mandate did not comprise the task of negotiating a legal instrument. 'Many delegations' stated that the Working Group *should be expected within the frame-*

157 Decision A(II); ECE/EB.AIR/4, para. 101 (emphasis added).

158 July 8 - 12, 1985 in Helsinki.

159 See Prittwitz, *Umweltaußenpolitik*, p. 38.

160 See Prittwitz, *Umweltaußenpolitik*, pp. 39-40.

161 Terms of reference of the Working Group on Nitrogen Oxides; ECE/EB.AIR/7/Annex III (emphasis added).

work of these terms of reference to provide a basis for concrete decisions, and *to elaborate a legally binding instrument*, such as a protocol to reduce rapidly and substantially the air pollution caused by nitrogen oxides, hydrocarbons and their conversion products¹⁶². Furthermore, they »expressed some disappointment«¹⁶³ that it had not been possible to set a precise time schedule. As a compromise, it was recognized that the mandate »might be reconsidered by the Executive Body at its fourth session«¹⁶⁴.

6.2. Consensual Knowledge and Early Proposals

Despite principally contradictory interests, the group of states desiring to slow down the adoption of internationally coordinated action and the group of states urging a speedy and effective reduction of NO_x emissions agreed that a common basis of information should be developed as a first step. Effective norms could only be adopted on the basis of a common understanding of the relevance of NO_x pollution, the extent of its adverse effects and the technological and economic options for its effective reduction.

The Working Group began with these preparations at its first session¹⁶⁵ with an exchange of statements about national policies and strategies to combat the emission of nitrogen oxides. This initial discussion allowed the restatement of what had already been agreed in principle at the Munich Conference and at the second session of the Executive Body. The Chairman concluded that »it was generally recognized that NO_x emissions constituted a serious environmental problem requiring control«¹⁶⁶.

Starting from this general agreement, environmentally concerned states proposed as the next step the compilation of a state of the art report that would prepare the ground for international legal action. Others, however, insisted that »all scientific information was not necessarily uncontroversial and emphasized the importance of arriving at a commonly agreed information base«¹⁶⁷. The Working Group agreed to develop an outline to determine which information »was already available in a valid form«¹⁶⁸ and where further work was necessary. Canada, the Nordic countries, West Germany and the United States, the latter with particular experience concerning catalytic converters for automotive vehicles, offered to lead groups of interested countries examining identified technical and scientific problems. Draft reports should be submitted within four months. Their findings would be assessed in March 1986 by a group of governmentally designated experts representing all geographical

162 ECE/EB.AIR/7, para. 33 (emphasis added).

163 ECE/EB.AIR/7, para. 34. In diplomatic parlance, this is a rather strong wording reflecting a serious and open dispute on the mandate.

164 Terms of reference; ECE/EB.AIR/7/Annex III.

165 October, 16 - 18, 1985.

166 EB.AIR/WG.3/2, para. 9.

167 EB.AIR/WG.3/2, para. 15.

168 EB.AIR/WG.3/2, para. 16 (emphasis added).

areas of the ECE region. Hence, environmentally concerned states and states with particular experience acquired an advanced role in respect of the generation and compilation of information, while in a later stage the findings would be approved by experts from all countries participating in the negotiation process. This two-tier approach assured an evaluation of technical information at an accelerated pace.

Having set in motion a fact-finding process and having assigned it to expert deliberations, the Working Group had to decide whether to consider possible elements of measures and proposals for action *simultaneously* with the preparation of their necessary technological and scientific substantiation or *after* such substantiation. To accelerate the discussions, West Germany submitted a proposal that included a 30 % reduction of NO_x emissions from stationary sources by 1995 and a tightening of NO_x emission standards for mobile sources by a certain percentage below the existing ECE regulations¹⁶⁹. Yet, the Working Group agreed to pursue the debate on elements for internationally coordinated action at its forthcoming meetings¹⁷⁰. However, it did not meet for a period of nine months and thus allowed progress concerning the preparation of technical information.

At the second session of the Working Group¹⁷¹, the subject arose again. The session was to a large extent devoted to the consideration, amendment and subsequent adoption of four technological and scientific reports prepared by the designated lead countries and preconsidered by the group of governmentally designated experts¹⁷². The Working Group also discussed informally the report to be submitted to the forthcoming session of the Executive Body¹⁷³. Subsequently, the delegations were invited to submit proposals for a draft instrument¹⁷⁴.

6.3. *Basic Concepts for an International Regulation*

West Germany adopted the role of the lead country in urging the speedy adoption of a protocol, a role that had been occupied by the Nordic countries in respect of SO₂ emissions. Three months before the meeting, West Germany had circulated a comprehensive set of elements for a draft protocol¹⁷⁵. Even though the concept was not coordinated with other countries interested in a thorough and speedy reduction of NO_x emissions, it acquired utmost relevance.

The proposal contained two general obligations. States should as soon as possible reduce national NO_x emissions »in order to achieve environmentally acceptable levels of ambient air quality and depositions of nitrogen oxides and their reaction

169 See EB.AIR/WG.3/2, para. 20. West-Germany made this proposal again in the second session of the Working Group, see EB.AIR/WG.3/4/Annex VII, para. 5.

170 See EB.AIR/WG.3/2, para. 22.

171 July 7 - 11, 1986.

172 See EB.AIR/WG.3/R.7, R.8, R.9.

173 See EB.AIR/WG.3/4, paras. 8-11.

174 See EB.AIR/WG.3/4, para. 14.

175 See EB.AIR/WG.3/R.12.

products». Distinct from the approach of the SO₂-Protocol, the basic obligation of the proposal was directed at reducing the *immissions* of NO_x and its conversion products to acceptable levels. Even though emissions and immissions are closely related, internationally coordinated action to reduce immissions could well imply that emissions in some areas had to be reduced more stringently than in others. This concept, transformed into the later 'critical loads' approach, dominated the subsequent negotiations of the protocol. It is worth noting that this concept was already implicit in the proposal of an environmentally concerned state.

A second general obligation was directed at the reduction of emissions of hydrocarbons as soon as possible »in order to reduce photo-oxidants« but, notably, without a reference to 'immissions'. While the German paper did not contain specific obligations to reduce emissions of hydrocarbons, a number of subsidiary obligations, such as the maintenance of an effective compliance mechanism, the reporting of emission figures, annual EMEP calculations and the exchange of information on national programmes, policies and strategies, applied also to hydrocarbons.

The German paper suggested the adoption of detailed obligations as to NO_x reductions. It distinguished between emissions from stationary and mobile sources. For stationary sources, it proposed a flat-rate reduction of 30 % of national emissions or their transboundary fluxes by 1995 using 1982/83 emission levels as a basis for calculation. The approach adopted in the SO₂-Protocol which left the determination of specific measures to achieve the flat-rate reduction to the competence of the contracting parties seemed to be transferable to emissions from stationary sources. The target year (1995) for action on NO_x emissions had been settled already during the Munich Conference and was taken over later by the Executive Body¹⁷⁶. The proposed base year for the calculation of reductions (1982/83) referred to the Executive Body's initial request to governments to make available emission data for one of these years¹⁷⁷. It had been the only date mentioned so far officially in respect of NO_x. Considering that figures of NO_x emissions were rising, it was not realistic to propose an earlier basis of calculation. From an environmental point of view it was not desirable to adopt a later year.

Regarding mobile sources, the major cause of the rise of emission figures, the German initiative did not propose a *flat-rate reduction* of national emissions or their transboundary fluxes. It proposed the obligation to apply the best available technology to achieve as a first step a *stabilization* of emissions from these sources. States would discharge this obligation by (a) accepting to reduce current emission standards by an agreed percentage below those stipulated in an existing ECE regulation¹⁷⁸ by 1993, (b) assuring the general availability of lead-free petrol until 1988 in order to promote the use of catalytic converters, and (c) tightening emission standards for trucks and busses¹⁷⁹ by a certain percentage »as soon as possible by taking

176 See Munich Declaration, operative paragraph 12, and Decision A (II), ECE/EB.AIR/4, para. 101.

177 See Decision A(II); ECE/EB.AIR/4, para. 101.

178 ECE regulation series No 15-04 of the Inland Transport Committee.

179 Below the existing ECE regulation R 49.

measures on the appropriate action levels, preferably through harmonized regulations.¹⁸⁰ Hence, regarding mobile sources the German proposal abandoned the concept of an international regulation of figures of *national emissions* or their trans-boundary fluxes. This simple concept which provided ample room for the setting of priorities at the national level would be substituted by a more specific catalogue of obligations. These obligations spelled out the term 'best available technology'. In this way, the proposal accounted for anticipated difficulties in reducing the aggregate emissions from mobile sources. These difficulties were experienced within Western industrialized countries, but they were even more obvious for countries with a still low but rapidly rising rate of motorization, e.g. for the socialist countries.

Austria¹⁸¹ and Finland¹⁸² favoured a flat-rate reduction as it did not only leave the choice of strategies to the national competence, but also because it was simple and could be introduced gradually.

A number of other countries suggested different forms of a more sophisticated approach. Canada favoured a 'two-track'-approach, fixing US-standards for cars requiring the general use of catalytic converters, and the best available technology for stationary sources. Secondly, the total national reductions should eventually be based on agreed figures of 'critical loads'¹⁸³. The concept of 'critical loads' implied the adoption of environmentally acceptable targets of effect, and a subsequent reduction of emissions to meet these targets. It thus came close to the 'control of immissions' concept. Similarly, but in a different arrangement, the Netherlands suggested to proceed first to an 'estimate of (the) deposition objective', i.e. of the level of *immissions* that was acceptable, to calculate subsequently the percentage of emission reductions necessary to meet these findings, and finally, considering the availability of the necessary control technology, to determine a target year¹⁸⁴. Sweden suggested two alternatives, either a flat-rate reduction of emissions from stationary sources over a period of ten years that could be set at a relatively high level¹⁸⁵ and, as a second step, a reduction of emissions from mobile sources; or, alternatively, a 'critical loads' approach.

Both the United Kingdom and the United States again demonstrated reluctance to enter into any commitment. As in the case of SO₂ emissions, the United Kingdom emphasized that further research was necessary in particular regarding source-effect relationships, technical options and cost-effectiveness¹⁸⁶. The United States, the only ECE country so far with mandatory emission targets for cars that could be met only by the use of catalytic converters, proposed that each individual state should set national emission limits for any category of sources that contributed more than

180 EB.AIR/WG.3/R. 12.

181 See EB.AIR/WG.3/4/Annex VII, para. 1.

182 See EB.AIR/WG.3/4/Annex VII, para. 3.

183 See EB.AIR/WG.3/4/Annex VII, para. 2.

184 See EB.AIR/WG.3/4/Annex VII, para. 7.

185 EB.AIR/WG.3/4/Annex VII, para. 8.

186 See EB.AIR/WG.3/4/Annex VII, para. 10.

10 % to the country's national annual emission level. These source emission levels would be based on technological limits demonstrated to be practicable and economically achievable¹⁸⁷.

The position of the socialist countries was also marked by general reluctance to enter into new commitments. Hungary suggested that abatement technology should be made available¹⁸⁸. The GDR drew attention to the lack of knowledge regarding the monitoring of NO_x emissions, hydrocarbons and photo-oxidants, as well as regarding model calculations of the long-range transport of these pollutants and the contribution of photo-oxidants to environmental pollution¹⁸⁹. The Soviet Union emphasized the different constellation of interests in the NO_x issue as compared to SO₂. It proposed the inclusion of a list of NO_x emissions of the member states of the regime in the final document. It furthermore proposed to elaborate an annual report of the ECE on country-depositions, an annual report of EMEP on country-by-country budgets of deposition and, for the third session, an examination of data on the contribution of automotive traffic to transboundary fluxes¹⁹⁰. Furthermore, the Soviet Union suggested that work on the 'critical loads' approach be continued. Apparently, all these initiatives were intended to reveal that the industrialized and highly motorized states of Western Europe were the major polluters with respect to NO_x.

The heterogeneity of proposals stresses that, in contrast to the past negotiations on the SO₂-Protocol, the strategy of the group of environmentally concerned countries was not coordinated. A number of countries, namely West Germany, Canada, Austria, the Netherlands and Sweden, urged a rapid and thorough reduction of NO_x emissions. All of them had been among the ten Ottawa-states. In cooperation with Austria and Switzerland, West Germany had sponsored an early NO_x initiative. Sweden and Canada had suffered for many years from acidification to which NO_x emissions contributed. There seemed to exist a general coincidence of interests among these states as regards an effective reduction of NO_x emissions. Nevertheless, they did not at all agree on the type of concrete obligations appropriate for an international instrument. Distinctions in approach were not confined to conceptually minor issues, such as the target year and the percentage of reductions witnessed during the process of emergence of the SO₂-Protocol. The environmentally concerned countries differed fundamentally in their general concepts of the appropriate way to achieve a commonly desired reduction. Hence, there was considerable demand for deliberations, however time-consuming, even among this group of countries. The haste involved in negotiations on the NO_x issue as compared to the decade-long discussions on a SO₂ reduction scheme is demonstrated by the lack of coordination among the initiating countries. The start of the negotiations in the absence of a well-organized initiating group and in the absence of sufficient techni-

187 See EB.AIR/WG.3/4/Annex VII, para. 11.

188 See EB.AIR/WG.3/4/Annex VII, para. 6.

189 See EB.AIR/WG.3/4/Annex VII, para. 4.

190 See EB.AIR/WG.3/4/Annex VII, para. 9.

cal information suggests that in case of NO_x a larger part of the deliberation process proceeded *within* the institutional structure of the international regime. It also suggests that the existence of the institutional framework of an international regime considerably lowers the threshold for such negotiations.

The Working Group did not engage in a discussion of these proposals. The report merely summed up that one group of suggestions was directed at a reduction of emissions based on three different approaches, namely (a) a reduction by a certain percentage, (b) a reduction according to the best available technology, and (c) the 'critical loads' approach, while a second group of proposals »specified the future work required with regard to the collection and analysis of data«¹⁹¹.

The third session of the Working Group¹⁹² was fully devoted to the adoption of the report to be submitted to the Executive Body. This report contained an outline of commonly accepted information as well as areas for further research¹⁹³. The Working Group agreed that »nitrogen oxides are key components of two of the most serious large-scale air pollution problems in the ECE region: acid deposition and photochemical oxidants«¹⁹⁴. Observations strongly indicated that the pollutants concerned were transported over long distances¹⁹⁵, i.e. over several hundreds and up to 2000 kilometres¹⁹⁶. They contributed up to 40 % to the acidity of rain (wet deposition)¹⁹⁷. Emissions from stationary, as opposed to mobile sources contributed to the aggregate national emissions of countries between 20 % and 80 %, depending on the country¹⁹⁸.

For other areas, information was still not considered to be sufficient. These areas included emission data, monitoring technology, deposition budgets for individual countries, critical loads values as well as the role which NO_x and their conversion products in combination with other pollutants played in regard to observed effects¹⁹⁹. The Working Group agreed that it could submit concrete proposals to the fifth session of the Executive Body (1987)²⁰⁰.

6.4. *Mandate to Negotiate a Protocol on Nitrogen Oxides*

Due to the still initial stage of elaboration, the Executive Body did not engage in a detailed discussion on a possible protocol at its fourth session²⁰¹. It extended, how-

191 EB.AIR/WG.3/4, paras. 17-18.

192 September 1 - 5, 1986.

193 The report was based on the 'Draft conclusions on long-range transport of nitrogen oxides in the atmosphere', prepared by governmentally designated experts on nitrogen oxides; see EB.AIR/WG.3/R.7.

194 EB.AIR/WG.3/6/Annex I, para. 1.

195 See EB.AIR/WG.3/6/Annex I, para. 8.

196 See EB.AIR/WG.3/6/Annex I, para. 10.

197 See EB.AIR/WG.3/6/Annex I, para. 8.

198 See EB.AIR/WG.3/6/Annex I, para. 17.

199 See EB.AIR/WG.3/6/Annex I, paras. 42-44.

200 See EB.AIR/WG.3/6/Annex I, para. 14.

201 November 11 - 14, 1986. For an account of the session, see *Transboundary Air Pollution*, Environmental Policy & Law 17 (1987), p. 3.

ever, the mandate of the Working Group²⁰² as to two parallel activities. Besides collecting and evaluating further scientific and technical information, the Working Group was authorized to

»elaborate a draft Protocol to the Convention concerning control of emissions of nitrogen oxides or their transboundary fluxes, especially reduction measures, taking into account the scientific and technical data contained in the report of the Working Group and further data as they become available, and taking into account *the importance of having as many Parties as possible joining the Protocol*, and having due regard to the different economic and environmental situation and the conditions for the implementation of reduction measures, inter alia, facilitating the transfer of technology, in various countries»²⁰³.

This mandate reflected the concerns of some countries that a pressure group of initiating countries could again attempt to advocate strong obligations that would prevent the acceptance of the emerging instrument by a number of regime members. Only a year before, the adoption of the SO₂-Protocol had distinguished two groups of signatories of the Convention. For the majority of regime members it did not seem desirable that an even smaller number of environmentally concerned states should insist on including their envisaged high standards in the instrument. Contrary to the SO₂ precedent, the coalition between environmentally concerned and socialist countries did not re-emerge. The socialist countries were anxious not to be forced into an agreement which they could not comply with. They would not be able to meet strong environmental standards if they were not supplied with the necessary abatement technology. The mandate thus reflected their interest in the issue of transfer of pollution abatement technology.

For the first time in the history of the regime, representatives of several environmental non-governmental organizations delivered statements. They »urged delegates to finalize a protocol on nitrogen oxides in 1987»²⁰⁴. They had, however, not attended any of the past meetings of the Working Group and they did not attend its subsequent meeting. Only when an initial version of the draft protocol had already emerged, were they represented on a more regular basis.

6.5. A Draft Protocol Emerges

The Working Group began its fourth session²⁰⁵ with the intent to elaborate a draft protocol in time for the fifth session of the Executive Body (1987). Apart from the detailed West German proposal submitted at earlier sessions, Sweden introduced a paper with the purpose of structuring the initial discussion. It contained three alternative strategies which Sweden considered »as possible approaches towards a proto-

202 The Working Group was scheduled to hold three sessions in the period up to the next session of the Executive Body; see ECE/EB.AIR/10/Annex IV.

203 ECE/EB.AIR/10/Annex I (emphasis added).

204 ECE/EB.AIR/10, para. 45.

205 February 3 - 5, 1987.

col²⁰⁶. Accordingly, Sweden did not propose its own favourite strategy. The purpose of the Swedish paper was, in fact, to exclude a strategy considered to be particularly undesirable, at least in the short run, namely the 'critical loads' approach. While the concept had been introduced at an earlier stage by several environmentally concerned states, Sweden now proposed to concentrate on an initial step addressing emergency action to be adopted without further research. The 'critical loads' approach could be taken into account in further steps²⁰⁷.

However, the 'critical loads' concept was supported from different sides. Both economically protective and environmentally concerned states could, in principle, agree on a concept that allowed such high rates of pollution as were environmentally sustainable and that required a sufficiently strong reduction of emissions to protect the environment. A concept based upon *immissions* was particularly interesting for countries with comparatively low immissions per unit of territory. In this regard, Canada²⁰⁸ found itself in a coalition with the Soviet Union²⁰⁹. It required particularly stringent control measures by countries with high immissions, i.e. by the densely populated and highly motorized countries of Western Europe such as the Netherlands and West Germany. However, the Soviet support for the 'critical loads' approach implied by necessity the abandonment of the strict limitation of international control of air pollution to their transboundary fluxes. Any assessment of 'critical loads' according to internationally agreed procedures inevitably rendered the state of the environment *within* countries a matter of international deliberations. The management of air pollution would not any more stop at national borders²¹⁰.

The Swedish proposal to confine the project to interim measures as a first step of a long-term strategy gained some support. The Working Group agreed *that further steps* under the draft protocol should be based on the concept of critical loads²¹¹.

206 EB.AIR/WG.3/R.14. These three alternatives comprised in particular:

I. a single percentage reduction of emissions or transboundary fluxes with two sub-alternatives, (a) a general reduction by a certain percentage until a specified target year, (b) such a general reduction (only) for stationary sources;

II. the application of the best available technology for new sources, including mobile sources and a percentage reduction for existing stationary sources;

III. a combination of alternatives I. and II., with the best available technology for new stationary as well as new mobile sources and a general reduction of national emissions or transboundary fluxes by a certain percentage until a specified target year.

207 See EB.AIR/WG.3/8, para. 16.

208 See preambular paragraphs proposed by Canada: *Recognizing* that environmental protection and enhancement is the ultimate objective of control programmes undertaken by Parties to the Convention; *Noting* that a critical loading is an environmental concept which effectively takes account of the condition of a receptor and the impact of a specific pollutant on the receptor; *Noting* that critical loads should ultimately guide policies designed to achieve environmental objectives through the control of emissions of air pollutants or their transboundary fluxes; EB.AIR/WG.3/8/Annex I, p. 8.

209 See the Soviet proposal: *1. The Parties shall achieve on their territories a level of emissions equal to <agreed value x> per km², determined on the basis of maximum critical loads. 2. The Parties shall achieve on their territories a level of emissions equal to <agreed value x> per capita (during an appropriate period of time); EB.AIR/WG.3/8/Annex I, p. 9.*

210 The modification of the *political* position of the socialist countries toward pollution control is reflected in the Czechoslovakian proposal for a stand-still of national annual NO_x emissions (as opposed to their transboundary fluxes); see EB.AIR/WG.3/8/Annex I, p. 7.

211 EB.AIR/WG.3/8, para. 20 (emphasis added).

The decision implied that an initial step could be adopted without a full development of the 'critical loads' approach. Even those countries not particularly convinced of the advisability of the concept²¹² but interested in an early interim agreement accepted the linkage between both parts of the decision.

Nevertheless, the nature of the interim measures to control NO_x pollution was contingent on the time necessary to develop the 'critical loads' concept. Several delegations insisted on stronger immediate action if it became operable after 1990/91. In an attempt to settle this controversy, the Executive Body as the political supervisory organ agreed that 'sufficient scientific data to allow determination of critical loads were expected to be available within about four years'²¹³, i.e. in 1991. Based upon these decisions, the drafting committee discussed possible basic obligations. An 'informal draft article 1 (basic obligations)' submitted to the Working Group at the end of the session constituted in fact hardly more than a list of diverging national proposals. However, substantive and concrete discussions and the process of drafting had begun.

The sixth session of the Working Group²¹⁴ was almost entirely devoted to informal consultations on two draft articles regarding the basic obligations (later article 2) and the review process²¹⁵. The draft-text contained four alternatives for the basic obligations²¹⁶. In differently worded versions, Czechoslovakia and the Netherlands proposed a stand-still of national emissions from a certain year onwards, allowing emissions to increase in the meantime. A West German alternative foresaw a stand-still of emissions from a fixed year onwards *on the level of a fixed base year*. Considering that emissions in many countries continued to rise, this would result in a freeze of emissions at a lower level. A fourth alternative, sponsored by Switzerland, suggested (a) a stand-still of emissions at the latest from the date of entry into force of the Protocol, (b) an obligation to apply emission standards based on the best available technology for mobile as well as stationary sources, and (c) a percentage reduction of national emissions of the SO₂-Protocol type.

The discussion tended, however, to confine control measures to some type of stand-still obligation²¹⁷. There were relatively similar proposals of a socialist and an environmentally engaged Western state (i.e. Czechoslovakia and the Netherlands). Canada withdrew its proposal directed at the compulsory application of the best available technology²¹⁸. Among the alternatives of the draft text only a Swiss proposal still suggested the *reduction* of emissions.

212 See EB.AIR/WG.3/8, para. 20.

213 EB.AIR/WG.3/8, para. 20.

214 May 12 - 15, 1987. The session was the first attended by several environmental NGOs.

215 See EB.AIR/WG.3/10, para. 21.

216 See EB.AIR/WG.3/10/Annex I, pp. 5-6.

217 A proposal submitted by the GDR and Hungary did not even contain a binding commitment to a freeze of emissions but focused, in a first stage, primarily on research regarding the development of 'critical loads'; see EB.AIR/WG.3/10/Annex II.

218 However, other proposals presented at the present or the two previous sessions were still under consideration; see EB.AIR/WG.3/10, para. 19. This meant that their sponsors could come back to them.

As a corollary to this trend toward moderate obligations concerning the control of emissions, several proposals for institutional devices to accelerate the adoption of further commitments were presented and discussed. On the basis of a Canadian proposal, the contracting parties would be obliged to review the appropriateness of commitments in the light of new scientific and technological information after a fixed period of time²¹⁹. The decision to base future steps on the 'critical loads' concept implied a tentative obligation to cooperate in respect of the development of this approach²²⁰. Finally, the protocol could comprise a technical annex to outline technological solutions and standards for the abatement of NO_x emissions²²¹ as well as provisions for an exchange of information, duties to report, and EMEP calculating activities. This technical annex could be subject to a simplified amendment procedure, as provided for in other environmental agreements²²². Contrary to the control of SO₂ emissions, the core of the international control of NO_x emissions would be a *process* rather than a comprehensive strategy.

Already at the previous session the Soviet Union had made clear that it could not accept flat-rate reductions of emissions or obligations concerning the application of the 'best available technology' without an institutionalized transfer of technology²²³. Since sophisticated abatement technologies were frequently not available in socialist countries or its purchase involved relatively high costs, the Soviet Union, assisted by other socialist states²²⁴, suggested that the parties should only be obliged to apply the principle of the best *national* technology or the best technological solution obtained as a result of technology transfer *within the framework of ECE*²²⁵.

The Working Group agreed that the availability of abatement technology should be addressed in a separate article. However, basic concepts put forward by different groups of countries were widely diverging. Denmark proposed to secure the *commercial* exchange of technology. A Polish note circulated prior to the session contained the socialist position. It emphasized »that the question of *free* transfer of technology should be resolved within a broad framework, and that facilitation of the transfer of technology to limit emissions of sulphur and nitrogen oxides, within the framework of the Convention, might be *an initial concrete step in this direction*«²²⁶.

219 See draft protocol, article 4; EB.AIR/WG.3/10/Annex I.

220 See draft protocol, article 5; EB.AIR/WG.3/10/Annex I.

221 In this annex conclusions drawn by the group of governmentally designed experts concerning abatement technology for automobiles could be integrated; see EB.AIR/WG.3/10, para. 15. Further meetings of these experts could develop the proposal for a technical annex to the sixth session of the WG; see EB.AIR/WG.3/10, para. 24.

222 According to the so-called 'opting-out' procedure, amendments became effective for all parties which did not object to their entry into force within a fixed period of time. The procedure thus avoided the cumbersome process of domestic ratification.

223 See EB.AIR/WG.3/8, para. 20.

224 See ECE/EB.Air/8, paras. 25-27.

225 EB.AIR/WG.3/8/Annex I, p. 10 (emphasis added).

226 EB.AIR/WG.3/R.18 (emphasis added). Details of the proposal were even more disturbing. It suggested obligations in regard to (a) the non-application of any type of restrictions (directed apparently at COCOM), (b) the promotion of commercial exchange through a waiver of taxes, duties, and other imposts as well as the establishment of a common fund, and (c) a wide dissemination of information on control technologies, including the

An alternative jointly sponsored by Finland and Hungary was directed at the organization of the transfer of technology by the ECE²²⁷.

The Working Group did not enter into protracted negotiations on the political dimensions of an issue that was merely at the fringe of its task. The Vice-Chairman proposed a fourth alternative, according to which the parties would have to facilitate the exchange of technology »consistent with their national laws, regulations and practices«²²⁸. They should cooperate to specify procedures to implement this obligation. This proposal in fact excluded the issue from the negotiations and merely established another duty to cooperate. Later agreement in the field of transfer of technology was achieved on the basis of this proposal.

The sixth session²²⁹ of the Working Group marked a turning point. The negotiations attracted the increasing interest of environmental groups and raised the political awareness of the public in several countries participating in the regime process. They did not proceed any more in 'private' meetings behind closed doors. Through their observer status, NGOs had a direct access which was particularly relevant to obtain unfiltered information and working documents²³⁰. Environmental NGOs began to cover the meetings by issuing daily conference bulletins ('ECO').

The general outline of the protocol had become clear and protracted negotiations about details, in particular concerning the basic obligations, began. A group of environmentally concerned countries introduced a new initiative to reduce NO_x emissions by at least 30 % as soon as possible and at the latest by 1995, calculated on the basis of 1985 emissions²³¹. The group comprised five countries, namely the three early initiators of the NO_x proposal, i.e. West Germany, Austria and Switzerland, plus Sweden and the Netherlands. These countries attempted to revive the '30 %-Club' in the field of SO₂ emissions which had gained increasing support and thus facilitated the adoption of a protocol stipulating effective reductions. However, in that case the creation of the '30 %-Club' preceded the official negotiations. In contrast, the deliberations on an NO_x-protocol had developed to a stage at which the adoption of the instrument was considered for the following session of the Executive Body²³². Since the new 30 %-Club on NO_x emissions did not gain imme-

»free transfer of information on technologies, equipment, technical documentation, purchased licences, etc.«;
EB.AIR/WG.3/10/Annex I, p. 7.

227 See draft protocol, article 3, EB.AIR/WG.3/10/Annex I.

228 EB.AIR/WG.3/10/Annex I, p. 7.

229 September 1 - 4, 1987.

230 The relevance of this change in participation is emphasized by the announcement of the Chairman that the meeting was still private and that documents should be made available only to participants; see EB.AIR/WG.3/12, para. 8.

231 See footnote attached to the draft protocol; EB.AIR/WG.3/12/Annex I.

232 The initial German proposal foresaw a reduction of NO_x emissions from stationary sources by 30 %, and a stand-still for emissions from mobile sources; see EB.AIR/WG.3/R.12, and above, Chapter 3, pp. 159. Accordingly, the lead country revised its position *during* the negotiations not in the direction of a possible compromise, but in the opposite direction.

diate further support²³³, the initiating countries were faced with the choice of pressing for a strong protocol or of speeding up the drafting process.

So far the negotiations were almost entirely a matter of European environmental policy. The United States and, subsequently, also Canada had viewed transboundary air pollution in North America as an essentially bilateral issue, probably not only for environmental but also for overall political reasons²³⁴. The seventh session of the Working Group²³⁵ was faced with the United States decision to actively join the negotiations. The United States was the only participating country with high standards for automobiles that could be met only by use of catalytic converters. Now, the United States favoured a stand-still obligation, but claimed a credit for its early endeavour to reduce NO_x emissions. The basis for calculating the stand-still of emissions should be increased by the amount of reductions achieved by these early measures. The credit thus claimed amounted to about 20 % of the actual US-emissions²³⁶.

The United States did not gain much support for its claim, phrased in a clause fitting only its own case²³⁷. Canada was embarrassed over a proposal that would allow an *increase* of transboundary air pollution in North America by 20 %²³⁸. It was supported by several Western European countries. Switzerland declared that it could not accept a protocol that, in one way or another, sanctioned increases in NO_x emissions above present levels²³⁹. Yet, both European countries and Canada were principally prepared to negotiate the claim to enable the United States to join the protocol. Due to the new dispute between the two North American participants, the Working Group was not able to finalize the draft protocol.

Since agreement was under way, the Executive Body did not take any particular action at its fifth session²⁴⁰ to influence or direct the negotiations. Instead, it launched preparations on the envisaged second phase of internationally coordinated measures to control NO_x emissions which should be based on the critical loads approach. The Executive Body decided that the development of the critical loads approach was a matter of general importance that would not depend upon the entry into force of the future NO_x-protocol. Moreover, it would not only be of importance for the internationally coordinated control of NO_x, but also for further steps in respect of SO₂²⁴¹.

233 Weidner, A Survey of Clean Air Policy in Europe, pp. 3-4, reports that four other Western countries, namely Denmark, Norway, Spain and the United Kingdom, only agreed to freeze NO_x emission levels while all other countries attending the meeting remained indifferent.

234 Neither EMEP nor the SO₂-Protocol apply to North America. Only the Convention, whose adoption had been a political rather than an environmental event, was in force for Canada and the United States.

235 November 16 - 18, 1987.

236 See Mott, An Acid Rain Summons from Europe, 33.

237 See draft protocol, article 1 (b), EB.AIR/WG.3/14/Annex 1.

238 See EB.AIR/WG.3/14, para. 12.

239 See EB.AIR/WG.3/14, para. 17.

240 November 17 - 20, 1987.

241 See ECE/EB.AIR/16, para. 47.

When the Working Group resumed its work for its eighth session²⁴², most issues had been solved. A proposal agreed upon immediately prior to the session and jointly sponsored by eight countries linked pending issues on the basic obligations and the exchange of technology²⁴³. Yet, the lasting dispute on the general obligation could not be solved on that basis. The five 30 % countries did not gain sufficient support to effectively promote their proposal²⁴⁴. The *first step* of the reduction scheme would therefore be confined to a stand-still of emissions calculated on the basis of 1987 emissions. However, 14 parties, including several socialist countries, Finland, Norway, Spain, France, the United Kingdom and the United States, favoured the target date of 1994²⁴⁵, while the five 30 %-countries plus Canada and Denmark advocated a stand-still as soon as 1990.

Concerning the Canada/USA, the compromise proposal contained a provision according to which, under certain conditions applicable exclusively to the United States, countries would not have to calculate their emissions on the basis of the figures of the ordinary reference year (now 1987), but were free to choose an earlier year. However, the dispute re-emerged when the Canadian delegation discovered that it still allowed an increase of US-emissions by about 10 %²⁴⁶ and implied that the amount of transboundary fluxes might increase with an equal rate²⁴⁷. The Working Group was not in a position to settle this controversy either²⁴⁸.

Some countries held that these issues should be solved by informal consultations, but others refused to convene a session of the Executive Body at ministerial level (as was envisaged for the adoption of the protocol) prior to the settlement of the open questions. As the Working Group could not solve them, it was agreed to terminate its work and to submit the draft protocol to the Bureau of the Executive Body for further decision²⁴⁹.

In March, the Bureau decided to convene consultations of the 'heads of delegations' to the Executive Body. Hence, the matter would be discussed at the highest political level within the institutional structure of the Executive Body, excluding observers and avoiding overly large delegations representing too many sub-national interest groups. The meeting²⁵⁰ reviewed the draft protocol article by article and tentatively accommodated the diverging positions. It settled the dispute about the target year of

242 February 16 - 19, 1988.

243 See report EB.AIR/WG.3/16, para 9. The proposal was sponsored by Canada, West-Germany, Norway, Sweden, the Soviet Union, the United Kingdom and the United States.

244 In the meantime, Denmark had accepted a 35 % reduction by 1998, thus supporting a reduction, but not meeting the conditions of the 30 % countries; see EB.AIR/WG.3/16, para 13.

245 See the footnotes attached to the draft protocol, EB.AIR/WG.3/16/Annex 1.

246 See Acid News No. 3 1988, pp. 13-14. Having initially co-sponsored the proposal, Canada revised its position and denounced the US-claim for a credit clause during the session; see EB.AIR/WG.3/16, para. 15.

247 The Chairman proposed as a compromise that the credit should be linked to the condition that transboundary fluxes should not exceed 1987 levels; see draft article 1 (b), EB.AIR/WG.3/16/Annex 1, and explanation EB.AIR/WG.3/16, para. 19.

248 Environmental observers noted with dismay that they were excluded from the meetings for two of the four days of the session; see Acid News No. 2 1988, pp. 1-2.

249 See EB.AIR/WG.3/16, para. 24.

250 April 27 - 28, 1988.

a stand-still of NO_x emissions according to the majority opinion (i.e. 1994)²⁵¹. A number of 30 %-countries acquiesced with the decision but insisted that provision be made as to the time after 1994 in order to avoid a later increase of emissions²⁵². Sweden, however, reserved its right to revert to the earlier date (i.e. 1990) and emphasized that it still deemed a 30 % reduction by 1995 necessary²⁵³.

As a part of the fragile compromise package, it was agreed that the parties to the protocol would be formally committed to commence negotiations on the second step of internationally agreed control measures within six months upon entry into force of the instrument. In fact, the Executive Body had already agreed to start such work *before* the entry into force of the protocol. Within its legal framework, the parties would be obliged to cooperate in order to establish critical loads, the necessary quantities of reductions of national emissions to achieve these critical loads, and a timetable beginning not later than 1996. Although a mere duty to cooperate, it established an authoritative guideline within the international regime.

Finally, the consultative meeting achieved some tentative settlement of the Canada/USA dispute. A compromise proposal suggested that the US-exemption only be applied under the condition that it did not lead to an increase in transboundary fluxes of NO_x pollutants. The two countries concerned had to accept this clause until July 1. Otherwise, it would be dropped automatically²⁵⁴. On the understanding that an internationally agreed timetable for emission reductions would commence not later than 1996, Canada accepted the compromise²⁵⁵. The United States agreed to examine the package within the two-months period provided for²⁵⁶.

Accordingly, the consultations had resulted in a comprehensive package that incorporated all issues pending so far. Yet, final consent had not been given by a number of countries for different reasons. Therefore, the meeting of the 'heads of delegations' was re-convened²⁵⁷ immediately prior to the session of the Executive Body to confirm the agreement achieved and to make final adjustments.

6.6. *Adoption of the Protocol on Nitrogen Oxides*

The sixth session of the Executive Body²⁵⁸ adopted the 'Protocol to the 1979 Convention on Long-range Transboundary Air Pollution Concerning the Control of Emissions from Nitrogen Oxides or their Transboundary Fluxes' as the second substantive protocol within the legal framework of the international regime. The ses-

²⁵¹ See revised draft protocol, EB.AIR/R.31.

²⁵² See EB.AIR/R.31, para. 11. This group of countries comprised Austria, Denmark, West-Germany and Switzerland.

²⁵³ See report of the meeting, EB.AIR/R.31, para. 4.

²⁵⁴ The compromise proposal was sponsored by the United States, Norway and Finland, see Canadian statement, EB.AIR/R.31, para. 8. This suggests that the United States required time for decision-making while the community of actors at large was eager not to engage in another discussion of the bilateral dispute.

²⁵⁵ See EB.AIR/R.31, paras. 8-9.

²⁵⁶ See EB.AIR/R.31, paras. 5-6.

²⁵⁷ October 30, 1988.

sion met at the invitation of the Bulgarian government in Sofia and was attended by many delegations at the ministerial level. During the session, the NO_x-Protocol was signed by 25 countries²⁵⁹, while two more countries signed later on. The Protocol was thus accepted by all the relevant countries within the issue-area of long-range transboundary air pollution²⁶⁰.

In connection with the session of the Executive Body but outside its institutional framework²⁶¹, 12 countries adopted a Declaration providing for a reduction of national annual NO_x emissions 'in the order of' 30 % by 1998, calculated on the basis of 1980 emissions²⁶². The Declaration called upon other signatories of the Protocol to join them. It emphasized the relevance of common action *within the framework of the Convention* to achieve substantive reductions of emissions of hydrocarbons (volatile organic compounds, VOCs). On the basis of a later target date, the 30 %-Club had thus considerably expanded and could become relevant during the negotiations of the second step of control of NO_x emissions.

The provisions of the NO_x-Protocol are far more complex than those of its corollary in the field of SO₂ emissions. This complexity reflects the enormous difficulties in achieving agreement about the internationally coordinated control of emissions in a field with still rising emission figures. The NO_x-Protocol marks a further step in the development of the international regime from an institution for European political cooperation to an institution that tackles specific issues of international environmental cooperation. The general agreement to develop the concept of critical loads and the agreement to include into the Protocol provisions about applicable technology 'taking into account the Technical Annex' of the instrument reflect the emergence of an integrated approach to air pollution abatement in the ECE region. This approach necessarily pierces parts of the national sovereignty reflected in the concept of 'transboundary fluxes' that had been advocated by the socialist countries. To be sure, the Soviet support for the critical loads approach was primarily based upon economic considerations. Yet, this is precisely part of the development of the international regime which increasingly leaves the realm of overall and inter-systemic politics and becomes an international institution for the management of issues of common interest within one particular issue-area.

258 October 31 - November 4, 1988.

259 Upon signature, the United States stated that it would calculate its emissions on the basis of 1978 figures. Moreover, its signature was made on the understanding that a follow-up protocol would be agreed upon. If such a protocol would not be adopted by 1996, the United States would consider a withdrawal from the NO_x-Protocol.

260 See Secretariat information 'Status of the Convention', as of 28 January 1991. The group of non-signatories included almost exclusively European fringe countries, such as Portugal, Turkey, Yugoslavia, Iceland, but also the European Community whose signature was precluded by the Portuguese abstention. Due to German unification, the number of official signatories decreased to 26. As of December 31, 1991, 18 of them had ratified, approved or acceded to the instrument. The NO_x-Protocol entered into force in February 1991.

261 Declaration on the 30 Per Cent Reduction of Nitrogen Oxide Emissions, adopted October 31, 1988 by Austria, Belgium, Denmark, West Germany, Finland, France, Italy, Liechtenstein, the Netherlands, Norway, Sweden and Switzerland.

262 The adoption of the Declaration was merely announced during the session; see ECE/EB.AIR/18, para. 14.

Contrary to the SO₂-Protocol, the NO_x-accord involves a strong process component. Parties expressly agreed on 'a first step' to be followed by a second step within an agreed period of time. It is not at all clear whether this second step will be the last, or whether it will be followed by further decisions. While the Convention establishes a lasting cooperative process and provides the necessary institutional framework, the NO_x-Protocol establishes a cooperative process within the existing institutional framework. Like the international regime at large, the NO_x-Protocol is based upon the idea of a step-by-step approach.

7. Volatile Organic Compounds: Combating Summer Smog

So far, the predominant perspective within the regime was directed at environmental acidification from air pollution. Although the control and reduction of nitrogen oxide emissions would also contribute to combating the so-called 'summer smog', this aspect had not been overly important. Accordingly, another important group of air pollutants contributing to summer smog, i.e. 'volatile organic compounds' (VOCs) were not in the centre of regime activities, although these substances act, in combination with nitrogen oxides, as precursors of ozone and other photochemically generated pollutants which are extremely toxic and adversely affect human health, the growth of plants as well as materials.

However, West Germany, one of the more important members of the regime, drew attention to VOCs and placed the issue on the agenda of the regime. The story of the VOC-Protocol is, to a large degree, the story of the skillful exploitation of the institutional opportunities of the regime by an active regime member.

7.1. Agenda Setting and the Scientific Foundations of the Control of VOCs

In 1986 West Germany proposed that a single instrument addressing both the emission of NO_x and of VOCs be negotiated²⁶³. Although the Working Group on the NO_x Protocol rejected this link and excluded the control of VOCs from its own agenda, this decision was made on the understanding that the issue would be addressed separately. In 1987 the Executive Body recognized 'the importance of damage to the environment in many countries caused by emissions of volatile organic compounds (VOCs) which, by reaction with the oxides of nitrogen, contribute to the formation of photochemical oxidants such as ozone, and consequently stressed the necessity to reduce effectively VOC emissions²⁶⁴', but political negotiations were postponed for the time being.

However, technical preparations began immediately. In 1986 the Working Party on Air Pollution Problems, an ECE body that also supports the work of the Executive Body on long-range transboundary air pollution, accepted the offer by Germany and

²⁶³ See above, Chapter 4, p. 160.

France to act as the lead countries of a Task Force on 'Emissions of Volatile Organic Compounds (VOC) from Stationary Sources and Possibilities of their Control'. These countries invested considerable resources to promote expert deliberations for the substantiation of the technological foundations of the envisaged political deliberations. At the time of the adoption of the NO_x Protocol, the Task Force was able to deliver a preliminary synthesis report²⁶⁵.

Hence, the subject was already seriously prepared when a small group of like-minded countries, including Germany, France, the Netherlands and Switzerland, proposed in 1988 to negotiate a protocol on VOCs. The Executive Body responded positively and decided to establish a Working Group on Volatile Organic Compounds. Its mandate was to »prepare the necessary substantiation for appropriate internationally agreed measures and proposals for a draft Protocol to the Convention aimed at the limitation/reduction of emissions of VOCs or their transboundary fluxes«²⁶⁶. The Working Group was particularly requested to explore available data, including those on transboundary fluxes, knowledge about the effects of primary and secondary pollutants and about control technologies, patterns for the establishment of EMEP calculations as well as mechanisms for the effective enforcement of obligations. Moreover, the Executive Body requested the existing Task Force to finalize its report as soon as possible and urged the regime members to submit VOC emission figures for 1985²⁶⁷.

Significantly, doubts did not arise as to the desirability of internationally agreed VOC abatement activities. The Executive Body recognized »the necessity to reduce VOC emissions«²⁶⁸, and the mandate of the Working Group did not include the task of examining this aspect any further. Accordingly, disputes on the necessity to act on VOCs would not limit political agreement on control measures. Rather, cooperation would be limited primarily by the availability of economically feasible control technologies.

The first two sessions of the Working Group were devoted to substantiating this aspect. It turned out that emissions generally stemmed from three sources, namely 'mobile sources', i.e. motor traffic, the use of solvents in industrial and household appliances, and major isolated sources such as oil and gas industries²⁶⁹. Geographically, emissions stemmed in particular from the highly industrialized and densely populated countries of Western Europe. In these countries mobile sources and solvents made up roughly 40 % of VOC emissions each. Per capita emissions were highest in the USA and Canada.

At its first session in February 1989 the Working Group drew up a list of open questions. The Task Force had recommended either expanding its mandate to also include emissions and related control technologies from mobile sources, or estab-

264 ECE/EB.AIR/16, para. 46.

265 See ECE/EB.AIR/18, para. 32.

266 See mandate of the Working Group, ECE/EB.AIR/18/Annex III, para. 1.

267 See ECE/EB.AIR/18, para. 34.

268 See mandate of the Working Group on Volatile Organic Compounds, ECE/EB.AIR/18/Annex III, para. 1.

lishing another expert group on this subject²⁷⁰. The Working Group chose the latter alternative and designated the United States as the lead country whose Environmental Protection Agency had already done considerable preparatory work in this field. Moreover, the Netherlands and Canada accepted the lead country function for a report on non-industrially used solvents. Germany organized a meeting of the EMEP Steering Body on the measurement of VOCs. With support from the United Kingdom, EMEP was already engaged in the elaboration of an emission inventory. Finally, a group of governmentally designated experts was established to explore the relevance of specific VOCs and their sources²⁷¹.

By the end of the first session, substantiation in all areas was under way. The Working Group had separated the settlement of scientific and technological questions as far as possible from the political deliberations about control measures. Countries desiring to influence these foundations of the later political decisions were referred to the relevant expert groups. The Working Group merely took note of these results and confined its discussion to some contentious issues²⁷². Later on, it requested three expert groups to elaborate draft technical annexes for the VOC Protocol.

7.2. Approaches toward the Control of VOCs

The general discussion of basic approaches toward internationally coordinated control and reduction of VOC emissions revealed three different approaches, all of which had their supporters²⁷³. First, a protocol could follow the precedents of the instruments on SO₂ and NO_x and establish overall emission targets, i.e. a freeze of emissions and/or flat-rate reductions. This approach addressed the total amount of emissions and provided the regime members with sufficient flexibility for implementation.

Second, control measures could address total emissions from important sectors separately. This approach would take account of differences in the availability of economically feasible control technologies and, more importantly, of different combinations of sector-specific emissions from country to country. Third, measures might prescribe the standard of technology for each source category, e.g. the best available technology which was economically feasible. This approach would not address total emissions from a country or a sector but emissions from specific sources. Theoretically, total emissions could increase despite tightened standards if the number of sources proliferated. This approach required very detailed technical prescriptions.

269 The Task Force report is published by the German Federal Environmental Agency, texts 11/91.

270 See EB.AIR/WG.4/R.2, para. 8.

271 See EB.AIR/WG.4/2, paras. 10-12.

272 See report of the second session, EB.AIR/WG.4/4, paras. 7-24.

273 See EB.AIR/WG.4/2, paras. 20-22.

At the second session of the Working Group, disagreement prevailed about the general approach. The initiating pressure group advanced a first proposal for the basic obligations of the future protocol²⁷⁴ that combined the different approaches. It provided for a 30 % reduction of VOC emissions and envisaged technical regulations for stationary sources, for mobile sources and for products containing VOCs. As a second step parties would be committed to negotiating further reductions of emissions and to elaborating the 'critical loads' concept. This outline generally followed the precedent of the NO_x-Protocol. The overall reductions would address total emissions, the technology-based approach would incorporate a dynamic element into the protocol, and the envisaged 'second step' would generate further institutional dynamics. However, a number of major regime members, including the United Kingdom, the United States and the delegation of the EC Commission²⁷⁵, rejected a percentage reduction of emissions.

Despite these differences, the Working Group was able to adopt two preliminary decisions. It agreed to operate on the basis of a general definition of VOCs, and not to single out certain highly reactive substances that were responsible for the generation of peak levels of summer smog. However, it recognized the desirability of specifying major groups of VOCs within the protocol²⁷⁶. This was a compromise between the United Kingdom which insisted on such differentiation, and the majority of regime members. Secondly, although formal agreement was not reached, it was generally felt that a two-step approach was desirable. The first step would envisage a flat-rate reduction and/or a technology-based approach, and the second step (to be negotiated later) would provide for further reductions according to the concepts of best available technology and/or critical loads²⁷⁷.

For the third session of the Working Group (February 1990), a flood of proposals were submitted and clarified the negotiating positions of several important countries. The pressure group countries renewed their proposal to reduce emissions by 30 % and refined their original proposal²⁷⁸ especially with regard to the regulation of technological standards. The parties should be committed to applying the standards from the technical annexes of the protocol to new and existing stationary sources. They should also apply to mobile sources the standards developed by the ECE Inland Transport Committee. Moreover, the parties should develop national standards to promote solvent-free or low-solvent products, reduce VOC emissions at refuelling stations and introduce labelling systems for products specifying their solvent content.

France submitted an almost complete draft protocol that also envisaged a 30 % reduction of emissions with somewhat different base and target years as well as national standards for source sectors²⁷⁹. Czechoslovakia favoured a mere freeze of

274 Submitted by Switzerland, see EB.AIR/WG.4/4, para. 34, later circulated as EB.AIR/WG.4/R.6.

275 See EB.AIR/WG.4/4, para. 31.

276 See EB.AIR/WG.4/4, paras. 25-29.

277 See EB.AIR/WG.4/4, para. 37.

278 See EB.AIR/WG.4/R.7, submitted by the Netherlands and Sweden.

279 See EB.AIR/WG.4/CRP.4.

emissions. The text of a comprehensive protocol tabled by the United Kingdom revealed a different approach. It envisaged a percentage reduction but provided for the weighting of VOCs according to their 'photo-chemical ozone creating potential'. The weighting of chemicals as to their specific contribution to a given environmental problem had been developed within the framework of the international regime for the protection of the ozone layer. It required the detailed evaluation of the ozone-generation potential for all relevant VOCs as well as their specific emission sources. Moreover, it addressed in particular highly reactive substances that caused occasional peak concentrations of ozone, while less reactive substances were more relevant to the long-range transmission of pollutants. Since this latter aspect constituted the original focus of the regime, the British approach did not gain much support.

Canada²⁸⁰ suggested the prescription of air quality standards and the application of agreed technical standards for stationary and mobile sources. This concept was rather close to the 'critical loads' approach. It favoured countries with a large geographical expansion while requiring particularly high emission reductions within the densely populated and highly industrialized areas of Western and Central Europe. Hence, it also did not gain sufficient support. Lastly, the United States favoured a 'technology-based' approach that required the parties of the protocol to apply the best available technology for mobile and stationary sources and to retrofit existing installations within high pollution areas²⁸¹.

Virtually all submissions agreed on a second step of emission reductions to be negotiated immediately upon entry into force of the protocol, e.g. on the basis of critical loads.

7.3. Toward Agreement on the VOC-Protocol

The prospect for reaching agreement in time for submission to the Executive Body meeting in autumn 1990 vanished in the light of the multitude of proposals and their rather different approaches. The Working Group exchanged views on these concepts, but positions did not significantly converge²⁸². However, France and the UK elaborated a consolidated proposal integrating their suggestions for the remaining clauses of the future protocol. The Working Group reached wide agreement on this document so that only a few square brackets remained²⁸³. Lastly, the Working Group requested the Task Force on stationary sources and the group of designated experts on mobile sources to prepare two technical annexes. The decision on a third annex addressing substances, their ozone creating potential, and their sources was postponed because it depended not least on the fate of the British proposal²⁸⁴.

²⁸⁰ See EB.AIR/WG.4/R.8.

²⁸¹ See EB.AIR/WG.4/CRP.5.

²⁸² The secretariat merely combined the different options into a single document, see EB.AIR/WG.4/6/Annex I.

²⁸³ See EB.AIR/WG.4/6/Annex II.

²⁸⁴ See EB.AIR/WG.4/6, paras. 19-21.

Little progress was made during the fourth session of the Working Group (July 1990). An enlarged pressure group of West European Countries stuck to the concept of a 30 % flat-rate reduction. The group was hesitantly joined by the Soviet Union with a somewhat different approach²⁸⁵. The UK insisted on the weighting of substances according to their ozone-generating potential. It submitted an outline of the concept and succeeded in establishing an expert group on the issue²⁸⁶. The United States, Canada and the EC Commission²⁸⁷ still rejected a flat-rate reduction. Several minor countries did not specify their positions. Although the Working Group elaborated a comprehensive draft protocol, this draft primarily combined the contradicting concepts and was full of square brackets²⁸⁸.

Three options seemed to exist, namely (a) a mere freeze of emissions by 2000 (following the model of the NO_x-Protocol); (b) a 30 % reduction which would be acceptable only to a number of Western European countries and would for the first time exclude the Eastern European regime members (while there was still a certain probability that the two North American countries would join this new '30 % Club'); (c) a freeze accompanied by further voluntary commitments. Neither of these options fulfilled the two basic conditions for a meaningful protocol, i.e. high standards and a broad membership that was bound by these standards.

The fifth session of the Working Group (January 1991) brought a break-through toward a set of widely agreed control measures. The United Kingdom withdrew its 'ozone-generating potential' concept and accepted an unweighted flat-rate reduction²⁸⁹. Canada, Norway and the Soviet Union indicated acceptance of a 30 % reduction if this obligation applied only to specific 'tropospheric ozone management areas' (TOMAs) that contributed to transboundary fluxes of VOC emissions. In some regards, this concept came close to an elaboration of the old concept of 'transboundary fluxes' originally introduced into the regime by the Eastern countries. It allowed the exclusion of the vastly expanding low-emission areas of these countries from emission reductions (but not from the application of best available technologies). This concept was generally accepted.

However, an expanded pressure group of environmentally concerned countries insisted on its elaboration in three aspects that could not be settled at once. They emphasized that TOMAs be defined within a mandatory annex to the protocol and not merely by the understanding of the parties within the Executive Body. This aspect was disputed by the Soviet Union²⁹⁰ because it was not able to outline its one or more TOMAs immediately. Second, they proposed that a country declaring a TOMA should not only be committed to a 30 % reduction of VOC emissions inside this TOMA but also to a freeze of its overall emissions. This claim was rejected by

285 The USSR proposed a 30 % reduction for the major sectors making up 80 % of a country's total emissions.

286 See EB.AIR/WG.4/8, paras. 16, 30.

287 Since some EC members, such as Spain, Portugal and Greece, did not accept a 30 % reduction, the reduction of VOC emissions within the Community was believed not to have reached the 30 % threshold by the end of the decade.

288 See EB.AIR/WG.4/R.12.

289 However, the concept is referred to in article 2 (4) and in Annex IV of the Protocol.

Canada. Third, they denied the applicability of the TOMA concept to Norway altogether, because this country did not usually figure among the geographically expanded countries and a Norwegian TOMA would constitute an unfortunate precedent. A number of countries, including Austria, Germany, Sweden and Switzerland, made a reservation on the TOMA concept until these disputes were settled.

Another exemption was tentatively agreed for low-key polluters provided that their total emissions, their emissions per capita and their emissions per km² remained below defined levels. These countries were only committed to a freeze of their total annual emissions. The clause was directed at allowing the participation of some smaller Eastern European countries, such as Bulgaria, Czechoslovakia, Hungary, Romania and Yugoslavia. It could also be invoked by Western European fringe countries such as Greece, Ireland, Portugal and Turkey. It was generally believed that a freeze of emissions from these countries already required considerable action. The clause was drafted so as not to be applicable to important polluters within the region, such Poland and Spain.

Moreover, the United States indicated that it would accept the 30 % reduction commitment if its past reductions of VOC emissions were credited. For that reason, the USA wished to choose 1980 as the base year from which reductions were calculated. The Working Group made some progress toward agreeing on a more flexible base year. Under the final VOC-Protocol, parties may specify any year between 1984 and 1990. Finally, the European Community (Commission delegation) had recalculated the prospect for emission reductions within its territory and was now prepared to accept a 30 % reduction of VOC emissions. The Community intended to sign the Protocol.

On this basis, the Working Group was able to elaborate an integrated draft protocol that still contained several square brackets, but clearly outlined the final agreement²⁹¹. The draft protocol, including its annexes, was virtually finalized at the sixth session of the Working Group (June 1991). It was agreed that TOMAs were to be defined within a mandatory annex to protocol²⁹². However, a number of conflicts remained still pending, among them the dispute over the Norwegian TOMA and the Canadian rejection of a freeze of its total annual emissions²⁹³. These issues were eventually settled in a meeting of the 'Heads of Delegations' (i.e. an unofficial meeting excluding observers) in August 1991. Canada withdrew its objections and Norway agreed on an expansion of its TOMA now covering not only the mainland south of 62° latitude but also its exclusive economic zone where oil drilling activities take place. Norway also declared its intention to reduce its total annual emissions »in the order of 20 % by the year 1999«²⁹⁴. On this basis

290 See EB.AIR/WG.4/10, para. 9.

291 See EB.AIR/WG.4/10/Annex 1.

292 See EB.AIR/WG.4/12, para. 17; in contrast, the technical annexes only have a recommendatory status, see article 10.

293 See EB.AIR/WG.4/12, paras. 12, 26-27.

294 See Minutes of the Informal Consultation.

Germany, Denmark, Sweden and the United Kingdom removed their reservation. However, the meeting rejected the widening of the exemption for small countries to enable Poland, which was prepared to accept a freeze of emissions, to participate²⁹⁵.

Hence, the VOC-Protocol²⁹⁶ adopts a double-track and a two-step approach. It commits the parties to limit and/or reduce their total annual emissions of VOCs. And it obliges them to apply the best available technology which is economically feasible to several important sectors of VOC emissions, taking into account the recommendations contained in the technical annexes. Moreover, the parties commit themselves to negotiating further reductions. Beyond a regular review, the Protocol thus comprises a mechanism for dynamic development that envisages future progress in the area. The VOC-Protocol is the first instrument within the regime that expressly commits the parties to establish a mechanism for monitoring compliance. It does not establish its own mechanism as was proposed during the negotiations²⁹⁷. Rather, it refers complaints of one party about non-compliance of another to the Executive Body²⁹⁸. The Executive Body may, therefore, be expected to discharge its function of observing compliance and responding to non-compliance more actively in the future than it did in the past.

The Protocol was signed at the ninth session of the Executive Body (November 1991) by the environment ministers of 21 countries²⁹⁹. Portugal and the European Community signed in April 1992³⁰⁰. Among the signatories, 15 countries and the European Community committed themselves to the regular 30 % reduction of emissions³⁰¹, four chose the exemption for small countries (freeze)³⁰² and three the exemption for large countries (TOMA)³⁰³. All but two important members of the regime, namely Russia and Poland, signed the Protocol³⁰⁴.

The negotiation and successful adoption of the VOC-Protocol demonstrates that an environmentally active regime member, or a small group of like-minded countries, may exploit the institutional framework established for a limited purpose, i.e. combating acidification, to place new issues on the international agenda. This step forced all regime members to clarify their interests on the subject and to reconsider their positions in the light of the negotiation process. Originally active regime

295 See EB.AIR/WG.4/12, para. 7.

296 Reprinted in *International Legal Materials* 31 (1992), pp. 573-611.

297 See EB.AIR/WG.4/10, para. 11.

298 See article 3 (3). This clause was inserted at the request of the United States, see EB.AIR/WG.4/12, para. 13.

299 See ECE/EB.AIR/18, para. 12.

300 See 'Status of the Convention and its Related Protocols' as of 31 August 1993', EB.AIR/R.76, Table 6.

301 Namely Austria, Belgium, Denmark, Finland, France, Germany, Italy, Liechtenstein, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the UK, the USA, and the EC; see Levy, *European Acid Rain*, p. 101.

302 These countries were Bulgaria, Greece, Hungary and Portugal; see *ibid*.

303 I.e. Canada, Norway and the Ukraine as a successor of the Soviet Union; see *ibid*. The Ukraine did not immediately define their TOMAs but applied for acceptance of two TOMAs at the 1992 session of the Executive Body, see ECE/EB.AIR/33, para. 60. It was agreed to examine the request, but the formal amendment of annex I will have to await the entry into force of the Protocol.

304 By the end of 1993 the Protocol had not reached the necessary 16 ratifications for entry into force.

members, such as Canada and Norway, and traditionally reluctant countries such as Spain and some Eastern European members were forced to choose between committing themselves to internationally agreed obligations or openly staying apart. The dynamic provisions of the Protocol are directed at ensuring that the issue of VOC emissions will remain permanently on the agenda of the regime. Over time, this result may be at least as important as the level of preliminary commitments.

8. A Revised Approach toward Long-range Transboundary Air Pollution

The VOC-Protocol was the last instrument of the first generation within the regime on long-range transboundary air pollution. So far the regulatory approach had been based on an across-the-board limitation and reduction of emissions, accompanied by recommendations as to the best available and economically feasible control technologies. With some qualifications control measures applied to all countries alike, although the concentration of emissions and depositions as well as the capacity to control emissions varied widely among the regime members. Sooner or later, the regulatory approach of the regime would have to take these differences into account. During the negotiations of the NO_x-Protocol it turned out that countries with a large geographical expansion, namely the Soviet Union and Canada, and the environmentally concerned Nordic countries generally agreed on the desirability of developing an effect-based concept. The NO_x-Protocol envisages, therefore, that a second step in emission reductions be based on 'critical loads'³⁰⁵. However, the elaboration of a new protocol on SO₂ emissions was of even more concern for many regime members, because the emission reduction programme of the existing instrument expired in 1993 and almost all regime members had reached the reduction target by that time³⁰⁶. The new SO₂-Protocol, scheduled to be adopted in 1994, will therefore be the first instrument of the second generation, to be followed as soon as possible by a second protocol on NO_x emissions or by an integrated instrument on acidification combining control measures on these two major groups of air pollutants.

8.1. *The Critical Loads Concept*

Immediately upon adoption of the NO_x-Protocol (November 1988) the Executive Body established a (political) Working Group on Abatement Strategies³⁰⁷ with the mandate of aiming »to develop a common understanding of critical loads, and pro-

³⁰⁵ The NO_x-Protocol, article 1.7, defines a critical load as »a quantitative estimate of the exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge«.

³⁰⁶ All parties to the SO₂-Protocol except Bulgaria, Czechoslovakia, Belarus and the Ukraine had already fulfilled their obligations by the end of 1990. However, Bulgaria exceeded its emission levels of 1980 (so did the former GDR); see figure in EB.AIR/CRP.11/Add.9, p. 4, not reproduced in the final report of the Executive Body meeting of 1993.

posals for abatement strategies, taking into account the best available scientific and technological developments, internationally accepted critical loads and overall emission reductions³⁰⁸. Although the concept was scheduled to be finalized in time for submission to the Executive Body meeting of 1991³⁰⁹, it was not yet clear whether the development of the critical loads approach would become a long-term enterprise that hampered the conclusion of new agreements for an extended interim period. The mandate of the Working Group reflects disagreement on the appropriateness of the 'critical loads' approach.

The project had tremendous dimensions and comprised a number of aspects some of which required the breaking of new ground. From the very beginning it was clear that the concept relied on scientifically based preparations of the member countries. Each country had to elaborate a map of sensitive elements of its environment and establish the 'critical loads' for these elements, i.e. levels of deposition of SO₂ that are considered as environmentally harmless. Also maps of current and projected depositions of SO₂ were to be drafted. Subsequently, the critical loads would be compared with actual depositions and 'exceedance maps' drawn. These 'exceedance maps' would reflect the difference between actual and environmentally acceptable depositions and outline, *from a scientific point of view*, the magnitude and goal of air pollution abatement policies.

Maps on critical loads had to be elaborated consistently. Therefore, the Executive Body established in 1988 a 'Task Force on Mapping' led by West Germany. The Task Force was affiliated to the 'Working Group on Effects' permanently operating within the regime. It established common standards and elaborated a 'manual on methodologies and criteria for mapping critical levels/loads and geographical areas where they are exceeded'³¹⁰. Generally, determining critical loads is a comparatively new scientific task³¹¹ that will become a dynamic process and include revisions upon improvement of scientific knowledge³¹². Although critical loads may be manipulated, the concept has an inherent incentive for sound reporting. A country deliberately fixing its critical loads too low will raise the abatement costs not only for other regime members but also for itself. A country setting them too high will depreciate the value of its natural resources and relieve not only itself but also its neighbours from abatement activities. Nevertheless, it turned out that the environmentally concerned Nordic countries, suffering heavily from foreign air pollution, determined particularly low critical loads. In a second step, nationally established critical loads would become subject to international deliberations³¹³.

307 See ECE/EB.AIR/18, para. 29.

308 See mandate, ECE/EB.AIR/18/Annex II.

309 See ECE/EB.AIR/16, para. 46; and Term of Reference of the Working Group, ECE/EB.AIR/18/Annex II.

310 The manual was published by the German Federal Environmental Agency, Texts, 25/93.

311 On the practical difficulties of establishing critical loads, see *Sverdrup*, Methods for Determining and Mapping Critical Loads.

312 See Interim Progress Report of the Working Group, EB.AIR/R.53, para. 36.

313 The very low critical loads in some areas of Scandinavia were disputed throughout the negotiations and were somewhat adjusted later on, see e.g. EB.AIR/WG.5/20, para. 8.

Whereas critical loads establish deposition targets, they do not automatically indicate where *emission* reductions shall take place to achieve these targets. Air pollutants travel over long distances (the very reason for the establishment of the regime) and an effect-based approach must trace them back to their sources. EMEP modelling provides indispensable regime-specific information on the long-range transmission of pollutants. However, eventually emission reductions must be expressly allocated. The allocation will require assistance by computer modelling to evaluate the consequences of certain control measures on depositions. Hence, unlike emission-based approaches such as flat-rate reductions and best available technology, the critical loads approach comprises another scientifically founded part.

Computer models generally rely on assumptions and may be manipulated purposefully. They produce 'options' and allow the optimization of pollution abatement strategies. A side-effect of the critical loads approach could, therefore, be the achievement of given environmental targets in more cost-effective ways than the traditional flat-rate reduction approach³¹⁴. However, while assumptions may be determined, the model itself must be reliable.

A 'Task Force on Integrated Assessment Modelling' led by the Netherlands and affiliated to the Working Group on Abatement Strategies was responsible for identifying an appropriate model. It reviewed some models³¹⁵ and considered the 'Regional Acidification Information and Simulation' (RAINS) model the most suitable³¹⁶. RAINS was elaborated by the Vienna-based inter-governmental 'Institute for Applied Systems Analysis' (IIASA) established during the Cold War to facilitate the collaboration of scientists from the eastern and western hemispheres. The East-West background of the IIASA appeared particularly well-suited to prepare scientific knowledge for the political negotiations within the regional regime. Its simulation model, RAINS, uses national figures for SO₂ emissions as well as projections of future emissions and energy consumption submitted officially to international organizations. It also relies on EMEP calculations of pollution transmissions as well as on information about end-of-pipe pollution abatement technologies and their costs. On this basis, the model produces scenarios on projected deposits taking into account different pollution abatement strategies, such as 'current reduction plans', a 50 % flat-rate reduction, or the maximum technically feasible emission reduction³¹⁷.

RAINS is adapted to the requirements of the international negotiating process. It adopts the grid approach from EMEP that divides Europe into areas of 150 km x 150 km. For modelling purposes the grid cells were grouped in one of five classes according to their critical loads. Classification was generally determined by the most sensitive environmental element within the respective area, although this ele-

314 The Netherlands had already introduced a report on an integrated control strategy that included financial transfers, see EB.AIR/GE.2/R.26.

315 See Task Force report EB.AIR/WG.5/R.9, p. 4.

316 See EB.AIR/WG.5/14, para. 24; some other models were used for comparison.

317 On the RAINS model see *Alcamo et al.*, *Acidification in Europe*; and *Alcamo/Shaw/Hordijk*, *The RAINS Model of Acidification*.

ment might cover only a minor share of the total area³¹⁸. The later adopted '5 percentile'-approach mitigated this effect. It envisaged that the classification of a grid cell accounted for the critical loads of 95 % of its area (while the protection of the most sensitive 5 % of the environmental would have required tighter standards)³¹⁹.

The RAINS model revealed a number of interesting insights that were reviewed by the Task Force. First, it turned out that more cost-effective alternatives to flat-rate reductions always existed that would yield similar environmental benefits. However, these alternatives implied that some countries were prepared to incur increased costs compared to flat-rate reductions³²⁰. Hence, optimization would be apt to reduce costs but implied a certain distributive effect. Second, the model projected that no abatement strategy, not even a hypothetical 100 % reduction in some countries, could achieve the critical loads everywhere. Areas in the Netherlands and in Sweden would always remain above critical loads³²¹. Third, 'current reduction plans', i.e. control measures announced by the regime members in 1990, would reduce depositions in 62 % of grid cells to critical loads, while critical loads were exceeded in 18.4 % of cells by more than 100 % and in 36 cells (about 3 %) by the factor 10³²². A IIASA workshop held in 1991 underscored the possible impact of a well-operating and generally accepted RAINS-model. If the regime members selected appropriate assumptions for a collective pollution abatement strategy, RAINS would be apt to allocate country-specific reduction targets.

Beside these two science-based parts, the critical loads concept allows the balance of environmental protection with other policies. If the critical loads are exclusively science-based, they could well be too low to be reached in the medium term. For that reason countries were asked also to develop 'target loads' »taking into account not only scientific but also technical, economic, social and political priorities«³²³. For areas in which actual deposits did not exceed critical loads, target loads should coincide with critical loads. For other areas they would constitute interim targets that could be realistically reached by coordinated pollution abatement strategies while accepting some environmental damage³²⁴. Target loads are the appropriate instrument for deliberate manipulation to relax the immediate impact of a control strategy based on the science-based critical loads. Soft national target loads facilitate the adoption of less thorough abatement strategies not only for the country which is suffering environmental degradation but for all regime members, while too stringent target loads would also require overly costly abatement measures for the country determining its figures. RAINS calculations revealed that the target loads of

318 See Task Force report EB.AIR/WG.5/R.7, paras. 5-7.

319 See *Sverdrup*, Methods for Determining and Mapping Critical Loads, p. 15.

320 See Task Force report EB.AIR/WG.5/R.15, paras. 21-22.

321 See Task Force report EB.AIR/WG.5/R.7, para. 50; note that calculations are made on the basis of the assumptions of the model, including anticipated energy consumption and technological solutions. This finding fostered the claim for 'structural changes' of economies, see EB.AIR/WG.5/10, paras. 16 and 19.

322 See EB.AIR/WG.5/R.9, p. 5.

323 EB.AIR/WG.5/8, para. 9.

324 See 'Guidelines for the Derivation of Target Loads', EB.AIR/WG.5/10/Annex I.

ten member countries submitted by 1991 could be met but required stringent control measures leading to a reduction of the 1980 level of European sulphur emissions by 87 % (as compared to less than 30 % actually expected for 1994)³²⁵. RAINS was able to produce optimized scenarios of country-specific reduction targets on the basis of agreed sets of target loads as well as on the basis of critical loads.

By the end of 1991 the preparations of the comprehensive critical loads approach had gone a long way³²⁶. The methodology for mapping was well under way, countries began to submit maps of critical loads and target loads³²⁷, and an integrated assessment model (RAINS) for the possible allocation of country-specific emission reduction targets had been chosen. The whole project was conceived of as a dynamic process that required continuous review and allowed adaptation as knowledge improved.

The political consequences of the critical loads approach as outlined above appear at least as ambitious as the scientific programme. Control measures would be allocated on the basis of a commonly chosen scenario by a computer-assisted decision process that excluded bargaining, i.e. the balancing of interests, to a large degree. Political negotiations that are necessary to balance interests and raise the acceptability of a resulting agreement had to take place on the basis of reduction targets produced by computer modelling.

8.2. *The New SO₂-Protocol*

By 1988 the practicability of the critical loads approach was heavily disputed. Some countries, especially West Germany, still favoured a technology-based approach combined with flat-rate reductions. They succeeded in accommodating these traditional concepts within the mandate of the Working Group and endeavoured tirelessly to keep them on its agenda³²⁸.

During the 1989 meeting of the Executive Body a group of like-minded countries pressed for the immediate beginning of negotiations on a new protocol on SO₂ emission reductions. The mandate of the Working Group was enlarged to reporting about »appropriate proposals and a timetable for revision of existing, or preparation of new, international agreements for further reduction of sulphur dioxide emissions after 1993, on the basis of critical loads and other considerations«³²⁹. It did not exclude the elaboration of a protocol even if an agreement on critical loads did not emerge.

³²⁵ See 'Summary of the UN-ECE Workshop on Exploring European Sulphur Abatement Strategies', June 1991.

³²⁶ See report of the Working Group, published as 'The Critical Loads Concept' in ECE: Impacts of Long-range Transboundary Air Pollution, Air Pollution Studies No. 8, pp. 17-28.

³²⁷ In 1991, the following 10 countries had officially or unofficially submitted national target loads: Austria, Denmark, Finland, France, the Netherlands, Norway, Sweden, Switzerland, USSR and the UK, see IIASA Working Paper 'Preliminary Target Loads for Sulphur Deposition in Europe'.

³²⁸ See e.g. EB.AIR/WG.5/2, para. 17.

³²⁹ ECE/EB.AIR/20, para. 20.

The third session of the Working Group (February 1990) was faced with proposals reflecting the competing approaches toward a new instrument. Sweden submitted the basic outline of a protocol based on critical loads³³⁰. The parties would be committed to reaching in the whole or in defined parts of their national territories 'nationally decided and by the parties agreed target loads' to be spelled out in an annex to the instrument; and they would be committed to reaching within a defined period of time emission reductions as laid down in another annex. Hence, the effect-oriented obligation would be 'soft' due to the lack of a binding time frame, while country-specific emission reductions would become the hard core of obligations.

In contrast, the 'considerations and elements' for a new protocol submitted by West Germany followed the traditional approach³³¹. The parties would be obliged to reduce their emissions by 60 % by 1998 at the latest, calculated from 1980 levels, i.e. the base year of the first SO₂-Protocol. Moreover, West Germany proposed binding emission standards for new and existing stationary sources thus reaching beyond the recommendatory standards contained in the Protocols on NO_x and VOCs. The Netherlands suggested that an instrument could combine critical loads and a technology-based approach³³². The Working Group discussed these proposals, but it refused to engage in serious negotiations during 1990 while the critical loads approach was not yet fully developed³³³.

At the fifth session of the Working Group (April 1991), Germany renewed its proposal to combine a flat-rate reduction (of about 20 % beyond the first SO₂-Protocol) and standards of technology. However, flat-rate reductions were only supported by the Netherlands, Switzerland and Austria, while the proposal of standards for 'best available technology' gained wider support. The preparation of the critical loads concept had gone far enough to gather wide support even by countries pressing for the rapid adoption of a new agreement, e.g. Sweden. Canada, the USA and the UK worked out a proposal incorporating the critical loads approach³³⁴. Similar to the prior Swedish submission, it contained a 'soft' obligation as to the reaching of target loads to be spelled out in an annex ('the parties shall seek to reduce'), and a hard commitment ('shall reduce') as to country-specific reductions contained in another annex. In addition it proposed a second 'soft' obligation as to standards of technology ('shall seek to ensure that the best available techniques not entailing excessive costs' were applied). Norway was particularly interested in the cost-effectiveness of future abatement strategies³³⁵ and invited the regime countries to a workshop on the matter that did, however, not yield substantive results.

330 See EB.AIR/WG.5/CRP.3/Add.2 (this annex to the draft report is not contained in the final report of the Working Group).

331 See EB.AIR/WG.5/CRP.3/Add.2.

332 See EB.AIR/WG.5/6, para. 32.

333 See EB.AIR/WG.5/6, paras. 34-41.

334 See EB.AIR/WG.5/10/Annex V.

335 See EB.AIR/WG.5/10, paras. 31-32.

While these submissions addressed the general approach of the envisaged protocol, the Working Group was also faced with a submission by the Task Force on Integrated Assessment Modelling that spelled out in a table the RAINS country-specific figures for the 'current reduction plans' scenario and juxtaposed them with figures from the 'maximum technically feasible reductions' scenario³³⁶. The former scenario reflected the current state of commitments. It was based primarily on national figures submitted to international organizations or to IIASA (and in some cases on estimates) and envisaged for 1995 a reduction of overall emissions in Europe by 24 % from 1980 levels. The latter reflected the optimum scenario from an environmental perspective and was expected to result in a reduction of overall emissions by 85 % by 2000. The table revealed that a few countries had almost exploited their reduction potential (e.g. Austria, Switzerland and especially Norway), while in most countries there was a large potential for further control measures. It was not the figures but the idea of contrasting the current reduction plans of the regime members with an environmentally more benign scenario from the RAINS model that had an influence on the negotiation process.

Being predominantly concerned with the critical loads concept, the Working Group did not reach any negotiated results, but it established an informal drafting group to prepare an integrated draft protocol for the sixth session³³⁷. Also, a group of like-minded countries, including Germany, Sweden, Norway, the Netherlands, France, Austria and Switzerland, coordinated their approach and agreed on a proposal that combined *binding* standards of technology for new and existing stationary sources with the two dimensions of the critical loads approach, namely an obligation to reach target loads (levels of depositions) and country-specific targets for the reduction of emissions. Hence, Germany abandoned its preferred flat-rate reduction approach in exchange for wider support for binding standards of technology. The Executive Body (November 1991) endorsed the report of the Working Group on the critical loads approach and considered it suitable to provide a foundation for the second protocol on the control of SO₂ emissions³³⁸. It expected the adoption of the instrument for 1993³³⁹.

At the seventh session of the Working Group (February 1992) preparation of the protocol began seriously. A sessional drafting committee elaborated a preliminary draft outline that was not yet worded in treaty language. The draft combined the critical loads approach and standards of technology. It also envisaged the possibility of sub-regional agreements that would allow joint implementation according to rules to be adopted by the Executive Body³⁴⁰. Other clauses were taken over from existing protocols. Responding to the claim for burden-sharing between the countries from Eastern and Western Europe³⁴¹, the Working Group asked its chairman to

336 See EB.AIR/WG.5/R.15/Add.1, p. 3.

337 See EB.AIR/WG.5/10, para. 41.

338 See ECE/EB.AIR/29, para. 27.

339 See work plan, ECE/EB.AIR/29/Annex I, p. 13.

340 See EB.AIR/WG.5/14/Annex II.

341 See ECE/EB.AIR/29, para. 28.

explore ways and means to financially facilitate the implementation of the protocol with the governments of 'countries in transition' from Eastern Europe and with relevant international organizations and financial institutions. Generally, the Western countries endeavoured to avoid the establishment of a transfer scheme within the regime and the future beneficiaries did not insist on it. The issue of financial support for these countries was later settled tacitly³⁴².

Finally, the Working Group requested the Task Force on Integrated Assessment Modelling to analyze a number of scenarios including (i) optimal emission reductions to reduce the difference between current depositions and the 5-percentile critical loads by a certain percentage, (ii) optimal reductions setting target loads 1.5 and 2 times the 5-percentile critical loads, and (iii) optimal reductions setting target loads equal to the 30- and 50-percentile critical loads³⁴³. The first of these scenarios would provide approximately the same environmental improvement everywhere, the second one would lead to the same relative exceedance of critical loads everywhere and required to primarily combat peak depositions, while the third scenario would provide a known degree of ecosystem protection everywhere. Hence, for the first time in the preparation of the protocol the Working Group referred expressly to RAINS modelling as a reference for the negotiation of country-specific obligations. These scenarios were submitted to the next session of the Working Group³⁴⁴, but they did not play a major role at that time.

At its eighth session (August 1992), the Working Group received a draft technical annex that relied on a submission from Germany. It was elaborated by a group of governmentally designated experts and was discussed within the Working Group on Technology³⁴⁵. The Working Group also received a number of new submissions on the main body of the protocol. The United Kingdom proposed a basic obligation according to which the parties would be obliged to control and reduce their emissions to avoid damage to the environment without being committed to any 'hard' reduction targets³⁴⁶. Apparently, the British attitude toward critical loads was directed at watering down commitments. A German paper, supported by Austria, France, the Netherlands and Switzerland, elaborated on the binding standards of technology spelled out in an annex³⁴⁷. These countries proposed that new stationary sources should meet the binding standards within one year upon entry into force of the protocol, existing stationary sources within five years, while binding standards

342 See EB.AIR/WG.5/16, para. 19. Nevertheless the Netherlands intervened repeatedly on the subject, see e.g. ECE/EB.AIR/33, para. 22, and promoted the idea of an 'acidification fund'; see EB.AIR/WG.5/18, para. 10.

343 See EB.AIR/WG.5/14, para. 14. The '30-percentile' critical load, for example, implies that 70 % of ecosystems within a given grid cell are not sensitive to this load, while 30 % will be eliminated in the long run.

344 See EB.AIR/WG.5/16, para. 17.

345 See EB.AIR/WG.6/2, paras. 6-9. For the final draft, see EB.AIR/R.65.

346 See EB.AIR/WG.5/R.33. Note the following core phrase: «so far as practicable, without incurring costs which are excessive in relation to the benefits gained, they [the parties] shall seek to ensure that in the long-term depositions of sulphur compounds do not exceed critical loads».

347 See EB.AIR/WG.5/16, para. 20.

for fuels should be applied within two years. In addition, negotiations on further reduction steps should begin immediately upon entry into force of the protocol³⁴⁸.

The Working Group discussed the appropriateness of binding technological standards and continued this debate in the following session. Some countries, including the United States, the United Kingdom, Russia and Norway, rejected binding standards altogether, while there was considerable support for the standards on new stationary sources and, with a transitional period of ten years, also for those on existing sources. Standards on fuels were received less favourably³⁴⁹.

By the end of 1992, the Working Group had not seriously discussed the country-specific emission reduction figures, i.e. the core obligations of the future protocol. However, during the meeting of the Executive Body (November 1992) the RAINS model calculations³⁵⁰ were welcomed and expected to facilitate the negotiations of country-specific emission reduction figures³⁵¹. The Task Force on Integrated Assessment Modelling analyzed the scenarios and recommended scenario A addressing optimal SO₂ emission reductions to reduce the gap between current emissions and 5-percentile critical loads by 50 %, based on current reduction plans. It was the cheapest of a number of scenarios with similar environmental benefits and a similar overall reduction of emissions in Europe. It would protect 94 % of the European environment, while high exceedances would still occur particularly in Bulgaria, Czechoslovakia, Germany, the Netherlands and Poland³⁵². The realization of this scenario would cost about twice as much as the current reduction plans. Moreover, it distributed the environmental benefits almost evenly and constituted for that reason alone the most suitable approach. All other scenarios, focusing for instance on the reduction of peak exceedances of critical loads or introducing a serious dimension of burden-sharing by, for example taking into account the share of GNP spent on pollution abatement activities, comprised a significant distributional dimension.

At its ninth session (March 1993) the Working Group reached a consensus on using this scenario as reference for its further deliberations. However, it requested the Task Force to check some variations³⁵³ and chose at the tenth session (May 1993) a modified 60 % gap closure scenario as the reference for the negotiations³⁵⁴. Altogether, this scenario would lead to the reduction of overall emissions in Europe by 59 % from 1980 levels. With the choice of a reference scenario, country-specific emission reduction targets became, principally, a matter of computer modelling.

³⁴⁸ See EB.AIR/WG.5/16/Annex I, article 2(3), first alternative, and 2(7).

³⁴⁹ See generally EB.AIR/WG.5/16, para. 23.

³⁵⁰ See EB.AIR/WG.5/R.27.

³⁵¹ See ECE/EB.AIR/33, para. 18.

³⁵² See EB.AIR/WG.5/R.35, paras. 17-20. However, according to the '5-percentile' approach, up to 5 % of the most sensitive environmental elements were not protected within this area.

³⁵³ See EB.AIR/WG.5/18, paras. 8, 20 and 27.

³⁵⁴ See EB.AIR/WG.5/20, para. 9. This scenario A 5 was based on an adjustment of the very low critical load figures in a number of grid cells. In its consequences it came close to the original scenario A, see EB.AIR/WG.5/R.38.

The 60 % gap closure scenario leading to a reduction of the gap between actual depositions and critical loads by 60 % was a quite ambitious plan even for the environmentally progressive countries from Western Europe that had always been well ahead of prescribed flat-rate reductions. This was due to the fact that a number of high emission countries in central Europe had a significant impact on SO₂ depositions throughout Europe. The RAINS model calculated that reducing emissions in these countries was a cost-effective way of moving toward critical loads in Europe as a whole³⁵⁵. For Germany, for example, the scenario envisaged a 90 % reduction of 1980 emission levels, for Denmark, Belgium, Finland, France and Sweden between 80 and 90 %³⁵⁶. In contrast, emissions in a number of southern European countries had little implications for the overall situation in Europe. Emission increases projected by these countries, namely Greece (+49 % from 1980 levels), Portugal (+11 %) and Turkey (+236 %), would therefore not contradict the integrated pollution abatement strategy³⁵⁷.

The model was based on current reduction plans and took national declarations seriously, although they were not always intended to be binding. Germany, for example, emphasized that its figures (amounting to only 87 % reductions as compared to the assessment of 90 % in the scenario) did not in all cases constitute legally binding commitments³⁵⁸. Hence, countries were judged by their own standards and it would cost them considerable bargaining leverage to withdraw these statements. During the negotiation process 'soft' announcements tended to transform tacitly into 'hard' obligations. Moreover, for a number of countries 'current reduction plans' were considerably below scenario requirements. This was not only true for Eastern European countries, such as Bulgaria and Hungary, and for the traditional 'dirty men' of Western Europe, such as Spain and the United Kingdom, but also for traditionally progressive members of the regime, e.g. Belgium, Denmark, France, and to a lesser extent even for Germany and Sweden³⁵⁹. Between 1992 and 1993 a number of countries approximated the scenario figures with their reduction plans for 2000³⁶⁰. For example, Belgium moved from -48 % to -70 %; Denmark from -61 % to -75 %; Norway from -51 % to -76 %; Poland from -29 % to -37 %; and Sweden from -65 % to -80 %. Hence, in a number of aspects, the very method of negotiation put pressure on the regime members to advance their reduction plans.

Since collectively desired reduction figures were given, the time scale became a major area for bargaining. From the very beginning it was clear that the East European countries would need more time to reach the reduction targets than regime members from Western Europe. Initially it was thought that the latter would be able to reach the target by 2000, while the countries in transition would do so in 2005 or

355 See EB.AIR/WG.5/R.27, para. 8.

356 See table EB.AIR/WG.5/20/Annex I.

357 See EB.AIR/WG.5/R.27, para. 8.

358 See EB.AIR/WG.5/20, para. 9.

359 See table in EB.AIR/WG.22/Appendix II.

2010, with an intermediate commitment for 2000³⁶¹. A number of heavy polluters from Eastern Europe promised to reach the target by 2010 with intermediate steps in 2000 and 2005. Among them were Poland and the Czech Republic. However, by the end of the eleventh session of the Working Group (September 1993) several major Western European countries were still attempting to also exploit the enlarged time frame. The United Kingdom, for example, (assessed at -70 % by RAINS) promised to reach merely -50 % in 2000 and -71 % in 2005; France (assessed at -80 %) agreed to -64 % in 2000 and -74 % in 2005 (always calculated from 1980 emission levels)³⁶².

Not least the comparatively low preparedness to give commitments to reduce emissions in the short term precluded that the draft was finalized in time for submission to the Executive Body in 1993. Some countries, including Germany and Sweden, were also not prepared to accept that parties of the future protocol were allowed to *increase* their emissions³⁶³ as Greece, Portugal and Turkey intended to do. The matter was settled during the meeting of the Executive Body (December 1993) by a classic compromise. The countries concerned were allowed to increase their emissions until 2000, but had to specify reduction steps for the time thereafter³⁶⁴.

Many other issues were settled by that time. Following the precedent of the VOC-Protocol Canada intended to commit itself to specified emission reductions only within a 'Sulphur Oxide Management Area' (SOMA). The concept was generally agreeable since it applied only to very large countries (besides Canada especially to Russia) under the condition that the transboundary fluxes of SO₂ emissions to other parties stemmed entirely from a country's one or more SOMAs. Germany and Russia also insisted successfully that the overall emissions of such countries should not increase³⁶⁵ and that the obligations entered into under the first SO₂-Protocol (i.e. a 30 % reduction of emissions or transboundary fluxes) would not be violated³⁶⁶.

The United States appeared interested in becoming a member of the SO₂-Protocol but wished its emission reduction commitments to be regulated exclusively by the United States/Canada Air Quality Agreement of 1991. It rejected any binding obligations regarding standards of technology, while critical loads were not even discussed for North America. With the consent of Canada, technological standards will therefore be binding only for parties outside the North American agreement³⁶⁷. Nevertheless, the United States declared at the Executive Body meeting that they would refrain from signing the protocol³⁶⁸.

360 Compare table 1 in EB.AIR/WG.5/R.35 (1992, prior to the beginning of negotiations on figures) with Appendix II in EB.AIR/WG.5/22 (September 1993, in the middle of these negotiations).

361 See EB.AIR/WG.5/18, para. 22.

362 This development was deplored by several delegations, see EB.AIR/WG.5/22, para. 24.

363 See EB.AIR/WG.22, para. 26.

364 See EB.AIR/CRP.12/Add.2, paras. 2-3.

365 See EB.AIR/WG.18, para. 26.

366 The SOMA concept was agreed at the eleventh session of the Working Group, see EB.AIR/WG.5/22, para. 13.

367 See EB.AIR/WG.5/22, para. 15.

368 See draft report, EB.AIR/CRP.12/Add.2, para. 1.

The Norwegian proposal to allow the joint implementation of obligations was still disputed³⁶⁹. The concept stemmed from the negotiations within the global climate change regime. However, in the case of transboundary air pollution any modification of the geographic location of emission reductions would affect the enjoyment of environmental benefits by specific regime members. (Consider the implications on the Swedish environment of the hypothetical shift of Danish emission reductions to Greece). Any single agreement would therefore at the very least have to be accepted by the Executive Body.

Finally, France launched an initiative to reinforce the compliance and implementation mechanism³⁷⁰. During the ninth session of the Working Group, the Bureau of the Executive Body (i.e. its elected officials) considered the precedents of the Montreal Protocol and the VOC-Protocol³⁷¹. It concluded that there were merits both in spelling out regulations in the future protocol and in leaving room for decisions by the Executive Body, as does the VOC-Protocol³⁷². During the negotiations a number of different solutions were proposed that very closely followed either the precedent of the Non-compliance Procedure under the Montreal Protocol establishing an independent mechanism or that of the VOC-Protocol channelling the task to the Executive Body³⁷³.

While at the time of writing the second SO₂-Protocol was not yet ready for adoption, its basic outlines were clear. As the first instrument of the second generation it would abandon the flat-rate reduction approach so far adhered to within the regime. It would combine country-specific emission reductions based on critical loads and target loads with binding standards on best available technology. Although the database for the critical loads approach may still be shaky and will be reviewed in the future, the concept has accelerated the dynamics within the regime. For the first time the basis of negotiations of reduction targets was formed by scientifically founded environmental standards rather than arbitrarily chosen proposals. Although the adopted reference scenario of a '60 % gap closure' will not at all approximate critical loads everywhere, it generates expectations for commitments that are ambitious not only for countries with low pollution abatement capacities, but also for many countries from Western Europe. Moreover, in contrast to the Protocols adopted earlier within the regime, the country-specific commitments are now spelled out within an annex to the main instrument. If the parties eventually agreed that the traditional simplified amendment procedure applied to these annexes, the flexibility of the regime would increase significantly. In this case, adaptations could be adopted by consensus within the Executive Body and would automatically, i.e. without ratification, enter into force for all parties that did not object within a specified period of time. This came close to the highly flexible and rather effective

369 See EB.AIR/WG.5/22, para. 8.

370 See EB.AIR/WG.5/16, para. 20.

371 On the implementation mechanism of the Montreal Protocol, see below, Chapter 7, pp. 314-319. On the non-compliance clause of the VOC-Protocol, see above, Chapter 4, p. 180.

372 See 'Note' in EB.AIR/WG.5/18/Annex II.

373 See proposals for article 11 and 12, EB.AIR/WG.5/22/Annex III.

'adjustment' procedure under the Montreal Protocol³⁷⁴. In short, the regime members have developed a truly innovative approach to internationally coordinated pollution abatement.

9. Conclusion

The international regime on long-range transboundary air pollution is a highly dynamic institution governing an expanding issue-area. It comprises a number of interrelated international legal treaties, i.e. the Convention and several Protocols, that contribute to regime governance at two distinct levels.

The adoption of the Convention settled the quarrel about the broad outline of the regime. It determined its general policy direction and established its institutional apparatus. While the Convention lacks serious substantive provisions designed to exert immediate influence on domestic policy decisions, it permanently institutionalizes the regime process. It thus establishes an institutional framework for action that may be exploited by the members of the regime and in this way facilitates the establishment of cooperation within the issue-area. Part of this framework is the continuous generation of internationally agreed, and for that reason widely acceptable, information about the relevance of the long-range transmission of air pollutants by the 'European Monitoring and Evaluation Programme'. Hence, the adoption of the Convention marked a turning point in the development of the international regime. Prior to that date the primary issue was *whether* the issue-area should be governed internationally, later the main issue became *how* this should be done specifically.

A substantive arrangement for the control and reduction of SO₂ emissions in Europe, still out of reach when the Convention was negotiated, became possible a few years later. A group of interested countries used the established institutional framework skillfully and launched a negotiation process that led to the adoption of a first substantive Protocol. Its regulatory approach was simple and not at all sufficient to solve the problem of environmental acidification due to the long-range transport of sulphur dioxide. However, it constituted a break-through for substantive cooperation within the issue-area.

Already prior to the adoption of the SO₂-Protocol, another group of interested countries made use of the existing institutional framework and placed another internationally relevant issue, the control and reduction of nitrogen oxides, on the agenda of the regime. While agenda-setting proved to be simple, the regulation of NO_x emissions was not. The problem was relatively new and so were abatement technologies. While the regime members adopted a second substantive arrangement, they also agreed that the regulation of NO_x emissions was a long-term process that included the continuous revision and gradual tightening of control measures. Therefore, the parties to the Protocol committed themselves to beginning

374 On this procedure, see Chapter 6, pp. 255-256.

a new round of negotiations almost immediately upon the formal entry into force of the instrument.

Meanwhile a single regime member, namely West Germany, again made use of the established mechanism and pushed another issue that had not been in the centre of the regime before. It placed volatile organic compounds, which contribute to the so-called 'summer smog', on the agenda and promoted the establishment of another parallel cooperative arrangement that envisaged, again, a continuing process of revision and tightening of internationally agreed control measures.

Simultaneously, preparations for the 'critical loads' approach began. The concept is based on scientific information about environmentally acceptable deposition loads and on the integrated assessment of pollution abatement strategies. Like EMEP, the necessary information is largely generated outside the regime (primarily by the member states), but it is scrutinized and processed within the regime process. The critical loads approach implies that interest-oriented bargaining is partly replaced by decisions according to collectively agreed standards. Although it does not (and shall not) exclude bargaining altogether, cooperation on the basis of the critical loads approach will lead to a more sophisticated type of international governance.

The second SO₂-Protocol is the first instrument of the 'second generation' based on the critical loads approach. At the same time it constitutes the second round of the international regulation of SO₂ emissions. It will be followed in the near future by a second instrument on NO_x emissions, possibly with a view to integrating both instruments into a comprehensive 'acidification protocol'. The negotiation of a second protocol on VOCs and the regulation of some other air pollutants, e.g. heavy metals and persistent organic compounds, are also on the agenda of the regime.

Since the entry into force of the Convention in 1983, the regime members have been permanently engaged in negotiating new substantive arrangements and establishing cooperation in limited parts of the issue-area. Issues that cannot be settled comprehensively are addressed in a step-by-step approach. Intermediate steps, such as the first protocols on SO₂ and NO_x emissions, were more easily agreed upon because it was possible to postpone contentious issues. Countries interested in more stringent measures could be sure that the negotiation process continued. Moreover, issues that were not relevant at the beginning of regime formation, such as VOCs, moved into the centre of the regime process later on.

The rapid development of the international regime on long-range transboundary air pollution may be attributed not least to the dynamics of a permanent negotiation process that was deliberately established to promote the adoption of successive and parallel cooperative arrangements and in this way gradually expand cooperation within the issue-area.

Part III: The International Regime for the Protection of the Ozone Layer

Chapter 5

The Formation of the International Regime for the Protection of the Ozone Layer

The international regime for the protection of the ozone layer was established within the framework of UNEP, i.e. within an international environmental organization. Its formation was not fraught with ideological quarrels or linkages between different fields of international relations, although economic considerations, e.g. the costs and benefits of pollution abatement, played an important role.

In the absence of general political considerations, the problem awareness of the actors was more closely related to the process of regime formation than in the case of long-range transboundary air pollution. Accordingly, the stage of regime formation extended over a shorter period of time and the borderline between the stages of regime formation and regime operation is marked less clearly than in the case of long-range transboundary air pollution. The empirical assessment *over time* of the decade-long deliberation process reveals a series of successive, minor steps of change. Any identification of one of these steps with the transfer of the regime process from one stage into the next would be overly arbitrary. The distinction of the stages of regime-formation and regime operation refers, therefore, to the substance discussed.

The present chapter does not cover a clear-cut period of time, for example the negotiations up to adoption of the Vienna Convention in 1985. Instead, it covers the negotiations about the institutionalization of the regime process as such and excludes the deliberations about substantive regulations of the issue-area which proceeded in part simultaneously. This distinction is facilitated by the separation of the normative structure governing the issue-area into two distinct international legal instruments. However, the criteria applied are *not* related to the formal codification of norms in legal instruments. On the contrary, the codification of the normative system governing the issue-area in two distinct instruments is not arbitrary but itself a consequence of the distinction between the institutionalization of the deliberation process on the one hand and the norms resulting from this process on the other hand.

1. The Setting

In 1974, a series of publications of scientific findings formed an early cognitive basis for a major international cooperative effort to protect the ozone layer from depletion. Scientists discovered that chlorine atoms which existed in the stratosphere, i.e. in the upper atmosphere above 8 km from ground level, destroyed ozone molecules in a catalytic chain reaction¹. One chlorine atom was apt to destroy thousands of ozone molecules. However, as long as chlorine was believed to stem primarily from supersonic aircraft and space rockets, its abundance was considered to be low. Accordingly, the danger inherent in this type of atmospheric pollution appeared to be modest. Simultaneously but independently, scientists discovered that Chlorofluorocarbons (CFCs) were, unlike most other chemicals, not broken down in a relatively short period of time. Their lifetime was believed to last for many years in which they could rise to the upper atmosphere. Only there would ultra-violet radiation break them down and release large quantities of chlorine². In combination, these two findings were disturbing. Chlorofluorocarbons, a group of man-made chemicals produced in high quantities, threatened to destroy the ozone layer³.

Significant damage to the ozone layer was believed to have serious implications for human health and the environment. The ozone layer shields Earth from dangerous ultra-violet radiation. Intensified radiation was expected to cause increased rates of skin cancer and eye cataracts, and to suppress the immune system⁴. In addition, it could have negative effects on plant growth as well as on aquatic life and might thus affect the food chain⁵. If the theories proved to be correct and CFCs threatened to destroy the ozone layer, a major industry was endangered. CFCs are chemically inert, non-flammable and non-toxic. Since the 1930s, the production and consumption of these chemicals with almost miraculous properties rose steadily. A multitude of new forms of application were discovered. CFCs could be used as propellants in spray cans, as coolants in refrigerators, as agents to blow foams for purposes of insulation and packaging material, and as solvents⁶. The annual production of the two major CFCs 11 and 12 alone was (for 1974) estimated to be as high as 800,000 metric tons⁷. Accordingly, the production and use of CFCs was a multi-billion

1 See Stolarski/Cicerone, Stratospheric Chlorine: A Possible Sink for Ozone.

2 See Molina/Rowland, Stratospheric Sink for Chlorofluoromethanes. The same findings had already been made ten years earlier but were not published at that time. It is assumed that the chemical industry was interested in hiding them, see Williams, A Historical Background on the Chlorofluorocarbon Ozone Depletion Theory, p. 269.

3 See Molina/Rowland: Letter to the Editor; Science 190 (1975) 1038-1040; For the reaction of the chemical industry, see Cairns/Jeseson: Letter to the Editor; *ibid.*, pp. 1040-1042. On the scientific problem, see Eltrifi, Protection of the Ozone Layer, pp. 390-393.

4 See Morrisette, The Evolution of Policy Responses to Stratospheric Ozone Depletion, pp. 797-798.

5 See Engelmann, A Look at some Issues before an Ozone Convention, pp. 50-51.

6 For applications, see Umweltbundesamt, Responsibility Means Doing Without, pp. 62-164.

7 See Benedick, Ozone Diplomacy, pp. 26-27.

dollar industry⁸. The bulk of CFC production was located in the United States and in the European Community. These two giants held a combined share of about 80 % of the market⁹.

In the United States, the issue of the possible depletion of the stratospheric ozone layer had been publicly discussed for a number of years in relation to possible threats caused by a fleet of supersonic aircraft. Even though the debate ended inconclusively, public awareness and scientific capacity were in place when the theory of CFCs as a major source of ozone depletion was published¹⁰. Almost immediately and prior to any official regulation, consumption of CFC-propelled spray cans fell by two-thirds. A number of major research projects was launched and corroborated by and large the early hypotheses¹¹. From 1976 onwards, an increasing number of states within the USA banned the use of CFCs in spray cans. In 1978, federal legislation banned this use in the United States¹². As a consequence of this swift reaction which eliminated the major use of CFCs, the production of the chemicals and their aggregate consumption dropped sharply. However, in other fields of application CFCs were not as easily to substitute as in the field of propelling. Therefore, consumption began to rise again in the early 1980s, albeit on a considerably lower level¹³. Some other countries also reacted to the threat. Sweden, Norway, Denmark and Canada restricted or banned the use of CFCs for propelling¹⁴. These countries were, however, not major producers nor major consumers of these substances.

Within the European Community reactions were moderate. In 1980 the Community adopted a decision to reduce by 1982 the consumption of CFCs in the aerosol sector (i.e. the use of the incriminated substances as propellents in spray cans) by 30 % of 1976 levels¹⁵. However, since the consumption in this sector had already fallen by this rate, the decision merely stabilized the status quo. In addition, the Community agreed on a production *capacity* cap. Yet, large production capacities were idle since consumption had considerably decreased. This part of the decision could thus only have an impact on the amount of CFCs released in the long run¹⁶.

8 *Lobos, Thinning Air, Better Beware*, p. 90, argues that the gross net product generated by the production and use of CFCs was as high as 27 billion dollars in the United States alone. CFC industries employed 715,000 people.

9 See *Benedick, Ozone Diplomacy*, p. 26. This aggregate market share (for the two major CFCs 11 and 12) was distributed as follows: In 1974 the USA held 46 % of the market and the EEC 38 %. In 1976, figures had reversed: the USA held 40 % and the EEC 43 %.

10 On the impact of the earlier debate about supersonic aircraft on later developments related to CFCs, see *Morrisette, The Evolution of Policy Responses to Stratospheric Ozone Depletion*, pp. 800-805.

11 See *Kindt/Menefee, The Vexing Problem of Ozone Depletion*, pp. 272-273.

12 See *Morrisette, The Evolution of Policy Responses to Stratospheric Ozone Depletion*, pp. 805-806. On the United States domestic legislation, see *Lobos, Thinning Air, Better Beware*, pp. 95-101.

13 See *Benedick, Ozone Diplomacy*, p. 26.

14 See *Sand, The Vienna Convention is Adopted*, p. 40; *Morrisette, The Evolution of Policy Responses to Stratospheric Ozone Depletion*, p. 806.

15 See Official Journal L 90 (3.4.1980).

16 On the Community decision, see *Jachtenfuchs, The European Community and the Protection of the Ozone Layer*, p. 263.

Upon its domestic regulation of 1978, the United States had commenced to exert pressure on the European Community to adopt an equally firm stand toward the protection of the ozone layer. After all, European industries continuing to use CFCs for all purposes could offset the endeavour of the United States. Perhaps even more important, as long as European industries could resort to comparatively cheap CFCs, they acquired a competitive advantage. The European Community decision of 1980 constitutes thus a »minimum solution conceived out of the need to demonstrate to the United States that the EC was willing to act«¹⁷.

Accordingly, while by the end of the 1970s within the United States measures to eliminate the risk of ozone depletion had been implemented, the European Community lagged behind. Questions about appropriate measures to protect the ozone layer had become an issue of the bilateral agenda between the two major actors of the emerging issue-area.

2. International Agenda Setting

It turned out that a global problem such as the depletion of the ozone layer due to the emission of man-made substances could not be appropriately addressed solely at the national level. This was not only true for envisaged control measures, but also for the coordination of scientific research and development. In addition, information such as figures about the production and consumption of the newly incriminated substances was not always available at the international level but only nationally or even only by non-governmental organizations. In short, internationally coordinated efforts were required.

2.1. Establishment of a Scientific Forum on the Ozone Layer

As early as 1977, the United Nations Environment Programme (UNEP)¹⁸ convened in collaboration with the World Meteorological Organization (WMO)¹⁹ a 'Meeting of Experts designated by Governments, Intergovernmental and Nongovernmental Organizations on the Ozone Layer' in Washington²⁰. The meeting was the first of its kind to deliberate internationally coordinated action for the protection of the ozone layer. The experts achieved 'quasi-unanimity' about the relevance of two possible sources of stratospheric ozone depletion. They considered the contribution

17 Jachtenfuchs, The European Community and the Protection of the Ozone Layer, p. 263.

18 Pursuant to Decision 65/IV (1976) of the UNEP Governing Council; UNEP Report; UNGA Official Records 1976, Supplement 25, pp. 127-128.

19 Responding to a statement of the Commission for Atmospheric Sciences of WMO, see *Modification of the Ozone Layer due to Man's Activities and Some Possible Geophysical Consequences*, WMO Bulletin 25 (1976), pp. 59-63.

20 March 1 - 9, 1977. Proceedings are reprinted in Biswas, The Ozone Layer.

of air traffic to be probably negligible and they agreed that emissions of CFCs deserved attention²¹.

The experts disagreed, however, on the amount of ozone depletion to be expected. While the United States had submitted an estimate of an anticipated ozone depletion of 8 % as a result of continued emissions at 1973 levels, other experts drew attention to possible but still uncalculated off-setting effects²². They also drew attention to possible natural effects of ozone depletion caused by, e.g. volcano eruptions and the sun²³. The meeting did not examine activities for the control of CFC emissions. Yet, it agreed that appropriate measures should be determined and that an evaluation should include the socio-economic effects of an application of these measures²⁴.

The meeting agreed on a World Plan of Action on the Ozone Layer which was primarily intended to coordinate international research activities in particular regarding the meteorological and chemical aspects of the atmosphere, the impact of an anticipated decrease in the ozone shield on human health and on ecosystems, and the socio-economic impact of the use as well as the substitution of CFCs²⁵. Under the World Plan of Action, UNEP should assume catalytic and coordinating functions. A Co-ordinating Committee on the Ozone Layer (CCOL) should be established²⁶.

The UNEP Governing Council adopted at its 1977 session the World Plan of Action. The Council decided to include the topic of the protection of the ozone layer into its regular Environment Programme²⁷ and founded the CCOL²⁸. The CCOL was composed both of representatives of countries with major scientific programmes and of representatives of international agencies and non-governmental organizations contributing to the implementation of the Plan of Action. It published information in the *Ozone Layer Bulletin* and made recommendations relevant to the continuing development and coordination of the Plan of Action²⁹.

With these activities, UNEP emerged as the primary forum for internationally coordinated action for the protection of the ozone layer. This action remained, however, largely at the level of scientific research and calculation of a reliable trend of anticipated ozone depletion. It did not address the issue of specific control measures that was discussed at the same time at the domestic level within a number of industrial countries. Moreover, activities for the protection of the ozone layer appeared to be largely of interest to Western industrialized countries. Although a

²¹ See report UNEP/WG.7/25, p. 6, reprinted in *Biswas*, The Ozone Layer.

²² See the official submission of the ICC on behalf of the Chemical Manufacturers Association (CMA), which organizes Western CFC producing companies, UNEP/WG.7/14. The paper argues that the report of the US National Academy of Sciences (NAS), on which the United States delegation relied, based its calculations on an infinite lifetime of CFCs in the atmosphere, while lifetime was in fact confined to 15 to 20 years. This would considerably reduce anticipated ozone depleting effects.

²³ See report UNEP/WG.7/25, p. 6.

²⁴ See report UNEP/WG.7/25, p. 9.

²⁵ See World Plan of Action, UNEP/WG.7/25/Annex III; reprinted in *Biswas*, The Ozone Layer.

²⁶ See also *Rummel-Bulska*, The Protection of the Ozone Layer, pp. 281-282.

²⁷ See UNEP/GC/90 (1977).

²⁸ See Decision 84 C (V), UNEP Report, UNGA Official Records 1977, Supplement 25, p. 115.

number of Third World countries had attended the Washington expert meeting and some of them participated in the CCOL³⁰, the fora were dominated by Western countries. These countries were at the same time the largest producers and consumers of the newly incriminated substances as well as the most important contributors to atmospheric research. Among them the United States was of overriding importance. From the group of socialist countries, only the Soviet Union demonstrated interest³¹.

2.2. *Establishment of a Political Forum on the Ozone Layer*

While the United States had adopted a leadership role in respect of the international coordination of research and evaluation activities, the Nordic countries assumed this role in respect of a future international programme of strategies and policies to combat ozone depletion, including specific measures for the control of CFC emissions.

In 1980, three years after the Washington meeting, the UNEP Governing Council adopted a decision calling upon governments to reduce their use and production of the two by far most important ozone depleting substances, namely the CFCs 11 and 12³². This decision was adopted upon an initiative of the Nordic countries³³. It was made possible by the preceding decision of the Environment Council of the European Community to reduce the consumption of CFCs in the aerosol sector by 30 % from 1976 levels³⁴. The decision remained the only action of the UNEP Governing Council that recommended a comparatively specific policy for the protection of the ozone layer. It was apparent that the international coordination of meaningful activities in the issue-area could not primarily rely on decisions of a multi-purpose body such as the Governing Council of UNEP.

Even more important are, therefore, two decisions of an institutional nature. Both of them were proposed by the Nordic countries³⁵. In its 1981 session, the Governing Council decided to initiate work «aimed at the elaboration of a global framework convention»³⁶. For this purpose, it established an ad hoc Working Group of

29 See Sand, *The Vienna Convention is Adopted*, p. 40.

30 The CCOL included Australia, Canada, Denmark, West Germany, France, India, Italy, Japan, Kenya the Netherlands, Norway, Sweden, the USSR, the UK, the USA, Venezuela; and the following inter-governmental and non-governmental organizations: ESA, WHO, ICAO, WMO, UNEP, EEC, OECD, CMEA, ICSU, CMA; see *Rummel-Bulska*, *Recent Developments Relating to the Vienna Convention*, p. 123.

31 See *Benedick*, *Ozone Diplomacy*, pp. 40-41; *Enquête-Kommission*, *Zwischenbericht*, p. 195.

32 See Decision 8/7 B (1980); UNEP-Report, UNGA Official Records 1980, Supplement 25, pp. 118-119.

33 See Sand, *The Vienna Convention is Adopted*, p. 40.

34 See above, Chapter 5, p. 197.

35 See *Szell*, *Negotiations on Ozone Layer Depletion*; Sand, *The Vienna Convention is Adopted*, p. 40.

36 See UNEP Governing Council Decision 9/13 B (1981), UNGA Official Records 1981, Suppl. 25, pp. 118-119, para. 1. The Decision was sponsored by 19 delegations. Most of them were from the group of Western industrialized countries, including 8 out of 10 member states of the European Community and the USA. Not a single East European country sponsored the decision; see report of the Governing Council, UNEP/GC.9/15, p. 71, para. 164. The report notes that 'two delegations', presumably the USSR and Japan, considered the deliberation

legal and technical experts nominated by interested governments and intergovernmental organizations³⁷. The decision makes abundantly clear that this action was *not* directed at the immediate development and adoption of control measures.

Its preamble referred to the Governing Council decision of 1980 which recommended a significant reduction of the use of the CFCs 11 and 12 and the avoidance of an increase in production capacity. It noted »the importance of obtaining detailed information on the implementation of the decision« and recognized »to this effect the desirability of initiating work aimed at the elaboration of a global framework convention which would cover monitoring, scientific research and the development of best available and economically feasible technologies to limit and gradually reduce emissions of ozone-depleting substances, as well as the development of appropriate strategies and policies«³⁸. That is, the Governing Council considered its 1980 decision as the basis of international cooperation for the protection of the ozone layer, although the decision did not preclude further and more specific activities.

The Governing Council also decided to place the issue on the agenda of a meeting of senior governmental experts on international environmental law in Montevideo/Uruguay, scheduled for November 1981. One of the tasks of this meeting was »the identification of major subject areas - such as marine pollution from land-based sources, protection of the ozone layer, and disposal of hazardous wastes - suitable for increased global and regional co-ordination and co-operation in elaborating environmental law«³⁹. Accordingly, the protection of the ozone layer was one of three areas tentatively identified as suitable and ripe for international law-making. Political cooperation and technical coordination should, in one way or another, result in the elaboration of international legal instruments.

Already in September 1981, a working group of experts preparing the Montevideo meeting had agreed that a framework convention for the protection of the ozone layer should include an »appropriate international machinery to ensure the implementation and development of the convention«⁴⁰. The Montevideo meeting on environmental law⁴¹ offered an opportunity for the preliminary submission of a specific initiative to establish an international legal framework for the protection of the ozone layer. In submitting a 'Draft Recommendation', Sweden, Finland and Switzerland attempted to pre-structure the future deliberations on a framework con-

of a convention as 'premature' and notified that they had preferred the elaboration of 'guidelines', see *ibid.*, p. 71, para. 166.

37 In February 1981, i.e. well in advance of the Governing Council session in spring of the year, the Secretariat had informally received a draft proposal for a framework convention, see UNEP/WG.69/5, p. 10. Sweden invited the first meeting of the working group to Stockholm so that UNEP did not have to bear the costs; see UNEP/GC.9/15, p. 72, para. 167.

38 Decision 9/13 B (1981), UNGA Official Records 1981, Suppl. 25, pp. 118-119, preambular paragraphs. 4 and 5 (emphasis added).

39 UNEP Governing Council Decision 9/19 (1981) (emphasis added).

40 Report of the working group in UNEP/GC.10/5/Add.2, p. 10

41 November 1981. See generally *Storm*, das UNEP-Umweltrechtsprogramm von Montevideo; and report of the meeting to the UNEP Governing Council UNEP/GC.10/5/Add.2. See also *Senior Level Meeting on Environmental Law*, Environmental Policy & Law 8 (1982), pp. 2-11.

vention⁴². The Draft Recommendation already envisaged the basic approach adopted in the later Vienna Convention. Due to the nature of the issue, the legal framework should »be sufficiently flexible to be easily adaptable to changing circumstances as new scientific evidence becomes available«⁴³. Therefore, the instrument should comprise two separate parts, namely a main part constituting the broad and comprehensive framework, and a part made up of annexes, containing detailed provisions and technical requirements. This second part should be subject to a simplified amendment procedure. A policy-making organ should be responsible for the implementation of the provisions of the convention. Hence, following the precedent of the Geneva Convention on Long-range Transboundary Air Pollution⁴⁴, the initiating countries envisaged more than a codification of international environmental law in the issue-area concerned. They also suggested the establishment of an issue-area specific policy-making machinery. The convention should commit the contracting parties to a general obligation to protect the ozone layer, to cooperate actively in developing appropriate policies and strategies and to regularly exchange information. It should also contain provisions as to the monitoring and assessment of changes in the state of the ozone layer and as to scientific research in the field.

For the time being, the initiators confined their proposals to suggesting a policy-making machinery and framework provisions. There was no mention whatsoever of the possible direction of control measures to be adopted, although provisions of this sort were envisaged for possible annexes. Hence, the immediate task *of the initiative as submitted* was not the adoption of far-reaching control measures but the establishment of an international machinery for the conclusion of such measures. Even though the initiating countries were part of the group of states advocating domestic and internationally coordinated policies and strategies in the interest of an early and thorough prevention of ozone depletion in spite of still lacking scientific evidence⁴⁵, they considered the establishment of a machinery as an appropriate first step of international cooperation in the issue-area. The meeting on international environmental law did not adopt this recommendation⁴⁶. It agreed, however, to annex it together with a related document to its report. The meeting thus accepted these documents as an input for the beginning international deliberations on a framework convention without recommending a specific approach.

On the basis of these decisions, the process of the formation of a policy-making machinery and of basic principles upon which this machinery should rely in its future work began early in 1982 within the organizational framework of UNEP. While the CCOL had been a scientific forum with a limited attendance, for the first

42 See Draft Recommendation on Legal Aspects and Elements of a Global Framework Convention for the Protection of the Ozone Layer, UNEP/GC.10/5/Add.2/Annex/Appendix II. The paper is a condensed version of a second document submitted only by Sweden and Finland, see UNEP/GC.10/5/Add.2/Annex/Appendix I.

43 See Draft Recommendation, UNEP/GC.10/5/Add.2/Annex/Appendix II, para. 2.

44 The document expressly referred to the Geneva Convention on Long-range Transboundary Air Pollution, see UNEP/GC.10/5/Add.2/Annex/Appendix I, para. 7.

45 See Sand, *The Vienna Convention is Adopted*, p. 40 and Szell, *Negotiations on Ozone Layer Depletion*. Japan and the USSR led the camp of those arguing to postpone action until scientific proof could be corroborated.

46 See report UNEP/GC.10/5/Add.2, para. 38.

time a specific forum had been established with the task of moulding internationally accepted norms governing the newly identified issue-area of the protection of the ozone layer. The change was almost exclusively a matter of process, not one of substance. The newly created specific forum operated on an ad hoc basis. It did not acquire political and legal independence. Its mandate had to be extended annually by the supervising political body, i.e. the Governing Council of UNEP. It was a mere first step in a long process of organization of the issue-area.

3. Establishment of a Machinery: Toward a Framework Convention

Upon establishment of a specific political forum in the issue-area, the process of moulding norms designed to govern international cooperation for the protection of the ozone layer could begin. Already in the first session of the Working Group⁴⁷ it became clear that a number of countries, although accepting the priority of negotiating a framework convention, in fact focused on the moulding of internationally agreed control measures⁴⁸. From the third session onwards, an officially submitted draft protocol was a second subject of the deliberations beside the draft convention⁴⁹. However, the focus of the present chapter shall be confined to an exploration of the institutional and process aspects of the development, while the shaping of substantive rules will be examined in the following chapter.

3.1. *The Nordic Draft Convention*

In the first session of the Working Group⁵⁰, attended by 26 states and the European Community⁵¹, three Nordic countries submitted a Draft Convention⁵². It was based on the approach of the two documents submitted to the Montevideo meeting two months earlier⁵³ and specified the approach of the leading group of countries at this stage of the process⁵⁴. The draft stipulated as a 'fundamental obligation' that »the

47 The Working Group held its first session in January 1982, the first meeting of its second session in December 1982, the second meeting of the second session in April 1983, the first meeting of the third session in October 1983, the second meeting of the third session in January 1984, the first meeting of the fourth session in October 1984, and the second meeting of the second session in January 1985. For exact dates, see below, Chapter 6. The sessions were arranged according to the annual meetings of the UNEP Governing Council in May.

48 The meeting was informed that an informal group had already considered the content of possible annexes and/or protocols based on measures already implemented in some countries; see UNEP/WG.69/10, para. 27.

49 See below, Chapter 6, pp. 225-228.

50 January 20 - 28, 1982 in Stockholm.

51 See report of the session UNEP/WG.69/10, para. 2. While not a single fully authorized East European delegation participated, a Soviet delegation observed the meeting.

52 Draft Convention, submitted by Sweden, Norway and Finland, UNEP/WG.69/3.

53 See above, Chapter 5, pp. 201-202.

54 The intent of the Swedish Minister for Environment and Agriculture was that the meeting should lay the foundation for a global framework convention. »Such a basis should, as a minimum requirement, include basic agreement on the structure and format of a framework convention, possibly also including agreement on the institutional arrangements and the scientific components regarding monitoring and assessment»; UNEP/WG.69/10, para. 6.

contracting parties shall limit, reduce and prevent activities under their jurisdiction or control which have or are likely to have adverse effects upon the stratospheric ozone-layer⁵⁵. Accordingly, the draft intended to cut short many possibly lengthy scientific debates about the effects of ozone depletion as a matter of primary relevance for the regime process. It addressed the protection of the ozone layer as an end in itself.

To this end, the contracting parties should adopt relevant legislative, administrative, technical and other measures. They should also be committed to a number of auxiliary duties, including the duties to cooperate, to exchange information, in particular about activities with a potentially ozone depleting impact, to deliver national reports relevant in the issue-area. For the purpose of reporting and receiving reports, a domestic authority should be designated. These duties were drafted in a relatively general language. They could not be expected to have an immediate impact on the state of the ozone layer.

Contrary to these general obligations, the draft carefully outlined the tasks and duties of three institutionalized bodies, namely a conference of the parties, a secretariat, and a scientific-technological committee. The conference of the parties would become the major policy-making organ of the regime. At its at least bi-annual meetings, it would, among other things, consider and adopt amendments to the convention and its annexes as well as new annexes. The conference of the parties would also review the progress made in the implementation of the convention, consider national reports submitted, define measures to combat substances with adverse effects on the ozone layer, and issue guidelines for the development of alternative technologies. Most important, the Nordic draft convention proposed to open the attendance of these meetings far beyond the group of contracting parties. The United Nations and its specialized organizations as well as states not party to the convention should generally participate in an observer status. Moreover, anybody or agency technically qualified in the protection of the ozone layer, whether national or international, governmental or non-governmental⁵⁶ should be admitted, provided that not at least one third of the parties present objected to the attendance. Hence, the principal body to be established under the convention, i.e. the 'conference of the parties', was not designed as a gathering of a limited club of international guards of the ozone layer which had committed themselves to the relevant obligations. Instead, it envisaged comprehensive meetings combining all kinds of knowledge and interests relevant to the issue-area. Given the fact that environmental NGOs did not participate in the Working Group until after 1985⁵⁷, the participation of NGOs focused primarily on the continued attendance of industrial and scientific organizations. These NGOs contributed considerably to the increase in knowledge about the ozone layer and were indispensable for the development of

55 Draft Convention, UNEP/WG.69/3, article 1.

56 Draft Convention, UNEP/WG.69/3, article 7 (5).

57 See Sand, *The Vienna Convention is Adopted*, p. 42.

innovative technological solutions for the substitution of CFCs (even though some of them represented distinct industrial interests).

A scientific-technological committee established under the convention should perform functions similar to those so far performed by the CCOL. It should coordinate and promote research in regard to the generation and depletion of stratospheric ozone. It should also *organize* the monitoring of the ozone layer and of substances with an impact on the ozone layer. Moreover, it should *survey* the effects of increased ultra-violet radiation on human health and on the biosphere. Finally, it should *prepare* measures to combat the discharge of ozone depleting substances. Hence, this committee could well acquire responsibility for independent research.

A secretariat should be established for the servicing of the conference of the parties and the scientific-technological committee. However, the secretariat was envisaged to actively contribute to progress in the issue-area. It should collect and present to the collective bodies information provided by the contracting parties, but its function was also »to request from parties such further information as might be necessary to ensure the implementation of the present convention«⁵⁸. Hence, the secretariat should acquire an *autonomous* position toward the member countries. Moreover, within the programme authorized by the conference of the parties, it should (independently) conduct scientific and technical studies and invite the attention of the parties to any matter pertaining to the aims of the convention. In order to avoid the creation of a new bureaucratic apparatus, secretariat functions should be provided by UNEP.

Beyond the establishment of autonomous bodies, the draft contained a fourth institutional element. It proposed a two-fold procedure for the amendment of the convention and its annexes. According to the regular procedure, amendments would be adopted by the conference of the parties with a qualified majority and were subject to ratification by the contracting states. According to a simplified amendment procedure, proposals would be circulated by the secretariat to the contracting parties. A proposal would be adopted if no objection was received within six months. A single objection would reject the adoption of the proposal along the simplified procedure. This procedure was apparently designed to enhance the flexibility of the system. It was, however, not apt to avoid the cumbersome domestic process of ratification of treaty amendments, but merely reduced the period of international deliberations to a minimum. In fact, deliberations would proceed entirely at the informal level⁵⁹. The proposal was only meaningful in light of the comparatively long intervals between the regular bi-annual meetings of the parties and in light of the relatively low number of states expected to participate in the regime.

Summarizing, the Nordic draft carefully elaborated the autonomous role of the different bodies to be established under the convention. It emphasized the relevance of a machinery to accelerate and govern the process of the moulding of acceptable

⁵⁸ Draft Convention, UNEP/WG.69/3, article 8 (5)(e).

⁵⁹ Usually, simplified amendment procedures are designed to circumvent the domestic ratification procedure. For a precedent, see the Paris Convention of Marine Pollution from Land-based Sources (Paris 1974).

norms for the issue-area which should be based as far as possible on agreed scientific knowledge. The machinery would contribute to a transfer of bilateral claims into knowledge-based claims of the community of participating actors against individual emitters of ozone depleting substances that created global environmental risks⁶⁰.

3.2. *Agreement on a Dynamic Approach*

The Nordic concept for a framework convention was received favourably. The emphasis on process and on flexibility responded to the conditions of scientific uncertainty prevailing in the issue-area. Moreover, the concept was acceptable to the two camps of participating states which emerged during the session. It was acceptable to participants finding that »the present evidence of risk warranted early regulatory and preventive measures«⁶¹ and to actors holding that so far »the evidence did not point to the need for such action«⁶². Hence, the group at large was able to support the flexible concept, »in order to allow the accommodation of scientific knowledge and policy alternatives as they became available«⁶³. While the institutionalization of the process was easily agreed upon, the conflict was transferred to the level of material norms governing the issue-area.

Accordingly, the establishment of a conference of the parties as a permanent principal policy-making body of the regime was widely acceptable⁶⁴. The proposal to establish a secretariat was likewise virtually undisputed, since a permanent and regularly meeting policy-making organ required servicing. If the moulding of norms governing the issue-area were to be designed as a dynamic process, the respective international regime was in need of a permanently operating organizational unit. There was general agreement that secretariat functions should be performed by UNEP⁶⁵. However, concerning the proposed scientific-technical committee, agree-

60 The concept of the Nordic Draft Convention focused primarily on *process* and not on a comparatively stable set of norms. It did, therefore, not necessarily follow that for the time being more than one document, i.e. the framework convention, was to be adopted. Yet, the two-document solution was apparently favoured by the UNEP Secretariat. See the note of the Secretariat, UNEP/WG.69/5, para. 54: »It is clear that the drafters of the convention will have to provide a fairly clear indication of the nature of future annexes. This means that the probable socio-economic effects of a variety of global strategies will need to be projected and appraised during the drafting of the framework itself.« The statements of two officials of the UNEP Secretariat reflect a similar line of argument, see *Sand*, *The Vienna Convention is Adopted*, p. 41; and *Engelmann*, *A Look at Some Issues before an Ozone Convention*, p. 55. In fact this approach proved to be wrong. The eventually adopted Montreal Protocol was completely different from anything discussed until 1985, see below, Chapter 6.

61 Report UNEP/WG.69/10, para. 9.

62 Report UNEP/WG.69/10, para. 9. *Europe Environment*, No. 156/1982, notes that among the participating states urging strong and immediate measures to halt the depletion of the ozone layer were the Nordic countries, Denmark, the Netherlands and Switzerland, while those favouring moderate measures in light of scientific findings included Japan, the United Kingdom, France, Germany, Italy and the USA. This reflected the line of controversy *within* the European Community.

63 Report UNEP/WG.69/10, para. 10.

64 See report UNEP/WG.69/10, para. 24.

65 See UNEP/WG.69/10, para. 21; see also commentary to article 7 of the revised Draft Convention, UNEP/WG.78/2, p. 21.

ment could not be achieved as an international body with similar functions, namely the CCOL, already existed.

The relationship between the framework convention and related instruments became a major point of disagreement. The Nordic drafts envisaged that specific obligations and control measures be codified in annexes which would form integral parts of the convention and which would enter into force automatically for all contracting parties to the main instrument. A number of countries opposed this concept. They favoured the drafting of separate protocols with the legal status of semi-autonomous treaties⁶⁶.

The first session of the Working Group revealed that consensus among the actors participating in the deliberations basically comprised two important elements of the desired normative structure of the issue-area. This extent of consensus included a widespread conviction that the state of the ozone layer *was* a matter of international concern and merited cooperative efforts. The participating actors agreed on the desirability of adopting an internationally coordinated approach to organize the issue-area and to mould the norms for its governance. They were generally prepared to cooperate in the assessment and monitoring of modifications of the ozone layer and accepted that the convention should contain auxiliary duties in the fields of monitoring, research, exchange of information and transfer of technology⁶⁷. The consensus did not extend, however, to a common judgement on the state of the ozone layer. Consequently, it did not include agreement about the desirability of adopting obligations with respect to the management and control of the production and use of substances with a potentially harmful impact on the ozone layer. While the concept of the Nordic initiative was generally acceptable, the extent of even basic obligations remained a matter of dispute⁶⁸.

The Working Group recommended to the Governing Council of UNEP that the Secretariat prepared several auxiliary reports, e.g. on institutional arrangements, on the financial implications and on the issue of the transfer of technology, as well as the text of a draft convention incorporating the proposals and comments made during the session. The main objective of the next session would be to draft the convention »and also to discuss strategies for supplementing the draft convention through technical annexes and/or protocols«⁶⁹. The recommendations reflected the priority role of negotiations on the framework convention, but envisaged the possible extension of the task of the Working Group. They thus accommodated the basic approaches of the two interest groups of participating countries.

The Governing Council approved the recommendations as a package and 'noted' the mandate suggested by the Working Group⁷⁰. While *formally* the Working Group

⁶⁶ On this discussion, see report UNEP/WG.69/10, para. 26.

⁶⁷ See report UNEP/WG.69/10, paras. 12-18.

⁶⁸ See report UNEP/WG.69/10, paras. 19-20.

⁶⁹ Recommendations of the Working Group, reprinted in UNEP/GC.10/5/Add.4/Annex V, pp. 23-24.

⁷⁰ See Decision 10/17 (1982); UNGA Official Records 1982, Suppl. 25, pp. 103-104. While the Decision was adopted by consensus (UNEP/GC.10/14, 15, para. 63), two countries again declared that they did not consider the drafting of a framework convention as a priority matter; see *ibid.*, p. 35, para 156.

operated under the supervision of the principal policy-making organ of UNEP, i.e. the Governing Council, *in practice* it had become a quasi-autonomous entity which was virtually able to draft its own mandate. In terms of financial assets, it was to a certain degree independent of UNEP's budgetary decisions⁷¹. Moreover, it was in a position to exploit the resources of the UNEP Secretariat. The international coordination of policies for the protection of the ozone layer had primarily become a matter dealt with by the Working Group. Activities outside the Working Group were conducted with a view to proceedings within this forum.

3.3. *The Decision-making Structure of the Emerging International Regime*

Having been requested to elaborate an official draft convention and a number of auxiliary papers, the UNEP-Secretariat convened an informal meeting with a limited number of participants⁷² to discuss a first version⁷³ of the draft convention to be submitted to the second session of the Working Group⁷⁴. The almost exclusive attendance at this informal meeting by Western industrialized countries⁷⁵ emphasizes the predominantly regional approach to an international regulation for the protection of the ozone layer despite the frequently stated necessity for a global approach⁷⁶. Apparently, neither the Soviet Union nor important developing countries had indicated their interest to be consulted.

The resulting Secretariat Draft and the following deliberations within the Working Group⁷⁷ emphasized the important and central role of the conference of the parties as the main policy-making organ of the emerging international regime, as suggested by the Nordic countries.

The competence of the conference was enhanced in a number of respects. The conference itself should determine the period of intervals between its meetings⁷⁸. The Nordic proposal to circumvent the principal policy-making body by a simplified

71 While the first session had been hosted by Sweden, Switzerland offered to host the second session; see Decision 10/17 (1982); UNGA Official Records 1982, Suppl. 25, pp. 103-104, para. 5.

72 The meeting took place in Geneva, June 8 - 10, 1982.

73 See non-symbolized Draft International Convention for the Protection of the (Stratospheric) Ozone Layer, dated 3 June 1982.

74 To some degree the Secretariat occupied the role of a special rapporteur. On the role of rapporteurs in the process of codification of international law within the International Law Commission, see *Thode*, International Law Commission, pp. 168-171.

75 Participants came from Argentine, Canada, the European Community, Finland, West Germany, Japan, the Netherlands, Sweden, the United Kingdom and the United States (information provided by the UNEP Secretariat).

76 See e.g. Decision of the Governing Council 10/17, UNGA Official Records 1982, Suppl. 25, pp. 103-104, para. 6; and recommendations of the first session of the Working Group, para. 1 (i), reprinted in UNEP/GC.10/5/Add.4, pp. 23-24, both urging wider participation.

77 The 'Secretariat Draft Convention' was submitted to the first meeting of the second session of the Working Group, the 'Revised Draft Convention' to the second meeting of that session, the 'Second Revised Draft Convention' to the first meeting of the third session, the 'Third Revised Draft Convention' to the second meeting of that session, the 'Fourth Revised Draft Convention' to the second meeting of the fourth session, and the 'Fifth Revised Draft Convention' to the Vienna Conference.

amendment procedure involving 'tacit consent' had met with considerable resistance⁷⁹. It was now bracketed and later abandoned altogether⁸⁰. Instead, a different type of simplified amendment procedure for annexes based upon deliberations and decisions of the conference of the parties and designed to circumvent the domestic ratification procedure was tentatively introduced and later accepted⁸¹.

The role of the secretariat of the regime was considerably reduced. The intention of the Nordic countries to create a semi-autonomous entity with an independent responsibility to further the policy of the regime caused disagreement. Without any comment in the documents, these extended functions were dropped⁸². The secretariat would not be invested with the authority to commission research and studies, nor with the right to request information from contracting parties. Even its function to 'invite the Conference of Contracting Parties to any matters pertaining to the purposes of the Convention'⁸³ appeared in square brackets and was later deleted⁸⁴. The secretariat would thus be reduced from an agent facilitating the regime process to a mere servicing body⁸⁵.

The integration of the projected permanent scientific-technological advisory body into the institutional structure of the regime posed considerable difficulties. On the basis of the deliberations of the first session of the Working Group and in the view of the existence of the CCOL, the UNEP Secretariat drafted three alternative approaches⁸⁶. Yet, upon informal deliberations the integration of the existing CCOL into the institutional framework of the convention was virtually given up for two reasons. The CCOL, i.e. a primarily scientific body, had 'no experience in ...

78 See article 6 of the Secretariat Draft Convention, UNEP/WG.78/2, agreed during the second session of the Working Group.

79 See report, UNEP/WG.69/10, para. 30.

80 See Secretariat Draft Convention, UNEP/WG.78/2, article 13, and Third Revised Draft Convention, UNEP/WG.94/8, comment to article 10.

81 See Secretariat Draft Convention, UNEP/WG.78/2, article 12 (3) and Second Revised Draft Convention, UNEP/WG.94/3, article 11 (3).

82 Compare in this regard the Nordic draft, UNEP/WG.69/3, with succeeding versions, the non-symbolized draft prepared by the Secretariat and dated 3 June 1982 and the Secretariat Draft Convention submitted to the second session of the Working Group, UNEP/WG.78/2.

83 Article 7 (1)(d) of the Secretariat Draft Convention, UNEP/WG.78/2. The comment notes that it had been brought to the attention of the UNEP Secretariat that this function was partially covered by the residual clause to become article 7 (1)(f) of the Convention as adopted, according to which the secretariat was to perform such other functions as may be determined by the Conference of the Parties. But here undoubtedly the servicing aspect prevailed.

84 The clause was deleted at the second meeting of the third session, see report UNEP/WG.94/10, para. 18. One delegation gave the following reason for this decision: 'to include, as a function of the secretariat, inviting the attention of the Contracting Parties to any matter pertaining to the progress of the convention ... would constitute an unfortunate precedent. For the secretariat to carry out such a function, it would necessarily have to undertake assessments of the implementation of the convention by Contracting Parties, and would thus be drawn into performing a substantive role which was outside the competence of a secretariat whose functions should be purely technical'; *ibid.*, para. 17.

85 The Nordic countries, supported by the UNEP Secretariat (see Secretariat note, UNEP/WG.78/4, paras. 8-12) had proposed to assign secretariat functions to UNEP. Some countries, however, favoured WMO, i.e. the other international organization active in the issue-area. Canada suggested assigning the question to the first meeting of the conference of the parties, see Revised Draft Convention, UNEP/WG.78/10, comment accompanying article 6, p. 10. This was agreed at the third session of the Working Group, see report, UNEP/WG.94/5, para. 24. Therefore, the Vienna Convention assigns only interim secretariat functions to UNEP.

socio-economic and technological fields⁸⁷ necessary for the operation of the regime. Its level of participation and its meeting schedule would have to be altered. It was considered »probable that such a broadening of the responsibilities of the Committee to address socio-economic aspects of ozone layer depletion would not be enthusiastically welcomed by the majority of its members⁸⁸. Moreover, the necessary alteration of its membership, which included so far states, intergovernmental and non-governmental organizations at an equal level, »might ... be detrimental to the present successful operation of the Committee⁸⁹. Instead, it turned out at the informal meeting invited by the Secretariat that the task of conceptualizing and initiating an advisory apparatus should be assigned to the conference of the parties⁹⁰. The matter would become a part of the process and enhance the flexibility of the institutional structure of the international regime. At its third session, the Working Group adopted this approach⁹¹.

While these developments reinforced the competences of the conference of the parties, the function of deliberating and adopting protocols, i.e. another type of instrument beside the framework convention and technical annexes, was assigned to ad hoc diplomatic conferences⁹². In the opinion of the Secretariat, protocols »usually contain more detailed obligations for the parties, or develop one or more subjects which, though not explicitly spelled out in the convention, are based on its general provisions⁹³. The Secretariat Draft still invested the conference of the parties with the competence to deliberate and decide about internationally coordinated control measures. Yet, semi-autonomous protocols acquired an overwhelming importance within the normative structure of the international regime due to the firm resistance of many participants to accept the instrument of annexes for the codification of future control measures for the production and/or use of ozone depleting substances.

(Facultative) protocols providing the option of legal and political solutions with a limited participation of regime members⁹⁴ would *increase* the flexibility of the regime. Depriving the permanent conference of the parties of the function to consider and adopt new protocols, however, established an artificial separation between

86 See article 9 of the non-symbolized draft convention, prepared by the Secretariat, dated 3 June 1982.

87 Annotations of the Secretariat Draft Convention, UNEP/WG.78/2, p. 24.

88 Explanatory note of the UNEP Secretariat, UNEP/WG.78/4, para. 30.

89 Explanatory note of the UNEP Secretariat, UNEP/WG.78/4, para. 26.

90 See Secretariat Draft Convention, UNEP/WG.78/2, article 8.

91 Deleting the entire article, see report of the first meeting of the third session, UNEP/WG.94/5, para. 25.

92 See article 10 of the non-symbolized draft prepared by the UNEP Secretariat, dated 3 June 1982; and article 9 of the Secretariat Draft Convention, submitted to the second session of the Working Group, UNEP/WG.78/2. The conference of contracting parties was merely assigned the competence of »considering the need for new protocols« (article 6 (3)(f) of the latter draft, emphasis added), and even this provision appeared in square brackets. In the course of re-introducing diplomatic conferences (beside the conference of the parties), amendments of the convention were also, as one of two alternatives, assigned to a diplomatic conference other than the conference of contracting parties, see Secretariat Draft Convention, UNEP/WG.78/2, article 10.

93 Secretariat note UNEP/WG.78/3, para. 21.

94 This increase in flexibility is, however, obtained in exchange for a proliferation of distinct sub-communities of contracting parties to the various semi-autonomous instruments as in the case of long-range transboundary air pollution.

the low-level technical work of the permanent conference of the parties on the one hand and the high-level political activity of ad hoc diplomatic conferences. Therefore, it *decreased* procedural flexibility and enhanced the threshold for the adoption of protocols. A compromise hammered out at the third session of the Working Group still reflected the fear of some countries to be overridden by the dynamics of the regime process. It foresaw the adoption of protocols at 'extraordinary' meetings of the conference of the parties⁹⁵. Only at its last meeting did the Working Group agree on the deletion of the condition that such meetings should be 'extraordinary'⁹⁶.

The development of the decision-making structure of the emerging international regime was thus marked by a uniform trend. The role of two of the three bodies proposed in the Nordic draft was severely reduced. The scientific-technological advisory body was discarded altogether. The secretariat was reduced to a mere technical servicing function. The Working Group did not agree on the establishment of an institutionalized agent for the conduct of widely independent scientific and technological assessment of the state of the ozone layer and of opportunities for the substitution of ozone depleting substances. It did also not accept an institutionalized agent for the political-administrative representation of the regime toward its members. The *raison d'être* of both an independent scientific and technological advisory board and an empowered secretariat would have been to partially preclude political bargaining processes in favour of problem-oriented decision-making. The participating state actors refrained from establishing new semi-independent actors with a considerable degree of autonomy in the issue-area.

These developments increased the relevance of the conference of the parties. The general policy-making body obtained the mastership of the decision process within the regime. In contrast to the role of a scientific-technological advisory body and an empowered secretariat, its function was not primarily to represent a community-oriented focus toward decision-making but to accommodate the parochial interests of the participating countries.

3.4. *Agreement on the Policy Direction*

The material norms of a *framework* convention relate, almost by definition, to principles and the general policy direction of the international regime. Due to the fact that agreement on the framework for cooperation formed the initial step of a cooperative process, they extend also to preliminary and auxiliary duties and obligations.

The latter duties regarding research and monitoring (later: research and systematic observation), scientific and technological cooperation (later: cooperation in the legal, scientific and technical fields), and the transmission of information were rela-

⁹⁵ See article 9 of the Second Revised Draft Convention, UNEP/WG.94/3, and commentary thereto.

⁹⁶ See Fifth Revised Draft Convention, UNEP/IG.53/3.

tively easily agreed upon⁹⁷. This wide agreement in the field of international cooperation short of the adoption and implementation of economically relevant control measures⁹⁸ reflected the state of consensus during the first half of the 1980s.

Likewise, the basic direction of policy to be pursued within the emerging international regime for the protection of the ozone layer was undisputed from the beginning. The Decision of the Governing Council of UNEP to initiate the Working Group reflected an internationally authoritative decision on the general desirability of protecting the ozone layer. Accordingly, the Nordic proposal for a preambular clause stating that the parties to the convention were »determined to protect man and the environment from adverse effects of modifications of the ozone layer« entered the Secretariat Draft and later the Vienna Convention unchallenged⁹⁹. Short of an agreement among regime members on this clause, there would be no international regime for the protection of the ozone layer.

However, disputes about two other clauses indicated the small margin of agreement concerning the assessment of the sources of ozone depletion and concerning the necessity for common action. The preamble of the informal draft of the Secretariat still referred to the potentially harmful effect of ozone depletion, »which may be caused by the world-wide emission of chlorofluorocarbons and other compounds«¹⁰⁰. This reference was challenged already during the informal deliberations¹⁰¹. In its third session, the Working Group settled the problem by deleting the reference to CFCs¹⁰². Accordingly, the reference to CFCs as the major group of ozone depleting substances appears only at a remote place in one of the technical annexes to the Convention, while the text frequently refers to ozone depleting substances in general.

Another dispute indicating the narrow margin of agreement was more fundamental in substance. It was related to a preambular paragraph stating the awareness of the parties to the convention that »measures to protect the ozone layer from modifications due to human activities require *international* co-operation and action«¹⁰³. The term 'international cooperation and action' does not in any kind specify appropriate measures. At the very least, it does not refer to a *reduction* of emission levels. It may, therefore, be assumed that the rejection of this clause focused on the necessity to cooperate *internationally*, i.e. to determine *collectively* the kind of appropriate

97 See Revised Draft Convention, UNEP/WG.78/10, articles 3 to 5, including commentaries.

98 A more principled dispute arose on the issue of technical annexes to articles 3 and 4. Great Britain placed a reservation on the adoption of any annexes whatsoever (UNEP/WG.78/13, para. 12 and UNEP/WG.94/4/Add.1, p. 5), and withdrew it in a later meeting (UNEP/WG.94/5, para. 8). A more substantive debate centred on the proposal to draft a list of substances with a potential to modify the ozone layer as it appeared in Annex I, para. 4 of the Convention as adopted; see e.g. UNEP/WG.78/13, para. 31.

99 See Secretariat Draft Convention, UNEP/WG.78/2; and Revised Draft Convention, UNEP/WG.78/10, including comment.

100 Preamble of the non-symbolized draft convention, prepared by the Secretariat, dated 3 June 1982.

101 The preamble of the Secretariat Draft Convention, UNEP/WG.78/2, contains two alternative paragraphs, see also commentary, *ibid.* p. 7.

102 See Fourth Revised Draft Convention, UNEP/WG.94/11, preamble.

103 Brackets were added in the Revised Draft Convention, UNEP/WG.78/10, preamble, (emphasis added); see also commentary, *ibid.*, p. 3.

action, if any, for the protection of the ozone layer. The rejection of the clause would thus have undermined the very foundations of the international regime¹⁰⁴.

The content of the 'general obligations' was hotly disputed during the negotiations. This is not surprising, since they frame the margin of consensus within which the norm-moulding process would have to proceed. In their early draft, the Nordic countries had proposed a comparatively far-reaching paragraph, according to which »the Contracting Parties shall limit, reduce and prevent activities under their jurisdiction or control which have or are likely to have adverse effects resulting from modifications of the ozone layer«¹⁰⁵. This formulation had been adopted at the Montevideo meeting¹⁰⁶, no doubt at the suggestion of the same group of countries. It was based on the state-responsibility Principle 21 of the Declaration of the UN Conference on the Human Environment¹⁰⁷ according to which states exploiting their national resources shall avoid damage beyond their territory and control¹⁰⁸. Reference to this widely acknowledged principle had been integrated into the preamble of the Vienna Convention without objection. The Nordic proposal constituted a far-reaching and unqualified obligation. It included activities that were only likely to have adverse effects and it required immediate action. It thus reflected the environmentally inspired extreme of positions represented in the negotiations. Nevertheless, the report of an early session noted »fairly broad support« for the proposal¹⁰⁹. A second alternative advanced rendered action partially conditional upon the capacity to act. It required »to limit and, *as far as possible, gradually*, reduce and prevent« activities with a possible adverse effect on the ozone layer¹¹⁰.

From both alternatives duties followed at the national and at the international level. At the national level the parties should adopt appropriate legislative, administrative, technical and other measures. At the international level they should cooperate in such fields as monitoring, research and the harmonization of their (nationally determined) policies and strategies¹¹¹.

Another approach was apparently meant *not* to constitute an independent obligation. According to Alternative 3 parties should »take all appropriate measures *in accor-*

¹⁰⁴ This clause was accepted at the second meeting of the third session, see Fourth Revised Draft Convention, UNEP/WG.94/11, preamble. However, upon adoption of the Vienna Convention Japan declared with a view to a Resolution related to the reduction of CFCs, that »each country *should itself decide* how to control emissions of chlorofluorocarbons«; United Nations Environment Programme: Vienna Convention for the Protection of the Ozone Layer, Final Act (UNEP/IG.53/5/Rev.1), p. 36 (emphasis added).

¹⁰⁵ Nordic Draft Convention, UNEP/WG.69/3, article 1 (1).

¹⁰⁶ In a slightly revised version; see recommendations of the Montevideo meeting, reprinted in 8 Environmental Policy & Law 1982, pp. 31-35.

¹⁰⁷ See Declaration of Principles, Report of the UN-Conference on the Human Environment, A/CONF.48/14/Rev.1, reprinted in 11 International Legal Materials 1972, pp. 1416-1421.

¹⁰⁸ The idea to base the projected convention on Principle 21 of the Declaration on the Environment for the first time expressly appeared in the document submitted by Finland and Sweden to the Montevideo meeting (1981); reprinted in UNEP/GC.10/5/Add.2/Annex/Appendix 1, para. 8.

¹⁰⁹ See report of the first meeting of the second session, UNEP/WG.78/8, para. 16.

¹¹⁰ Secretariat Draft Convention, UNEP/WG.78/2, article 2 (1), Alternative 2 (emphasis added). The formulation was borrowed from the Geneva Convention on Long-range Transboundary Air Pollution; see above, Chapter 3, pp. 118-121.

¹¹¹ See Secretariat Draft Convention, UNEP/WG.78/2, articles 2 (2) and (3), Alternatives 1 and 2.

dance with the provisions of the Convention¹¹² and future protocols in force for them to protect man and the environment against adverse effects due to modifications of the ozone layer. This proposal referred to the more specific obligations spelt out in the normative structure of the emerging international regime¹¹³. States were not compelled to do more than required by a faithful implementation of its norms. Accordingly, it was suggested that states should be obliged to cooperate in the formulation and adoption of protocols prescribing measures, procedures and standards¹¹⁴. A fourth alternative questioned whether human activity could modify the ozone layer at all¹¹⁵. The parties would only be obliged to cooperate for a common response to this question, while further action would be contingent upon an affirmative answer. Yet, international consensus had already developed beyond this extremely restrictive approach and the alternative was not discussed any further.

By the second meeting of the second session, the number of alternatives had been reduced from four to two, based on alternatives 1 and 3¹¹⁶. At that meeting, agreement was achieved on a qualification of the general obligation »relating to the means available to countries and their abilities«¹¹⁷. In the third session, the Working Group agreed on a text along the lines of the original alternative 3 which was, however, further specified by a number of sub-duties, including the duties to cooperate in research and monitoring, to adopt appropriate measures at the national level should it be found that certain activities had or were likely to have adverse effects on the ozone layer, and to cooperate in the formulation of agreed measures, procedures and standards with a view to the adoption of protocols and annexes¹¹⁸.

The text finally agreed upon constituted a carefully balanced set of general obligations including a certain duty to adopt unilateral measures in the absence of agreement on common action. It is, however, primarily directed at the development of the normative system of the international regime, i.e. at common agreement on international norms governing the issue-area. Without hampering the unilateral adoption of national policies and strategies, the primary focus of the regime is the progressive development of internationally accepted specific norms. This institutional approach enhances the relevance of the decision process of the regime. It thus entails an institutional result not immediately intended by either of the two camps of participants, neither by those urging for swift action nor by those rejecting such action.

112 Secretariat Draft Convention, UNEP/WG.78/2, article 2 (1), Alternative 3.

113 See the comment on the proposal in Secretariat Draft Convention, UNEP/WG.78/2, p. 12. »Alternatives 1 and 2 are more direct in binding States to apply control measures, whereas this alternative takes a more gradual approach«.

114 Secretariat Draft Convention, UNEP/WG.78/2, article 2 (3), Alternative 3. However, paragraph 4, virtually the content of Principle 21, re-introduced a 'hard' obligation and is therefore inconsistent with the approach as such.

115 See Secretariat Draft Convention, UNEP/WG.78/2, article 2 (1), Alternative 4.

116 See Revised Draft Convention, UNEP/WG.78/10, article 2 and commentary.

117 See report UNEP/WG.78/13, para. 27. This clause appears in the Convention as adopted in paragraph 2 of article 2. It was adopted at the request of the United States; see *ibid*.

118 See Fourth Revised Draft Convention, UNEP/WG.94/11, article 2, reflected in the Convention as adopted.

4. The Vienna Convention and Beyond

At the end of the third session of the Working Group, the draft convention was virtually finalized. All questions related to the substance of the matter had been settled. Only two comparatively minor but general political issues, namely the procedure to settle disputes and the conditions of the participation of the European Community remained open. In short, the instrument was ready for submission to the Governing Council of UNEP in spring 1984.

However, during the third session of the Working Group a second instrument increasingly moved into the centre of the negotiations. Initially proposed as an annex, later modified to the form of a protocol, this second instrument would spell out detailed obligations concerning the reduction of CFC emissions¹¹⁹. While the draft convention comprised the area of agreement in the issue-area of protection of the ozone layer among participants, the second instrument included major elements of disagreement. The group of countries promoting thorough international action, including the Nordic countries, Canada and the USA, favoured a combined adoption of both instruments. They attempted to exploit the dynamics generated during the preparations of the draft convention to force other participants still hesitating to accept international action, e.g. the European Community, Japan and the Soviet Union, to agree upon legally binding and effective measures. The former group succeeded in postponing the adoption of the convention for another year. The compromise between the two groups envisaged, however, that the diplomatic conference would be held in 1985 irrespective of the results of the negotiations. The Governing Council of UNEP invited the Working Group to continue the negotiations on a possible draft protocol. It also requested the UNEP Secretariat to arrange the diplomatic conference for the adoption of the convention and for the consideration of »a report from the Working Group concerning further work on a protocol«¹²⁰.

In March 1985, the Conference of Plenipotentiaries for the Protection of the Ozone Layer was convened in Vienna¹²¹. It was attended by 36 states and the European Community and was observed by seven states¹²². The Conference was dominated by the dispute about the second instrument beside the Convention, i.e. the draft protocol containing control measures. It was not able to bridge the diverging opinions between the two camps of countries¹²³. Yet it solved the two remaining questions which were of a general political nature and could well have precluded the adoption of the Convention.

¹¹⁹ On the negotiations, see below, Chapter 6, pp. 222-233.

¹²⁰ Decision 12/14 (1984) of the UNEP Governing Council; UNGA Official Records 1984, Suppl. 25, pp. 42-43.

¹²¹ March 18 - 22, 1985.

¹²² See Final Act of the Vienna Conference, paras. 3-5.

¹²³ See below, Chapter 6, pp. 233.

Concerning the settlement of disputes, most Western countries preferred some kind of compulsory jurisdiction of an international court or the compulsory submission of disputes to arbitration. Traditionally, the socialist and many developing countries refused such clauses and favoured a reference to negotiations or, at the most, to the facultative submission of disputes to third party adjudication. At the Vienna Conference, however, the United States vigorously refused any clause amounting to compulsory jurisdiction¹²⁴, thus allowing the Soviet Union and other socialist states to remain silent on the matter. The Conference finally agreed on a lengthy clause according to which parties in dispute about the interpretation and application of the Convention should settle their conflicts by negotiation or mediation. They could also at any time agree to submit questions arising from the Convention to the International Court of Justice or to an Arbitration Commission. Consequently, under the Convention as adopted third party dispute settlement is facultative and not compulsory. 15 Western countries and one developing country declared their regret at the absence of compulsory jurisdiction from the Vienna Convention «at the request of one party»¹²⁵. The declaration was made by countries from both camps, which had emerged in respect of the conflict over control measures¹²⁶ indicating that this conflict was not immediately linked to that over control measures. On the contrary, it was a principled conflict over political preferences, all the more since environmental disputes are rarely brought before international courts or arbitration commissions¹²⁷. Apparently, rapidly changing issue-areas require other ways to settle conflicts than third party application of existing law.

The other dispute was somewhat more important for the governance of the issue-area. As a matter of principle, the European Community desired to become a party to the Convention independently of its member states¹²⁸ as it had genuine competences in respect of the matter regulated by the Convention¹²⁹. Primarily the United States were opposed to accepting the EC position, not least in order to preclude loopholes that might arise from overlapping and unclear limitations of competences between the Community and its member states¹³⁰. However, once more the Community and its member states adopted a firm stand toward a satisfactory Community

124 The verdict of the International Court of Justice concerning jurisdiction in the Nicaragua case made the issue of compulsory jurisdiction a painfully sensitive matter for the United States. On the relationship between the Nicaragua judgement and the dispute settlement clause of the Vienna Convention; see *Sand*, The Vienna Convention is Adopted, p. 42.

125 See Declaration attached to the Final Act, p. 35, para. 1.

126 Countries declaring their regret were Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, West Germany, Italy, the Netherlands, New Zealand, Norway, Sweden, Switzerland and the United Kingdom; see Declaration attached to the Final Act, p. 35, para. 1.

127 See *Sand*, Lessons Learned in Global Environmental Governance, pp. 21-22.

128 See Communication from the Commission to the Council Concerning the Negotiations for a Global Framework Convention for the Protection of the Ozone Layer, COM (85) 8, 16 January 1985.

129 However, the claim was also part of the lasting struggle of the EC Commission for increased competences within the Community. The recognition of its competences at the international level would entail subsequent competences to implement the provisions internally; see *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, pp. 263-264.

130 See *Lang*, Diplomatie zwischen Ökonomie und Ökologie, p. 198.

participation clause and forced the other actors to accept this demand¹³¹. Community representatives were highly satisfied with the participation clause which for the first time¹³² in a 'mixed agreement'¹³³ did not make Community participation contingent on the participation of *any* of its member states. However, the Community was obliged to specify in its instrument of ratification the extent of its competences¹³⁴.

Upon settlement of these two questions, the Conference adopted the Vienna Convention for the Protection of the Ozone Layer. The instrument was immediately signed by 20 countries and the European Community. Signatories included most major suppliers and consumers of CFCs¹³⁵.

The significance of the Vienna Convention was not primarily related to its obligations concerning cooperation, exchange of information and joint research. It is true that figures about emissions of ozone depleting substances are crucial for the modelling of trends of ozone depletion and that their availability was so far severely constrained. An obligation to provide the required data¹³⁶ would thus facilitate research¹³⁷. However, the establishment of the subject of the protection of the ozone layer as a permanent issue on the international agenda was by far more important. Under the Convention a permanent deliberation process would be institutionalized to facilitate initiatives for the adoption of substantive norms¹³⁸. It requires a continuing international appraisal of the state of scientific knowledge relevant to the issue-area and a permanent re-consideration of the appropriateness of measures adopted to protect the ozone layer¹³⁹. Contrary to the Geneva Convention on Long-range Transboundary Air Pollution, the Vienna Convention contained clauses on the

131 Similar incidents were the signature of the Final Act of the Conference on Security and Cooperation in Europe, see above, Chapter 2, pp. 80-81, and the signature of the Geneva Convention on Long-range Transboundary Air Pollution, above, Chapter 3, pp. 124-128.

132 See *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, p. 264.

133 An agreement is 'mixed' when the Community has exclusive competences in some fields, while its member states retain competences in other fields.

134 On the difficulty of delimitating the extent of Community competences, see *Temple-Lang*, The Ozone Layer Convention, pp. 160-163. These difficulties arise from the fact that the delimitation is subject to gradual development and that both sides, i.e. the Commission and its member states, are not always interested in clearly identifying their respective competences.

135 Signatories included the United States, most member countries of the European Community and the Soviet Union, but no other socialist country and not Japan. Austria and the United Kingdom signed later in 1985. The Convention entered into force September 22, 1988. As of December 31, 1991, it was in force for 79 countries and the European Community.

136 Supply of data is provided for in Annex II of the Convention.

137 This fact is emphasized by *Sand*, The Vienna Convention is Adopted, p. 41; and by *Benedick*, Ozone Diplomacy, p. 45.

138 *Müller*, Das internationale Regime zum Schutz der Ozonschicht, p. 430, speaks of regime establishment as an 'institutionalization of environmental protection as a norm-generating process'. *Brunnée*, Acid Rain and Ozone Layer Depletion, pp. 265-268, calls it a pragmatic 'management approach'. See also *Faries*, Clearing the Air, p. 829.

139 *Benedick*, Ozone Diplomacy, p. 46, reports that the US administration discussed in the last minute withholding the authority to sign the Convention, precisely because of the dynamics inherent in the process launched (and not because of the provisions regulating the process), even though the United States had pressed for the simultaneous adoption of the Convention and a protocol.

adoption and amendment of protocols and thus expressly envisaged the future extension of the legal framework of the international regime.

As in the case of long-range transboundary air pollution¹⁴⁰, the adoption of the framework convention did not at all meet the claims of the countries having initiated the deliberation process. The perspective of these countries to achieve agreement on more favourable terms in later stages rested on the process component. They pressed, therefore, for an interim mechanism with the sole purpose of securing an uninterrupted process of international deliberations among actors. Once it had become clear that the prepared draft protocol could not be adopted at the Vienna Conference, the United States and other countries favouring the adoption of a protocol proposed as a fall back compromise to continue the negotiations on the instrument with a clear target date for its adoption¹⁴¹. In a Resolution, the parties attending the Conference stated that they were »determined ... to continue negotiations on the development of a protocol to control equitably global production, emissions and use of CFCs«¹⁴². For this purpose they requested the Executive Secretary of UNEP to convene a new Working Group with a clear mandate¹⁴³. In contrast to the international regime on long-range transboundary air pollution, the interim mechanism was directed at *negotiating a new legal instrument*. For this reason and for reasons of practicability, the form of an ad hoc Working Group within the framework of UNEP (instead of an interim conference of the parties) was chosen. In essence, however, in both cases the conferences adopting the framework conventions decided to continue the respective deliberation processes prior to the formal entry into force of the legal instruments.

5. Conclusion

During the regime formation phase, a number of interrelated claims were submitted. In a first step, the Governing Council of UNEP as a multi-purpose body was concerned with an initiative to control CFC emissions. It reacted to this claim in its resolution of 1980 recommending certain action by governments, but the sole reliance on occasional decisions of a multi-purpose body did not prove to be sufficiently effective. The Nordic initiative of 1981 to launch a permanent process of deliberations about appropriate measures to protect the ozone layer and to adopt a framework convention for this purpose was of a different nature. It did not immediately focus on substantive regulations but was intended to establish a process of deliberations and decision-making about such substantive regulations. The broad outline of the framework convention as proposed by the Nordic countries and as adopted by the Vienna Conference in 1985 was not designed to have an immediate

140 See above, Chapter 3, pp. 106-128.

141 See *Benedick*, *Ozone Diplomacy*, p. 45; *Sand*, *The Vienna Convention is Adopted*, p. 41.

142 See Resolution on a Protocol Concerning Chlorofluorocarbons; Final Act of the Vienna Conference, UNEP/IC.53/5/Rev.1; reprinted in *International Legal Materials* 26 (1987), pp. 1520-1523.

143 On other provisions of the Resolution, see below, Chapter 6, pp. 233-234..

impact on the state of the ozone layer. It was intended to have an immediate impact on the making of internationally authoritative decisions about coordinated action to protect the ozone layer. Hence, its focus was a constitutive and not a substantive one. However, during the negotiations another claim re-linked the constitutive initiative to facilitate the process of decision-making with an initiative for preliminary substantive decisions about control measures.

By 1985 it had been widely agreed among the participants that the task of protecting the ozone layer required continued international observation and a machinery for the making of policy decisions. This agreement entered the Vienna Convention. Accordingly, the claim with a constitutional focus was entirely successful. The Vienna Conference of 1985 made also clear that agreement on appropriate policy responses to an identified environmental risk, and even agreement on the nature of the risk, had not been achieved. Yet, the community of actors agreed to continue the process on an interim basis to achieve this agreement within a new round of negotiations, even though the initial positions differed widely and the eventual contract zone was not clear. Hence, the additional claim with a substantive focus was rejected on an interim basis, but the possibility of compromise in the future was not excluded. Instead of a decision on substance, another decision on *constitutive arrangements*, i.e. on the way of decision-making, was adopted.

To conclude, decisions made at the Vienna Conference of 1985, reflected in the Vienna Convention and a related Resolution, were almost entirely of procedural relevance. The subject at stake was placed on the international agenda on a permanent basis and procedures for the making of substantive decisions had been agreed upon.

Chapter 6

Toward Agreement on Substance: The Montreal Protocol

The Nordic initiative to establish an international regime for the protection of the ozone layer was not confined to its constitutive component. Evidently the environmental end of the initiative was the achievement of a substantive agreement among participating actors upon internationally coordinated action to control emissions of ozone depleting substances. The first round of the negotiations on a protocol accompanying the framework convention was conducted simultaneously to the negotiations on the convention by the same Working Group. However, decisive decisions could only be taken after the adoption of the Convention.

This chapter explores the negotiations on a protocol to the Vienna Convention spelling out detailed obligations concerning control measures.

1. First Steps toward a Protocol

At the time of the first session of the Working Group for the negotiation of a framework convention established by the UNEP Governing Council¹, the Co-ordinating Committee on the Ozone Layer (CCOL) and the UNEP Secretariat provided the following scientific and technological information². The CCOL reported that a significant decrease of the total column of ozone had not been observed so far. On the contrary, in the troposphere (2-8 km above ground level) concentrations of ozone had *increased*. In combination, however, these two findings suggested that the concentration of stratospheric ozone (10-50 km above ground level) might have decreased³. Predictions of future trends were still considered to be vague due to a number of factors, including the non-availability of production figures for ozone-depleting substances other than the CFCs 11 and 12⁴. These two substances alone were, however, believed to cause a depletion of the ozone layer of about 5 to 10 per cent when continued to be emitted at 1977 levels⁵. Other ozone-depleting substances were calculated to enhance this rate by about one third, but reactions with other trace gases (N₂O, CO₂) posed considerable difficulties for the calculation⁶. In addition to the anticipated ozone depleting effect, significant distortions within the vertical distribution of ozone were expected to have a major impact on climatic change.

1 January 20 - 28, 1982.

2 Note that both sources do not conduct independent research but are almost exclusively collecting information produced elsewhere, in particular by national agencies and by non-governmental organizations. Nevertheless, information input from these sources had a significantly higher authority than knowledge submitted by participants of the negotiations.

3 See CCOL: An Environmental Assessment of Ozone Layer Depletion; UNEP/WG.69/6, paras. 11-15.

4 These figures did not exist so far, see UNEP/WG.69/5, para. 22.

5 See UNEP/WG.69/5, para. 30.

6 See UNEP/WG.69/5, para. 33.

The report notes that the trust in the reliability of these model calculations was rather mixed⁷.

Emission figures of CFCs showed two contradicting trends. While the aggregate production and emission of CFCs had considerably decreased since the mid-1970s, these reductions were exclusively the result of a decrease in the aerosol sector. All other uses, such as refrigerating and foam blowing, had considerably *increased* at the same time. By 1981, the trend of aggregate CFC figures was at the brink of changing from an overall decrease into an overall increase⁸. The production of the most important CFCs 11 and 12 was not confined any more to the two major producers, i.e. the European Community and the United States. According to the UNEP Secretariat, 27 countries were believed to produce CFCs, seven of which were considered to be net exporters⁹. It seemed therefore to be clear that an international regulation could not be confined to the two most important participants in the issue-area.

1.1. *The Nordic Initiative*

The initiative for a framework convention submitted by some Nordic countries as early as 1981 was not in the first place directed at the establishment of a device for the peaceful management of conflicts in a newly emerging issue-area. It was directed at the implementation of a policy for the protection of the endangered ozone layer that focused on internationally agreed action toward a reduction of the incriminated substances, in particular of a number of CFCs. Deliberations about possible control measures were not beyond the task of the Working Group. Its mandate stated that the Governing Council recognized »the desirability of initiating work aimed at the elaboration of a framework convention which would cover ... the development of appropriate strategies and policies«¹⁰.

At its first session, the Working Group was faced with the Nordic Draft Convention. It was also informed that an informal group had already discussed the content of possible annexes and/or protocols »based on measures already being implemented in some countries«¹¹. Since proposals were not submitted, a discussion of these informal considerations did not ensue. They indicated, however, the direction in which the group of initiating countries was about to proceed. Apparently, they also formed the basis of a compilation of options for action elaborated by the UNEP

7 See UNEP/WG.69/5, para. 42.

8 See note submitted by the Secretariat to the first session of the Working Group, UNEP/WG.69/5, pp. 12-13.

9 See note by the Secretariat, UNEP/WG.69/5, para. 31. These countries were Argentina, Australia, Belgium, Brazil, Canada, China, Czechoslovakia, West Germany, France, East Germany, Greece, India, Israel, Italy, Japan, Mexico, the Netherlands, Poland, Romania, South Africa, Spain, Sweden, Switzerland, the UK, the USA, the USSR and Venezuela (net exporters marked with an asterisk). For the list, see also Engelmann, A Look at some Issues before an Ozone Convention, p. 53.

10 Decision 9/13B, preambular para. 5, UNGA Official Records 1981, Suppl. 25, pp. 118-119. However, as outlined above, Chapter 5, pp. 200-201, the Governing Council had not at all decided that negotiations about specific control measures should be commenced.

11 Report of the first session, UNEP/WG.69/10, para. 27.

Secretariat in preparation for the second session of the Working Group¹². The paper noted that »some countries may be willing to adopt and ratify a protocol on the control of CFC production and/or use«¹³ and listed possible approaches to internationally agreed control measures, including (a) a reduction of the use of CFCs in aerosols (i.e. the use as a propellant in spray cans) by 30 % as implemented by the European Community, (b) a reduction of that use by 60-90 % as adopted by Canada, Sweden and the United States, (c) a production capacity limit as adopted by the European Community which would allow increases in sophisticated uses conditional upon a limitation of the aerosol use after an exhaustion of the available production capacity, and (d) a limit of actual production¹⁴.

While at the first meeting of the second session of the Working Group¹⁵ serious negotiations on the framework convention were well under way, the Nordic countries had gathered some support for their initiative to conduct parallel negotiations on control measures. A number of countries, including Switzerland, West Germany and the Netherlands, suggested preparing an annex containing a list of substances with possible adverse effects on the ozone layer »and a programme for limiting, reducing and/or preventing one or more activities which have or are likely to have adverse effects on the ozone layer«¹⁶. Similar to two envisaged technical annexes (or protocols) on research and monitoring and on scientific and technological cooperation which were related to the articles three and four of the framework convention, the third instrument would specify the basic obligation of article two. The paper suggested three elements for the third annex or protocol, namely (a) a list of relevant substances, (b) a list of activities resulting in the emission of such substances, and (c) a programme to limit, reduce and/or prevent one or more of the items mentioned¹⁷.

Yet, the initiative failed to succeed. The Secretariat was entrusted with the preparation of a document on the envisaged annexes or protocols to articles 3 and 4 of the convention concerning research and monitoring as well as scientific and technological cooperation. From the proposal concerning the third annex, only the suggested

12 Responding to the recommendations of the Working Group to the Governing Council, UNEP/WG.69/10, para. 36, that were approved by the Governing Council at its 1982 session, see Decision 10/17, para 2, UNGA Official Records 1982, Suppl. 25, pp. 103-104.

13 'Alternative Structures and Formats for Technical Annexes and/or Protocols to the Draft Convention for the Protection of the Ozone Layer', UNEP/WG.78/3, para. 25.

14 See UNEP/WG.78/3, para. 26. As other possible options the paper suggested (e) a conversion of automotive air conditioning to less ozone depleting but more expensive substances (e.g. CFC-22), (f) a reduction of the use of CFCs in flexible foams inter alia by recycling, (g) a reduction of the use of CFCs in rigid foams by conversion to Pentane which was cheaper than CFC but flammable and required investment in explosion-proof technology.

15 December 10 - 17, 1982.

16 'Conclusions of Proposals for Dealing with the Problem of Annexes and/or Protocols to the Convention', UNEP/WG.78/CRP.10, submitted by Finland, West Germany, Kuwait, the Netherlands, Norway, Sweden, Switzerland. The initiating group of countries was supported at the session by Australia and Canada, see Heimsoeth, *The Protection of the Ozone Layer*, p. 35.

17 The three instruments should be prepared by informal working groups, see UNEP/WG.78/CRP.10. Countries were invited to take the role of 'lead countries', thus transferring the ECE system for technical preparations to the ozone negotiations.

list of relevant chemical substances was included in the mandate¹⁸. The Working Group did not agree on further action in respect of control measures. A number of delegations regretted this decision and considered presenting further proposals on the subject¹⁹.

Accordingly, at the end of the meeting the proposal for the parallel deliberation of control measures had not left the stage of agenda setting. The Working Group was still not prepared to search for a possible consensus. It was not even prepared to address the issue. The group of countries advocating parallel negotiations included two member states of the European Community, namely West Germany and the Netherlands, even though the Environment Council of the European Community had decided in November 1982 that measures additional to those already adopted were not required until 1985²⁰. The United States remained silent, if not hostile, toward the entire exercise²¹.

Against this backdrop, three Nordic countries submitted a draft 'Annex Concerning Measures to Control, Limit and Reduce the Use and Emissions of Fully Halogenated Chlorofluorocarbons (CFCs) for the Protection of the Ozone Layer'²². It was a short document of a single typed page in length and comprised three articles. According to this proposal, the contracting parties would be committed to take «all appropriate measures to end the use of CFC-11 and CFC-12 in aerosol cans, except for essential uses»²³. The parties should themselves decide on a target date to achieve this end and on the uses which they considered essential. Information on both aspects would be circulated among the contracting parties²⁴. Second, parties should agree upon and implement measures to control, limit and reduce the use of CFCs in other sectors, in particular concerning foam plastic, refrigeration and solvents, according to the best available technology. Third, they should provide the secretariat with relevant figures on the production and consumption of CFCs. The Draft Annex adopted the concept to limit 'non-essential' uses of CFCs. Several countries had already enacted and implemented an almost complete ban on the use of CFCs in aerosols. The number of 'essential uses' in this field was therefore

18 See report UNEP/WG.78/8, para. 41.

19 See report UNEP/WG.78/8, para. 42.

20 See Decision 82/795/EEC (15.11.82), Official Journal, L 325. The decision was adopted not least at the insistence of the British government prior to the first meeting, see *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, p. 263.

21 See *Szell*, Negotiations on Ozone Layer Depletion, and *Williams*, Legal Problems Arising from the Protection of the Ozone Layer, p. 131. During the second session of the Working Group, the United States still focused on the facilitation of research, monitoring and exchange of information, see in this regard the US proposals on the two envisaged technical annexes, UNEP/WG.78/11. *Heimsoeth*, The Protection of the Ozone Layer, p. 35, lists the USA, the UK, France and Japan among the countries which accepted a framework convention (only) under the condition that it was sufficiently flexible to avoid the danger of socio-economic consequences. On the alignment of countries during the first session of the Working Group see *Europe Environment*, No 156/1982.

22 See UNEP/WG.78/11, p. 11, submitted by Finland, Norway and Sweden and circulated before the second meeting; reprinted in *Environmental Policy & Law* 11 (1983), p. 81.

23 Draft Annex, article 1.

24 The initial Nordic concept was thus not based on mandatory obligations but on a 'pledge and review' practice implying a self-assessment by individual actors of their capabilities to act. On this approach with a view to the negotiations on the establishment of an international regime on global climate change, see *Royal Institute of International Affairs*, Pledge and Review Processes.

expected to be low. Regarding other uses, technology had to be developed and the process of substitution was expected to last for a longer period.

At the second meeting of the second session²⁵, the Working Group accepted that the Swedish delegation should present the Draft Annex²⁶. A short general debate ensued on the appropriateness of the proposal as a basis for discussion and the necessity of discussing control measures at all²⁷. The denial of the urgency to act rapidly was supported by the fact that the CCOL in its 1983 report adjusted its calculation of the expected ozone depletion from CFCs 11 and 12 downwards²⁸. It had assumed a depletion of 5-10 per cent in the year before and now adjusted the figure to a mere 3-5 per cent²⁹ for continued CFC releases at 1977 levels³⁰. Nevertheless, the Working Group agreed to recommend that the Governing Council supervising the negotiations should invite governments to comment on the Nordic draft³¹.

At the end of the second session, the issue of control measures was thus placed on the agenda of the Working Group. As long as priority was attached to the negotiations on the convention, there was no urgency to develop a decisive position. Now the participating governments were faced with a specific proposal on which they had to react. Simply remaining silent threatened to sacrifice options for future action if the negotiation process proceeded and settled issue after issue. Given the state of affairs within the Working Group, a call for comments could be expected to lead to widened support for the relevance of the issue (but not necessarily for the approach proposed by the Nordic countries).

1.2. A Draft Protocol Emerges

The Secretariat distributed the Nordic proposal for an annex concerning control measures³² and received a number of responses. The European Community referred to the measures already adopted unilaterally, including a 30 % cut in the use of CFCs as aerosols calculated on the basis of 1976 levels, and a production capacity cap. The Community also referred to the 1982 decision of its Environment Council that further action was not required in the light of unreliable scientific evidence. It emphasized that the Working Group should attach priority to the discussion of the framework convention and the two annexes on research and information transfer³³. Some member countries of the Community, including Belgium³⁴, Italy³⁵ and the

²⁵ April 11 - 15, 1983.

²⁶ See report UNEP/WG.78/13, para. 17.

²⁷ See report UNEP/WG.78/13, paras. 18-19.

²⁸ Szell, The Vienna Convention for the Protection of the Ozone Layer, p. 40, argues that the hesitation of the EC «was vindicated» by these scientific findings.

²⁹ See Executive Summary of the Recommendations of the Sixth Session of CCOL, UNEP/WG.78/12, para. 2.

³⁰ The Working Group agreed that the report of the sixth session of CCOL be taken as the scientific foundation of its work, see Environmental Policy & Law 11 (1983), p. 58.

³¹ See report UNEP/WG.78/13, para. 36.

³² Letter dated 14 July 1983, inviting comments until August 15, 1983, see UNEP/WG.94/4, para. 2.

³³ See UNEP/WG.94/4/Add.4.

³⁴ See UNEP/WG.94/4/Add.1, p. 2.

United Kingdom³⁶ emphasized that measures exceeding Community action lacked urgency and should be postponed. Japan opposed internationally agreed measures in even stricter terms. The Japanese government stated that it was «of the opinion that, at present, the fact of change in the ozone layer, identification of the substances causing such change, and the mechanism of destruction of the ozone layer have not yet been scientifically established. It is, therefore, not appropriate to impose on countries *any legal obligation*» in this regard³⁷.

While these objections did not focus on specific elements of the proposal but on the general appropriateness of its discussion, countries supporting the adoption of internationally agreed control measures made more specific comments. Canada observed that it would prefer a more flexible approach to the use of CFCs in aerosols which would not restrict its use altogether with only minor exceptions but which banned a number of selected major uses with a minimum of inconvenience and administrative burden. Countries could be permitted to substitute their obligations in the field of aerosol uses with reductions in other fields. Moreover, Canada was of the view that controlling non-aerosol uses was 'premature' but could become the subject of a future annex or protocol³⁸. Switzerland argued along the same lines³⁹. New Zealand agreed to the strict formula on aerosols but considered the control of non-aerosols to be of «doubtful value as we are unaware of any practicable technologies, existing or foreseeable, which could be used to limit emissions from plastic foams or refrigeration»⁴⁰. Denmark supported the proposal, while the Netherlands suggested a number of drafting changes⁴¹. Hence it appeared that countries favouring control measures generally focused on restrictions of the aerosol use of CFCs, while cautioning that addressing non-aerosol uses was premature.

So far, the distribution of the two camps was largely unchanged from previous sessions. Several smaller highly industrialized Western countries favoured control measures of a slightly differing kind, while a number of larger Western industrialized countries were reluctant to adopt measures interfering with their economies. A dramatic change in the situation, however, occurred as a consequence of a reconsideration of the policy toward the protection of the ozone layer by one of the two giants. Despite prevailing scientific uncertainty, the US government now believed⁴²

35 See UNEP/WG.94/4/Add.1, p. 3.

36 See UNEP/WG.94/4/Add.1, p. 5. The British comment was drafted in rather strong and undiplomatic wording. It stated that the British government «believes the Nordic proposal is unnecessary and unsound». It «hopes ... that the proposer of the draft annex will be persuaded to withdraw».

37 UNEP/WG.94/4/Add.1, p. 3 (emphasis added).

38 See UNEP/WG.94/4/Add.1, p. 2.

39 See UNEP/WG.94/4/Add.1, p. 4.

40 See UNEP/WG.94/4/Add.1, p. 4.

41 See UNEP/WG.94/4/Add.1, pp. 3-4.

42 The re-assessment of the position of the United States government was related to a change at the top of the Environmental Protection Agency (EPA), see *Morrisette*, *The Evolution of Policy Responses*, p. 809; and *Doniger*, *Politics of the Ozone Layer*, pp. 86-87. It did not imply an immediate re-consideration of the domestic regulation, but the EPA faced a law-suit of the Natural Resources Defense Council designed to force the Agency to use its margin of action under the Clean Air Act, see *Morrisette*, *ibid.*, p. 810. Against this backdrop it was reasonable to ensure that comparatively tight domestic regulations were accompanied by strengthened

that »there is significant cause for concern regarding the effects of world-wide emissions of CFCs«⁴³. Therefore, the United States supported cost-effective steps for appropriate measures. The substitution of non-essential uses of CFCs for which generally alternatives existed constituted a rational first step in this regard. The Working Group should therefore proceed with discussions of a protocol on such measures parallel to the negotiations on a framework convention. The United States supported the Nordic proposal for a ban of non-essential aerosol uses of CFCs except for some details concerning the timing of the controls, reporting requirements, and technical assistance. Moreover, the USA suggested including the possibility of substituting obligations concerning the reduction of aerosol uses with an equally high reduction of non-aerosol uses. It did not support, however, an international control of non-aerosol uses at the present time. Like some other states, the United States believed that control measures had to be codified in a protocol and not in an annex, but a protocol should be an integral part of the convention, i.e. it should be mandatory to contracting parties of the convention. This change of sides by the United States modified the situation profoundly. The group of states preferring rapid deliberations on control measures was not only diplomatically active, it became truly relevant in both the issue-area of the protection of the ozone layer and in the market for CFCs.

During the first meeting of the third session⁴⁴ the Nordic countries modified their initiative. They announced that they accepted the codification of the proposed control measures in the form of a protocol and not, as previously envisaged, in an annex⁴⁵ and submitted a revised text⁴⁶. The new draft comprised a preamble and seven articles. Its basic approach to the obligation of banning aerosol uses of CFCs remained fairly unchanged. The contracting parties should still fix their own target dates and establish their own lists of essential uses. In addition they were free to continue to allow aerosol uses that they considered 'insignificant' in terms of the total quantities of CFCs released. Information would be communicated to the secretariat of the regime. To meet the demand of Canada and the United States, countries should be allowed to substitute required reductions of CFCs in the field of aerosols by an equal amount of decrease in other sectors. The original obligation on non-aerosol uses was considerably relaxed. States would only be obliged to 'endeavour' to prevent reductions in the aerosol sector being outweighed by increases in other sectors. For this purpose, they should commit themselves to 'promoting' the application of the best available technology. Generally, parties

international control; see *Benedick, Ozone Diplomacy*, p. 42. On the United States' internal dispute, see also *Roan, Ozone Crisis*, pp. 114-115.

43 UNEP/WG.94/4/Add.3.

44 October 17 - 23, 1983.

45 See report, UNEP/WG.94/5, para. 9.

46 See report UNEP/WG.94/5, para. 41. The text is reprinted in UNEP/WG.94/9. The Swedish delegation stated that 19 delegations had been consulted in the course of the preparations of the draft to overcome obstacles as far as possible, see *ibid.*, para. 45.

should endeavour to assist each other in the implementation of control measures and to provide assistance to developing countries to enable them to join the protocol⁴⁷.

The revised text addressed in a first brief clause an independent institutional framework of the protocol: »For the purpose of the implementation of this Protocol, meetings of the Parties may be held in conjunction with the regular meetings« of the Conference of the parties to the Convention⁴⁸. As long as the protocol was designed to be mandatory for parties to the convention, this clause had only an organizational impact since the groups of contracting parties to the two instruments necessarily coincided. But once acceptance of the protocol became facultative, the two communities of contracting parties would comprise different memberships, and the two conferences would become fundamentally distinct policy-making organs. Yet, so far the revised Nordic draft was submitted as a mandatory protocol.

After an exchange of views on the appropriateness of a parallel discussion of the draft convention and the submitted draft protocol, the Nordic countries officially presented their modified proposal for a protocol⁴⁹. The Working Group did not, however, discuss the proposal in detail. On the contrary, it agreed merely to provide the participating and other countries another opportunity for comments on the draft until the following meeting⁵⁰.

1.3. No Reconciliation of Positions

The postponement of the debate did not facilitate a general consensus on the appropriateness of parallel negotiations on the framework convention and the protocol. Instead, the conflict reappeared⁵¹ in the second meeting of the third session⁵². Nevertheless, the Working Group decided to consider the Draft Protocol article by article, without a preceding general debate⁵³. It established an informal drafting group with the original purpose of reconciling diverging views on particular articles of the draft⁵⁴, but the group merely listed the different options⁵⁵.

The preamble of the emerging draft was weakened in its general policy direction by amendments and by the introduction of new clauses. It addressed the uncertainty of scientific knowledge concerning the anticipated development of the ozone layer and possible sources of modifications, the burden to be born by societies in relation to the time schedule of possible control measures, the differing degree of necessity for

47 See article 5 of the proposal, UNEP/WG.94/9. This clause could, however, also be introduced into the main body of the Convention; see Norwegian explanation, UNEP/WG.94/5, para. 46.

48 Article 6 of the proposal, UNEP/WG.94/9.

49 See report UNEP/WG.94/5, paras. 41-46.

50 See report UNEP/WG.94/5, para. 47. France objected formally to any discussion of the protocol in the Working Group which was not mandated for this exercise, see *ibid.*, para. 53.

51 See report UNEP/WG.94/10, para. 44. The Working Group was »more or less evenly divided« on the question of whether or not the elaboration of a protocol was premature, see *ibid.*, para. 59.

52 January 16 - 20, 1984.

53 See report UNEP/WG.94/10, paras. 45-58.

54 See report UNEP/WG.94/10, para. 61.

55 See Second Revised Draft Protocol, UNEP/WG.94/12.

action to be undertaken by different states, and the cost-effectiveness and prudence of taking precautionary measures to avoid unnecessary emissions of CFCs.

The general obligations comprised three alternative versions. Alternative one reflected the original Nordic proposal directed at a ban of aerosol uses of CFCs except for essential uses. According to a second proposal of that alternative, countries had the twin-option of either banning aerosol uses except for essential uses *or* identifying selected significant uses, provided they achieved a minimum amount of reduction calculated on the basis of the aggregate use in a given base year. Alternative one thus reflected the approach of an enlarged initiating group, including the Nordic countries, Canada and the United States, and comprised measures already adopted by these countries⁵⁶.

Alternative two would commit parties to much less stringent measures. The parties should take all appropriate measures to *progressively reduce* the use of CFC-11 and CFC-12 in aerosol products. After a certain number of years following the entry into force of the protocol, each party should achieve a reduction of such uses by at least 30 % from its maximum use in any year previous of the entry into force of the protocol. Every three years the parties would decide on such measures as they deemed necessary. This alternative apparently reflected precisely the position of the European Community and most of its member states⁵⁷. The Community and its member states had already committed themselves to a reduction of aerosol uses by 30 % from 1976 levels by 1982. Hence, they did not flatly reject the project of a binding protocol on control measures any more but were still not prepared to accept control measures additional to those already in force. They occupied a centre position between the enlarged group of initiating countries on the one hand and the group of countries rejecting any internationally agreed control strategy on the other hand. The Community position comprised an institutional element, which gained overwhelming relevance in the further development. As early as the third session of the Working Group, the Community suggested a regular revision of the appropriateness of the control measures adopted. The clause proposed was not very sophisticated, but it added another element to the moulding of a continuing process which later accelerated dramatically.

The third alternative constituted a true multi-optional solution and combined the alternatives one and two. It provided for either an elimination of aerosol uses of CFCs except for essential uses, or an elimination of specific aerosol uses of CFCs, or a reduction of aerosol uses of CFCs by 30 % of the previous maximum use, or (as an additional option) a reduction of CFCs which was not confined to aerosol uses. This alternative, drafted in rather unspecific wording, opened four options for

⁵⁶ Even these countries were thus not prepared to go beyond their existing (however comparatively far-reaching) domestic legislation, see *Benedick*, *Ozone Diplomacy*, p. 44; *Sand*, *The Vienna Convention is Adopted*, p. 41.

⁵⁷ West Germany, having re-aligned with the Nordic countries in the second session of the Working Group, now favoured a step-by-step approach attaching priority to the convention and subsequent negotiations on the protocol according to procedures provided for in the Convention, see comment on the Fourth Revised Draft Convention and Second Revised Draft Protocol, UNEP/WG.110/2, p. 3. Denmark and the Netherlands were considered to be more flexible, see *Sand*, *The Vienna Convention is Adopted*, p. 41.

the parties to choose from. As a minimum basis, it should have been acceptable to both the European Community countries and the enlarged initiative group. It did not envisage more stringent measures for the protection of the ozone layer than already existed and would merely codify unilaterally adopted measures in an internationally binding form.

As another significant modification of the previous version, the Second Revised Draft Protocol contained a new article II ~~his~~ which provided for a production capacity cap for CFC-11 and CFC-12 and thus reflected another element of the measures adopted unilaterally by the European Community.

Hence, at the end of the third session of the Working Group the initiating countries had effectively launched serious and detailed deliberations of the protocol, although the general resistance against the topic was not fully overcome. The topic had left the preliminary stage of a mere initiative of interested countries. At the same time, the Working Group had virtually terminated work on the draft convention with two exceptions involving disputes of a political quality⁵⁸.

The enlarged group of initiating countries advocated therefore at the 1984 session of the UNEP Governing Council postponing the envisaged diplomatic conference for the adoption of the Convention by another year. This step, approved by the UNEP Governing Council⁵⁹, allowed the scheduling of another two negotiating meetings and thus enhanced the possibility of a simultaneous adoption of the framework convention and the protocol on control measures. Subsequently, the enlarged group of initiators met in Toronto to hammer out a fresh approach toward meaningful control measures. For the following meeting, the 'Toronto-group'⁶⁰ submitted a new, multi-optional approach⁶¹.

The Toronto-group attempted to force the European countries, the USSR and Japan to cut back the non-essential uses of CFCs as already done by the North American and Nordic states. Yet, the degree of flexibility of their approach was enhanced to meet the specific conditions of the different countries. The parties to the protocol should either accept a step-by-step approach ensuring that within two years their use of CFCs in aerosols did not exceed 60 % of their maximum use (i.e. 40 % reduction), that within four years their use of CFCs in aerosols did not exceed 20 % of their maximum uses (i.e. 80 % reduction), and that within six years their total annual use *and export* to non-members⁶² of CFCs in aerosols did not exceed 20 % of their maximum use. The parties could also choose to prohibit within four years all but essential uses of CFCs in aerosols and within six years all but essential

58 See above, Chapter 5, p. 215.

59 See Decision 12/14 (1984); UNGA Official Records 1984, Suppl. 25, pp. 42-44.

60 *Sand*, The Vienna Convention is adopted, p. 41, mentions beside the five members of the Toronto-group, namely Finland, Sweden, Norway, Canada and the United States, three countries that were considered to be sympathetic with the group, namely Australia, Austria and Switzerland.

61 See Revised text submitted by Canada, Norway, Sweden and the United States, UNEP/WG.110/CRP.1.

62 Apparently, the conference room paper version of this document (UNEP/WG.110/CRP.1) reflects this third condition incorrectly, since the reference to exports is lacking and conditions two and three have the same wording. The Third Revised Draft Protocol (UNEP/WG.110/4/Annex IV) which fully reflects these two Toronto-options for article II, appears to be the more reliable source in this regard.

exports of CFCs in aerosols. This proposal of the Toronto group provided the parties with two different options to address the problem of significant reductions of non-essential uses of CFCs in aerosols. Moreover, for the first time it addressed the issue of exports of CFCs in aerosols to non-parties of the protocol⁶³.

The proposal of the Toronto-group adopted the suggestion of a regular review of control measures and re-arranged the auxiliary duties as to the reporting of information, research and development in respect of non-aerosol uses of CFCs as well as concerning technical assistance. It envisaged the adoption of a facultative protocol and sacrificed the idea of an instrument mandatory for parties to the convention⁶⁴. As a consequence, membership of the two instruments would not necessarily be identical. Accordingly, the meeting of the parties to the protocol was enhanced to the level of a veritable new permanent organ of the emerging international regime. Its principal functions were the review of the implementation of the protocol and the consideration of proposals for the revision of the control measures in force as well as of amendments of the protocol itself. The new decision-making body would have to be serviced by a secretariat. Apparently, the secretariat of the protocol was considered to be identical with the secretariat to be established under the convention.

At its first meeting of the fourth session⁶⁵, the Working Group was faced with two alternative working documents, namely the text elaborated by the informal drafting group at the previous meeting⁶⁶ and the text submitted by the Toronto group⁶⁷. For the first time, the Working Group had a clear mandate »to continue to elaborate a possible draft protocol concerning control of chlorofluorocarbons«⁶⁸ which precluded further discussions on the appropriateness of negotiations on the protocol. The majority of participating delegations preferred the proposal of the Toronto-group as the basis for negotiations⁶⁹, but the basic obligation proposed by the Toronto-states faced considerable resistance. A reduction of CFC consumption in the aerosol sector by 80 % within four years was considered by countries without thorough control measures to involve unnecessary high costs, while others argued that in their countries the necessary conversion had been achieved without major economic disturbances⁷⁰. The European Community proposal for a production capacity cap was likewise not agreed. It was considered as an empty obligation, since in the European Community production capacity was only exhausted by two thirds thus allowing a further *increase* of production by 50 % from actual production

63 Exports to member countries of the regime would be subject of control by the importing country.

64 At the end of the third session it was clear that any protocol would be facultative for parties to the convention, see article 13 of the Fourth Revised Draft Convention, UNEP/WG.94/11, compiled subsequent to the second meeting of that session.

65 October 22 - 26, 1984.

66 See UNEP/WG.94/12.

67 See UNEP/WG.110/CRP.1.

68 Governing Council Decision 12/14 (1984), para. 3, UNGA Official Records 1984, Suppl. 25, pp. 42-44.

69 See report UNEP/WG.110/4, para. 24.

70 See report UNEP/WG.110/4, para. 25.

figures. Moreover, the measure would fix the current distribution of production capacity and thus disadvantage countries producing close to their capacity limits⁷¹.

In the course of the negotiations, Switzerland forwarded a third option in the framework of the Toronto-proposals according to which the control obligations of the protocol could be discharged by a 20 % reduction of the overall consumption of CFCs⁷². In order to facilitate the compromise between the European Community countries and the Toronto group, the Netherlands as one of the more flexible member states of the Community suggested that control obligations be discharged by a reduction of the use of CFCs in aerosols by 40 % within two years after entry into force of the instrument and a freeze of production capacity⁷³. This solution provided for a reduction slightly beyond the Community measures already in force. It was neither acceptable to the European Community nor to the Toronto countries.

At the end of the first meeting, the Working Group requested its Chairman to compile in collaboration with the UNEP Secretariat a consolidated Third Revised Draft Protocol⁷⁴. The text comprised no less than five options for the basic obligations of article II, namely (a) the position of the European Community consisting of a 30 % reduction of use of CFCs in aerosols and a production capacity cap, (b) the Toronto group proposal of two alternative options to choose between, (c) the Dutch proposal to extend the two Toronto options by a third one according to which countries could opt for a production capacity cap and a reduction of their aerosol use by 40 %, (d) a modified Toronto scheme which would end up with a 70 % reduction of the maximum use in aerosols and a production capacity cap, and (e) the Swiss proposal of an additional alternative to the Toronto options providing for a 20 % reduction of the total consumption of CFCs within four years.

The new articles IIA and IIB reflected additional measures taken by the European Community in respect of a reduction of losses of CFCs during foam production and in the refrigeration and solvent sectors as well as the application of the best practicable technologies and the development of substitutes in non-aerosol areas. These proposals were not acceptable to a number of Toronto countries, in particular to the two North American states⁷⁵. A compromise solution remained out of sight.

Two months prior to the scheduled diplomatic conference, the Working Group met for its second meeting of the fourth session⁷⁶. For this meeting, an enlarged Toronto group had submitted a new 'multi-optional' approach combining, in four alternatives, the options (b), (d) and (e) of the Third Revised Draft Protocol⁷⁷ in a

71 For the discussion of the European Community proposals, see report UNEP/WG.110/4, paras. 30-36.

72 See *Sand*, The Vienna Convention is Adopted, p. 41. This suggestion is reflected in the consolidated Third Revised Draft Protocol, article II (4), alternative 2, UNEP/WG.110/4/Annex IV.

73 See UNEP/WG.110/CRP.5. It appears in the consolidated Third Revised Draft Protocol as article II, paragraph 3, alternative 1, UNEP/WG.110/4/Annex IV.

74 See report UNEP/WG.110/4, para. 38. The text appears as an annex to the report of the meeting, UNEP/WG.110/4/Annex IV.

75 The Nordic countries had originally suggested measures in these sectors, see article 2 of the original Nordic proposal, UNEP/WG.78/11, p. 11.

76 January 21 - 25, 1985.

77 Third Revised Draft Protocol, UNEP/WG.110/4/Annex IV, see above.

single coherent text⁷⁸. The text did not add anything new. It simply provided a version for inclusion into the draft protocol to be submitted to the conference. The European Community generally insisted on its approach but suggested a new clause on the special situation of developing countries. The meeting witnessed another harsh exchange of the well-known positions. The United States urged that action be taken since, according to new scientific evidence, ozone depletion might not be linear with increasing concentrations of chlorine but rapidly accelerating beyond a certain threshold yet unknown⁷⁹. The European Community insisted that a production capacity cap was an appropriate medium term measure since it addressed the overall production and emission of CFCs and could be easily supervised⁸⁰. And Canada emphasized on behalf of the Toronto states that this group of countries did not consider the Community approach adequate since it did not comprise an immediate control mechanism and was economically unsound⁸¹. The principal gap between the concepts promoted by the two groups could not be bridged. It was, therefore, agreed to include both alternatives in the draft to be submitted to the conference⁸².

1.4. Decisions at the Vienna Conference

A last attempt to overcome the differences was seized immediately prior to the Vienna Conference. The Executive Director of UNEP convened an informal negotiating meeting which was, however, largely unsuccessful⁸³. This meant that the protocol could not be adopted simultaneously with the Convention. The initially Nordic initiative to substantiate the constitutive decisions of the Vienna Convention with substantive decisions about control measures, now supported by an enlarged group of countries, had failed temporarily⁸⁴.

The Vienna Conference for the Protection of the Ozone Layer agreed, however, to continue the process of negotiations. As a 'fall-back' compromise it adopted a Resolution which urged »all States and regional integration organizations, pending entry into force of a protocol, to control their emissions of CFCs, inter alia in aerosols, by any means at their disposal, including controls on production or use, to the

78 Six countries sponsored the draft, see UNEP/IG.53/4/Annex II, para. 30. These countries were Sweden, Norway, Finland, Canada and the United States, as well as, having joined the Toronto group, Switzerland, see International Herald Tribune, 29 January 1985.

79 See report, UNEP/IG.53/4/Annex II, paras. 15-18.

80 See report, UNEP/IG.53/4/Annex II, paras. 19-21. For a short discussion of the merits of the two approaches from the point of view of a member of the Dutch delegation, see *Lammers*, *Efforts to Develop a Protocol*, pp. 227-229. He emphasizes that both approaches were inadequate to meet the problem and merely reflected measures that had already been implemented by the two groups of countries.

81 See report, UNEP/IG.53/4/Annex II, para. 29. Economical unsoundness referred to the fixing of the existing distribution of CFC production.

82 See report, UNEP/IG.53/4/Annex II, para. 36. For the Fourth Revised Draft Protocol, see UNEP/IG.53/4/Annex III.

83 See *Sand*, *The Vienna Convention is Adopted*, p. 41.

84 *Lang*, *The Challenge of International Law*, p. 492, attributes the failure of the Conference to adopt the protocol to the chemical industry of the European Community.

maximum extent possible⁸⁵ and continued the mandate of the Working Group. Negotiations on the protocol were envisaged to lead to the adoption of an instrument on control measures within two years, i.e. by 1987⁸⁶. A future protocol should address both »short and long term strategies to control equitably global production, emissions and use of CFCs«⁸⁷. Negotiations should continue under the roof of UNEP⁸⁸. The Resolution suggested that the next round of deliberations should start with a workshop on the scientific, technological and socio-economic implications of control measures⁸⁹.

Despite all disagreement, by the time the framework convention was signed consensus among the participating actors had developed much further than in the case of long-range transboundary air pollution. Short of the particular content of a protocol, agreement extended to its general desirability and thus comprised a general acceptance of internationally agreed control measures. However, this agreement was not without limitations. Two countries notoriously slow in the field of the protection of the ozone layer made interpreting declarations. Japan declared that a decision whether or not to continue the negotiations on the protocol should await the results of the work of the CCOL. With regard to the recommended unilateral adoption of control measures in the interim period Japan stated that each country should itself decide how to control emissions of CFCs⁹⁰. Spain declared that it understood the same paragraph as »being addressed exclusively to the individual countries themselves, which are urged to control their limits of production or use, and *not to third countries or regional organizations with respect to such countries*«⁹¹. Both interpretations were in fact beyond the wording of the Resolution which was binding only in its procedural aspects⁹². Apparently, these countries feared that the steady process of international negotiations could undermine their position.

The Governing Council of UNEP at its 1985 session incorporated almost all operative paragraphs of the Resolution into its Decision on the protection of the ozone layer. It urged parties to sponsor the envisaged workshop and to set up a steering

85 Resolution 2, para. 6, Final Act of the Vienna Conference for the Protection of the Ozone Layer, UNEP/IG.53/5/Rev.1; reprinted in: International Legal Materials 26 (1987), pp. 1520-1523. The Resolution providing for continued negotiations was introduced by »the United States and its allies«; *Benedick*, Ozone Diplomacy, p. 45. According to Benedick, it was refused by the chemical industry of the Community, see *ibid.*, p. 46.

86 See Resolution 2, para. 4, which authorizes the Executive Director of UNEP to convene in consultation with the signatories of the Convention a diplomatic conference, if possible in 1987.

87 Resolution 2, para. 1.

88 Contrary to the approach adopted in respect of long-range transboundary air pollution, the interim negotiating mechanism was not formally related to the structure of the newly established international regime but exclusively to its 'parent'-organization.

89 See Resolution 2, para. 2.

90 See Declaration attached to the Final Act of the Vienna Conference, p. 36.

91 Declaration attached to the Final Act of the Vienna Conference on the Protection of the Ozone Layer, p. 36 (emphasis added).

92 As parts of the Final Act the adopted Resolutions are immediately valid for all participating countries. By common diplomatic practice, they were adopted by consensus. By contrast, the Convention, even though likewise adopted at the conference, was only opened for signature and had to be ratified according to domestic procedures thus providing another discrete step until it finally became formally binding on contracting parties.

committee according to the terms of reference agreed upon⁹³. However, it did not itself launch action in this regard.

2. Second Round toward a Protocol

In 1985, only a few months after the conclusion of the Vienna Conference, British scientists published empirical evidence about dramatic losses of ozone in the Antarctic stratosphere during the spring months of the southern hemisphere⁹⁴. The observed losses of about 50 % of ozone concentrations compared to figures of the late 1960s are commonly known as the 'Antarctic ozone hole'. They had not been predicted by the atmospheric models employed and had therefore been checked for a number of years prior to their publication. However, an immediate re-evaluation of American and Japanese satellite data confirmed the assessment⁹⁵. The Antarctic ozone hole raised further public attention for the issue of the protection of the ozone layer⁹⁶. However, the scientific evidence did not yet clearly relate its occurrence to CFC emissions⁹⁷.

Six months after the Vienna Conference, serious preparations for the envisaged workshop began to clear as far as possible the scientific, technological and economic foundations for the second round of negotiations. The steering body met in September 1985 and adopted the research agenda. The workshop was divided into two parts. The agenda of its first part included a large number of issues, e.g. an assessment of current production, capacity and use patterns, methodologies for projections of demand in the short and long term, costs of changes in production under current regulation, substituting technologies and their cost on a sector by sector basis, and estimates of production, use and emissions of substances other than CFCs with a potential ozone depleting effect⁹⁸. The meeting⁹⁹ was largely disappointing¹⁰⁰. Against the backdrop of growing production and consumption figures for CFCs, the meeting did not agree on the anticipated growth rate, while the figures of past production and consumption provided by the industry concerned were not challenged. The meeting even disagreed on the availability of appropriate

93 See Decision 13/18 I, UNEP/GC.13/16/Annex I, pp. 47-49, para. 6. Terms of Reference reprinted *ibid.*, p. 53.

94 See *Farman/Gardener/Shanklin*, Large Losses of Total Ozone in Antarctica. Findings are reflected in the Executive Summary of the Assessment of Ozone Layer Modification by the CCOL prepared for the first session of the second round of the Working Group, UNEP/WG.151/Background 3.

95 See *Kindi/Menefee*, The Vexing Problem of Ozone Depletion, pp. 280-281. In fact, losses had not been recognized before because computer programmes selected out losses of such quantity as errors.

96 In addition, the WMO had submitted a comprehensive report reflecting the scientific understanding of the ozone layer and its depletion, see *Atmospheric Ozone*, WMO 1986. The report was prepared in collaboration by the United States, West Germany, the EC, UNEP and the WMO.

97 The United States chief negotiator argued that for this reason the ozone hole did not have a major impact on the negotiations; see *Benedick*, *Ozone Diplomacy*, p. 19.

98 See *Follow-up to Vienna Convention*; *Environmental Policy & Law* 15 (1985), p. 38.

99 May 26 - 30, 1986 in Rome at the invitation of the European Community.

100 See *Control of Chlorofluorocarbons*; *Environmental Policy & Law* 16 (1986), p. 139. *Benedick*, *Ozone Diplomacy*, pp. 47-48, holds that the meeting was largely dominated by European industries.

substitutes for the aerosol use of CFCs, although in several countries the use of CFCs in this sector had already been substituted almost entirely¹⁰¹.

The second part of the workshop¹⁰² was intended to evaluate regulatory approaches, including new strategies such as quotas and taxes as well as their cost-effectiveness and equity. Generally, the meeting should develop new directions for the envisaged round of negotiations. The United States chief delegate summarized the situation in 1985 that was to be overcome: »At that time, two blocks of industrialized countries confronted each other, saying, in effect: 'I've done this to protect the ozone layer, why don't you do the same?' Simultaneously a third group of countries stood sceptically on the sidelines and said practically nothing«¹⁰³. It was proposed to agree upon a world-wide ceiling for production figures and to allocate the remaining quantum among countries. The parties should retain considerable flexibility in deciding in which sectors and by which means CFC emissions should be lessened. Generally, the previous exclusive focus on CFCs among the ozone depleting substances, and the even more limited focus on the aerosol sector, was not considered to be sufficient to address the problem. Scientific attention now included other ozone depleting substances, in particular halons used primarily for fire fighting purposes¹⁰⁴.

The latter part of the workshop seemed to demonstrate the possibility of breaking up the blocked situation. Yet, even on the comparatively high level of generality the approach discussed generated a new problem. While before production capacity and non-essential uses had been under scrutiny, now a situation emerged in which global production would be limited according to scientifically assessed environmental requirements. Countries without domestic CFC production, such as Norway, could possibly find themselves unable to obtain the required quantities of CFCs for essential uses, e.g. refrigeration, because producing and exporting countries, such as the European Community, retained larger quantities for their domestic consumption. Hence, the curtailing of production to limit emissions could lead to severe distributive conflicts.

2.1. *Four Different Concepts*

About 20 months after the conclusion of the Vienna Conference, a newly established Working Group, the 'Vienna Group', met for its first session¹⁰⁵. The negotiations could draw upon the preparations of the previous years and were based on a

101 See report of the meeting, UNEP/WG.148/2, reprinted in UNEP/WG.151/Background 1, submitted to the first session of the Working Group.

102 September 8 - 12, 1986 in Leesburg, USA at the invitation of the United States. On the meeting, see *Benedick, Ozone Diplomacy*, pp. 48-50.

103 Report of the second part of the workshop, UNEP/WG.148/3/Annex II, p. 1, reprinted in UNEP/WG.151/Background 2.

104 See *Control of Chlorofluorocarbons*; Environmental Policy & Law 16 (1986), pp. 139-140.

105 December 1 - 5, 1986.

draft protocol revised by the Secretariat¹⁰⁶. An informal working group began to scrutinize and amend where appropriate the remaining articles¹⁰⁷. The first session of the Vienna Group concentrated, however, on the possible content of control measures. Four concepts of considerable difference were submitted¹⁰⁸.

Initially having favoured a phase-out of aerosol uses of CFCs, the United States suggested an almost complete ban of both fully halogenated CFCs and halons¹⁰⁹. Its comprehensive reduction scheme foresaw a freeze of *emissions* of these substances calculated on the basis of 1986 levels after a number of years. Subsequently, emissions should be reduced by 20 %, 50 % and 95 % respectively, with target years yet to be decided¹¹⁰. This meant that the United States' policy for the protection of the ozone layer had been thoroughly re-considered. Although the US chemical industry was among the most advanced in the development of substitutes, it had not yet at its disposal the technology to realize the ambitious goal of a complete phase-out of CFCs and halons. If the proposal was taken seriously, the control measures proposed were themselves designed to initiate a major programme to develop substitute production processes and alternative substances.

Since the 'aggregate annual emissions' of a country could not easily be supervised, the United States proposal resorted to a rather complicated calculation of 'adjusted production' which in fact reflected the annual national consumption of parties. It was calculated as the national annual production of the substances concerned plus bulk imports minus bulk exports to parties to the protocol minus quantities destroyed or permanently encapsulated¹¹¹. The concept attributed exports to non-parties to the calculated emissions of producing states. It thus precluded the dumping of quantities of controlled substances produced into export markets beyond the application of the protocol. By contrast, the export of controlled substances to parties would be accounted for at the importing side which would as well be under the obligation to reduce emissions. Evidently, this sophisticated calculation basis of the reduction scheme focused on the world's largest net exporter of CFCs, i.e. the European Community.

After a number of years upon entry into force of the protocol, parties should ban the import of controlled substances in bulk from states not party to the protocol, except that the latter unilaterally complied with the control measures in force and regularly provided information required under the future protocol. Hence, the proposal contained an incentive to non-parties exporting controlled substances to join the protocol or to comply with its provisions in order to avoid trade restrictions¹¹².

¹⁰⁶ The disputed article II on control measures had been entirely deleted, see Fifth Revised Draft Protocol, UNEP/WG.151/2.

¹⁰⁷ See *Lammers, Efforts to Develop a Protocol*, p. 231.

¹⁰⁸ For a discussion, see also *Lammers, Efforts to Develop a Protocol*, pp. 231-242.

¹⁰⁹ US proposal in UNEP/WG.151/L.2.

¹¹⁰ The United States time-frame was, however, a rather tight one. With a margin of 10-14 years, it envisaged near phase-out by the year 2000, see *Morrisette, The Evolution of Policy Responses*, p. 810. On the domestic situation in the USA, see *Crawford, United States Floats Proposal*, pp. 1052-1053.

¹¹¹ See US proposal, UNEP/WG.151/L.2, article III.

¹¹² See US proposal, UNEP/WG.151/L.2, article V.

At the same time, it discouraged the transfer of production capacities from parties to non-parties. The United States proposal contained a provision for the regular assessment and adjustment of control measures. At least one year prior to a reassessment, an expert panel should review advances in the scientific understanding of modifications of the ozone layer and the risks of its depletion¹¹³.

Generally, the United States proposal was sound. It provided for a radical reduction of emissions over a number of years in four steps, it took current emissions as the basis of this scheme, it accounted for trade between parties and precluded the externalization of production capacities into the territory of non-parties, and lastly, it created an incentive for non-parties active in the market to join the protocol. Prior to the first session of the Working Group, the United States started a major campaign to raise support for its proposal¹¹⁴.

The three Nordic countries so active in the initial stages of the negotiations realigned behind the United States' proposal. They submitted an amendment to the US paper suggesting that the first two stages of the reduction scheme (freeze and 20 % reduction) be combined in a single stage committing the parties to reduce emissions of CFCs and halons by 25 % from 1986 levels by 1991 at the latest¹¹⁵.

Canada, once allied with the United States and the Nordic countries in the Toronto group, favoured a truly different approach¹¹⁶. It presented a comprehensive scheme accounting for *all* possibly ozone-modifying substances (OMS). The scope of this scheme thus reached well beyond that of the US proposal. The Canadian proposal envisaged establishing a 'global emission limit' (GEL), i.e. the annual amount of ozone modifying substances weighted according to their ozone depleting potential whose release did not cause irreversible harm to the ozone layer. The margin of possible emissions would then be apportioned to the 'national emission limits' (NEL) of parties and non-parties. A part of the 'global emission limit', e.g. 25 %, should be apportioned among countries on the basis of their share in world population, the remaining part, e.g. 75 %, on the basis of gross national product. The contracting parties would be obliged to act according to their calculated 'national emission limits'. The meeting of contracting parties would review the 'global emission limit' and adjust it according to scientific findings¹¹⁷.

The Canadian concept constituted a pollution rights approach on the basis of maximum sustainable pollution. Contrary to the United States' proposal, it presupposed that a considerable margin for the distribution of emission rights existed without causing serious environmental harm. If this was true, the adoption of the limit of

¹¹³ See US proposal, UNEP/WG.151/L.2, article IV.

¹¹⁴ *Benedick*, *Ozone Diplomacy*, p. 55, notes that officials from 60 US embassies explained the rationale of the proposal and held contact to responsible officials of their host countries. See also *Crawford*, *United States Floats Proposal*.

¹¹⁵ See proposal submitted by Norway, Sweden and Finland; UNEP/WG.151/CRP.2.

¹¹⁶ See Canadian proposal, UNEP/WG.151/L.1.

¹¹⁷ Canada proposed to fix the GEL initially at 812 kilotons of CFC equivalents (compared to an actual annual emission of about 1200 kilotons of CFC equivalents); see *Lammers*, *Efforts to Develop a Protocol*, p. 243. This implied a reduction of emissions by one third, with an even higher percentage rate for heavy emitters.

this margin as the basis for a reduction scheme appeared to be generally sound¹¹⁸. Pollution rights thus assigned could be distributed more equitably than any requirement of flat-rate reductions on the basis of existing emissions. As proposed, the concept implied a considerable margin for developing and East European countries to *increase* their emissions, while the highly industrialized and heavily emitting countries of West Europe and the United States would have to reduce an even higher share of their current level¹¹⁹. Within the political negotiations of a protocol for the protection of the ozone layer, the Canadian concept did, however, not gain the support of the two giants in the issue-area. The United States proposed an almost complete ban of CFCs and halons which would provide hardly any margin for the distribution of pollution rights after an interim period necessary for the adjustment of the economies concerned. And the European Community not being prepared to reduce emissions significantly would not be inclined to do so for the benefit of increased national emissions of other countries.

While Canada and the United States had submitted well elaborated proposals, the European Community was less well prepared. Nevertheless, it felt obliged to submit a hastily compiled document while cautioning that »it must be understood that this text does not necessarily represent the position of the European Community«¹²⁰. According to this document, control measures should apply to the most important fully halogenated CFCs 11 and 12, possibly also to CFCs 113 and 114. Hence, the Community approach was far narrower than both the United States proposal which extended to all fully halogenated CFCs as well as halons, and the Canadian proposal which included all potentially ozone modifying substances even beyond CFCs and halons. Like the Canadian proposal, the Community plan accounted for differences between substances in ozone depleting potential. The European Community as the world's largest net exporter of CFCs did not base its scheme on the figures of emissions but on those of production, the latter being considerably higher in its own case. Reducing or at least stabilizing production could imply a gradual reduction of quantities exported for the benefit of an unhampered domestic consumption. Hence, a scenario could be thought of in which a decreased Community production would not lead to gradually reduced emissions in the Community, but to involuntary reductions in the destination countries of previous exports.

The European Community favoured what its delegation called »a staged approach to the problem«¹²¹. As a first stage, it proposed a stand-still of aggregate production

118 A very similar concept, the 'critical loads' approach, is advocated by Canada in the regime on long-range trans-boundary air pollution; see above, Chapter 4, pp. 182-185.

119 See calculation made by *Lammers*, *Efforts to Develop a Protocol*, 262, note 33. According to this calculation, Canada and Japan were relatively well off.

120 See UNEP/WG.151/CRP.5. This was probably due to the extremely limited mandate adopted by the Environment Council of the Community, stating that »no modification, even of details, in existing Community policies to control CFCs must be made without prior approval from the Council«, quoted from *Jachtenfuchs*, *The European Community and the Protection of the Ozone Layer*, p. 265.

121 See introductory statement, report of the first session, UNEP/WG.151/L.4, para. 16.

after a number of years¹²². The plan did, however, not include any second or third stages. It merely suggested a review process for the re-assessment of control measures in light of changing scientific evidence. Adjustment of control measures would be subject to an accelerated decision-process but also to ratification by each individual contracting party. While the United States proposal foresaw a fixed time-schedule over four steps leading to an almost complete ban of CFCs and halons, and while the Canadian plan provided that the conference of the parties to the protocol decided upon adjustment of the 'global emission limit' figure, the Community suggested only a mere first step, keeping open the future development of the regime. In addition, it made adjustments of control measures and the adoption of further steps subject to a cumbersome and time-consuming procedure.

Concerning trade restrictions, the Community suggested that parties should *study the feasibility* of restrictions on imports of the regulated substances and of products containing or produced with regulated substances from non-parties to the protocol¹²³. In the Community scheme which was based on a limitation of *production*, trade restrictions had a very different purpose than in the United States plan based on a reduction of *emissions*. Without such restrictions, the European approach provided an opportunity to externalize production capacity into the territory of non-parties. Apparently, the Community was not eager to close this possible loophole of its plan. However, if restrictions were adopted, they should not only apply to CFCs in bulk, but also to products containing or produced with CFCs which were assumed to be cheaper than those containing or produced with substitutes.

To sum up, the Community proposals were far behind those of the United States in all important aspects, e.g. the substances to be controlled, the time-schedule, the procedure for the adjustment of control measures and the trade restrictions.

For the first time, the Soviet Union made its own substantive submission which was, however, not drafted in treaty language. The Soviet Union proposed, that «the Parties recognize that it is essential to establish an agreed limit for the permissible annual volume of world wide production of CFCs [11,12]»¹²⁴. It appeared that the Soviet Union generally preferred the Canadian scheme of a global emission limit, but the substance of the proposal was not more than an *obligation to agree* on such measures. Specific measures and a figure for the appropriate level of the envisaged ceiling of global production were not suggested. The Soviet paper foresaw to apportion this amount among countries exclusively according to the criterion of population. Since existing per capita consumption of CFCs was generally proportional to the level of GNP¹²⁵, the Soviet Union could be expected to gain by this approach a considerable margin of additional pollution rights at the expense of Western industrialized countries. In contrast to the three Western concepts, the Soviet plan

122 The plan suggested that developing countries be allowed to increase their production up to 1986 consumption levels, see submission of the European Community, UNEP/WG.151/CRP.5, article II (3).

123 See proposal of the European Community, UNEP/WG.151/CRP.5.

124 Proposal of the Soviet Union to article II, para. 1, UNEP/WG.151/CRP.10 (brackets in original).

125 This relationship was at least true for OECD countries over a period of 20 years; see US information at the first part of the 1986 workshop, UNEP/WG.148/Annex I, p. 2; reprinted in UNEP/WG.151/Background 1.

did not suggest the establishment of a continuing review mechanism. Once adopted, the measures would remain in force until a review in the year 2000. With this paper the Soviet Union was surely not among the 'progressive' participants of the negotiation process. But it had given up its very restrictive position toward control measures and indicated its interest in a more equitable reduction scheme than one based solely upon current production and/or consumption levels.

2.2. *Differences Remain Dominant*

Hence, the Working Group was faced with a number of proposals suggesting considerably different approaches toward control measures¹²⁶. Although its merits were recognized, the Canadian proposal was not received favourably¹²⁷, nor was the European Community plan to base the reduction scheme on production rather than on emission figures¹²⁸. A principled dispute arose on the inclusion of ozone depleting substances beyond CFCs into the deliberations, since the wording of the mandate of the Working Group covered only CFCs¹²⁹. While some participants, especially those desiring to limit the scope of control measures, e.g. the European Community, Japan¹³⁰ and the Soviet Union, insisted on the limits of the mandate, others found it necessary to include all potentially ozone modifying substances as candidates for regulation under the protocol¹³¹. However, this dispute was temporarily set aside¹³². Moreover, a technical working group suggested that, beside the most important CFCs 11 and 12 and possibly CFCs 113 and 114, a list should be annexed to the protocol that contained candidates for future regulation. «It was felt that in doing so it would provide a useful guide to industry as to the likely future direction of control of ozone depleting substances»¹³³.

At the end of the first session, the chairman summarized several elements that were considered by him to be common to the proposals, namely (a) the agreement to seek a global instrument to limit emissions or production of CFCs 11 and 12 and possibly other substances, (b) the need for measures to protect the ozone layer in both the short and long term, and (c) a periodic review process¹³⁴. On the basis of this summary, he circulated in his personal capacity a paper intended to assist the re-

¹²⁶ On the meeting, see *CFCs - Preparation of Protocol*; Environmental Policy & Law 17 (1987), pp. 11-13.

¹²⁷ See report, UNEP/WG.151/L.4, para. 20.

¹²⁸ See report, UNEP/WG.151/L.4, para. 26.

¹²⁹ See Decision 13/18 I (1985) of the UNEP Governing Council, UNEP/GC.13/16/Annex I, pp. 47-49, para. 5.

¹³⁰ Japan gave up its general resistance against internationally agreed control measures. In its introductory statement it pointed out, however, that «it was important to apply the principle of fairness so that the regulations would be acceptable to all», see report of the first session, UNEP/WG.151/L.4, para. 15. According to the Japanese position, a realistic approach should, for the time being, be confined to control measures regarding CFCs 11 and 12, see report of the second session, UNEP/WG.167/2, para. 13.

¹³¹ See report, UNEP/WG.151/L.4, para. 23.

¹³² See UNEP/WG.151/L.4, para. 23.

¹³³ Report, UNEP/WG.151/L.4, para. 36.

¹³⁴ See report, UNEP/WG.151/L.4, para. 29.

consideration of delegations' positions until the next session¹³⁵. It did not yet indicate a possible solution to the new dispute between the United States and the European Community on the appropriate basis for a reduction scheme, i.e. whether to base control measures on emissions (or adjusted production) or on production (i.e. aggregate production)¹³⁶. The paper still combined the proposals put forward by the United States and the European Community¹³⁷. It also combined the concept of a flat-rate reduction common to both the proposals of the United States and of the European Community with the Canadian and Soviet concept of a global emission limit to be apportioned among nations¹³⁸. However, the Chairman's note suggests a simplified process for the adjustment of control measures by way of decisions taken at least by two-thirds majorities which would be mandatory for parties. Later on, this idea entered the protocol.

The negotiations proceeded under considerable time-constraints. The European Community requested the postponement of the second session of the Working Group since its Environment Council would first meet in March 1987 and the Community would therefore not be able to present new proposals at an earlier meeting¹³⁹. Yet, the next meeting took place as soon as February 1987.

In the meantime, the Chairman and the UNEP Secretariat started an initiative to evaluate the margin for compromise among the three major actors having submitted their proposals, i.e. the United States, Canada and the European Community. In its reply, the United States¹⁴⁰ noted that there had been contacts with Canada on an accommodation of the two differing concepts. Both countries agreed that there should be an immediate freeze of emissions, as well as a long-term strategy for the protection of the ozone layer. This latter aspect had, unfortunately, not received

135 It bore the following »Note: - This paper was submitted by the chairman in his personal capacity and does not reflect necessarily any negotiating positions«; nevertheless it was reprinted in the report of the meeting, see UNEP/WG.151/L.4, para. 30. The chairman's paper is reprinted in *Environmental Policy & Law* 17 (1986), pp. 35-36.

136 On the advantages and disadvantages of either basis of calculation for its proponents, see *Lammers, Efforts to Develop a Protocol*, pp. 247-255. In a hypothetical example, he calculated losses of production and consumption figures for net exporters and net importers. He concluded that a country with net exports of controlled substances, e.g. the European Community, would opt for the control of production, while a country with net imports, e.g. the United States, would opt for the control of consumption.

137 The chairman suggested the following commitments:

(1 a) a standstill of the aggregated/adjusted production of CFCs 11 and 12 and possibly other substances after a period of time to be fixed for parties producing these substances;

(1 b) a standstill of imports for countries not producing these substances;

(2) a standstill of aggregate emissions of these substances, after a period of time to be fixed, either upon confirmation of this obligation by a two-thirds majority of parties, or unless parties by a two-thirds majority decided otherwise;

(3) an obligation of parties to ensure the implementation of decisions on reductions of aggregated/adjusted production and of emissions which have been adopted by a two-thirds majority of parties;

(4) an obligation of parties to implement decisions on 'global emission limits' and 'national emission limits' which are adopted by a two-thirds majority;

(5) an obligation of parties to adjust imports according to points 2-4.

138 The compromise did thus not yet reach very far, see *Lammers, Efforts to Develop a Protocol*, p. 239.

139 See report UNEP/WG.151/L.4, paras. 38-39. On the decision-making process within the European Community, see *Jachtenfuchs, The European Community and the Protection of the Ozone Layer*, pp. 265-266.

140 See reply by the United States, UNEP/WG.167/CRP.1.

much support at the international level so far. Both countries agreed that any reduction scheme should be based on 'adjusted production' and address all ozone depleting substances ranked according to their relative depletion potential. Moreover, the two countries agreed that a strong mechanism for periodic assessment of scientific findings was necessary. Possible adjustments of the timing, stringency and scope of control measures should be based upon a review of the state of scientific and technical knowledge by an ad hoc expert panel. And lastly, the countries agreed that trade restrictions should preclude any trade advantage by non-parties. However, the United States did not support the Canadian idea of an allocation of pollution rights. Instead, it favoured a fixed time-table eventually leading to a near phase-out of ozone depleting substances.

Canada explained that according to its approach the reduction scheme would be based on the recommendations of a panel taking into account *scientific considerations alone*. Whereas according to the United States' proposal control measures could, ultimately, be determined by the industrial capacity to substitute ozone depleting substances and not by scientific considerations, Canada considered its own approach »science driven and incremental in nature. It recognizes the uncertainties which continue to exist regarding the ozone depletion issue, for example *smaller, less stringent, steps* than are now contemplated might be appropriate if the science does not continue to offer convincing evidence of harm¹⁴¹. Compared to the United States proposal, Canada did not advocate environmental progress. It endeavoured to slow down the pace envisaged by the lead country. Apparently, for Canada it seemed clear that the industry's capacity to substitute ozone depleting substances was higher than scientifically required to protect the ozone layer. Accordingly, in the Canadian proposal control measures became subject to an incremental, i.e. second, condition beside the substitution capacity, namely the 'global emission limit'. At the same time, this approach institutionalized a speedy mechanism to adapt the internationally agreed policy measures to new scientific findings, provided that a sufficiently high industrial and technological capacity for substitution existed. Hence, the Canadian position was located between the position of the United States and that of the European Community.

The reply by the European Community was rather short. It referred to the Chairman's paper as a very constructive one, which had to be analyzed¹⁴². In fact the European Community was involved in the process of re-considering its position in light of increasing international pressure. After the EC Presidency had shifted from the very restrictive British to the more flexible Belgian government by the turn of the year, an unofficial Environment Council relaxed the strict mandate of the Community delegation just in time for the second session of the Working Group¹⁴³. As a

¹⁴¹ Canadian reply, UNEP/WG.167/CRP.3 (emphasis added).

¹⁴² See UNEP/WG.167/CRP.2.

¹⁴³ See *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, pp. 265-266. The Community announced that its position was still not a formal one, but 'ad referendum'. Nevertheless, the negotiators of the Community were prepared to discuss the control measures in as flexible and constructive a manner

consequence of this re-assessment, the Community was now prepared to discuss control measures on the basis of the concept of production or of that of emissions/adjusted production/ consumption. As in the previous session, it supported the idea of a freeze of production. As a new element, it also accepted a limitation of imports of CFCs by non-producing countries. This concession was, however, only offered, *»provided that for this purpose the Community itself is treated as a single producing unit«*¹⁴⁴. The aggregation of the Community territory into a single producing unit raised resistance, since reductions beyond the requirement of control measures adopted by one country within the Community could be matched by increases in another. It thus provided the Community countries with a considerable advantage over other, in particular over smaller parties to the future protocol. However, this condition was a consequence of the overall political goal of the European Community to establish a single internal market. In addition, the Community was now prepared to accept that imports from non-parties be entirely prohibited, thus closing a major loophole of its former position. It still considered the control of consumption as too difficult, but accepted a full examination of the feasibility and desirability of such a system.

Likewise, the Community had slightly developed its position towards the time schedule. Still, it agreed only to a freeze of production and imports. Changes of control measures should be subject to the traditional amendment procedure involving domestic ratification. But since a thorough review and a revision of the protocol would be time-consuming, *»some reduction could be a desirable precautionary measure, provided that industry has suitable time in which to adjust«*¹⁴⁵. This development opened the perspective for agreement on a first stage of reductions according to the United States plan.

The second session of the Working Group¹⁴⁶ opened with a rather strong statement by the United States' chief delegate Richard Benedick¹⁴⁷ who openly accused the participating countries of viewing the ozone issue mainly in terms of narrow economic self-interest. He threatened that the US Congress was increasingly prepared to advocate unilateral measures accompanied by appropriate steps to protect US industry from competition by countries which continued to ignore the threat to the environment¹⁴⁸.

After a short plenary debate, the Working Group established four informal working groups for the four issues of technical matters, in particular the review process and a hierarchy of substances dangerous to the ozone layer, of the special needs of de-

as possible; see UNEP/WG.167/CRP.6. The Belgium Presidency had been a target of United States bilateral diplomacy; see Benedick, *Ozone Diplomacy*, p. 55.

144 European Community 'Discussion Paper', UNEP/WG.167/CRP.6 (emphasis added).

145 European Community 'Discussion Paper', UNEP/WG.167/CRP.6.

146 February 23 - 27, 1987 in Vienna.

147 See report UNEP/WG.167/2, para. 12.

148 For a summary of the speech, see *Environmental Policy & Law* 17 (1987), p. 51.

veloping countries, of control measures of article II of the future protocol, and of trade issues¹⁴⁹.

General consent had already emerged that the CFCs 11 and 12 were the primary candidates for control measures, but beyond this understanding disagreement prevailed. Beyond its earlier submissions, Canada suggested compiling three lists addressing all potentially ozone depleting substances¹⁵⁰. List A would contain substances to be immediately controlled with a share of more than 2 % of the aggregate ozone depleting potential. List B would contain substances with an aggregate ozone depleting potential of more than 0.5 % which would become subject to control if their growth continued. List C would contain substances remaining below that level which were to be scrutinized¹⁵¹. The problem of the substances to be included into the protocol beyond the CFCs 11 and 12 remained, however, unsettled.

Concerning trade measures, the informal working group responsible scrutinized and confirmed the conformity of restrictions with relevant GATT rules¹⁵². Evidently, there is a certain risk that in different international regimes, e.g. those on international trade and for the protection of the ozone layer, conflicting rules were adopted. However, in consultation with the GATT Secretariat the GATT rules were interpreted in a way as not to conflict with the envisaged restrictions¹⁵³. The group submitted a draft article on trade restrictions¹⁵⁴ which was widely identical with a United States proposal on the subject¹⁵⁵. According to this draft article, parties should by target years to be determined ban the import of controlled substances from non-parties, restrict or ban imports of products containing controlled substances from non-parties, restrict, ban, or discourage the export of technologies for the production and use of controlled substances to non-parties, and abstain from providing financial aid of any kind thereto. Moreover, parties should study the feasibility of restricting the import of products produced with controlled substances from non-parties.

The sub-group on the special situation of developing countries agreed that this group of countries, which had not contributed seriously to the problem of ozone depletion in the past, should be committed to less stringent obligations. Yet, the group was not in a position to recommend any particular solution¹⁵⁶. This confusion

149 See report UNEP/WG.167/2, para. 9.

150 See UNEP/WG.167/2, para. 17; see also Canadian reply to the chairman's request, UNEP/WG.167/CRP.3.

151 The aggregate ozone depleting potential of a substance would be calculated by its specific ozone depleting potential multiplied by the amount produced. Canada gave the following ranking of substances: CFC-12 (33.6 %); CFC-11 (31.6 %); CFC-113 (10 %); halon 1211 (8.4 %); halon 1301 (8.4 %); methyl chloroform (6.7 %); carbon tetrachloride (probably more than 2 %). CFCs 114 and 115 were still not widely used and did thus not have a relevant aggregate ozone depleting potential. This ranking was virtually the same as elaborated by the informal technical working group, see UNEP/WG.167/2, p. 21.

152 See report UNEP/WG.167/2, p. 22.

153 For a brief discussion of the relationship between trade restrictions of the ozone regime and the GATT legal system, see *Lammers, Efforts to Develop a Protocol*, pp. 256-258.

154 It is appended to the Sixth Revised Draft Protocol, UNEP/WG.167/2/Annex I.

155 See United States Approach on a Trade Article, UNEP/WG.167/CRP.7.

156 The report contains a summary of a number of different papers discussed, see UNEP/WG.167/2, pp. 24-31.

stemmed partly from the fact that the particular needs of developing countries remained unclear¹⁵⁷.

The predominant subject of the session was, however, again the content of control measures. While the conflicting views of the two groups led by the European Community and the United States could not be reconciled, the Austrian Chairman occupied an extraordinary position in these largely informally conducted negotiations. In his personal capacity he submitted a revised draft article II¹⁵⁸. Contrary to his first paper, his proposal did not accommodate the two alternative approaches advocated by the EC and the USA any more. It was primarily founded upon the 'adjusted production' concept promoted by the United States and supported by the majority of participating countries¹⁵⁹. Beyond the first step of a freeze of (adjusted production of) controlled substances, the draft contained for the first time a quasi-automatic second step requiring a reduction of 1986 emission levels by a certain percentage. It suggested a range between 10 % and 50 %, but in fact 20 % was the envisaged margin¹⁶⁰. Moreover, it contained a review clause which envisaged the entry into force of a fixed third step. According to one alternative, the third step would enter into force either upon confirmation of a two-thirds majority of parties, or automatically if the parties did not decide otherwise with an equally high majority. A second alternative contained a general clause on decisions about third-step reductions.

The Chairman's paper suggests that the negotiations made progress even though the delegation of the European Community did not have a clear mandate in respect of reductions. The United States, however, considered the degree of compromise indicated by the Community as completely unacceptable¹⁶¹. The session ended with an open confrontation between the two major participants and put the Community again under considerable pressure¹⁶². There was still no agreement on the list of substances to be included, on the time frame of standstill and reduction steps, on the extent and rate of future reductions, and on the special conditions for developing countries¹⁶³. Nevertheless, the Working Group agreed to accept the Canadian invitation to host a diplomatic conference for the adoption of the protocol in September

157 See report, UNEP/WG.167/2, pp. 28-29.

158 This draft article is incorporated in the Sixth Revised Draft Protocol, UNEP/WG.167/2/Annex 1, even though it was issued under the responsibility of the Chairman.

159 Canada and the Nordic countries had withdrawn their own submissions.

160 See *CFCs: No Agreement on Protocol*; Environmental Policy & Law 17 (1987), p. 52. The impartiality of the Chairman and less his creativity seems to have enhanced his role during this stage of negotiations; for a self-account of his role, see Lang, *Diplomatie zwischen Ökonomie und Ökologie*, p. 109. The step by step approach, in particular the first step of a freeze and the second step of a 20 % reduction, had already been part of the original United States proposal; see UNEP/WG.151/L.2. Since the United States did not, however, abandon its proposed third and fourth steps (50 % and 95 % reduction respectively) and the European Community was not yet prepared to accept the second step (20 % reduction), the intermediate result of the negotiations had to be drafted in the form of an impartial personal paper.

161 See *CFCs: No Agreement on Protocol*; Environmental Policy & Law 17 (1987), p. 52.

162 The Community also faced, however, increasing intensity of its internal disputes on the subject. West Germany threatened to ban the aerosol use of CFCs unilaterally if the Community at large did not move, see *Europe Environment* No. 273/1987, p. 8.

163 See the outline of the situation by the UNEP Secretariat, UNEP/WG.167/INF.1, p. 2.

1987¹⁶⁴ which would be preceded by a third session of the Working Group in April of the year and a fourth session immediately prior to the diplomatic conference.

2.3. *Convergence of Positions*

The prevailing disagreement between the proponents of the two camps was partially related to the choice of appropriate models for a calculation of the future trend of ozone depletion. The United States delegation had circulated a background paper which was challenged by other delegations¹⁶⁵. Hence the political and economic conflict among the two groups of states dominating the negotiations were partly transferred into a dispute over the scientific and methodological foundations of an internationally agreed policy for the protection of the ozone layer. The dispute could not be settled during the second session of the Working Group¹⁶⁶. Between the sessions of the Working Group, the UNEP Secretariat therefore convened a meeting of scientific experts in Würzburg/West Germany¹⁶⁷ to review and compare the results of a standard set of control strategies calculated by different computer simulation models. It turned out that the effects calculated by the different computer models were largely similar¹⁶⁸. The results of the expert meeting were endorsed by an informal scientific group¹⁶⁹ at the third session of the Working Group¹⁷⁰. Hence, a dispute about the technical foundations of the envisaged political agreement could be removed from the agenda.

The general debate again started with a strong statement by the United States emphasizing three major US objectives in the negotiations¹⁷¹, namely a freeze of CFCs and halons as the most important fully halogenated hydrocarbons at 1986 levels, a scheduled reduction of these substances step-by-step, down to the point of eliminating emissions from all but limited uses for which no substitutes were commercially available, and frequent reviews of science, economics and technology¹⁷². The United States remained »determined to arrive expeditiously at an effective international protocol which will protect the ozone layer - a protocol which will include the maximum possible number of participating states, but one which will also make it

¹⁶⁴ See *Lammers*, *Efforts to Develop a Protocol*, p. 260.

¹⁶⁵ See UNEP/WG.167/INF.1, p. 3.

¹⁶⁶ The Executive Director of UNEP, Mostafa Tolba, stated at the third session of the Working Group, that »he had been concerned that the scientific community had appeared divided on the issue of ozone. European and American delegates had left the meeting with quite different predictions about the rate of ozone depletion and different opinions about the regulatory measures needed to protect the human health and the environment«, report of the session, UNEP/WG.172/2, para. 3.

¹⁶⁷ April 9 - 10, 1987.

¹⁶⁸ See 'Ad Hoc Scientific Meeting to Compare Model Generated Assessments of Ozone Layer Changes for Various Strategies for CFC Control', UNEP/WG.167/INF.1.

¹⁶⁹ See report, UNEP/WG.172/2, p. 14.

¹⁷⁰ April 27 - 30, 1987 in Geneva.

¹⁷¹ See report, UNEP/WG.172/2, para. 10.

¹⁷² These three principles had formed the basis of the United States position from the beginning of the second round of negotiations, see *Benedick*, *Ozone Diplomacy*, p. 53.

unprofitable for those countries which do not accept their share of responsibility.¹⁷³ Apparently, this last remark referred to effective trade restrictions intended to preclude trade in controlled substances between parties and non-parties¹⁷⁴.

The European Community had re-considered its position and presented a new proposal¹⁷⁵. It now advocated a three-stage approach comprising a freeze of CFCs at 1986 levels within two years upon entry into force of the protocol, accompanied by a ban on imports of these substances from non-parties. An automatic second step would provide for a 20 % reduction of production and imports within six years upon entry into force. A third step should consist of the establishment of a periodic review process every four years with a first review before the entry into force of the second step which would provide an opportunity for the adoption of stricter measures if necessary. The modification of control measures should still be subject to ratification. The Community still favoured production as the appropriate basis for calculation but was also prepared to accept a freeze on imports provided that the Community members were treated as a single unit. However, it noted extreme difficulties in moving any further toward the control of consumption.

Evidently, the European acceptance of an automatic second step providing for a 20 % reduction was a major breakthrough. Control measures would, however, still be confined to CFCs, in fact to the two most important CFCs, 11 and 12¹⁷⁶. The widely accepted review process which would provide opportunities to adapt the control measures to new scientific findings still functioned as a substitute for an immediate specific commitment to further reductions. Still, the EC proposed a *procedure* for adjustments as the third step of a comprehensive plan. Despite the slowly developing EC position, the common position of the member countries of the Community remained fragile. West Germany publicly argued for a thorough restriction of all CFCs¹⁷⁷.

While the Community moved slowly toward compromise, Japan, cautioning that the protocol could not be supported by many countries if it would provide for measures which were too strict, implicitly threatened to stay apart. Curiously enough for a highly industrialized country, Japan argued for an organized transfer of technology: «It was very important that contracting parties to the protocol should have common access to the technological information on substitute chemicals and recycling technology. A system of international cooperation should be established with a view to making technological information available to all contracting States, thus avoiding

173 Statement of Richard Benedick at the third session of the Working Group (emphasis added).

174 This statement implicitly draws attention to a possible loophole in the international regime. Non-parties which increased production of controlled substances for domestic consumption (and not for sale on the world market) could not be forced into the protocol by these measures. China and India, abstaining from the negotiations, belonged to this group of countries.

175 Proposal of the European Community, UNEP/WG.172/CRP.2. See also report, UNEP/WG.172/2, para. 11.

176 See reservation made by the Community delegation, report UNEP/WG.172/2, p. 15, para. 17.

177 See report, UNEP/WG.172/2, para. 17. The German and Danish delegates periodically left the common line of Community countries and attacked their British and French colleagues, see *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, p. 266. Only at the end of the session was the common position re-established.

the monopoly of that information by specific countries¹⁷⁸. Apparently, Japan was not at all technologically prepared for a rapid substitution of ozone depleting substances.

The Soviet Union likewise argued for a start of international cooperation that was acceptable to the majority of parties »even if the start had to be made at modest levels¹⁷⁹. The statement was not at all enthusiastic about the envisaged reductions. Moreover, the Soviet Union challenged the wide agreement to take 1986 as the base year for the calculation of obligations. Due to a new CFC production plant under construction in 1987¹⁸⁰, it proposed to take the year of the entry into force of the protocol as the basis for calculations¹⁸¹.

On the other hand, a number of countries intensified their claims for the inclusion of an automatic third step into the protocol. These proposals were at the same time intended to bridge the gap between the United States position of an almost complete phase-out in four steps and the Community position which comprised only the first two stages. New Zealand, for example, proposed a freeze of adjusted annual production within two years upon entry into force of the protocol, a 25 % reduction within six years and a further 30 % reduction within ten years, accompanied by a decision within four years on an extension of the list of controlled substances and an adjustment of control measures¹⁸². Austria advocated a rapid and efficient reduction of CFC consumption¹⁸³. Switzerland favoured, beyond the agreed 20 % reduction of the second step, a further 30 % reduction within 5 years upon entry into force¹⁸⁴. Sweden and Norway welcomed the suggestion of UNEP's Executive Director, Mostafa Tolba, to phase out CFCs and halons by the year 2000¹⁸⁵.

The question could not be settled. While the report indicates that a 30 % reduction after six or eight years upon entry into force (beyond the 20 % reduction of the second step) could be envisaged¹⁸⁶, the European Community accepted only a slightly relaxed decision-making procedure for measures of the third and possible further reduction steps¹⁸⁷. However, the Working Group reached agreement on a major review of the control measures every four years, beginning in 1990¹⁸⁸. This

178 Report, UNEP/WG.172/2, para. 13.

179 Report, UNEP/WG.172/2, para. 18.

180 See *Sand, Lessons Learned in Global Environmental Governance*, p. 6.

181 See report, UNEP/WG.172/2, para. 27. The proposal was not accepted by the Working Group. However, article II (6) of the later Montreal Protocol provides that the production of facilities under construction in September 1987, and provided for in national legislation (e.g. in a five-year-plan) by January 1987, would be added to the 1986 production.

182 See Discussion Paper submitted by New Zealand, UNEP/WG.172/CRP.1.

183 See report, UNEP/WG.172/2, para. 16.

184 See report, UNEP/WG.172/2, para. 15.

185 See report, UNEP/WG.172/2, paras. 19 and 21. Sweden suggested adopting the plan as a declaration. The Executive Director had urged the finalization of the protocol at the third session of the Working Group, and the signing of it in September 1987, to allow it to enter into force in 1988. He had proposed a freeze of CFCs and halons for 1990, and then a 20 % reduction of the base-year figures every two years, up to a complete phase-out in the year 2000; see *ibid.*, para. 3.

186 See report UNEP/WG.172/2, p. 15, para. 15 and Annex, *ibid.*, p. 17.

187 See report, UNEP/WG.172/2, p. 15, para. 15.

188 See report, UNEP/WG.172/2, p. 15, para. 16; and Annex, *ibid.*, p. 17.

meant that there was a relatively early opportunity to strengthen the control measures adopted, if necessary and agreeable.

The 'reduction formula' of article II was intensely discussed. In order to settle the conflict concerning the basis of calculations, Sweden proposed the inclusion of an obligation to freeze and then reduce both production and consumption levels, with consumption calculated as production plus imports minus exports¹⁸⁹. Later on, the European Community agreed to the production/consumption formula for the second step (20% reduction), but insisted on its own production/imports formula for the first step (freeze)¹⁹⁰. No final agreement could be reached on this subject¹⁹¹.

The third session brought about some progress in the establishment of the list of substances to be controlled. The scientific working group established during the session agreed that there were four groups of substances, namely (a) fully halogenated chlorine compounds (CFCs), (b) fully halogenated bromine compounds (halons) with a specific ozone depleting potential (ODP) several times as high as that of CFCs, (c) partially halogenated chlorine compounds (HCFCs) in use in 1985, and (d) HCFCs not in use in 1985. Substances of the latter two groups could function as substitutes for group (a) substances as their ODP figures were considerably lower than those of CFCs¹⁹². Accordingly, group (a) and group (b) substances were the prime candidates for control measures. Moreover, the scientific group recommended that measures should not be confined to the control of the two or three most important CFCs (11, 12, 113), since the CFCs 114 and 115 had equally high ODPs and would, therefore, not provide appropriate substitutes¹⁹³. Upon these preparations, progress was made on the list of substances to be included into the protocol. It should comprise, beside the CFCs 11 and 12, CFC 113 and, should scientific evidence confirm the need, also CFCs 114 and 115¹⁹⁴. However, disagreement prevailed over the inclusion of halons¹⁹⁵.

189 See UNEP/WG.172/CRP.3. The two concepts of 'consumption' according to this proposal and of 'adjusted production' as preferred by the United States were very similar. As the only difference, the US concept included credits for the still rather unimportant amounts of controlled substances recycled or permanently incapsulated.

190 See proposal of the European Community UNEP/WG.172/CRP. 6.

191 The report of the session (UNEP/WG.172/2) contained a text with the revised formula as Annex I (p. 19) and a text 'prepared by the Executive Director after consultations with a small sub-working group of heads of delegations' (p. 17) with another formula. The sub-working group included 10 delegations, namely Canada, Japan, New Zealand, Norway, the Soviet Union, the United States, the European Community, Belgium, Denmark and the United Kingdom, see *Benedick, Ozone Diplomacy*, p. 85. Apparently the former text had been subject to scrutiny only as to the *formula* and the latter only as to the *figures* to be inserted.

192 On the basis of CFCs 11 and 12 (ODP = 1), the group noted the following ODPs: halon 1301 (ODP = 10); halon 1211 (ODP = 3); HCFC-22 (ODP = 0.05); methyl chloroform (ODP = 0.1); see report UNEP/WG.172/2, p. 13.

193 See report, UNEP/WG.172/2, p. 12.

194 See report, UNEP/WG.172/2, p. 15, paras. 13-14. The delegation of the European Community, however, cautioned that its mandate extended only to the CFCs 11 and 12, see *ibid.*, para. 17.

195 See report, UNEP/WG.172/2, p. 15, para. 14.

Some progress was achieved on trade restrictions¹⁹⁶ and on the special situation of developing countries¹⁹⁷, but the protocol was not at all ready for adoption. On all major issues negotiations still continued. In order to avoid unnecessary complications in respect of the substances to be included into the protocol¹⁹⁸, the UNEP Governing Council extended the mandate of the Working Group and decided «that it should consider the full range of ozone-depleting chemicals in determining what chemicals might be controlled under the protocol»¹⁹⁹.

Endeavouring to clear as many subjects as possible prior to the diplomatic conference in Montreal²⁰⁰, the European Community called the four main producers, i.e. the European Community, the United States, the USSR and Japan for informal consultations under the chairmanship of the Executive Director of UNEP²⁰¹. The meeting was faced with three major issues, namely (a) the reductions of the third step, (b) the list of substances to be controlled, and (c) trade relations with non-parties²⁰². The participants agreed to include all fully halogenated CFCs (11, 12, 113, 114, 115) and the two most important halons in the protocol. Yet, they did not agree on a freeze for the latter group of substances. In consequence, a bracketed article on halons was introduced into the draft submitted to the diplomatic conference²⁰³.

Progress was also made on the reduction schedule for CFCs. Japan and the Soviet Union now accepted the 20 % reduction of the second step but were extremely reluctant to go any further. The European Community likewise preferred not to include an automatic third step into the protocol²⁰⁴. Moreover, even the United States having so far promoted an almost complete phase-out of CFCs and halons (95 % reduction) was not any more entirely convinced of the desirability of a severe reduction of ozone depleting substances. Some administrative units of the government withdrew their support for reductions beyond a mere freeze of production/use²⁰⁵. Under these conditions, the US delegation mitigated its proposal²⁰⁶. De-

196 See report, UNEP/WG.172/2/Annex II, p. 20. The draft article proposed still contained a number of square brackets.

197 Canada had proposed to exempt low-consuming countries for a number of years from the obligations to freeze and reduce controlled substances, see 'Non-Paper', submitted by Canada, reprinted in UNEP/WG.172/2, p. 22.

198 See report UNEP/WG.172/2, p. 16, para. 18.

199 UNEP Governing Council Decision 14/28 (1987), para. 1; UNEP/GC.14/26/Annex I, p. 61.

200 The Working Group had authorized further negotiations under the chairmanship of the Executive Director of UNEP; see report UNEP/WG.172/2, para. 34.

201 The meeting aroused activities by non- and sub-state actors to increase the pressure on the position of the European Community; see *Jachtenfuchs, The European Community and the Protection of the Ozone Layer*, p. 266. The European Parliament's Environment Committee adopted a resolution calling for an 85 % reduction of production and consumption of CFCs within 10 years; the European Environmental Bureau organized a symposium under the title 'The Sky is the Limit'.

202 See *Europe Environment*, No 280/1987.

203 See Seventh Revised Draft Protocol, article II (2), UNEP/IG.79/3/Rev.1.

204 The US chief negotiator noted that the major resistance to the third step originated from the Community, see *Benedick, Ozone Diplomacy*, pp. 78-79.

205 See *Morrisette, The Evolution of Policy Responses*, p. 811; and *Crawford, Ozone Plan Splits Administration*, p. 1052. He suggests that the split came upon indication by the European Community during the second session that it would be prepared to negotiate seriously. Pressure not to go beyond a freeze of consumption levels of CFCs originated from the 'Alliance for Responsible CFC Policy', a coalition of major US manufacturers and

spite this constellation of interests, the major actors of the issue-area eventually accepted the third reduction step (50 % reduction) prior to the Montreal Conference²⁰⁷.

Finally, a legal drafting group met early in July in Den Haag to finalize the text of the draft protocol to be submitted to the Montreal Conference²⁰⁸. Yet, despite these comprehensive preparations the Seventh Revised Draft Protocol²⁰⁹ still contained numerous square brackets and left many questions open.

2.4. The Montreal Conference

In September 1987, the diplomatic 'Conference of Plenipotentiaries on the Protocol on Chlorofluorocarbons to the Vienna Convention for the Protection of the Ozone Layer'²¹⁰ was convened in Montreal. The Conference, which was attended by 58 states, the European Community and five states in an observer status, adopted the Montreal Protocol²¹¹ and a number of Resolutions for the establishment of an interim mechanism. During the Conference, the Protocol was signed by 26 parties²¹².

2.4.1. Agreement in Substance

The Protocol underwent several important alterations when compared to the Seventh Revised Draft Protocol. It was agreed to base the control measures contained in article 2 at all stages on a double standard regulating both production and consumption levels. This solution found during the third session of the Working Group proved to be a reliable compromise between producing and consuming countries²¹³.

users; on the position of this interest group, see *Somerset*, An Attempt to Stop the Sky from Falling, pp. 408-412. On the inter-agency conflicts within the Reagan Administration about the US position toward protection of the ozone layer, see *Benedick*, Ozone Diplomacy, pp. 51-57.

206 It suggested limiting the ultimate fourth step of its plan to an 80 % reduction, see *Europe Environment*, No. 280/1989. Eventually, it advocated a mere 50 % reduction, see *Doniger*, Politics of the Ozone Layer, p. 90.

207 In the draft protocol submitted to the conference, the respective provision, article II (4), does not appear in brackets; only for the target year were two options (8 or 10 years upon entry into force) offered; see UNEP/IG.79/3/Rev.1.

208 See report UNEP/WG.172/2, para. 35.

209 UNEP/IG.79/3/Rev.1. The draft also contains two alternative texts for a short resolution on the envisaged freeze emissions and production of halons, which would have assigned the issue to the first meeting of the contracting parties; see Seventh Revised Draft Protocol, UNEP/IG.79/Rev.1, footnote 4.

210 See Final Act of the Conference. Only later, when it had been agreed that halons would become subject of control measures, was the Protocol re-named into Montreal Protocol on Substances that Deplete the Ozone Layer.

211 Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal 1987.

212 Signatories included the European Community and of its members Belgium, Denmark, France, West Germany, Italy, Netherlands, Portugal and the United Kingdom; of the group of other industrialized countries Canada, Finland, Japan, New Zealand, Norway, Sweden, Switzerland and the USA; of the group of developing countries Brazil, Egypt, Ghana, Kenya, Mexico, Panama, Senegal, Togo and Venezuela. The USSR signed late in December 1987, the four remaining EC members, i.e. Greece, Ireland, Luxembourg and Spain, by late 1988; see 'Status of Ratification of the Vienna Convention and the Montreal Protocol', UNEP/OzL.Pro.2/2/Add.1. Some countries generally in favour of the protocol, e.g. Austria and Australia, did not sign immediately.

213 In the Seventh Revised Draft Protocol, the freeze of CFCs was still based on production and import figures, see article 2 (1); UNEP/IG.79/3/Rev.1.

•Controls on production levels would protect the interests of producer countries who are concerned that uncontrolled production at a time of shrinking world consumption would unsettle the world market for the substances; controls on consumption levels would protect the interests of importing countries by ensuring that the proportion of the total world production devoted to the export market is maintained even as total production is phased down.²¹⁴

For the annual period beginning six months after the entry into force of the Protocol, parties committed themselves to a freeze of production and consumption at 1986 levels of the five major CFCs agreed upon earlier and listed in an Annex to the Protocol. From 1993/94, production and consumption levels were to be reduced to 80 % of 1986 levels. From 1998/99, levels were to be reduced to 50 % of 1986 levels²¹⁵. The reduction schedule thus comprised *fixed dates* except for the first stage (freeze), while target dates of earlier versions had depended upon the date of entry into force of the instrument²¹⁶. The parties also agreed on a freeze of the three halons listed in an annex to the Protocol²¹⁷ beginning three years after entry into force. Substances were weighted according to their ozone depleting potential to calculate the levels of production and consumption²¹⁸. Within each of the two classes of substances (i.e. CFCs and halons), the parties obtained a considerable degree of flexibility in implementing the obligations without a serious impact on the policy of the regime.

The Protocol as adopted in Montreal contained several exemptions to these obligations most of which had not been envisaged before. First and foremost, developing countries with a low annual per capita consumption (below 0.3 kg) would enjoy a 'grace period' of ten years²¹⁹.

Apart from this general exemption, three paragraphs of article 2 were devoted to special conditions of particular parties. Low-producing countries were allowed to transfer their CFC production quota to other parties for the purpose of industrial

214 Explanatory Note by the Executive Director of UNEP, accompanying the Seventh Revised Draft Protocol (no symbol).

215 Unless Parties decided otherwise with a two-thirds majority, which represented two-thirds of the total consumption of parties. This case was, however, not to be expected, see *Lang*, *Diplomatie zwischen Ökonomie und Ökologie*, p. 106. The adequacy of the control measures in light of the problem of ozone depletion have been judged completely contradictory. *Etrift*, *Protection of the Ozone Layer*, argues that they were largely inadequate. *Blegen*, *International Cooperation in Protection of Atmospheric Ozone*, considers the Protocol as a landmark treaty which could hardly be criticized.

216 Fixed dates constitute a device to encourage an early ratification as delaying the ratification does not pay, see *Koehler/Hajost*, *The Montreal Protocol*, p. 84.

217 During the entire preparatory phase, mention was made of only the two halons 1301 and 1211. Only at the Conference was halon 2402 taken into consideration in response to a Norwegian initiative; see *Benedick*, *Ozone Diplomacy*, p. 78. The German Federal Environmental Agency notes that in West Germany and Western Europe this latter substance is not licensed for fire-extinguishing and has therefore no commercially relevant share in the market. Yet it is known that it is used in the USSR; see *Umweltbundesamt*: *Responsibility Means Doing Without*, p. 138.

218 See Montreal Protocol, article 3.

219 See article 5 (1) of the Protocol. In the final stages of the Conference, the developing countries had been able to raise the per capita limit. The Seventh Draft Protocol suggested limits of 0.1 or 0.2 kg.

rationalization²²⁰. This clause was inserted at the request of Canada²²¹ and is meaningful in the light of the envisaged gradual decrease of production figures especially for countries with limited domestic markets. Another exemption applies to the Soviet Union where a plant for the production of CFCs was under construction in 1987. The Soviet Union had therefore advocated a base year for the calculation later than 1986. Instead, the Montreal Conference agreed that it should be allowed to add the production of this facility to its calculated production of 1986²²². The Soviet Union, moreover, declared that it considered it necessary to amend the Protocol at the first Meeting of the Parties so as to relax trade restrictions allowing the fulfilment of contractual obligations²²³.

Another exemption clause was introduced during the diplomatic conference for the benefit of the European Community. At the request of its member states, a regional integration organization was assessed as a single unit for the calculation of consumption levels. This allowed members of the European Community to exchange consumption quota. Over-fulfilment of obligations by one member might be exploited by another. The clause led to a harsh confrontation between the Community and the United States which was only solved during the ministerial meeting²²⁴. The Community request was undoubtedly well founded in its internal free-trade system and the envisaged elimination of trade-restrictions by the end of 1992, as well as in its competence in the area of control measures²²⁵. Nevertheless, the clause provided Community countries with a considerable advantage, in particular compared to *small* parties. However the Community would be precluded from the application of this clause as long as not *all* member states became parties to the Protocol²²⁶. In an overall compromise, the Community declared that all of its member states would sign the Protocol (in addition to the Commission) and that all of them would ratify the Convention on which the entry into force of the Protocol depended²²⁷.

220 See article 2 (5). The paragraph appeared in a very brief form in article 2 (6) of the Seventh Revised Draft Protocol, UNEP/IG.79/3/Rev.1. The legal drafting group had noted that «the idea behind this provision required further elaboration»; see *ibid.*, footnote 8.

221 See *Lang*, *Diplomatie zwischen Ökonomie und Ökologie*, p. 107.

222 See article 2 (6). The clause listed so many conditions that it was evidently designed to precisely fit this single case. The factory in question had to be under construction or under contract by September 1987; it had to be provided for in national legislation by the beginning of 1987 (e.g. it had to be part of the economic five-year-plan); it had to be completed by the end of 1990; and consumption levels of the country had to remain below 0.5 kg per capita. South Korea attempted in vain to exploit this clause.

223 See declaration attached to the Final Act of the Conference, p. 11. The first meeting decided to the contrary and interpreted the exemption clause to allow increases in production *solely* for domestic use; see Decision 12 G, report, UNEP/OzL.Pro.1/5, p. 19.

224 See *Lang*, *Diplomatie zwischen Ökonomie und Ökologie*, p. 108. On the background of the US-EC controversy, see *Benedick*, *Ozone Diplomacy*, pp. 94-97.

225 The Community's concession to refrain from its initial position to regulate exclusively the *production* of CFCs and to accept a regulation of imports, and later of consumption, was always related to the condition of its treatment as a single unit.

226 The United States, fearing that not all Community member states were inclined to do so, also opposed the Community request to open the instrument for signature by the Commission of the European Community; see *Jachtenfuchs*, *The European Community and the Protection of the Ozone Layer*, pp. 266-267.

227 See Declarations, attached to the Final Act of the Conference, p. 11. In fact, four out of the twelve EC members, i.e. Greece, Ireland, Luxembourg and Spain, did *not* sign the Protocol during the Conference, but later on; see Status of Ratification of the Vienna Convention and the Montreal Protocol, UNEP/OzL.Pro.2/2/

A last exemption concerned the limited production quota during all three stages of the CFC reduction schedule and the freeze of halons. For the purposes of the 'basic domestic needs', in fact domestic consumption, of developing countries operating under article 5²²⁸ and for the purpose of industrial rationalization it was accepted that the limited production quota be raised by 10 % (in the third stage concerning CFCs: by 15 %) above the requirements of the control measures in force. The purpose of these clauses was to secure the supply of legitimate quantities for countries not producing CFCs and halons and thus to prevent unwise capital investment in the production of CFCs.

The procedure for the adjustment, i.e. the strengthening of control measures, had been one of the issues disputed throughout the negotiations between the 'progressive' group of countries including the United States, the Nordic countries and Canada on the one hand, and the European Community supported by the Soviet Union on the other hand. The former group favoured a flexible adjustment procedure based upon *decisions* of the Meeting of the Parties, while the latter group insisted that modifications required the traditional procedure applicable to amendments of international treaties including the time-consuming national ratification process. The Seventh Revised Draft Protocol remained ambiguous in this regard. It provided that the parties should decide at their meetings on the inclusion of new substances in the annexed list and on the modification of the reduction schedule. It was silent as to the control measures applying to newly included substances. Moreover, it remained unclear whether changes adopted by majority vote are intended to bind all Parties or whether the intent is that such changes would bind only Parties that have agreed to them²²⁹. During the diplomatic conference, this ambiguity was cleared. The Montreal Protocol as adopted provided²³⁰ that adjustments of the level and timing of control measures and of the ozone depleting potential figures of substances included in the annex could be decided upon by the Meeting of the Parties. Such decisions should be taken by consensus, if possible. The minimum requirement was, however, only a two-thirds majority of parties present and voting, which had to represent at least 50 % of the combined consumption of all parties. This requirement ensured that these decisions could not be taken without understanding of the two largest consumers, i.e. the United States and the European Community²³¹. These decisions became binding *upon all parties* after six months. The simplified procedure thus circumvented the cumbersome ratification procedure in respect of the *substances already subject to control measures*. All other changes,

Add.1. Of these four countries, Ireland was not even mentioned in the list of attendance, Final Act, para. 3. *Benedick*, *Ozone Diplomacy*, p. 97, attributes this to an error. Yet, he stresses that three of the twelve Community member states, namely Greece, Ireland and Portugal, were originally not represented and only showed up with local staff at the request of the EC Commission.

228 There are a few developing countries which do not meet the per capita consumption limit of article 5; this group includes in particular some oil-rich Gulf states.

229 See Seventh Revised Draft Protocol, footnote 7 commenting on article 2 (5).

230 See Montreal Protocol, article 2 (9)-(10).

231 See *Lang*, *Diplomatie zwischen Ökonomie und Ökologie*, p. 107.

including decisions on new substances and related control measures, however, required the regular treaty-amendment procedure stipulated in the Convention²³².

The Protocol contained as a complex compromise between the diverging EC and US positions a comprehensive package of trade restrictions intended to affect non-parties and to encourage their accession to the regime²³³. Within a year upon entry into force, parties to the Protocol should ban imports from non-parties and by 1993 also exports to them. They should 'discourage' the export of technology in the fields of production and use of controlled substances and refrain from financial and economic support for the establishment of such facilities. Moreover, the participants agreed that within three years upon entry into force the Meeting of the Parties should elaborate an annex listing products that contained controlled substances. According to the relevant provisions of the Convention, this annex had to be adopted by a two-thirds majority of the parties and would enter into force for all countries not having objected ('opted out') within six months²³⁴. These parties were committed to a ban on imports of such products from non-parties. Within five years the meeting of the parties should determine the feasibility of proceeding similarly with products produced with controlled substances but not containing them²³⁵.

As an indispensable auxiliary duty, the Protocol obliged states to provide the necessary data on production, imports and exports on which the calculation of obligations was based. Although containing a 'hard' obligation, the relevant article 7 was drafted in rather general terms. The elaboration of the particular conditions of the provision of data, including the issue of confidentiality, could not be settled during the Conference. It was assigned to a Working Group on Data Reporting established pursuant to a Resolution adopted by the Conference²³⁶. Other substantive duties were related to cooperation in the areas of assistance of developing countries (article 5)²³⁷, research and development (article 9), and technical assistance (article 10). These issues had not been at the centre of the deliberations and needed further specification to become effective. In fact, the general purpose of these provisions was largely confined to an outline of areas for future cooperation.

2.4.2. *The Process Component*

The adoption of the Protocol constituted an important step in the process of development of the international regime. No doubt, the substantive obligations codified in the instrument reflected the degree of compromise achievable in 1987 among

232 See *Tourangeau*, *The Montreal Protocol*, pp. 536-538.

233 On the 'incentive structure' of the Protocol, see *Capretta*, *The Future's so Bright*, pp. 230-243.

234 See *Montreal Protocol*, article 4 (3) and *Vienna Convention*, articles 9 and 10.

235 Non-parties that nevertheless complied with the control obligations of article 2, the trade restrictions of article 4, and the data reporting requirements of article 7, could be exempted from the ban on imports if the Meeting of the Parties determined the fulfilment of these conditions.

236 See Resolution 3, *Final Act of the Conference*.

237 A part of this question was excluded, see Resolution 2, *Final Act of the Conference*.

important participating states. In part the Montreal Protocol simply modified the agreement reached in 1985 in Vienna.

Yet, it was not at all considered as the final step in the development of an international normative system for the protection of the ozone layer. Its intermediate nature, embedded in an on-going process, is emphasized in the preambular paragraph stating that the parties were

»determined to protect the ozone layer by taking precautionary measures to control equitably the global emissions of substances that deplete it, *with the ultimate objective of their elimination...*»²³⁸.

For the achievement of this ultimate objective, the negotiating process moulding and revising norms governing the issue-area would obviously have to continue. For this purpose, the Protocol contained several provisions altogether designed to facilitate and accelerate the making and the implementation of decisions. A rather specific and path-breaking provision was, of course, the possibility of being able to decide on adjustments of control measures by a two-thirds majority with a binding effect upon all parties without exception and without an opportunity of opting out²³⁹. Other provisions, e.g. concerning the elaboration of annexes in the field of trade restrictions, constitute specific and detailed guidelines for further negotiations or for the implementation of general decisions. The process component of the Montreal Protocol reaches, however, far beyond these specific provisions.

The Protocol provided that the Meeting of the Parties should undertake a comprehensive assessment and review process of the control measures every four years, beginning in 1990²⁴⁰. This review should take place on the basis of available scientific, environmental, technical and economic information to be elaborated by panels of experts in the respective fields during the year prior to the assessment and review. Accordingly, every four years the information basis of control measures would be thoroughly examined. Subsequently, the political negotiating process on the policy consequences, i.e. on the appropriateness of control measures, would be re-opened. The first review would in fact start immediately upon entry into force of the Protocol²⁴¹.

Another far-reaching provision related to strengthening the normative system governing the issue-area. During the diplomatic conference it was agreed that a non-compliance procedure was required. Such an independent mechanism addressing incidents of non-compliance obviously reached beyond the dispute-settlement clause of the Convention which also applied to disputes arising under the Protocol. However, the issue had not been discussed seriously prior to the conference and an

238 Montreal Protocol, preambular paragraph 6 (emphasis added). This declaration of intent had been part of article 2 in the Seventh Revised Draft Protocol. It was transferred to the preamble at the request of the European Community, see *Benedick, Ozone Diplomacy*, p. 86.

239 *Koehler/Hajost*, The Montreal Protocol p. 84, note that this is »perhaps unprecedented for an international environmental agreement«.

240 See Montreal Protocol, article 6.

241 Any long-term assessment of the effects of the control measures necessarily misses this process dimension; see *Tripp*, The UNEP Montreal Protocol.

ad hoc solution could not be found²⁴². The task was thus assigned to the first Meeting of the Parties²⁴³.

Under the Protocol the Meeting of the Parties is established as an independent policy-making authority. It had already been duly recognized that protocols to the Convention could be modified only by the parties to the particular instrument. However, the establishment of a separate decision-making body would not have been necessary²⁴⁴, all the more so since non-parties were invited to observe both the Conference of the Parties to the Convention and the Meeting of the Parties to the Protocol. The decision was thus rooted in the early history of negotiations on the Protocol.

During the second round of negotiations the parties had also agreed to establish a second Secretariat with largely servicing functions. This step was largely due to financial implications. Funds meeting the operational costs of the Protocol and its Secretariat should be met exclusively by the parties to this instrument (and not by the parties to the Convention). Hence, this separation was widely of a formal and financial nature. In practice, the two Secretariats would closely cooperate and even share employees.

To sum up, within the dynamic process of the international regime governing the issue-area of the protection of the ozone layer, the Montreal Protocol established its own decision-making mechanism independent from that established under the Convention. It rendered the latter, originally established as a framework for the entire regime, largely obsolete.

2.4.3. The Interim Mechanism

The Montreal Protocol contained a number of devices intended to accelerate its entry into force, i.e. to speed up the formalization of the state of agreement reached at Montreal. One such device, i.e. the fixed dates for reduction steps two and three of the control measures in respect of CFCs, has already been mentioned. Subject to the 'grace period' of ten years, these dates applied also to developing countries. A similar provision has been adopted for the ban on exports of controlled substances to non-parties. Delays in ratification of the Protocol do thus not result in extended grace periods. From the moment at which the Protocol becomes binding on a given party, this party shall have to fulfil all obligations in force for other parties at that time²⁴⁵. Moreover, the 'fixed dates' approach has been transferred to the entry into force of the entire instrument. While international legal instruments enter into force

²⁴² See *Sorensen*, Montreal Protocol on Substances that Deplete the Ozone Layer, p. 190.
²⁴³ See Montreal Protocol, article 8.

²⁴⁴ The fact that a legal instrument may only be revised by the parties to that instrument is self-evident. However, the regime on long-range transboundary air pollution, for example, comprises only one policy-making body, the Executive Body established under the Convention. Matters related to the Protocols adopted are discussed in this forum even though formal decision-making is confined to the contracting parties to the respective Protocols. See above, Chapter 4.

upon deposition of a specified number of instruments of ratification, the Montreal Protocol envisaged a specific date, namely 1 January 1989, for its entry into force. Evidently, this date, which implied a rather short period of less than a year and a half for the domestic ratification process, could only have an orientation function²⁴⁶.

Nevertheless, an interim period had to be bridged. Beyond the Montreal Protocol, the Conference adopted an interim mechanism based upon three Resolutions. First of all, *all States* and economic integration organizations were called upon to unilaterally control their emissions of CFCs, inter alia in aerosols, by means at their disposal²⁴⁷. This was a reference to an identical call adopted at the Vienna Conference²⁴⁸. The rapid development of the international normative system for the protection of the ozone layer made it useful for countries to adopt unilateral precautionary steps which smoothed the necessary adaptation process. The first Resolution thus provided a 'substantive follow-up' to the Conference.

In a second Resolution, the Conference recognized the need for an early exchange of information on technologies and strategies to reduce emissions on ozone depleting substances²⁴⁹. Pending the entry into force of the Protocol, the UNEP Executive Director was requested to facilitate this exchange of information. This resolution provided a 'technical follow-up' to the comprehensive deliberation process just concluded.

By a third 'Resolution on the Reporting of Data' the *Conference* established a 'political follow-up' pending the entry into force of the Protocol. It was convinced that timely reporting of complete and accurate data on the production and consumption of controlled substances was critical to an effective and efficient implementation of the Protocol and called upon all *signatories* of the Protocol to supply the required data and to consult each other in this regard. It also called upon the Executive Director of UNEP to convene a meeting of governmental experts within six months »to make recommendations for the harmonization of data on production, imports and exports to ensure consistency and comparability of data on controlled substances«²⁵⁰. Although this mandate might appear at first glance to be a purely technical one, policy decisions had to be made. Recommendations on the harmonization of data constituted in fact an interpretation of the relevant provisions of the Protocol. The Working Group established pursuant to this Resolution became the interim policy-making body of the regime for the year and a half to come.

245 See Montreal Protocol, articles 16 and 17. For a comment, see *Koehler/Hajost*, The Montreal Protocol, p. 86.

246 Three requirements had to be fulfilled for the entry into force, (a) the deposition of eleven instruments of ratification or equivalents; (b) ratification by parties representing at least two thirds of the estimated global consumption of controlled substances; and (c) prior entry into force of the Convention. Condition (b), introduced at the request of the USA to protect its chemical industry, assured that the formally binding force of the Protocol was accepted simultaneously by the three largest participants in the market, i.e. the European Community, the United States and Japan; see *Lang*, *Diplomatie zwischen Ökonomie und Ökologie*, p. 107.

247 See Resolution 1, Final Act of the Montreal Conference. The Resolution also urged states and regional integration organizations to join the Convention and to sign and ratify the Protocol.

248 See Resolution 2, Final Act of the Vienna Conference; see also above, Chapter 6, Section 1.3.

249 See Resolution 2, Final Act of the Montreal Conference. It referred to the Montreal Protocol, articles 9 and 10.

250 See Resolution 3; Final Act of the Montreal Conference.

3. Conclusion

After four years of intensive deliberations interrupted by an almost complete breakdown of the negotiation process, the participating countries agreed on the adoption of a substantive Protocol. It contains an important step toward meaningful control measures for the limitation and reduction of emissions of ozone depleting substances. Yet, the measures agreed upon were widely considered to be insufficient to stop and roll back the depletion of the ozone layer. Within a decade, emissions of CFCs would be reduced by 50 % of 1986 levels, the emissions of halons would be frozen at 1986 levels. Yet, in the year 2000, still hundreds of thousands of tons of these substances could be emitted legitimately. Other important ozone depleting substances were not addressed at all.

What is even more, the international regime largely remained a club of a limited number of highly industrialized countries. Apparently, the approach to reach agreement among the few most important producer and consumer countries, in particular the United States, the European Community and Japan, was highly adequate as the first step of a comprehensive approach. In the long run, however, developing countries could be expected to increase their share in the market and had to be encouraged to participate in the regime process if the partial success achieved by the industrialized world should not be thwarted. To achieve this task, the Montreal Protocol envisaged a dynamic process to adapt the normative system governing the issue-area to developing scientific and technological knowledge and to extending political consensus.

For historical reasons, the institutional framework of the international regime for the protection of the ozone layer developed in a manner considerably different from that of the regime on long-range transboundary air pollution. In the latter case, the Geneva Convention provided a true framework within which specific protocols addressing different pollutants evolved. These protocols were institutionally hardly elaborated. They did not, for example, provide for independent meetings of the parties. Therefore, they could hardly exist separately from the Convention. The Montreal Protocol, in contrast, included its own institutional mechanism, its own regular Meeting of the Parties and its own Secretariat. Moreover, it addressed the whole range of internationally coordinated action for the protection of the ozone layer. In short, the Montreal Protocol became the core of the international regime and acquired virtual (but not formal) independence from the Vienna Convention. Consequently, prior to its entry into force the Convention lost much of its relevance for the organization of the issue-area. It had already discharged its most important function, namely the acceleration of the deliberation process on internationally coordinated action. The future process would be primarily organized under the Protocol.

Chapter 7

Development of the International Regime for the Protection of the Ozone Layer

The negotiations and the adoption of the Montreal Protocol were not part of the deliberation process of the international regime formally established under the Vienna Convention. These negotiations began and were concluded prior to the entry into force of the Convention. They were conducted in an ad hoc forum within the framework of UNEP. For historical reasons the Protocol established its own deliberation and decision process separate from that established under the Convention. Only upon entry into force of the two instruments would future negotiations not be conducted any more within the framework of UNEP but within the institutional structure of the regime.

The present chapter analyzes the operation of the regime. It explores the negotiations of the first major revision of the Protocol only 18 months after the formal entry into force of the instrument, i.e. in 1990. And it examines the further development of the regime until the second major revision of the Protocol.

1. Toward Revision of the Protocol

The process resulting in the revision of the Protocol started almost immediately upon adoption of the instrument in 1987. During a comparatively short interim period scientific knowledge concerning the depletion of the ozone layer grew considerably and political consensus emerged on the desirability of tightening the control measures agreed upon. In this situation, a working group with a limited mandate tacitly assumed the function to legitimate activities.

1.1. Situation upon Adoption of the Protocol

In 1986, producers and industrial users of CFCs and halons in the European Community and Japan could still rely on their traditional strategy of influencing their governments not to accept a serious cut-back in the production and use of ozone depleting substances. Industries in the United States, already subject to severe restrictions on the use of CFCs in the least essential but important sector of aerosols, did probably not expect further severe unilateral steps toward reductions.

Within less than a year, the situation in the issue-area changed dramatically. The three most important producing and consuming countries of ozone depleting substances and several smaller industrialized countries had agreed on a clear and binding phase-down schedule. Apart from the hypothetical case of widespread non-com-

pliance with the Protocol, both producing and consuming industries had to expect an implementation of the rules agreed upon in Montreal. For countries having already banned aerosol uses before 1986, this implied a medium term phase-down of more sophisticated uses¹. Industries in the European Community also faced the urgent task of developing substances or production processes for the substitution of CFCs and halons. Moreover, the political pressure for more stringent measures with the ultimate goal of an almost complete phase-out of CFCs was high; the institutional framework of the Montreal Protocol was flexible; and the first review of the control measures was scheduled for 1990. Industries concerned could, therefore, anticipate the tightening of internationally coordinated action for the protection of the ozone layer in the near future. Hence, the adoption of the Montreal Protocol profoundly altered the calculation of key non-governmental actors in the issue-area on which progress depended, i.e. the chemical and user industries². Technological progress achieved by these key actors would pave the way for the adoption of tighter restrictions at the inter-governmental level.

This dynamic cycle of mutually reinforcing progress at the industrial and at the political/legal level may be observed in the internal discussion of the European Community, i.e. the most important stumbling block during the negotiations for many years³. The agreement on a 50 % reduction of CFCs by 1998/99 by the Community was undoubtedly the result of a combination of internal pressure on the part of some member countries, e.g. Germany, Denmark, and the Netherlands, and external pressure in the course of the international negotiations. During the 1987/88 debate on the implementation of the Protocol into European legislation, in particular France and the United Kingdom most forcefully resisted any reductions beyond the Protocol requirements. But the initially strict British position slowly eroded simultaneously with progress in the development of substitutes made by the largest British producer of CFCs, Imperial Chemical Industries (ICI). France alone could not withstand the increased pressure. Therefore, in March 1989 the Environment Council of the European Community was able to envisage a complete phase-out of CFCs by the year 2000⁴. This decision which was immediately followed by a similar United States commitment⁵ opened the way for a new round of negotiations on control measures.

In spring 1989, the British government arranged a conference entitled 'Saving the Ozone Layer'. The conference was attended by about 123 delegations, 80 of them at ministerial level⁶. The Conference was not intended to provide a forum for politi-

1 Du Pont, the world's largest CFC producer, had modified its position in 1986 and favoured a limitation of the use of CFCs in order to provide a market for its substitute chemicals. The final development and the industrial production of these substances depended on the expectation of a sufficiently large market, see *Morrisette*, The Evolution of Policy Responses, pp. 815-816.

2 On industry reactions, see *Oberthür*, Die Zerstörung der stratosphärischen Ozonschicht, pp. 165-166.

3 See in particular *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, pp. 267-273.

4 On the particular circumstances of the decision, see *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, p. 271.

5 See *Jachtenfuchs*, The European Community and the Protection of the Ozone Layer, p. 271.

6 See *Environmental Policy and Law* 19 (1989), pp. 45-46; UNEP/OzL.Pro.1/5, para. 11.

cal negotiations. A ministerial declaration had not been prepared for adoption. Political action should take place at the first Meeting of the Parties to the Montreal Protocol that was scheduled for two months later. Instead, the London conference constituted an attempt to bring together politicians and delegates on the one hand, and scientists as well as industrial representatives on the other hand with the intent to increase communication and the transfer of information between the different groups of experts⁷. The conference also provided a forum for the developing countries to launch their claim of internationally organized financial aid to support the conversion of their industries to more ozone-friendly production technologies. A 'Chairman's Message' read out at the end of the conference⁸ noted that industry did not complain about the reduction schedule of the Montreal Protocol and that there was wide agreement on the necessity to strengthen the Protocol.

Progress was also made in the area of scientific knowledge⁹. It shall be recalled that until 1985 unilateral as well as internationally coordinated action had depended exclusively on theoretical considerations and atmospheric modelling. Immediately after the adoption of the Vienna Convention, a report about empirical observations of the 'Antarctic ozone hole' was published¹⁰. While these observations had not been predicted by atmospheric modelling, they did not necessarily relate these ozone losses to the emission of CFCs and other ozone depleting substances. Therefore, between 1985 and 1987 arguments were exchanged between those believing in the man-made nature of the ozone hole and those arguing in favour of natural explanations¹¹. Late in 1987, after the conclusion of the Montreal Conference, the results of a US sponsored international expedition revealed a high concentration of chlorine in the Antarctic stratosphere. This finding corroborated the assumption that the Antarctic ozone hole was a consequence of CFC emissions in conjunction with the climatic particularities of Antarctica. Yet, it did not settle the question whether the ozone hole indicated a threat to more moderate and more densely inhabited latitudes. In March 1988, however, convincing evidence of observations of a depletion of the ozone layer in moderate latitudes as well was presented. What is more, depletion proceeded faster than predicted. Accordingly, within a year upon the adoption of the Montreal Protocol empirical evidence corroborated the hypothesis that CFCs in fact endangered the ozone layer. These developments of scientific knowledge were apt to further accelerate the mutually reinforcing cycle of industrial and political/legal activities.

Hence, during the 20 months interim phase between the adoption of the Protocol (September 1987), its entry into force (January 1989) and the first Meeting of the Parties (May 1989), the political, industrial and scientific conditions had undergone

⁷ An observer notes that the industrial workshops were especially well attended, «demonstrating the wish of delegates to learn about practical solutions»; see *Saving the Ozone Layer*; Environmental Policy and Law 19 (1989), p. 46.

⁸ The message had been circulated in advance.

⁹ For a brief overview of important developments in this sector, see UNEP: Action on Ozone.

¹⁰ See *Farman/Gardener/Shanklin*, Large Losses of Total Ozone in Antarctica.

¹¹ See *Kindt/Meneffee*, The Vexing Problem of Ozone Depletion, pp. 281-282; see also *Taubes/Chen*, Made in the Shade, pp. 67-68.

a profound change. It was a truly dynamic period with regard to the issue-area under consideration. Yet, all these developments proceeded outside the institutional structure of the international regime.

1.2. *The Interim Process*

During the dynamic interim period the institutional structure of the regime was weak. The meetings of parties to the two instruments did not hold their constitutive sessions and could not, therefore, supervise the deliberation process. In contrast to the Vienna Conference which had initiated a full-scale negotiation process, the Montreal Conference did not establish institutional arrangements envisaging a dynamic process. It had merely authorized a workshop on information exchange about alternative and substituting technologies and a Working Group on Data Reporting to be convened within six months of the Conference. Pursuant to the relevant Resolution adopted in Montreal, the mandate of the Working Group was limited to harmonizing the collection of data¹². However, it was tacitly extended already prior to its first meeting¹³.

The first session of the Working Group¹⁴ was almost entirely devoted to the definition of terms left undefined in the Protocol. For example, the Protocol allowed increases in production for the purpose of satisfying the 'basic domestic needs' of developing countries¹⁵. However, it remained unclear and disputed whether the term precluded the expansion of CFC consumption by these countries for the purpose of exporting CFC-related manufactured goods¹⁶. Moreover, it was not clear which countries would be covered by the term 'developing country' since in the United Nations no appropriate list existed. A number of different submissions was made, but agreement could not be achieved¹⁷. Finally, disagreement prevailed whether the data reporting requirement of the Protocol¹⁸ included a substance-by-substance report which would preclude the confidentiality of economic data due to the low number of producers in a single country¹⁹.

At its second session²⁰, the Working Group addressed a multitude of open issues in preparation for the first Meeting of the Parties to the Protocol which was expected

12 Resolution 3, Final Act of the Montreal Conference.

13 The preparatory note of the UNEP Secretariat was entitled »harmonization of data on production, imports and exports of substances controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer and other outstanding issues arising under the resolutions of the Final Act of the Conference of Plenipotentiaries and under the Montreal Protocol«, UNEP/WG.185/3 (emphasis added).

14 March 9 - 11, Nairobi. On the meeting, see generally *Montreal Follow-up*; Environmental Policy and Law 18 (1988), pp. 56-58.

15 See Montreal Protocol, articles 2 (1)-(4) and 5 (1).

16 See report, UNEP/WG.185/5/Rev.1, para. 17.

17 See report, UNEP/WG.185/5/Rev.1, para. 18. The report notes that one of these lists even included two of the member states of the European Community. The suggestion to apply the exemption of article 5 to all countries with a annual per capita consumption of less than 0.3 kg was not agreed upon.

18 See Montreal Protocol, article 7.

19 See report, UNEP/WG.185/5/Rev.1, paras. 14-15.

20 October 24 - 26, 1988 in Den Haag.

to take place in the first half of 1989. The Working Group noted that a scientific meeting immediately preceding its own meeting had recommended the figure of '6' for the ozone depleting potential of halon 2402²¹ to be included into the Annex of the Protocol²². The Group could not agree whether the term 'basic domestic needs' of developing countries included the export of ozone depleting substances into other developing countries or not²³. However, it reached an understanding on the preliminary applicability of a list of developing countries for the article 5 exemption. The first session had agreed that the UNEP Secretariat would circulate an updated list of the Group of 77²⁴, but the Executive Director drew attention to the fact that it contained Romania and Yugoslavia but not China, Mongolia and Namibia²⁵. The Working Group decided to adopt the list as circulated and to add the three countries mentioned as missing plus Albania. This list would be applied on an interim basis and submitted to the first session of the Meeting of the Parties for approval²⁶. Finally, the Working Group agreed²⁷ on a lengthy definition of the term 'substances in bulk'²⁸ and on an interpretation of the USSR-exemption of article 2(6)²⁹. The group also tackled but did not entirely settle the issues of the confidentiality of reported data and of credits for the recycling of controlled substances or their transformation into other, i.e. non-controlled chemicals³⁰.

A legal sub-working group was primarily concerned with the implementation of the various clarifications and other issues. It agreed that the clarification of terms, including the definition of developing countries, could be effected in the form of declaratory statements inserted in the report of the first meeting. If this procedure was not approved, the parties could alternatively adopt a resolution stating their acceptance of the clarifications³¹. The institutional mechanisms for the determination of non-compliance³², however, were likely to require an amendment of the Protocol, e.g. the adoption of an annex³³. The legal sub-group did not agree whether a formal amendment was required to insert the ODP figure for halon 2402

21 See report UNEP/OzL.WG.Data/2/3/Rev.2, para. 12; and report of the Scientific Meeting, UNEP/OzL.Sc.1/14/Add.2/Rev.1, p. 2.

22 See Montreal Protocol, Annex. It noted that the ozone depleting potential of halon 2402 was 'to be determined'.

23 See report UNEP/OzL.WG.Data/2/3/Rev.2, para. 16.

24 See report of the first session, UNEP/WG.185/5/Rev.1, para. 20.

25 See Secretariat note, UNEP/OzL.WG.Data/2/2, para. 17; the list was attached to this document as Annex II.

26 See report UNEP/OzL.WG.Data/2/3/Rev.2, paras. 17-18.

27 See report UNEP/OzL.WG.Data/2/3/Rev.2, paras. 20-21.

28 As adopted by the first Meeting of the Parties, see Decision 12 A; report, UNEP/OzL.Pro.1/5, pp. 17-18. It drew upon a systematic distinction between the controlled bulk chemicals and the uncontrolled chemicals in a use system. Hence, controlled substances contained in a drum of 5 kg, or even a 'cylinder' of 0.4 kg were considered as 'bulk chemicals' if these containers were used during transport and not as part of a use system e.g. a refrigerator or a fire-extinguisher.

29 As adopted by the first Meeting of the Parties, see Decision 12 G; report, UNEP/OzL.Pro.1/5, p. 19. The interpretation precludes that increases of production under this article are used for export to non-parties.

30 See report UNEP/OzL.WG.Data/2/3/Rev.2/Annexes III and V respectively.

31 See report UNEP/OzL.WG.Data/2/3/Rev.2/Annex II, para. 2.

32 See report UNEP/OzL.WG.Data/2/3/Rev.2/Annex II, para. 5.

33 According to the Montreal Protocol, article 8, the first Meeting of the Parties was faced with the establishment of a non-compliance procedure.

into the Protocol³⁴. The Working Group agreed that a *decision* of the first Meeting of the Parties and a subsequent communication sufficed on this matter³⁵. This meant that in a legally unclear situation an understanding could be achieved that a regular amendment of the Protocol was not required.

In October 1988 preparations for a new round of negotiations began. By that time the Vienna Convention had entered into force in time for the scheduled entry into force of the Protocol³⁶. The Executive Director of UNEP had convened three meetings in Den Haag which should start to prepare the scientific and technological information necessary for the first review of the Montreal Protocol scheduled for 1990.

The Working Group on Data Reporting therefore acquired a second important task. It assumed the role of the interim supervisory body of the review process to be set in motion. It acted in its capacity as the only inter-governmental negotiation forum of the parties to the Montreal Protocol which was mandated by a prior meeting in the framework of the emerging regime. The Working Group considered a proposal of the UNEP Secretariat to establish an Intergovernmental Multi-Disciplinary Panel to be attended by all parties, an International Steering Committee to supervise the review process, and below this super-structure, four reporting groups on scientific, environmental, technical and economic issues³⁷. According to this concept, which was approved by the Working Group³⁸ including the workplan and timetable for the assessment and review process, the institutional structure of the review process slightly differed from the text of the Protocol. According to the Protocol, »the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels«³⁹. Evidently, the idea behind the Protocol text was to convene *one panel for each of the four fields of inquiry*. Yet, since the composition of these panels and their terms of reference were to be decided by the first Meeting of the Parties at the earliest, the formal review process could not start until mid 1989⁴⁰. The structure proposed by the Executive Director of UNEP consisted of *one* panel, to be established by the first Meeting of the Parties and four reporting groups *servicing* the work of this panel in the four respective fields. These reporting groups were able to be established earlier on the basis of an understanding reached in the Working Group

34 The legal working group recommended either a regular amendment, or a »consensus agreement by the Parties at their first meeting to accept the halon 2402 figure, thereby implementing the Annex by making the determination called for, so that the depository can fill in the halon 2402 figure by interpreting the text«; UNEP/OzL.WG.Data/2/3/Rev.2/Annex II, para. 6.

35 See report UNEP/OzL.WG.Data/2/3/Rev.2, para. 14.

36 See Secretariat note, UNEP/OzL.WG.Data/2/2, paras. 2-3. Uganda had submitted the required twelfth ratification. The Convention entered into force in September 1988.

37 See UNEP/OzL.WG.Data.2/CRP.1. The four fields of inquiry were indicated in the Montreal Protocol, article 6.

38 See report UNEP/OzL.WG.Data.2/3/Rev.2, para. 25, and Annex I. See also the 'Synthesis Report', UNEP/OzL.Pro.WG.1(1)/4, p. 3.

39 Montreal Protocol, article 6.

allowing the start of the substantive inquiry as early as 1988. As a consequence of this structure, the official panel got a quasi-political function. It would not primarily collect information but *approve* the information collected in the reporting groups. One result of this structure was the introduction of an additional layer of communication between the expert level collecting knowledge and the political level eventually drawing conclusions and making policy choices on this basis⁴¹.

Immediately prior to the Working Group, a meeting for the 'scientific review of ozone layer modification and its impact'⁴² was convened. It was in fact the constitutive meeting of the scientific reporting group⁴³ which discussed the state of ozone layer modification and the prospects of further depletion⁴⁴. The scientists, who attended in their personal capacity, drew the preliminary conclusion that the control measures adopted at Montreal would not suffice for a disappearance of the Antarctic ozone hole. For this task, a complete phase-out of CFCs would be needed⁴⁵. Immediately afterwards, a workshop on substitutes and alternatives to CFCs and halons met⁴⁶. It had a clearer formal mandate from the Montreal Conference⁴⁷. In fact, it constituted the nucleus of the second group of experts within the framework of the review process scrutinizing the state of technical progress toward substitutes⁴⁸. It thus served a double purpose.

The application of the Protocol as adopted in Montreal did not proceed without disputes. Many minor issues involving important economic consequences for the parties concerned had simply been excluded from the diplomatic negotiations. Accordingly, a full-scale negotiation process continued during the interim process to clear as many issues as possible prior to the first Meeting of the Parties. In addition, preparations for the first major review of the control measures of the protocol were already launched. While they were largely organized by the UNEP Secretariat, they were legitimated by a Working Group comprising the parties and signatories of the Protocol, even though the mandate of this Working Group did formally not extend to this task.

40 Note that no provision had been made in the Montreal Protocol or in either of the resolutions adopted at the Montreal Conference for an early start of the revision process. The mandate of the Working Group did not include this task.

41 While retaining this two-level structure of the review process, later on the 'reporting groups' were re-named into 'panels'. The role of the once established 'Intergovernmental Panel' was overtaken by the 'Open-ended Working Group' established at the first Meeting of the Parties to the Protocol.

42 See UNEP/OzL.Sc.1/2; the meeting took place October 17 - 18, 1988 in Den Haag.

43 A general outline of the report to be elaborated, divided into chapters for which individual experts were responsible, was submitted to the meeting of the Working Group, see UNEP/OzL.Sc.1/4/Rev.1.

44 In fact, the meeting had been prepared by Dr. Watson, a NASA scientist, who came to the conclusion that two significant scientific developments had occurred since the adoption of the Montreal Protocol: (i) The weight of scientific evidence strongly indicated that man-made chlorine species were primarily responsible for the observed decrease in spring-time Antarctic ozone within the polar vortex. (ii) The analysis of data showed measurable decreases in ozone from 1969 to 1986 in moderate latitudes. He concluded that «even if the Montreal Protocol was ratified by all nations of the world, the Antarctic ozone hole would remain forever»; UNEP/OzL.Sc.1/3, pp. 7-8.

45 See UNEP/OzL.Sc.1/14/Rev.1.

46 October 19 - 21, 1988 in Den Haag.

47 See Resolution 2, Final Act of the Montreal Conference.

48 For a summary report, see UNEP/WG.Data.2/Inf.2.

1.3. First Meetings of the Parties

In April and May 1989, the first Conference of the Parties to the Vienna Convention and the first Meeting of the Parties to the Montreal Protocol were held in conjunction in Helsinki. The Convention had entered into force on 22 September 1988. The European Community and 43 countries, including all twelve member states of the Community as well as the USA, the USSR and Japan had deposited their instruments of ratification prior to the meeting⁴⁹. The Montreal Protocol had entered into force as projected on 1 January 1989. At the time of the first Meeting of the Parties, it was ratified by the Community and 36 countries, including all twelve member states of the Community, the USA, the USSR and Japan⁵⁰. Hence, the interim mechanism could be terminated as the institutional structure of the international regime entered into force to organize the future process.

1.3.1. First Conference of the Parties to the Vienna Convention

The Parties to the Vienna Convention were faced with a number of administrative and organizational matters. Probably the most important among them was the delimitation of competences between the two co-institutions established under the Convention and under the Protocol. The UNEP Secretariat proposed that the Vienna Convention be confined to harmonizing policies and strategies on research, while the Protocol be limited to harmonizing policies, strategies and measures for minimizing the release of substances causing or likely to cause modifications of the ozone layer⁵¹. Obligations as to the exchange of information and transfer of technology should likewise be carried out under the Protocol to avoid duplication of work⁵². This separation of the working areas was approved by the Conference⁵³.

The Conference decided on a number of research priorities⁵⁴ and established as a permanent organ a meeting of governmental research managers for the regular review of national and international research relevant to the issue-area. This meeting should be convened prior to each of the meetings of the Conference of the Parties⁵⁵. As a consequence of specific provisions of the Vienna Convention, the Conference adopted an Arbitration Procedure⁵⁶ and the budget for the years 1990-

49 See report of the first Conference, UNEP/OzL.Conv.1/5, para. 2, and 'Status of Ratifications', UNEP/OzL.Pro.2/2/Add.1.

50 See report of the first Meeting, UNEP/OzL.Pro.1/5, para. 2, and 'Status of Ratifications', UNEP/OzL.Pro.2/2/Add.1.

51 See Secretariat note UNEP/OzL.Conv.1/2, para. 20.

52 See Secretariat note UNEP/OzL.Conv.1/2, para. 27.

53 See Decision 3, report, UNEP/OzL.Conv.1/5, p. 9.

54 See Decision 4, report, UNEP/OzL.Conv.1/5, p. 9.

55 See Decision 5, report, UNEP/OzL.Conv.1/5, pp. 10-11. Ordinary meetings of the Conference should be held once every two years; see Rules of Procedure, Rule 4; UNEP/OzL.Conv.1/5/Annex I.

56 See Decision 7, UNEP/OzL.Conv.1/5, p. 11. The Arbitration Procedure is reprinted *ibid.*, Annex II. The draft procedure circulated in advance had been subject to controversy, see *ibid.*, paras. 12 and 25-30. A new article

1991⁵⁷. It moreover decided to designate UNEP as the permanent Secretariat provided for in the Convention⁵⁸.

To sum up, the core of the international regime for the protection of the ozone layer had been effectively transferred to the Montreal Protocol and the institutional machinery established under this instrument. The Convention and its Conference of the Parties were assigned a secondary role in the unspectacular, albeit important, field of research.

1.3.2. First Meeting of the Parties to the Montreal Protocol

The most important issue for consideration by the parties to the Protocol was the launching of the envisaged process for a review of control measures. Considerable preparatory work had been done in this regard. Since the adoption of the Protocol (September 1987), a *scientific* consensus had evolved according to which the threat of depletion of the ozone layer was far more significant than predicted. Measures adopted in Montreal would therefore not suffice to stop and reverse the anticipated and in part already empirically observed development⁵⁹. Moreover, a *political* consensus had evolved not only on the requirement of stronger measures but also on their feasibility and on their political desirability⁶⁰.

In a formally not entirely clear 'anticipatory action'⁶¹ UNEP had already established the panels provided for by the Protocol to prepare the review. The action had, however, been legitimated by the Working Group on Data Reporting and could save an entire year if the negotiations on the particularities of a revised reduction scheme could be concluded by the time of the second Meeting of the Parties in 1990. The Meeting endorsed ex post the establishment, composition and terms of reference of the four panels and decided that they should submit their reports in July/August 1989⁶².

(article 7 bis) on the confidentiality of information made available in the course of an arbitration was inserted. The Arbitration Procedure focused exclusively on disputes between two or more member states, while the non-compliance procedure to be adopted within the framework of the Protocol had a quite different focus, see below, Chapter 7, pp. 314-319.

57 See report, Decisions 10 and 11, UNEP/OzL.Conv.1/5, p. 11. Financial contributions are *voluntary*. Nevertheless the Conference agreed that they should be made in accordance with an adapted UN scale of assessment. That is, each Party would be faced with a clear amount to be paid in hard currency. For the terms of reference of the trust fund established for this purpose, see *ibid.*, Annex III; for the budget, *ibid.*, Annex IV; and for the 'Formula for Voluntary Contributions', *ibid.*, Annex V. The Budget for 1990-1991 amounts to US \$ 790.000.

58 See Decision 8, UNEP/OzL.Conv.1/5, p. 11. The UNEP Secretariat had proposed to establish a joint Secretariat for the Convention and the Protocol, to be financed, however, by two separate budgets; see joint document on 'Financial Implications and Arrangements, UNEP/OzL.Conv.1/4/UNEP/OzL./Pro.1/4.

59 Robert Watson, a NASA scientist delivered an extensive report on scientific developments since 1987; see UNEP/OzL.Pro.1/5, paras. 12-19.

60 In this regard, the London 'Saving the Ozone Layer' Conference, held less than two months prior to the Meeting, occupied an important role. The report from this Conference formed an official topic on the agenda of the meeting, see UNEP/OzL.Pro.1/5, para. 11.

61 See UNEP/OzL.Pro.1/5, para. 37; see also above, Chapter 7, p. 266.

62 See UNEP/OzL.Pro.1/5, paras. 40-41 and Decision 3, *ibid.*, p. 14; on the composition of the panels, see *ibid.*, Annex V; on their terms of reference, *ibid.*, Annex VI.

The Meeting of the Parties established an 'Open-ended Working Group' for the consideration of the reports of the four panels and their integration into one 'synthesis report'⁶³. The Working Group was open to all parties to the Protocol, as well as to governmental and non-governmental observers⁶⁴. While scientific and technological knowledge was prepared in the panels by experts basically working *in a personal capacity*, although partly coming from governmental agencies, it was reviewed and synthesized by an *intergovernmental* body. This second step was designed to make information prepared by experts acceptable to governments that would have to make coordinated policy choices. Results would be apt to provide a secure and commonly agreed upon foundation for ensuing political negotiations.

Based on the 'synthesis report' as well as on the views expressed during the first Meeting of the Parties, the Working Group was mandated to prepare draft proposals for amendments to the Protocol⁶⁵. Hence, the agreed basis for the consideration of revised control measures would be formed by commonly accepted consensual knowledge and by the reservations made prior to its beginning⁶⁶. Moreover, the Meeting adopted a guideline for the envisaged negotiating process. All attending countries, parties and non-parties alike, agreed on a 'Helsinki Declaration'⁶⁷. It committed the participating countries to phase out CFCs not later than the year 2000 (subject to consideration of the special situation of developing countries), to phase out halons (without a specific target date) and to reduce and control other substances with a significant depleting impact on the ozone layer. The Declaration did not form part of the evolving legal framework of the international regime⁶⁸, but it constituted a political commitment which provided an orientation for the development of legally binding control measures.

The international regime for the protection of the ozone layer was still largely a club of industrialized countries, including the USSR and some East European countries. Most developing countries refused to accede to the Convention and the Protocol and to accept their obligations⁶⁹. While newly industrialized countries

63 See Decision 5; UNEP/OzL.Pro.1/5, p. 15.

64 See Rule 26 (6) and Rules 6 and 7 of the Rules of Procedure, UNEP/OzL.Pro.1/5/Annex I.

65 See Decision 5; UNEP/OzL.Pro.1/5, p. 15.

66 See in this regard a declaration made by East Germany according to which a phase-out of CFCs by the year 2000 should be subject to the development of technically and economically feasible substitutes and the unrestricted access of all countries to the solutions developed; UNEP/OzL.Pro.1/5, para. 87.

67 See Helsinki-Declaration, UNEP/OzL.Pro.1/5/Appendix I; reprinted in *Environmental Policy & Law* 19 (1989), p. 137.

68 Expressly stated in the report, see UNEP/OzL.Pro.1/5, para. 88. However, see the following paragraph of the report summarizing statements: *'All delegations called for immediate and strengthened action towards saving the ozone layer, and most delegations indicated their support of at least 85 % reduction in the use and production of CFCs. Several of these delegations expressed the view that a total phase-out of CFCs at the latest by the end of the century would be necessary'*; UNEP/OzL.Pro.1/5, para. 24 (emphasis added). In contrast, the Helsinki-Declaration read: *'The Governments and the European Communities represented at the First Meeting of the Parties to the Vienna Convention and the Montreal Protocol ... agree to phase out the production and consumption of CFCs controlled by the Montreal Protocol as soon as possible but not later than the year 2000 ...'*, *ibid.*, Appendix I.

69 From the 37 Parties to the Protocol at the time of the first Meeting of the Parties (36 states plus the European Community), only nine were developing countries, most of them with a low relevance for the market of ozone depleting substances and the state of the ozone layer; see 'Status of Ratification', UNEP/OzL.Pro.2/2/Add.1.

trading in ozone depleting substances or products containing or produced with these chemicals could be addressed through the trade restrictions agreed upon in Montreal, some other developing countries with both a potentially rapidly growing domestic market and the ability to meet the demand of ozone depleting substances autonomously could thwart reductions achieved under the Protocol⁷⁰. These countries had to be encouraged to participate in the international regime.

It was accepted that assistance to developing countries and mechanisms to facilitate the transfer of technology to these countries were needed⁷¹, but agreement on the establishment of a fund providing developing countries with financial aid could not be achieved⁷². The Meeting established a subsidiary working group on this issue to evaluate the area of consensus. The Decision on the subject adopted later abundantly reflected the prevailing disagreement. The Meeting of the Parties recognized the »urgent need to establish international financial and other mechanisms«⁷³ in order to enable developing countries to meet the requirements of the Protocol. The task »to develop modalities of such mechanisms, including adequate financial funding mechanisms which *do not exclude the possibility of an international Fund*« was assigned to the Open-ended Working Group already established for the revision of control measures⁷⁴. In contrast to the far-reaching agreement achieved concerning the strengthening of the Protocol in the area of control measures, the financial mechanism for the support of developing countries remained hotly disputed during the Meeting of the Parties.

Beside the discussions on these two major lines of revision of the Protocol, namely the areas of control measures and assistance to developing countries, the Meeting of the Parties completed the existing normative system of the regime in respect of a number of minor issues pending since the Montreal Conference. Most of these issues did not address *revisions* of the legal framework codified in the Protocol but *interpretations* necessary for the implementation of its general clauses as well as for the bridging of gaps left open during the Montreal Conference.

The Meeting decided on the modalities for the reporting of data in respect of production, imports and exports of controlled substances. The reporting of data was important for the verification of the proper implementation of the obligations. It involved intricate questions concerning the confidentiality of economic data protected in some countries. While the United States and the European Community refused to publish disaggregated figures, some smaller industrialized countries con-

70 Primary examples of this category of developing countries were India and China. Both of them attended the first Meeting of the Parties. China became a party to the Convention, but not to the Protocol, in September 1989; see 'Status of Ratification', UNEP/OzL.Pro.2/2/Add.1.

71 See report UNEP/OzL.Pro.1/5, para. 25.

72 Norway offered to set aside 0.1 % of its gross national product for an international climate fund provided that other industrialized countries did the same; see UNEP/OzL.Pro.1/5, para. 26. Finland made available 8.6 m Finmarks, see *ibid.*, para. 37.

73 Decision 13, UNEP/OzL.Pro.1/5, p. 20.

74 Decision 13, UNEP/OzL.Pro.1/5, p. 20 (emphasis added). While Decision 13 mentioned the establishment of an Open-ended Working Group, Decision 5 assigned the task to the Working Group established for the revision of the Protocol. See also report, *ibid.*, para. 62.

sidered this essential⁷⁵. The Meeting decided that the data reported should be disaggregated by country and by substance. Data collected by the Secretariat of the ozone regime would be kept »with professional secrecy and maintained confidential«⁷⁶. The Secretariat would publish only aggregated data. In case of a conflict between parties as to the compliance with their obligations, data would be made available to interested parties provided that they assured that they would respect their secrecy⁷⁷.

The Meeting of the Parties, moreover, decided on the clarification of a number of terms as prepared by the Working Group on Data Reporting. It adopted by consensus the 'ozone depleting potential' figure for one of the controlled halons which could not be determined during the Montreal Conference⁷⁸. The Parties agreed that the term 'substances in bulk' should comprise any kind of transport or storage container regardless of its size⁷⁹. They agreed that 'controlled substances produced' excluded amounts produced as feedstock, i.e. amounts whose emission was precluded by subsequent chemical transformation, as well as quantities gained from recycling or recovery processes⁸⁰. They interpreted the term 'basic domestic needs' of developing countries as not to include the production of controlled substances for the purpose of export to other countries⁸¹. They decided that a transfer of production quota from one party to another for the purpose of 'industrial rationalization' required for any increase in production by one party a corresponding decrease by another⁸². They interpreted the exemption clause inserted for the benefit of the Soviet Union as not to allow increases in production for export to non-parties⁸³. Finally, they adopted a list of 'developing countries' for the purposes of the regime⁸⁴. No agreement could, however, be reached on a 'non-compliance procedure'. The matter was assigned to a working group of legal experts which was to prepare a proposal for submission to the second Meeting of the Parties⁸⁵.

Hence, the normative system governing the issue area of the protection of the ozone layer developed even though new formal rules were not adopted. In a number of cases the parties to the Protocol reached an understanding on the desired application of formally binding but unclear legal rules. Consequently, below the level of formal

75 See report UNEP/OzL.Pro.1/5, paras. 82-85. The USSR also favoured the duty to report openly.

76 Decision 11, UNEP/OzL.Pro.1/5, p. 16.

77 The European Community reserved the right to come back to the issue in the future; see report UNEP/OzL.Pro.1/5, para. 83.

78 See Decision 9; UNEP/OzL.Pro.1/5, p. 16.

79 See Decision 12 A; UNEP/OzL.Pro.1/5, pp. 17-18. The control measures of the Montreal Protocol applied exclusively to substances in bulk. Hence a small transport can contained controlled substances 'in bulk', while a large fire-extinguisher did not.

80 See Decision 12 B; UNEP/OzL.Pro.1/5, p. 18, referring to article 1 (5) of the Montreal Protocol. That is, the criterion was in fact not 'production' but 'emission'.

81 See Decision 12 C; UNEP/OzL.Pro.1/5, p. 18, referring to articles 2 and 5 of the Montreal Protocol.

82 See Decision 12 D; UNEP/OzL.Pro.1/5, p. 18, referring to article 1 (8) and 2 (1)-(5) of the Montreal Protocol.

83 See Decision 12 G; UNEP/OzL.Pro.1/5, p. 19, referring to article 2 (6) of the Montreal Protocol.

84 See Decision 12 E; UNEP/OzL.Pro.1/5, pp. 18-19. The list is identical with the extended list agreed upon by the Working Group on Data Reporting; see above Chapter 7, pp. 264-265.

85 See Decision 8, UNEP/OzL.Pro.1/5, pp. 15-16, and *ibid.*, paras. 52-55.

legal rules a second layer of norms with an equal validity but with a lower degree of formalization emerged.

2. The First Major Revision of the Protocol

Soon after the first Meeting of the Parties, intense negotiations on the envisaged revisions of the Protocol began. Between August 1989 and June 1990 the established 'Open-ended Working Group' held eight sessions organized in four meetings. Although formally a single negotiating body, work in the two main areas under consideration, namely the strengthening of measures to control ozone depleting substances and measures to assist developing countries, proceeded fairly separate from each other in sessions basically devoted to one of the two subject areas⁸⁶. Both parts of the Working Group elected their own officials. The de facto separation of the negotiation process was at least partly due to the required attendance of different experts in the delegations. Although having proceeded simultaneously, developments shall therefore be discussed in turn. As a third point of inquiry, the non-compliance procedure was deliberated by a separate legal working group⁸⁷.

Based upon these preparations, the second Meeting of the Parties to the Protocol, convened at ministerial level⁸⁸, adopted several important and far-reaching modifications of the system of control measures governing the issue area of the protection of the ozone layer and introduced a funding mechanism into the institutional structure of the international regime⁸⁹.

2.1. Control Measures

Deliberations about policy choices required an understanding on the foundations of these choices in scientific and technological knowledge. Serious political negotiations could only begin once areas of agreement on these fundamental issues had been evaluated.

⁸⁶ The entire preparatory phase consisted of the following official meetings: first meeting of the Working Group (August/September 1989), first session on the financial mechanism [OzL.Pro.WG.I(1)], second session on adjustments and amendments [OzL.Pro.WG.I(2)], third session on the work plan [OzL.Pro.WG.I(3)]; second meeting of the Working Group (November 1989/February-March 1990), first meeting on adjustments and amendments [OzL.Pro.WG.II(1)], second session on the financial mechanism [OzL.Pro.WG.II(2)]; third meeting of the Working Group (March/May 1990), first session on adjustments and amendments [OzL.Pro.WG.III(1)], second session on the financial mechanism [OzL.Pro.WG.III(2)]; fourth meeting of the Working Group (June 1990, immediately prior to the second Meeting of the Parties) [OzL.Pro.WG.IV], combined on both subjects. In addition, the Bureau of the Working Group met in September 1989 as well as in January and in April 1990.

⁸⁷ This part of the negotiations was inconclusive and will be discussed below, see Chapter 7, pp. 314-319.

⁸⁸ June 27 - 29, 1990 in London.

⁸⁹ On the legal results of the second Meeting of the Parties, see in particular *Ott*, *The New Montreal Protocol*.

2.1.1. Consensual Scientific and Technological Knowledge

The deliberations on proposals for adjustments and amendments envisaged to strengthen the Protocol began with a consideration of the reports prepared by the four assessment panels and their integration into a comprehensive 'synthesis report'. The reports had been drafted and reviewed by several hundred scientists and experts familiar with the respective fields, who came from a multitude of countries⁹⁰. Evidently, these reports were rather specific and detailed and comprised many hundred pages of information. They had not been finalized and circulated sufficiently long before the session of the Working Group⁹¹. Moreover, the reports had not been translated from their original English versions into the five other working languages of the United Nations and the international regime for the protection of the ozone layer⁹².

The reports of the panels formed an important part of the review process, but they did not constitute working documents⁹³. Accordingly, they were not discussed in detail by the Working Group. However, the chairmen of the panels presented the essence of the findings of their groups to the second session of the first meeting of the Working Group⁹⁴. Information relevant for the making of internationally coordinated policy choices had been integrated into a comparatively short draft Synthesis Report prepared by the chairmen of the four panels⁹⁵.

This document was discussed by the Working Group 'point-by-point', i.e. in considerable detail⁹⁶. Generally, any additional information to be included in the Synthesis Report had to stem from one of the panel reports⁹⁷. Hence, at the political

90 The 'Synthesis Report' noted that the report of the scientific assessment panel was elaborated by 87 scientists from 15 countries and reviewed by 78 scientists from 23 countries. 48 scientists from 17 countries contributed to the report of the environmental effects panel. 110 experts from 22 countries prepared the report of the technology assessment panel and an even greater number including several from additional countries reviewed it. Finally, 24 experts from 12 countries prepared the report of the economic assessment panel and 25 experts from 18 countries reviewed it; UNEP/OzL.Pro.WG.II(1)/4, pp. 3-4.

91 See complaints about insufficient time for the examination of the reports, UNEP/OzL.Pro.WG.I(2)/4, para. 13.

92 The six working languages of the United Nations and the international regime are English, French, Spanish, Russian, Arabic, and Chinese. Another session of the first meeting of the Working Group considering the future work plan of the regime discussed the modalities of the dissemination of the information contained in the panel reports. It recommended that the reports be disseminated only in their original language since they comprised 1800 pages and the costs of translation could not be justified. Translations would be confined to the five technical options reports, of which the technical review panel report was a summary, to the executive summaries attached to the four reports, and to the Synthesis Report; see report UNEP/OzL.Pro.WG.I(3)/3, paras. 12-15, and recommendation, p. 13.

93 Significantly, summaries of the reports were circulated as documents *for information*; see UNEP/OzL.Pro.Asmt.1/Inf.1 to Inf.4. During the initial stage of the preparations considerable confusion as to the document symbols prevailed. Hence, documents circulated prior to the meeting were symbolized by UNEP/OzL.Pro.Asmt.1 (for 'Assessment'), those circulated after the meeting by UNEP/OzL.Pro.WG.I(2). Equally, the first session of the first meeting was re-symbolized from UNEP/OzL.Pro.Mech.1 (for financial 'Mechanism') into UNEP/OzL.Pro.WG.I(1).

94 August 28 to September 5, 1989 in Nairobi.

95 See Secretariat note UNEP/OzL.Pro.Asmt.1/2/Rev.1, para. 3.

96 See report, UNEP/OzL.Pro.WG.I(2)/4, para. 18.

97 See report, UNEP/OzL.Pro.WG.I(2)/4, para. 20. The impact of CFCs on the problem of global warming had not been considered in detail and was therefore excluded from the Synthesis Report, see *ibid.*, para. 19.

level the findings of the expert groups were neither challenged nor extended or appraised. Due to the short time available for review of the comprehensive panel documents and due to its importance for the future process of the revision of the Protocol, the Synthesis Report could only be adopted 'ad referendum'⁹⁸. The second session of the Working Group on the subject approved this decision without considering any further amendments⁹⁹. In adopting and approving the Synthesis Report, the participating countries accepted a wide range of scientific and technological assertions for the ensuing political negotiations, all of which could have been disputed.

The Synthesis Report ascertained that the prime cause of the Antarctic ozone hole was the emission of chlorine and bromine compounds. The ozone hole was, accordingly, primarily attributed to man-made pollution¹⁰⁰. A similar ozone depleting effect could occur in the Arctic region. The observed decrease in ozone in the northern hemisphere by 3 to 5,5 % over the past two decades could not be attributed to natural processes. Moreover, a full and global compliance with the reduction scheme of the original Montreal Protocol would lead at least to a doubling or tripling of the abundance of chlorine in the atmosphere over the next century with an effect of 0-4 % ozone depletion in the tropics and 4-12 % in higher latitudes. Due to chemical processes, the rate of depletion could be even larger. A return to pre-1970 chlorine levels expected to cause a disappearance of the Antarctic ozone hole would require a complete phase-out of all CFCs and halons, of carbon tetrachloride and methyl chloroform as well as a limitation of HCFC substitutes¹⁰¹. As to the environmental impact of the depletion of the ozone layer¹⁰², the report asserted that a 1 % decrease in ozone would result in an increase of eye cataracts by 0.6 %, i.e. in an additional 100000 blind world-wide. It would also result in a 3 % rise in non-melanoma skin cancers, primarily affecting light-skinned people. Increased radiation due to the depletion of the ozone layer was expected to have an adverse impact on plants, including some widespread food plants such as soy beans and wheat, as well as on aquatic life and fisheries.

Concerning the technical feasibility of reductions of ozone depleting substances¹⁰³, the report assumed that the five CFCs controlled under the Montreal Protocol as well as carbon tetrachloride could be phased down by 95 % until the year 2000, while the remaining 5 % in the fields of refrigeration and automotive air condition-

⁹⁸ See report, UNEP/OzL.Pro.WG.II(2)/4, para. 21.

⁹⁹ See report of the first session of the second meeting, UNEP/OzL.Pro.WG.II(1)/7, para. 16.

¹⁰⁰ See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, pp. 4-6.

¹⁰¹ Prior to 1988, the term 'CFC' was largely conceived of as comprising all chlorofluorocarbons. The separation between fully halogenated CFCs (largely controlled by the Protocol) and partially halogenated HCFCs (not controlled) was introduced not least as a marketing strategy, since products containing HCFCs could be marketed as 'non-CFC'; see *Moore*, *Industry Responses to the Montreal Protocol*, p. 321.

¹⁰² See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, pp. 6-9.

¹⁰³ See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, pp. 9-12. The report defined 'technical feasibility' as 'the possibility to provide substitutes or alternative processes without substantially affecting properties, performance and reliability of goods and services from a technical and environmental point of view'; *ibid.*, p. 9.

ing could be replaced within another 5-10 years¹⁰⁴. It anticipated that HCFCs and HFCs¹⁰⁵ would become available for the substitution of CFCs within a few years, but that toxicity testing would take another three or more years. CFCs in the sector of foam production (25 % of global CFC consumption) could be reduced by 60-70 % by 1993 and by at least by 95 % by 1995. CFCs for solvent use (16 % of consumption) could be phased out by the year 2000 and the aerosol use of CFCs could be stopped immediately. Methyl chloroform, a multi-purpose solvent, could be phased down by 90-95 %. Carbon tetrachloride had already been eliminated in many countries due to toxicity concerns. Substitutes did therefore exist for the majority of its uses. *Based on projections of the chemical industry*, the report estimated that the newly developed HCFCs would capture up to 30 % of the current CFC market while HFCs would replace another 10 %¹⁰⁶. Due to the lack of availability of substitute chemicals, no agreement could be reached on a timetable for a phase-down of halons used in fire protection technology, although »the majority of experts felt that conservation practices and ... protection measures alone are adequate to allow an orderly and complete phase-out by the year 2005«¹⁰⁷. Others, however, considered a reduction schedule premature until substitutes became available. In conclusion, the report considered the following reductions technically feasible by the year 2000: CFCs: 95 %; methyl chloroform: 90 %; carbon tetrachloride: 100 %.

While the three sections of the report on the scientific, environmental and technological assessment were largely based on knowledge developed in industrialized countries and were of primary interest to these countries, the fourth section on the assessment of the economic implications constituted the area of interest to developing countries. Due to the limited participation of their experts, several countries of this group expressed reservations on the section¹⁰⁸. Developing countries denied the joint responsibility of developed and developing countries for the problem of the depletion of the ozone layer¹⁰⁹ and achieved some major revisions of the draft report¹¹⁰. Nevertheless, the commonly agreed economic assessment concluded that

104 In this regard, the report clarified the role of refrigeration programmes in developing countries. Refrigeration accounted for about 25 % of the global consumption of CFCs but only 8 % of the global consumption was used for food preservation. The developing countries' share in this sector was less than a quarter (2 % of the global CFC consumption). Moreover, *domestic* refrigeration accounted for only 1 % of the global CFC consumption. An assumed increase by 30 % annually of this last use would lead to a demand for CFCs of 2 % of the total CFC consumption of 1986 levels (base year of Montreal Protocol calculations) in the year 2000. See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, pp. 9-10. Large-scale refrigerator programmes of developing countries would thus not have the devastating effect sometimes assumed.

105 Partially halogenated chlorofluorocarbons (HCFCs) have an ODP that is low compared to that of CFCs but still significant. They also have a Global Warming Potential (GWP). Hydrofluorocarbons (HFCs) do not contain chlorine compounds and have therefore no ODP. Yet, they have a considerable GWP. For figures of ODPs and GWPs of substances concerned, see Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 18.

106 See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 11.

107 Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 11.

108 See UNEP/OzL.Pro.WG.II(2)/4, paras. 14-15.

109 See UNEP/OzL.Pro.WG.II(2)/4, para. 16.

110 The report as adopted did, for example, not contain any reference to 'joint responsibility'. Instead, the incriminated paragraph expressly recognized that Europe, the United States, Canada and Japan accounted for about 80 % of the total consumption of controlled substances. It recognized that the per capita consumption in devel-

»the monetary value of the benefits of safeguarding the ozone layer is undoubtedly much greater than the costs of CFC and halon reductions«¹¹¹ despite the inherent difficulty of properly assessing the costs of damage from ozone depletion. Hence, the parties agreed that on the global level the protection of the ozone layer was not a matter of choice between environmental protection and economic benefit, but that *it paid both in economic and in environmental terms*. It was also acknowledged that developing countries would be less able to invest in this task due to more immediate concerns such as food supply and economic development. The economic section of the report drew attention to the impact of the *timing* of reductions on the costs to be incurred. Substitution of the first 50 % of CFC consumption would be relatively cost-efficient while the latter 50 % produced varying costs depending on the availability of substitutes. »A very rapid transition (much less than 10 years) would result in substantially higher costs due to capital abandonment«¹¹². It was recognized that developing countries had special needs and concerns as part of a global effort to protect stratospheric ozone.

The report then discussed five alternative control options¹¹³,

1. to apply the Montreal Protocol reduction scheme;
2. to phase out CFCs and halons;
3. to phase out CFCs and halons and to freeze methyl chloroform;
4. to phase out CFCs, halons, methyl chloroform and carbon tetrachloride; and
5. to phase out CFCs, halons, methyl chloroform and carbon tetrachloride and to limit HCFCs to a share of 20 % of the original CFC market. In this option, HCFCs played a major role as transitory substances until the year 2000.

While the four former options would lead to a further increase in chlorine abundances and related ozone depletion, only the last and most rigid one would offer the prospect of a future recovery of the stratospheric ozone layer to pre-ozone hole conditions. It would cause a slight decrease in chlorine abundance in the atmosphere over the coming century¹¹⁴.

Never before in the decade-long process of development of the international regime for the protection of the ozone layer had the scientific and technical knowledge necessary as a foundation for political negotiations been prepared with similar care. From a scientific and environmental point of view, meaningful internationally coordinated action had to be oriented by the most stringent option of the Synthesis Report. Even then, full recovery of the ozone layer would take centuries¹¹⁵.

oped economies »is in many cases more than ten times the per capita consumption in most developing countries». Finally, it recognized that economic implications should be considered for developed and developing countries separately; see Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 12.

¹¹¹ Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 12.

¹¹² Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, p. 13.

¹¹³ See Synthesis Report, UNEP/OzL.Pro.WG.II(1)/4, pp. 19-25, and figure 2, *ibid.*, p. 27.

¹¹⁴ See Synthesis Report, figure 2, UNEP/OzL.Pro.WG.II(1)/4, p. 27.

¹¹⁵ See introductory note by the Executive Director of UNEP; UNEP/OzL.Pro.Asmt.1/2/Rev.1, para. 19.

2.1.2. Negotiations on Revised Control Measures

The revision process proceeded under a considerable time constraint. Proposals for adjustments or amendments of the Protocol had to be circulated among the parties at least six months prior to the second Meeting of the Parties¹¹⁶ which was scheduled for June 1990¹¹⁷. In contrast to the former rounds, the negotiations did not rely on elaborated submissions of a group of lead countries. Therefore, the Executive Director of UNEP occupied a key role from the very beginning of the official negotiations.

Prior to the first session of the Working Group concerned with control measures he recommended: (a) the inclusion of methyl chloroform and carbon tetrachloride in the list of controlled substances, (b) the reduction of all controlled substances by at least 95 % by the year 2000 and the achievement of a total phase-out by 2005, (c) the regulation of substitutes so that no substitute would have an ozone depleting potential (ODP) exceeding 0.02 and an appropriately determined global warming potential (GWP), (d) the banning of trade with non-parties in products made by or containing ozone depleting substances, and (e) the extension of reporting obligations to all substances exceeding an ODP of 0.02, whether or not controlled by the Protocol¹¹⁸. During the session he modified his recommendation in a number of points¹¹⁹. He proposed:

1. the phasing out of the production of currently controlled CFCs by the year 2000 accompanied by the reduction of the consumption of these CFCs by 95 % in 2000, and by 100 % in 2005; this implied a split in the time schedules for production and consumption;
2. the controlling of other CFCs with an ODP exceeding 0.01;
3. the reduction of the production and consumption of halons by 50 % in 1995 and a determination of a target date for their complete phase-out;
4. the inclusion of methyl chloroform and carbon tetrachloride in the Protocol with a schedule for phasing them out;
5. the modification of articles 3(c) and 4(2) so as to exclude exports of controlled substances to non-parties right from the beginning of 1991, instead of 1993;
6. the banning of trade with non-parties of products produced by controlled substances or containing them by the beginning of 1991, and the establishment of lists of such products; and
7. the extension of the reporting requirements to the envisaged substitute chemicals HCFCs and HFCs.

¹¹⁶ For the procedure of amendments of the Protocol and its Annexes, see article 9(1) of the Vienna Convention; on adjustments of control measures according to the simplified procedure, see article 2(9)(b) of the Montreal Protocol.

¹¹⁷ In practical terms this meant that proposals had to be submitted to the Secretariat by 1 December 1989. Further proposals could be considered only when they were sufficiently closely related to those circulated in time; see report of the legal drafting group, UNEP/OzL.Pro.WG.II(1)/5, pp. 1-2. From a formal point of view, even this procedure was arguable, since in fact an agreed draft text should have been circulated.

¹¹⁸ See introductory note by the Executive Director of UNEP; UNEP/OzL.Pro.Asmt.1/2/Rev.1, para. 37.

¹¹⁹ See report of the second session of the first meeting, UNEP/OzL.Pro.WG.I(2)/4, para. 2.

The second proposal differed in a number of important aspects remarkably from the first. It shortened the reduction schedule for the *production* of CFCs, but in respect of consumption still remained behind the Helsinki Declaration adopted at the first Meeting of the Parties to the Protocol¹²⁰. The second proposal included 'other CFCs' as substances to be controlled, and it suggested a two-step solution for halons, but the lack of a target date for the phase-out reflected a prevailing dispute. Significantly, it did not any more include HCFCs in the list of substances to be controlled. These changes were undoubtedly based on informal consultations with the parties.

The Working Group took the Executive Director's reduction plan as its basis for consideration¹²¹. On the phase-down of the five CFCs already controlled under the Protocol, the discussion revealed that the proposal remained below the lowest common denominator. Several countries favoured a faster time schedule, in particular since a phase-out by the year 2000 had already been agreed upon in the Helsinki Declaration¹²². This target was generally approved. An exemption limited until 2005 which was not to exceed 5 % of 1986 levels of production and consumption was only suggested for essential uses that were to be determined by the Meeting of the Parties¹²³. Beyond this line of agreement, disagreement arose on a proposal to adopt a step-by-step approach, such as that initially proposed by the United States¹²⁴ and reflected in the reduction scheme of the 1987 Montreal Protocol¹²⁵. The concept of a regulation of intermediate reduction steps limited the flexibility of the parties to implement the eventual phase-out and required immediate and gradual action. Reduced flexibility appeared to pose a particular problem to two groups of countries, namely centrally planned economies organized by five-year-plans and countries having already implemented a ban on aerosols which were thus forced to reduce and ban more sophisticated uses¹²⁶. Thus, the Soviet Union and the United States realigned against the European Community with its still wide margin for reductions in the aerosol sector and some smaller industrialized countries with their forced reduction schemes¹²⁷. No major disputes arose on the phase-out of other fully halogenated CFCs. This step was primarily intended to close possible loopholes¹²⁸ as these substances had not yet gained a relevant market share.

120 In the Helsinki Declaration states and the European Community agreed to phase out the production and consumption of CFCs as early as possible and not later than the year 2000, see report of the first meeting, UNEP/OzL.Pro.1/5/Appendix I. But see the remarks above, Chapter 7, p. 270.

121 See report UNEP/OzL.Pro.WG.I(2)/4, para. 22.

122 See report UNEP/OzL.Pro.WG.I(2)/4, para. 23.

123 See report of the legal drafting group UNEP/OzL.Pro.WG.I(2)/4/Annex III, p. 66. Target dates prior to or later than 2000 were not suggested. There was, however, disagreement whether 'the year 2000' should mean 1 January 2000 or 31 December of that year.

124 During the second round of negotiations, 1986-1987; see above, Chapter 6, pp. 237-238.

125 According to the Montreal Protocol, production and consumption of CFCs should be frozen at 1986 levels by mid-1989 (article 2(1)), reduced by 20 % by mid-1993 (article 2(3)), and by 50 % by mid-1998 (article 2(4)).

126 See report of the session UNEP/OzL.Pro.WG.I(2)/4, para. 24.

127 The latter group suggested a reduction of 50 % by 1991 or 1993 at the latest and a 85 % reduction by 1995, see report of the legal drafting group, UNEP/OzL.Pro.WG.I(2)/4/Annex III, p. 66.

128 See report of the session UNEP/OzL.Pro.WG.I(2)/4, paras. 26-28; and report of the legal drafting group, *ibid.*, Annex III, p. 67.

Considerable disagreement existed on the reduction schedule for halons. A 50 % reduction in 1995, as proposed by the Executive Director, appeared to be more acceptable than a complete phase-out by 2000 or 2005. This was due to the lack of substitutes. Several countries insisted that a phase-out should be subject to exemptions for essential uses to be determined by the Meeting of the Parties¹²⁹. A phase-out of carbon tetrachloride by the year 2000 or even earlier appeared to be widely agreeable¹³⁰. Concerning methyl chloroform, however, a number of parties refused even to consider concrete steps for a phase-down without prior examination, while others favoured a phase-out by 2000 or even by 1995¹³¹.

At the end of the first substantive session on a revised reduction schedule, all proposals were framed in a single comprehensive text worded in legal language¹³². The session thus provided an overview of existing positions and submitted proposals, but the differing opinions had not yet converged. The results were discussed by the Bureau of the Montreal Protocol¹³³. The Bureau recommended the examination of the magnitude of halon reductions that could be achieved by conservation efforts and the evaluation of the advisability of treating individual halons differently to overcome the deadlock situation that threatened to emerge¹³⁴. In respect of the other substances, the Bureau favoured a step-by-step approach and recommended specific reduction schedules¹³⁵. Furthermore, it recommended that other ozone depleting substances with an ODP exceeding 0.01 be controlled so as to allow their use only in critical products. These recommendations were designed to become the basis for further negotiations in the Working Group¹³⁶.

At the following session of the Working Group¹³⁷ a number of additional submissions was made. Focusing on future controls of HCFCs and HFCs with ozone depleting and global warming potential, the Nordic countries suggested giving a clear signal as early as possible to guide industry in making decisions of investment in new production facilities. »The strongest and best signal to the industry will be to put the substances under the Protocol and to decide as soon as possible upon special

129 See report of the session UNEP/OzL.Pro.WG.I(2)/4, paras. 30-32; and report of the legal drafting group, *ibid.*, Annex III, p. 65. In a later session, the Soviet Union even suggested that the essential uses should be subject to determination by the individual parties; see UNEP/OzL.Pro.WG.II(1)/CRP.3.

130 See report of the session UNEP/OzL.Pro.WG.I(2)/4, para. 33.

131 See report of the session UNEP/OzL.Pro.WG.I(2)/4, paras. 34-35. In the previous year the Soviet Union had been particularly active on this issue suggesting a 50 % reduction by 1994 and a phase-out by 1998; see report of the first Meeting of the Parties, UNEP/OzL.Pro.1/5, para. 21.

132 See report of the legal drafting group, annexed to the report of the session, UNEP/OzL.Pro.WG.I(2)/4/Annex III.

133 First session of the Bureau, September 27 - 29, 1989 in Geneva. The members of the Bureau, elected at Helsinki, were high level representatives from Finland (President); Mexico, New Zealand and USSR (Vice-Presidents); Kenya (Rapporteur). The two Chairmen of the Working Group (financial mechanism as well as adjustments and amendments branches) and the UNEP Executive Director also participated.

134 See report UNEP/OzL.Pro.Bur.1/2, paras. 10-11.

135 For currently controlled and other CFCs, the Bureau proposed a reduction of: 50 % by 1994 or 1995; 85 % by 1998; 100 % by 2000; for methyl chloroform and carbon tetrachloride 50 % by 1992 or 1993; 85 % by 1998; 100 % by 2000; see report UNEP/OzL.Pro.Bur.1/2, para. 11.

136 They were communicated to the parties by the Secretariat introductory note to the first session of the second meeting, UNEP/OzL.Pro.WG.II(1)/2.

137 First session of the second meeting, November 13 - 17, 1989 in Geneva.

control measures within certain time frames¹³⁸. Such measures could include a long-term phase-out date, as well as the restriction of these substances to particular uses.

Even though the ten year 'grace period' for developing countries already existed, a group of these countries suggested to limit the obligations of developing countries generally to a reduction of 50 % of their reference calculation levels¹³⁹. The proposal would have implied the non-adoption of a phase-out schedule applicable to these countries and would have provided them with a considerable margin for growth in production and consumption of controlled substances¹⁴⁰. It underscored that the developing countries attempted to acquire far-reaching exemptions, while having a low interest in the particularities of the reduction scheme.

At the procedural level, the United States proposed to combine all revisions subject to the regular amendment procedure into a single comprehensive Amendment that would be ratified by the parties¹⁴¹. This would group parties into two classes, namely those having ratified the compound Amendment and those not having done so. Adjustments of control measures adopted under the simplified procedure of article 2(9) of the Protocol would in any case apply to both groups¹⁴². The Working Group adopted a formal amendment proposal for circulation among the parties to and signatories of the Protocol and the Convention as well as among all other states¹⁴³. However, a consensus had not been reached. In fact, serious negotiations had not even begun¹⁴⁴.

Prior to the third session on adjustments and amendments, the Executive Director called therefore an informal meeting with the representatives of a limited number of developed and developing countries¹⁴⁵. These informal consultations paved the way for compromise on several issues. In place of his former suggestions¹⁴⁶, the Executive Director made new proposals which did not raise major difficulties for participants in the informal consultations¹⁴⁷. In relation to CFCs the Executive Director now proposed to divide the reductions into four instead of three steps. Yet, this additional step was not accepted by the Working Group¹⁴⁸.

138 Discussion paper submitted by Finland, Sweden and Norway, UNEP/OzL.Pro.WG.II(1)/3.

139 See proposal submitted by Chile, Cuba, Egypt, Ghana, India, Indonesia, Kenya, Lebanon, Malawi, Mexico, Nigeria, Sudan, Thailand, Tunisia, Venezuela, Yugoslavia; UNEP/OzL.Pro.WG.II(1)/CRP.4.

140 The Montreal Protocol of 1987 provided that consumption levels for developing countries were calculated either as the average of consumption in the years 1995 to 1997 or the 0.3 kg per capita limit, whichever was lower; see Montreal Protocol, article 5(1). Due to high population figures, this clause provided a large margin for possible growth. Developing countries even proposed to remove the condition that growth was only allowed for 'basic domestic needs'.

141 See US proposal UNEP/OzL.Pro.WG.II(1)/CRP.14.

142 While this proposal was not discussed during the session, it was adopted later on.

143 See report, UNEP/OzL.Pro.WG.II(1)/7, para. 23.

144 See report, UNEP/OzL.Pro.WG.II(1)/7, para. 26. For the proposals circulated by the Secretariat, see report of the legal drafting group, UNEP/OzL.Pro.WG.II(1)/5.

145 See, UNEP/OzL.Pro.Bur.2/2, para. 11. The consultations were attended by ten countries from each group, including three non-parties, among them most probably China and India.

146 See Secretariat introductory note, UNEP/OzL.Pro.WG.III(1)/2.

147 Supplemental note of the Executive Director, UNEP/OzL.Pro.WG.III(1)/2/Add.1.

148 See UNEP/OzL.Pro.WG.III(1)/2/Add.1, and UNEP/OzL.Pro.WG.III(1)/3/ Annex I.

The third session of the Working Group¹⁴⁹ achieved a considerable break-through on halons already controlled under the Protocol. Consensus emerged on a 50 % reduction by 1995 and agreement developed toward a phase-out by the year 2000, save to the extent necessary for essential uses to be determined by the Meeting of the Parties. Other halons should be regulated in a later revision of the Protocol¹⁵⁰. Agreement was also reached on a complete phase-out of carbon tetrachloride by the year 2000, while three intermediate steps remained somewhat controversial¹⁵¹. Disagreement remained most profound on methyl chloroform. On this issue, the Executive Director had not been able to develop a uniform proposal¹⁵². Finally, a diplomatic compromise was achieved on the control of substitutes. The Nordic countries favoured a strict limitation of these substances to essential uses, in particular to the sectors of refrigeration and rigid insulation foams, and a phase-out of production by the years 2010-2020¹⁵³. Producers of these substances, in particular the United States and the European Community, favoured a considerably later phase-out date¹⁵⁴. Based on informal consultations, the Executive Director suggested that the matter be tackled outside the Protocol by a code of conduct, declaration, resolution or decision «on the rational use of HCFCs, with the understanding that industry failure to comply with this [instrument] would result in expeditious and explicit control of these chemicals through the protocol»¹⁵⁵. The Working Group decided to approve this suggestion and to draft a declaration for adoption at the second Meeting of the Parties¹⁵⁶.

Hence, during the informal consultations and the session of the Working Group, compromise emerged on many subjects¹⁵⁷. Solutions on two major subjects, i.e. the phase-out of halons and the control of HCFCs, had been achieved on the understanding that the Meeting of the Parties would take up the issues again at a later time. In relation to halons it would have to agree on possible essential uses, i.e. on commonly accepted exemptions to the general phase-out rule. In respect of HCFCs it would have to monitor the development and to adopt measures if required. As in

¹⁴⁹ April 27 - 30, 1987.

¹⁵⁰ See proposals of the Executive Director, UNEP/OzL.Pro.WG.III(1)/2/Add.1. According to the report of the legal drafting group, disagreement remained whether to terminate consumption by 2000 or 2005, and when to phase-out production (1995-2005). Disagreement prevailed also concerning the control of a number of 'other halons', i.e. those not controlled under the 1987 Protocol, that were to be listed in the revised Annex to the Protocol; see report of the legal drafting group UNEP/OzL.Pro.WG.III(1)/3/Annex I and II.

¹⁵¹ The Executive Director had proposed a reduction by 50 % in 1995; by 85 % in 1997; by 100 % in 2000; see UNEP/OzL.Pro.WG.III(1)/2/Add.1. The report of the legal drafting group contained in addition a (bracketed) proposal for a freeze in 1992; see UNEP/OzL.Pro.WG.III(1)/3/Annex II.

¹⁵² His paper just collected diverging approaches, on the one hand a freeze in 1992 and a reduction in 2000 either by 25-100 % according to a United States proposal, or by 50 % according to the European Community; on the other hand a 50 % reduction in 1995; 85 % in 1997; and 100 % in 2000, see UNEP/OzL.Pro.WG.III(1)/2/Add.1.

¹⁵³ See Swedish proposal UNEP/OzL.Pro.WG.III(1)/CRP.2.

¹⁵⁴ The report of the legal drafting group contained target dates as late as 2035-2060 as proposed by the United States; see UNEP/OzL.Pro.WG.III(1)/3/Annex II.

¹⁵⁵ UNEP/OzL.Pro.WG.III(1)/2/Add.1.

¹⁵⁶ See report, UNEP/OzL.Pro.WG.III(1)/3, para. 14. The draft declaration is attached to the report as Annex IV.

¹⁵⁷ See account of the chairman of the Working Group to the third meeting of the Bureau, UNEP/OzL.Pro.Bur.3/2, para. 9.

Vienna and in Montreal, the anticipated continuation of the negotiation process facilitated agreement.

Further informal meetings were scheduled by the Executive Director¹⁵⁸ prior to and during the fourth meeting of the Working Group to narrow down the margins of disagreement as far as possible prior to the second Meeting of the Parties to the Montreal Protocol. Again, the reduction plan suggested by the Executive Director reflected the lowest common denominator achieved so far. On CFCs, which constituted both the most important and the publicly best observed group of ozone depleters, agreement could not be achieved by the expert Working Group. The decision had to be transferred to the ministerial Meeting of the Parties¹⁵⁹. By contrast, full agreement was reached on the reduction schedule for halons, including a commitment to adopt in 1992 at the latest a decision identifying essential uses to be exempted from both reduction steps¹⁶⁰. Consensus was also reached on the reduction schedule concerning 'other CFCs', i.e. CFCs beyond those controlled by the 1987 Protocol¹⁶¹. On carbon tetrachloride, consensus had been reached on a 85 % reduction by 1995 and a phase-out by 2000. Disagreement remained whether parties should be committed by 1993 to a freeze or to a 50 % reduction¹⁶². In relation to methyl chloroform, two control steps were agreed upon, a freeze in 1993 and a 30 % reduction in 1995, while the third remained disputed¹⁶³. Lastly, it was agreed to postpone control measures on HCFCs and to resort to the declaration already prepared¹⁶⁴.

With some bargaining options kept open, in particular on the reduction schemes for CFCs and methyl chloroform, the Working Group had settled most issues in the

158 See report of the third session of the Bureau, UNEP/OzL.Pro.Bur.3/2, para. 10. The Executive Director made a new proposal to the fourth session of the Working Group, June 20 - 26, 1990 in London, immediately prior to the second Meeting of the Parties, see UNEP/OzL.Pro.WG.IV/2 and Rev.1.

159 The Executive Director had proposed to reduce the CFCs already controlled by 20 % in 1993, by 85 % in 1997 and by 100 % in 2000; see UNEP/OzL.Pro.WG.IV/2 and Rev.1. However, several countries supported an earlier phase-out, e.g. the proposal by Australia, New Zealand and Norway to reduce CFCs by 30 % in 1993, by 85 % in 1995, and by 100 % in 1997; see UNEP/OzL.Pro.WG.IV/CRP.9. The European Community also favoured an accelerated phase-out by 1997. The differences are reflected in the draft adjustments submitted to the second Meeting of the Parties, UNEP/OzL.Pro.2/L.3.

160 See draft adjustments, UNEP/OzL.Pro.2/L.3. Halons would be reduced by 50 % in 1995, and by 100 % in 2000, subject to exemptions for essential uses to be decided by the Meeting of the Parties. The exemption clauses were introduced primarily at the request of the Soviet Union and Japan.

161 See draft amendment, UNEP/OzL.Pro.2/L.4. Reduction steps agreed upon for 'other CFCs' were 20 % in 1993, 85 % in 1997, 100 % in 2000, calculated on the basis of 1989 levels.

162 See draft amendment, UNEP/OzL.Pro.2/L.4.

163 On this subject, the European Community appeared to be the stumbling block, favouring only a 40 % reduction by the year 2000; the Executive Director had proposed 50 % by 2000; see UNEP/OzL.Pro.WG.IV/2 and Rev.1. The Nordic countries and Australia, initially having favoured a complete phase-out by 2000, later suggested a reduction by 85 % by 2000; see UNEP/OzL.Pro.WG.IV/CRP.7, submitted by Australia, Austria, Finland, Norway, New Zealand, Sweden, Switzerland. The proposal of these countries contained the suggestion to include a section on methyl chloroform in the declaration (later: resolution) to be adopted on transitional substances and other halons, providing that this substance should be phased-out as soon as possible and that technological investigations should be made until 1992; see draft resolution, UNEP/OzL.Pro.2/L.2/Rev.1.

164 The Executive Director had proposed to phase out HCFCs by 2040; see UNEP/OzL.Pro.WG.IV/2 and Rev.1. The fixing of a fifty-year transition period, however, did not appear to give the appropriate signals to industry. Leaving the matter open meant at least that long-term security for producers was not provided.

area of control measures. In part, however, the solutions had been achieved only by resorting to the postponement of immediate decisions to a later date, and that is, to the process of negotiations within the international regime that would continue even after the major revision of the Protocol envisaged for adoption in 1990.

2.1.3. Decisions Taken at the London Conference

According to the existing normative system governing the issue-area primarily codified in the Vienna Convention and the Montreal Protocol, modifications proceeded at two different levels that were governed by separate procedures. First of all, the Meeting of the Parties decided to adopt *Adjustments* of the reduction schedule for substances that were already controlled by the 1987 Montreal Protocol, i.e. the five major CFCs and three important halons¹⁶⁵ (see Table 7.1.). Decisions on adjustments became effective *for all parties* without further action six months after their communication to the parties¹⁶⁶.

Table 7.1: Adjustment of Control Measures for Eight Original Montreal Substances

| Montreal 1987 | | | London 1990 | |
|----------------------------|---------|--------|-------------|--------|
| CFCs 11,12, 113,114,115 | 1989/90 | freeze | 1989/90 | freeze |
| | 1993/94 | -20 % | 1995 | -50 % |
| | 1998/99 | -50 % | 1997 | -85 % |
| | | -- | 2000 | -100 % |
| Halons 1211 1301, 2402 | 1992 | freeze | 1992 | freeze |
| | | -- | 1995 | -50 % |
| | | -- | 2000 | -100 % |

The reduction and phase-out of halons was subject to exemptions for essential uses to be determined by the 1992 Meeting of the Parties. Moreover, production limits were allowed to be exceeded by 10-15 % to satisfy the basic domestic needs of article 5 (developing) countries.

Thirteen mostly smaller industrialized countries, including four members of the European Community, adopted a Declaration confirming their intent to take all appropriate measures to phase out CFCs by the year 1997¹⁶⁷. The Commission of the European Community declared that it was associating itself with the Declara-

¹⁶⁵ See Decision II/1, report, UNEP/OzL.Pro.2/3, p. 11; text of the Adjustments, *ibid.*, Annex I.

¹⁶⁶ Adjustments are governed by the procedure provided for in the Montreal Protocol, article 2(9). Decisions should be taken by consensus if possible, but required at least a two thirds majority representing 50 % of the total consumption of controlled substances by the parties. Under the London Amendments, this mode of decision-making was changed to the requirement of a two-thirds majority representing at least 50 % of both article-5 and other countries, thus recognizing the existence of two groups with fundamentally distinct interests, see UNEP/OzL.Pro.2/3/Annex II, p. 27.

tion¹⁶⁸. Although this instrument remained outside the formal normative framework of the regime, it drew attention to the desire for even stronger measures than those adopted¹⁶⁹.

Apart from these adjustments, a single compound Amendment was adopted by the Meeting of the Parties¹⁷⁰. The Amendment contained all changes to treaty provisions that were not subject to the simplified procedure of adjustments. It should enter into force on 1 January 1992, provided that at least 20 parties had deposited their instruments of ratification by that time¹⁷¹, but its entry into force for the individual parties was contingent on their ratification. The Amendment included in particular reduction schemes for further ozone depleting substances (see Table 7.2.). The calculation of these newly controlled substances was made on the basis of production and consumption levels of 1989. Production of these substances was allowed to exceed the agreed limits by 10-15 % to satisfy the basic domestic needs of developing countries.

Table 7.2: Control Measures for Further Substances

| Substance | Year | Reduction |
|----------------------|------|-----------|
| 10 other CFCs | 1993 | -20 % |
| | 1997 | -85 % |
| | 2000 | -100 % |
| Carbon tetrachloride | 1995 | -85 % |
| | 2000 | -100 % |
| Methyl chloroform | 1993 | freeze |
| | 1995 | -30 % |
| | 2000 | -70 % |
| | 2005 | -100 % |

The reduction schedule for methyl chloroform was the only major surprise of the second Meeting of the Parties in the field of control measures. The technology

¹⁶⁷ See report of the meeting, UNEP/OzL.Pro.2/3, para. 49. The Declaration was supported by Australia, Austria, Belgium, Canada, Denmark, Finland, West Germany, Liechtenstein, the Netherlands, New Zealand, Norway, Sweden and Switzerland.

¹⁶⁸ See report of the meeting, UNEP/OzL.Pro.2/3, para. 50.

¹⁶⁹ The fact that only four out of the twelve member countries of the European Community were inclined to sign the Declaration shed some doubt on the firm stand of the Community as to its claim of an early phase-out; see *Benedick, Ozone Diplomacy*, pp. 171-172. Nevertheless, the Community had effectively changed sides since Montreal.

¹⁷⁰ See Decision II/2, report, UNEP/OzL.Pro.2/3, p. 11; text of the Amendment, *ibid.*, Annex II.

¹⁷¹ See article 2 of the Amendment, report, UNEP/OzL.Pro.2/3/Annex II, p. 39. This target date was, however, not met. Note that the amendment of the Montreal Protocol was formally subject to the amendment procedure of article 9 of the Vienna Convention, according to which amendments enter into force upon ratification by two-thirds of the parties concerned. The figure of 20 ratifications represented, however, only about one-third of the parties to the Protocol at the time of the second Meeting, see 'Status of Ratification', UNEP/OzL.Pro.2/2/Add.1.

review panel had considered a reduction of at least 90 % feasible¹⁷², but the coalition of the three major producers, namely the European Community, the United States and Japan, had proved to be stable during the meetings of the Working Group¹⁷³. However, during the last hours of the Conference the United States abandoned its position, not least influenced by the threat that US industry might eventually be constrained by stronger domestic legislation prepared in the US Congress than internationally agreed upon. The reversal of the US position caused in a chain reaction revisions of the positions of the European Community and Japan¹⁷⁴. The reduction schedule agreed upon was made subject to review in 1992¹⁷⁵.

As a third document concerning control measures, the Meeting of the Parties adopted a Resolution¹⁷⁶. It regulated the use of some other ozone depleting substances, namely 'other halons' and transitional substances (HCFCs)¹⁷⁷. It was not binding in a strict legal sense, but it was agreed upon by all countries represented at the meeting and the European Community, i.e. by parties and non-parties alike. They 'resolved' to use halons other than those controlled by the Protocol only for essential uses and to report estimates of their annual production and consumption to the Secretariat. They also resolved to apply guidelines, according to which the use of transitional substances should be confined to areas in which other environmentally suitable substances were not available. Moreover, these substances should not be employed beyond the current use of controlled substances¹⁷⁸. It was agreed to regularly review the situation concerning these substances with a view to their replacement by non-ozone depleting substitutes¹⁷⁹.

To sum up, the second Meeting of the Parties to the Montreal Protocol convened in 1990 in London adopted a comprehensive package of control measures that replaced the original package of 1987. Within three years interests of the relevant state actors had changed profoundly. The unexpected pace of technological progress

172 See synthesis report, UNEP/OzL.Pro.WG.II(1)/4, pp. 10-11. Methyl chloroform gained some importance in the discussion, because due to its relatively short life-time (6.3 years) it contributed as much to *short-term* ozone depletion as the major CFCs 11 and 12 and carbon tetrachloride, since most of the ozone depleting potential of these latter substances became active only in the future; see *ibid*.

173 The group of smaller industrialized countries and the Soviet Union favoured a phase-out as early as 1992.

174 According to *Benedick*, *Ozone Diplomacy*, p. 174, Norway had used the United States' desire to include into the preamble clauses containing three of the US conditions on the Fund (see above Chapter 7, pp. 285-286) to cause a re-consideration of the US position on methyl chloroform. When this proved successful in the last hours of the meeting, the United States in turn pressed the European Community, in particular the United Kingdom, to agree on a phase-out using as 'hostage' a clause on the aggregate reporting of figures by economic integration organizations that was solely of interest to the Community. Finally Japan, now isolated, gave in.

175 See Amendments, new article 2E (5), UNEP/OzL.Pro.2/3/Annex II, p. 30.

176 See report of the meeting, UNEP/OzL.Pro.2/3, para. 51, and Annex VII.

177 However, the Protocol as amended provided for the obligation to report data on 34 transitional substances listed in an annex; see article 7 (2) as amended and Annex C; Amendment, UNEP/OzL.Pro.2/3/Annex II, pp. 33 and 38.

178 The Resolution envisaged a phase-out of these substances not later than 2040 and, if possible, not later than 2020. On the development of the regulation of HCFCs, see *Benedick*, *Ozone Diplomacy*, pp. 174-175. He argues that the European Community was not prepared to accept a definite phase-out date of 2040 in the binding part of the agreed package proposed by United States. However, the Nordic countries were also not content with a binding 50-year transitional period.

179 The Resolution also contained a section on methyl chloroform which was, however, widely superfluous in light of the progress made in this area during the last hours of the Conference.

accompanied by a growing environmental concern provided the margin for agreement on tightened control measures.

2.2. *Encouraging Participation of Developing Countries: The Financial Mechanism*

The negotiations for tightened control measures were primarily of concern for the industrialized countries from East and West. They were only of low interest to developing countries because the reduction schedules would not immediately apply to this group of countries. In contrast, the envisaged establishment of a financial mechanism supporting the effort of developing countries to control and reduce the production and consumption of ozone depleting substances addressed the North-South dimension of the negotiations for a revised Montreal Protocol. The developing countries were not prepared to join the Protocol and to accept its obligations without such a mechanism. What is more, contrary to many international conflict situations they were in a comparatively strong position. Although they were predicted to become victims of decreases in food yield as a consequence of increased ultra-violet radiation due to a depletion of the ozone layer, they threatened to take a free ride and thwart the endeavour of the industrialized countries. Hence, the power resources and interests were not as unevenly distributed as they frequently are in international relations¹⁸⁰.

2.2.1. *Negotiations on a Funding Mechanism*

In preparation for the first meeting of the Working Group on the subject, the Executive Director of UNEP had arranged an informal brain-storming meeting of experts from several international organizations and of government experts attending in a personal capacity¹⁸¹. The meeting identified two main issues to be dealt with, namely the assessment of the developing countries' costs of compliance with the Protocol and the evaluation of appropriate institutional arrangements for a future financial mechanism¹⁸². Different groups of developing countries were faced with widely differing sets of incremental costs¹⁸³. No serious estimates of the aggregate

¹⁸⁰ Needed was thus «a partnership of effort by North and South whereby the former guarantees the legitimate development needs of the latter in return for a contribution to global atmospheric protection»; Secretariat note UNEP/OzL.Pro.Asmt.1/2/Rev.1, para. 30.

¹⁸¹ See introductory note to the first session of the first meeting of the Working Group, UNEP/OzL.Pro.Mech.1/2, para. 5. Participants came from the World Bank, UNDP, UNCTAD, and the European Community. The affiliation of governmental experts was not revealed.

¹⁸² See UNEP/OzL.Pro.Mech.1/2, para. 11. A third issue was the administrative structure of the mechanism.

¹⁸³ Producers of ozone depleting substances among the developing countries, e.g. Brazil, India, China and South Korea, were faced with the incremental costs of new technologies, e.g. in the form of patents and royalties. Importers of controlled substances in bulk, e.g. Egypt, incurred the additional costs of substitutes. Others incurred increased costs of manufactured goods. To a higher or lower degree, all of them were faced with the costs of transition of production processes, e.g. for training; see UNEP/OzL.Pro.Mech.1/2, paras. 12-13.

costs existed so far¹⁸⁴. Concerning the appropriate institutional arrangements, the meeting concluded that a transfer of resources was required. Since many developing countries would not be in a position to repay loans, this type of financial assistance would not sufficiently raise the acceptability of the revised Protocol. Flows had to be additional to existing aid programmes¹⁸⁵. The most straightforward arrangement for this purpose would be the establishment of a fund under the supervision of a council of contracting parties to the Montreal Protocol as was already being considered by a number of primarily smaller industrialized countries. However, other solutions were discussed as well. The concept of an 'International Environmental Facility' (IEF)¹⁸⁶ would basically provide a 'clearing house' to facilitate the allocation of resources. While the IEF would assist in identifying, preparing and financing projects, the resulting financial transfers and project implementation activities would ultimately be the responsibility of the sponsoring national and international agencies¹⁸⁷. It would be located at an existing international organization. Two other possible options resembled internationally supported banking corporations providing loans on concessionary, i.e. non-market, terms or reducing interest rates on private loans¹⁸⁸.

The first meeting of the Working Group on the subject¹⁸⁹ was introduced by the Executive Director with an emphatic recall that the hesitation of developing countries to join the Protocol was due to a lack of resources to comply with its obligations without serious disruption of their development efforts. These countries needed 'concessional funding and outright grants *additional* to existing aid programmes'¹⁹⁰. The statement was, no doubt, beyond the informal understanding reached prior to the meeting. Hence, contrary to his mediating approach in the area of control measures, the Executive Director assumed a pace-making role in this field. By the end of the session, the Working Group only achieved a 'wide understanding' that funds should flow on a concessionary basis. Full consensus among the participants had not yet been reached. Support for grants was even lower¹⁹¹. It was tentatively agreed, however, that the total amount of North-South transfers should increase¹⁹².

The Working Group reached an understanding on the general direction to tackle the thorny issue of the transfer of technology. The Protocol of 1987 already contained a general commitment to facilitate access to environmentally safe alternative sub-

184 A Dutch study ('Interim Report on Funding Mechanisms for Protecting the Global Atmosphere') elaborated by a private consulting firm estimated annual costs of about US \$ 400 m for a period of ten years; see UNEP/OzL.Pro.Mech.1/2, paras. 14-16.

185 See UNEP/OzL.Pro.Mech.1/2, paras. 19-21.

186 See UNEP/OzL.Pro.Mech.1/2, paras. 23-24. This concept was developed by the Washington-based World Resources Institute.

187 Secretariat information note, UNEP/OzL.Pro.Mech.1/Inf.1, para. 23.

188 See UNEP/OzL.Pro.Mech.1/2, paras. 25-27.

189 First session of the first meeting, August 21 - 25, 1989 in Nairobi.

190 Report, UNEP/OzL.Pro.WG.I(1)/3, para. 2 (emphasis in original).

191 See UNEP/OzL.Pro.WG.I(1)/3, para. 25.

192 See UNEP/OzL.Pro.WG.I(1)/3, para. 26. Note, however, that this paragraph of the report was not officially agreed upon, due to 'time constraints'; *ibid.*, footnote, p. 8.

stances and technologies for parties that are developing countries¹⁹³. It was agreed that 'transfer of technology' in the context of the financial mechanism meant the facilitation of access to alternative substances and technology »by meeting *the incremental costs* associated with transition from the controlled substances to alternatives and substitutes«¹⁹⁴. This agreement comprised two important aspects. At least in the context of the funding mechanism, transfer of technology was considered to be solely a matter of the purchasing power necessary to obtain technology, patents and licenses on the market. The agreement did not address the possible situation in which sufficient funds were available but patent-owners refused to market their technology. Precisely this possibility became a stumbling block in the final hours of the London conference. On the other hand, the agreement reflected the commitment that *the*, and that is *all*, incremental costs should be met by the funding mechanism¹⁹⁵. The Working Group agreed on a preliminary list of incremental costs to be met by the funding mechanism¹⁹⁶. Only parties to the Protocol should benefit from funding¹⁹⁷.

Beyond this margin of preliminary consensus, the Working Group identified two issues for further study. Since the total costs to be met by the funding mechanism remained rather unclear, it was decided that this matter would best be evaluated by a number of country-specific feasibility studies. These studies should be initiated by the respective developing countries and financed by several industrialized countries¹⁹⁸.

The developing countries preferred to establish a trust fund located with UNEP and financed by »legally enforceable ... contributions«¹⁹⁹. These contributions could be collected by a levy of charges on the consumption of controlled substances in a given base year. Several larger donor countries²⁰⁰, however, favoured the use of existing bilateral and multilateral channels, e.g. the World Bank, and an International Environmental Facility functioning primarily as a 'clearing house'. The issue was not settled and the Working Group agreed to commission a study on the possible role of new and existing institutions²⁰¹.

193 See Montreal Protocol, article 5(2).

194 UNEP/OzL.Pro.WG.I(1)/3, para. 11 (emphasis added).

195 In the light of this far-reaching agreement, the desire by some developing countries that transfer of technology should be on a non-profit basis lost much of its economic relevance; see UNEP/OzL.Pro.WG.I(1)/3, para. 13.

196 See UNEP/OzL.Pro.WG.I(1)/3, para. 12. The list included costs related to production of controlled substances and their use as intermediate products as well as costs arising at the consumer level.

197 In this regard, the funding mechanism was expressly referred to as an »incentive system built into the provision of the Protocol«; UNEP/OzL.Pro.WG.I(1)/3, para. 20.

198 See UNEP/OzL.Pro.WG.I(1)/3, paras. 14-18. Finland, the Netherlands, Norway, Sweden, the UK and the USA offered to bear the costs of such studies; see *Benedick*, *Ozone Diplomacy*, p. 154.

199 UNEP/OzL.Pro.WG.I(1)/3, para. 9.

200 Among them the United States, the United Kingdom and Japan, see *Benedick*, *Ozone Diplomacy*, p. 153.

201 See UNEP/OzL.Pro.WG.I(1)/3, para. 37. The report noted that »a Trust Fund or another effective mechanism should be created in conjunction with the Secretariat of the Protocol«; *ibid.*, para. 36. Apparently, this was a diplomatic response to the request that decisions on the disbursement of funds should be made by the parties to the Protocol (and not by, e.g. the World Bank). It should turn out later on, however, that precisely the Secretariat of the Protocol would be excluded from the management of the Fund.

The Bureau of the Montreal Protocol, which met in September, recommended that the following session of the Working Group should consider the creation of a *binding* mechanism which would ensure *compulsory* contributions by the parties, calculated most preferably on the basis of consumption of ozone depleting substances. The Working Group should also discuss problems resulting from the fact that patents on technologies would most likely be in the hands of private parties that were not likely to release them²⁰². On both issues, the Bureau was apparently responding to the concerns of developing countries²⁰³.

The November meeting of the Working Group was primarily devoted to amendments and adjustments of control measures and provided the last opportunity to officially submit proposals for timely circulation to the parties. The group of developing countries submitted proposals for article 5 (special situation of developing countries) and a new article 10bis (transfer of technology and financial assistance), which were, without extensive deliberations during the session²⁰⁴, included in the officially circulated draft²⁰⁵. According to these submissions, parties not operating under article 5²⁰⁶ should transfer the technology necessary for recycling and conservation of controlled substances, manufacturing of substitutes etc. to countries operating under that article. Transfers should take place *on a preferential and non-commercial basis*. An International Trust Fund would be established *within UNEP* to meet fully the incremental costs incurred by these countries. It should be financed by the parties not operating under article 5 in proportion to their consumption of controlled substances in 1986. The Fund should be managed by a Committee with an equal representation of donor and beneficiary countries. Any commitment of article 5 countries to comply with the control measures should be 'subject to the transfer of technologies and financial assistance' provided for in the new article 10bis²⁰⁷. This condition was not unreasonable as such. As long as it was agreed that developing countries lacked the resources to implement the Protocol on their own, a non-implementation of the assistance provided for in a revised Protocol could well lead to the waiving of the obligation of developing countries to comply with control measures. While the funding mechanism was gathering increasing support, an obligation to actively transfer technology remained unacceptable to industrialized countries with market economies.

In January, the Executive Director of UNEP called together experts from six developing and six developed countries which met in a personal capacity with the

202 See report of the first session of the Bureau, UNEP/OzL.Pro.Bur.1/2.

203 Note that none of the key donor countries was represented in the Bureau which consisted of high-level representatives from Finland, Mexico, Kenya, New Zealand, and the USSR.

204 See report of the first meeting of the second session, UNEP/OzL.Pro.WG.II(1)/7, para. 22.

205 See report of the legal drafting group, UNEP/OzL.Pro.WG.II(1)/5, article 10bis.

206 Article 5(1) of the Montreal Protocol provides for preferential treatment of parties that (a) are developing countries and (b) have an annual per capita consumption of controlled substances of less than 0.3 kg. Hence, out of the list of developing countries adopted at the first Meeting of the Parties a small number would not operate under article 5, e.g. Bahrain, Panama, Singapore, the United Arab Emirates; UNEP/OzL.Pro.2/3/Annex IV/Appendix III (Scale of Contributions).

207 See UNEP/OzL.Pro.WG.II(1)/5, proposed revision of article 5(2).

members of the Bureau of the Protocol²⁰⁸. In a note to the informal consultations, the Executive Director attempted to identify a solution acceptable to both camps (and to UNEP). Recognizing that a direct transfer of technology bore difficulties due to the private ownership of rights and patents, he concluded that »in the last analysis success in effecting a meaningful transfer of technology will probably depend upon finding new approaches and modalities for ensuring an enhanced flow of financial resources to make the sharing of technological options a viable objective«²⁰⁹. This approach reflected the general approach of the Western industrialized countries. However, the receiving countries did not trust the proper functioning of the market. The emerging stalemate not only jeopardized the long-term success of the Montreal Protocol, it also threatened to thwart any effort to tackle the even more serious problem of global climate change for which the ozone negotiations formed a precedent.

The UNEP Executive Director therefore proposed a far-reaching approach to the management of such issues, namely the levy of a fee on the use of the environment, in the present case on the consumption of ozone depleting substances. The concept had the advantage that there was no divorce between donor and beneficiary countries. All of them would contribute according to their contribution to the environmental problem. According to this concept, governments acted as collecting agents for what could be called an 'Earth Fund'. It could easily be extended to cover CO₂ emissions when this issue became viable²¹⁰. Such a concept amounted to an international tax levied by UNEP. Undoubtedly, it would have considerably strengthened the role of the organization. At the same time, however, an international tax encroached on the sovereignty of states to govern their domestic economies. It constituted a true instance of supra-national governance in the field of the environment whose impact would reach far beyond the issue-area concerned. Precisely for these reasons it was not acceptable within the regime.

The informal consultations contributed to clearing the ground for the further negotiations. The Executive Director noted the emergence of consensus on several issues, including that of additional funding²¹¹. He submitted a number of recommendations basically reflecting the state of consensus achieved so far. The establishment of a new funding mechanism with resources additional to other aid programmes was required. Recognizing the desirability to develop existing bilateral and multilateral channels, the funding mechanism should function primarily as a safety net meeting

208 The consultations took place January 22 - 24, 1990 in Nairobi. Experts came from Brazil, Colombia, China, India, Malaysia, Venezuela; and from Canada, Japan, the Netherlands, Norway, the UK, and the USA; see Secretariat note UNEP/OzL.Pro.WG.II(2)/2, para. 7. Note that of the former group only Malaysia and Venezuela were members of the Protocol by that time while Brazil joined in March 1990. The other three participants remained non-parties for the time being.

209 See the note of the Executive Director on 'Transfer of Technology and the Financing of Global Environmental Problems: The Role of Users Fees', UNEP/OzL.Pro.Fin.1/2, para. 3.

210 On the Earth Fund concept, see UNEP/OzL.Pro.Fin.1/2, paras. 21-32. The Executive Director noted that a levy of one US \$ per kilogram of CFCs would amount to US \$ 1.2 billion annually (until, later on, consumption decreased significantly).

211 See oral report to the second session of the second meeting of the Working Group, UNEP/OzL.Pro.WG.II(2)/7, para. 5. Consensus on this subject was re-confirmed in the report, *ibid.*, para. 41.

costs that were not covered by these other sources²¹². Two plans for the organization of the funding mechanism submitted prior to the session included this idea, i.e. a joint initiative sponsored by Finland, the Netherlands and the Group of 77²¹³, and an alternative plan submitted by the United Kingdom²¹⁴. Accordingly, the establishment of a subsidiary fund *and* a clearing house for the coordination of the different funding sources was generally accepted. While disagreement was limited to the degree of priority attached to the two branches of the mechanism, it was accepted that the parties should have access to both of them²¹⁵. Lastly, there was no disagreement that the mode of the raising of contributions to the fund should remain the prerogative of the contributing parties²¹⁶. Hence, the idea of an international tax was abandoned prior to its official introduction into the deliberations.

Beyond this area of consensus, several points of disagreement remained. The plan submitted by the Group of 77 and smaller industrialized countries proposed that contributions be made by parties not operating under article 5 on a *mandatory basis* according to their calculated level of consumption in 1986. The plan submitted by the United Kingdom proposed contributions by *the* (i.e. all) parties in proportion to their contribution to the UN scale of assessment. It was silent on the issue of the nature of contributions (mandatory vs. voluntary)²¹⁷. Since the UN scale of assessment was primarily based upon GNP, and the consumption of controlled substances was largely proportional to GNP, differences would not be significant. However, the UN scale of assessment comprised a ceiling of 25 % applicable in particular to the USA²¹⁸. Moreover, if contributions were made according to a scale of assessment on whatever basis, they acquired a quasi-mandatory quality²¹⁹. Agreement was not reached on this matter prior to the London conference²²⁰.

Another, more serious field of disagreement emerged in respect of the administration of the funding mechanism. On this aspect, both plans were explicit²²¹. The plan of the Group of 77 and small industrialized countries suggested that the fund be

212 See recommendations of the Executive Director, UNEP/OzL.Pro.WG.II(2)/7, para. 6.

213 See UNEP/OzL.Pro.WG.II(2)/CRP.1. The proposal was later co-sponsored by China; see UNEP/OzL.Pro.WG.II(2)/CRP.1/Add.1. It is annexed to the report of the meeting, UNEP/OzL.Pro.WG.II(2)/7/Annex I. Note the coalition between smaller Western industrialized and developing countries.

214 See UNEP/OzL.Pro.WG.II(2)/CRP.2; the proposal is annexed to the report of the meeting, UNEP/OzL.Pro.WG.II(2)/7/Annex II. It reflected the approach of the larger Western donor countries.

215 See UNEP/OzL.Pro.WG.II(2)/7, para. 42.

216 See recommendations of the Executive Director, UNEP/OzL.Pro.WG.II(2)/7, para. 6. Both alternative plans imply (but do not expressly mention) this fact.

217 Compare, UNEP/OzL.Pro.WG.II(2)/7/Annex I, para. 2 and Annex II, para. 8.

218 Another consideration referred to the refusal of the European Community and several of its member states to report figures disaggregated by countries. An assessment of contributions according to consumption necessarily required such reporting.

219 During the following meeting of the Bureau, one member insisted on the voluntary nature of contributions. This was most probably the Soviet vice-president, since the Finnish, Kenyan and Mexican members were from countries having sponsored the initiative of the Group of 77 and small industrialized countries. In response to this resistance, «the Executive Director agreed that, as with contributions to the Protocol Trust Fund, they should be *voluntary contributions on an assessed basis*»; see report UNEP/OzL.Pro.Bur.3/2, para. 6 (emphasis added).

220 On the discussion, see UNEP/OzL.Pro.WG.II(2)/7, paras. 36-40.

administered under the authority of the parties to the Protocol by an Executive Committee with a balanced representation of article 5 (beneficiary) and other (donor) countries. Decisions on expenses should be prepared by the Secretariat of the Protocol with the assistance of other organizations designated by the parties. Since UNEP performed secretariat functions for the regime, it would occupy a central position within the fund. Nevertheless, the initiative indicated a margin of compromise since the parties could designate other organizations for assistance. The UK plan proposed that the safety net, i.e. the funding branch of the financial mechanism, should be administered by the World Bank.

At least two different conflicts were involved. The World Bank had a decision-making apparatus based on the principle of weighted voting and, thus, secured the influence of the major donor countries. UNEP, led by an Egyptian and located in a developing country, was much closer affiliated to the interests of the developing countries. The larger donor countries favoured the Westernly oriented and efficiently managed World Bank, while the camp of receiving countries preferred UNEP. Both groups of countries participating in these negotiations, as well as the organizations involved, considered the ozone fund as a precedent for an even larger future fund on climate change. This was reflected in the 'Earth Fund' concept advanced by UNEP, as well as in surveys of a billion dollar 'Global Environmental Facility' made by the World Bank²²². In both concepts, the ozone fund was but one out of several 'windows'. Hence, an expected large increase in international resources in the field of North-South environmental cooperation overshadowed the negotiations. In respect of the administrative aspects, agreement was confined to an understanding that the parties should decide on the terms of reference of the fund, set up guidelines and revise them periodically²²³.

A number of country-specific studies were under way to examine the needs of developing countries but had not yet produced results²²⁴. The discussion on the financial mechanism had, therefore, to proceed without a clear indication of the amount of resources required²²⁵. The uncertainty was further increased by the rapid

221 Compare UNEP/OzL.Pro.WG.II(2)/7/Annex I, paras. 6-7, and Annex II, para. 7.

222 See World Bank information paper 'Funding for the Global Environment', circulated in a later session; UNEP/OzL.Pro.WG.III(2)/Inf.4.

223 See UNEP/OzL.Pro.WG.II(2)/7, para. 47.

224 Among the countries on which studies had been initiated were Brazil, China, Egypt, India, Indonesia, Kenya, Malaysia, Mexico, Venezuela. Other countries, i.e. Malta, Panama, the Philippines, Tunisia and Uganda had informed the Secretariat of their interest, see report UNEP/OzL.Pro.WG.II(2)/7, para. 23.

225 For the first three year period, figures in the area of US \$ 240-260 m were discussed, of which US \$ 120 m constituted the requirements of the developing countries that were already parties to the Protocol, another US \$ 100-120 m the requirements of possible new members (e.g. Brazil, India, China), plus another US \$ 20 m for the Secretariat (3 m) and technical assistance (15-18 m). The United States indicated a probable range of US \$ 100-150 m; see Secretariat note UNEP/OzL.Pro.WG.III(2)/Inf.2. *Benedick, Ozone Diplomacy*, p. 155, provides figures slightly differing from the EPA calculations, according to which the demand would increase upon accession of new members by US \$ 100-200 m. For the following session, the US Environmental Protection Agency submitted a calculation of about US \$ 112 m for current contracting parties, to be expanded by another US \$ 50-100 m for new members; see UNEP/OzL.Pro.WG.III(2)/Inf.1. A preliminary study on India, however, estimated costs of about US \$ 1.2 billion until 2010 for this country alone; see report UNEP/OzL.Pro.WG.II(2)/7, para. 16. Some of the basic assumptions of the study were questioned by the Working Group, see *ibid.*, para. 18.

technological development regarding the exploration of substitute chemicals and alternative production processes. Therefore, the Working Group agreed that a three year rolling financial plan was appropriate²²⁶. Against the backdrop of this uncertainty, the degree of agreement achieved so far appeared quite remarkable²²⁷.

The following meeting of the Working Group devoted to the financial mechanism was preceded by considerable informal diplomatic activity. A sub-working group submitted criteria for a list of incremental costs to be met by the financial mechanism²²⁸. Expert consultations held by UNEP in collaboration with the World Intellectual Property Organization (WIPO)²²⁹ confirmed that in market economies the opportunity for governmental action to force private owners to make available technology and patents was rather limited. However, due to high costs many products and alternative substances were not protected in developing countries. In these cases, the issue at stake would shift from a transfer of patents and rights to a transfer of know-how for the use of such rights and could partly be overcome by activities within the regime²³⁰.

Parallel to the negotiations on the ozone fund, West Germany and France had launched an official initiative for the establishment of a 'Global Environmental Facility' within the World Bank²³¹. In response to this initiative, the World Bank elaborated and during the negotiations circulated a discussion paper that proposed a Global Environmental Facility in the four areas of the protection of the ozone layer, the greenhouse effect, international water resources and biodiversity. The project was deliberated at a meeting of seventeen major donor countries as well as UNEP and UNDP²³². Resources should be largely additional to existing programmes. The concept comprised a 'core fund' of considerable size²³³ but could also include voluntary and mandatory contributions on a contractual basis, e.g. on the basis of a revised Montreal Protocol. Smaller industrialized countries, partly having co-sponsored the proposal of a fund located with UNEP, did not respond enthusiastically to the French-German initiative, at least as far as its extension to the projected ozone fund was concerned²³⁴. Moreover, the deliberations were limited to a number of key donor countries and excluded future beneficiary countries until the general

226 See UNEP/OzL.Pro.WG.II(2)/7, para. 52. This meant that the financial plan, including the overall commitment to be met by contributors, would be revised and updated every year but would cover a three year period.

227 Even during the last meeting of the Working Group prior to the London conference, the financial requirements were not clear, see report of the second session of the third meeting, UNEP/OzL.Pro.WG.III(2)/3, para. 24.

228 See report, UNEP/OzL.Pro.WG.III(2)/3, para. 2. The list was adopted during the session, see *ibid.*, para. 21, and is attached to the report as Annex II.

229 April 26 - 27, 1990 in Geneva.

230 See Secretariat note, UNEP/OzL.Pro.WG.III(2)/2/Rev.1. A possible regime activity in this field consisted of the elaboration of an inventory of available technologies as part of the 'clearing house' mechanism, see *ibid.*, para. 14.

231 See information note on World Bank activities, UNEP/OzL.Pro.WG.III(2)/Inf.4, para. 2. France offered to pledge FF 900 m over three successive years.

232 See World Bank information note, UNEP/OzL.Pro.WG.III(2)/Inf.4, para. 3. The meeting took place March 15 - 16, 1990 in Paris.

233 The World Bank proposed US \$ 1 billion for three years, see World Bank information note, UNEP/OzL.Pro.WG.III(2)/Inf.4, para. 5.

structure of the emerging institution had been agreed upon. This was an undesirable procedure from the perspective of the developing countries.

From the prevailing constellation of interests, in which several major Western donor countries favoured the World Bank as the leading agency of the projected fund and the developing countries preferred UNEP, a tripartite arrangement emerged as a compromise solution. UNEP would continue to play its role in strategic planning and assisting developing countries to define their needs. UNDP would conduct pre-investment studies as it had done in connexion with the country-specific feasibility studies and would give technical assistance. Finally, the World Bank would make available its experience in the financial management of investments as well as in programme and project implementation²³⁵. All these activities were, however, to be conducted under the authority of the parties of the Montreal Protocol acting through an Executive Committee with a balanced representation²³⁶.

On the basis of these suggestions, a small sub-group had elaborated a proposal according to which a Multilateral Fund should be established as a part of the financial mechanism beside bilateral and other multilateral elements. The Fund would operate under the authority of the contracting parties which would determine the overall policies. *Implementation* of these policies should take place in cooperation with UNEP, UNDP, the World Bank and other appropriate agencies. The proposal was generally welcomed by the Working Group at its third session on the subject²³⁷, but it was not formally adopted²³⁸. The Working Group agreed on the tripartite nature of the institutional structure of the projected Fund, but it could not agree on the particular roles of these agencies in relation to the Executive Committee. Although the World Bank would formally «act as the disbursing agent for the parties' financial mechanism»²³⁹, the relationship between this agency and the Executive Committee remained open.

This progress was achieved despite a United States initiative that overshadowed the meeting and jeopardized any agreement on the financial mechanism. Having agreed to the principle of additional funding during prior sessions, the United States delegation not only insisted that a Fund should be established within the World Bank, but also that it should be financed by the existing resources of that agency²⁴⁰. The decision to reject the principle of additional funding was made at the highest political level within the United States administration²⁴¹. Reactions to this step within the Working Group were unfavourable. 'All other delegations' taking the floor on the

234 The World Bank information note reports that among the 17 donor countries «a wide range of views» on the initiative existed; see UNEP/OzL.Pro.WG.III(2)/Inf.4, para. 5.

235 See Secretariat information note, UNEP/OzL.Pro.WG.III(2)/Inf.2, para. 11.

236 For information, the Secretariat had submitted a paper on elements of an inter-agency agreement between these organizations and the Protocol Secretariat; see UNEP/OzL.Pro.WG.III(2)/Inf.3, re-issued as UNEP/OzL.Pro.WG.IV/5.

237 Second session of the third meeting, May 9 - 11, 1990, in Geneva.

238 See report, UNEP/OzL.Pro.WG.III(2)/3, para. 25. The paper had been submitted under the responsibility of the chairman of the Working Group. It is attached to the report as Annex I.

239 Explanation of the Executive Director to the Bureau at its third meeting, see UNEP/OzL.Pro.Bur.3/2, para. 7.

240 See UNEP/OzL.Pro.WG.III(2)/3, para. 17.

issue unanimously agreed on the principle of additional funding. The World Bank delegation indicated the Bank's refusal to accommodate the ozone fund without additional resources²⁴². Hence, the United States was virtually isolated on this issue. Progress made during the meeting despite the US rejection of additional funding indicated that the delegations anticipated a re-consideration of the US position by the London conference which would be convened about six weeks later.

The Working Group was convened to its fourth meeting immediately prior to the second Meeting of the Parties to the Protocol in London to clear as many remaining questions as possible²⁴³. At the beginning of the session, the United States indicated that it was prepared to join the consensus on the establishment of an ozone fund and to make available *additional* resources, provided that a number of conditions were met. First, the Fund should have the exclusive purpose of meeting the incremental costs incurred by developing countries. Second, four statements regarding the uniqueness of the ozone fund should be explicitly confirmed²⁴⁴. Third, the administration of the Fund should be accomplished by the World Bank and supervised by an Executive Committee with a limited and balanced representation. Voting procedures within this Committee should be subject to some weighting according to contributions. Fourth, the United States as a major contributor expected a permanent seat in the Executive Committee.

The revision of the United States' position opened the path toward agreement on the Multilateral Fund. The Working Group agreed on the new article 10. The US conditions had the general effect of reinforcing the claim of major Western donors that the World Bank should occupy an important role beyond a cashier's function, but the proper distribution of competences between the agencies involved would be settled within the terms of reference of the Fund and not in the text of the Protocol. It would thus be subject to a decision of the parties once the Fund came into being. The same was true for the role and composition of the Executive Committee supervising Fund activities.

Upon settlement of its principle outline, the procedure for the establishment of the financial mechanism became a major issue. The London Amendment would enter into force upon deposition of the twentieth ratification, but not prior to January 1992²⁴⁵. It would be binding only for parties that had deposited their instrument of ratification. Hence, there would be a transitory period of considerable length in which some members of the original Protocol would have ratified the Amendment,

241 On the decision and its domestic and international implications, see *Benedick, Ozone Diplomacy*, pp. 157-161.

242 See UNEP/OzL.Pro.WG.III(2)/3, paras. 18-20.

243 Fourth meeting of the Working Group, June 20 - 26, 1990 in London, immediately followed by the second Meeting of the Parties June 27 - 29, 1990.

244 They were related to the scientifically documented connection between controlled substances and ozone depletion; the reasonable expectation that the Fund could address the problem of ozone depletion; the reasonable predictability and limitation of funds necessary; and the non-prejudice of the Fund to other environmental issues. See statement of the US delegation. The first three of these statements entered the Preamble of the Protocol, while the last one appears in the new article 10. These statements, which do in themselves not contain any binding force on parties as to other parallel issues, e.g. a possible climate fund, nevertheless provided other countries with considerable bargaining leverage; see *Benedick, Ozone Diplomacy*, p. 174.

while some others would not have done so. This transitory period posed a problem for two reasons. First, only parties that had formally accepted the contractual obligations of the Amendment were bound to finance the incremental costs of developing countries. If major contributors, i.e. large industrialized countries, delayed their ratification, other parties would have to finance a larger share of the overall costs. Second, the transitory period delayed the effective start of the North-South dimension of the regime, although there was consensus to act more quickly.

For these reasons, the Working Group engaged, only some days prior to the second Meeting of the Parties, in negotiations on an 'Interim Multilateral Fund'. Whereas the regular Fund would be founded on the amended Montreal Protocol, i.e. on a full-fledged international treaty, the Interim Fund could only be based on a *decision* of the second Meeting of the Parties which would be immediately binding on *all parties* to the Protocol without ratification. The Executive Director of UNEP submitted a draft decision for an Interim Fund for the three-year period of 1991-1993²⁴⁶. The financial volume of the Interim Fund for its first period of three years was not contentious²⁴⁷.

However, some issues that had been excluded in respect of the regular Fund, including the dispute over the precise role of the World Bank and the Executive Committee within the institutional framework, re-appeared in relation to the Interim Fund. The proposal of the Executive Secretary of UNEP remained unclear as to the sharing of competences between the various agencies. But it suggested designating the Executive Secretary of UNEP as the administrator²⁴⁸. The donor countries rejected this proposal. They succeeded with their claim that the part of the Fund financing the incremental costs, i.e. by far the largest part of the financial mechanism, be administered by the World Bank. The Chief Officer of the Secretariat of the Executive Committee would be responsible for the budget of the Fund as a whole and for the regular reporting to the Meeting of the Parties. The Interim Multilateral Fund would operate according to the policy decisions and guidelines adopted by the Executive Committee.

The United States claim for weighted voting in the Executive Committee was far beyond any realistic prospect of agreement. But voting procedures became an important subject of discussion. While some major donor countries proposed adopting Fund decisions by consensus²⁴⁹, the developing countries preferred a simple two-thirds majority as provided for in the Rules of Procedure of the Meeting of the Parties to the Montreal Protocol for decisions of substance. Under the responsibility of the chairman, a compromise solution was found according to which decisions should be taken by consensus. If this proved impossible, they could

²⁴⁵ See Amendment, article 2, UNEP/OzL.Pro.2/3/Annex II, p. 39.

²⁴⁶ See preparatory document UNEP/OzL.Pro.WG.IV/6/Appendix I.

²⁴⁷ The figures later adopted, US \$ 160 m with an increase of another US \$ 80 m if more countries became parties to the Protocol during the three year period, are first mentioned in UNEP/OzL.Pro.WG.IV/CRP.3/Corr.2. Later, they were transferred from the text of the Decision proper to the annexed terms of reference of the Interim Fund. But at no time were other figures officially proposed.

²⁴⁸ See preparatory document UNEP/OzL.Pro.WG.IV/Appendix I.

be adopted by a two-thirds majority which comprised a majority of article 5 parties *and* a majority of other parties. Accordingly, even if a full consensus could not be achieved, any future decision on the financial mechanism would need a wide agreement comprising both groups of countries.

Thus, only hours before the arrival of the ministers, the Working Group was able to remove some major stumbling blocks for the adoption of the whole package of decisions.

2.2.2. *London Decisions for Preferential Treatment of Developing Countries*

Agreement on the funding mechanism, including the ad hoc establishment of an Interim Fund, constituted the core but not the overall solution for the new North-South dimension of the regime. Some developing countries claimed that their obligation to implement the control measures be 'subject to', i.e. conditional upon, an effective transfer of financial resources and technology²⁵⁰. During the ministerial meeting a group of developing countries led by India related its possible accession to the Protocol to a satisfactory solution of this conflict²⁵¹.

According to the original Protocol of 1987 and its Amendment prepared for adoption in London, control measures entered into effect for developing countries with a ten year grace period, provided that their per capita consumption remained below a certain level²⁵². The obligations of these countries were thus immediately linked to those of the industrialized countries. The Working Group had agreed on a comparatively unspecific clause on the transfer of technology²⁵³ according to which the parties merely accepted to «take every practicable step, consistent with the programmes supported by the financial mechanism, to ensure» that the best available environmentally safe substitutes and technologies were transferred to developing countries and that this transfer occurred under fair and most favourable conditions²⁵⁴. Moreover, it was not clear whether the envisaged financial mechanism would operate satisfactorily. Hence, if the ability of developing countries to comply with their obligations depended on the proper functioning of the financial mechanism and the unhampered access to the necessary technology, their claim was not entirely unreasonable. The industrialized countries, however, rejected any opting out procedure that could be triggered unilaterally.

249 See proposals by the United Kingdom and the United States, UNEP/OzL.Pro.WG.IV/CRP.6 and CRP.8.

250 See proposal of a group of developing countries for an amendment of article 5; report of the legal drafting group, UNEP/OzL.Pro.WG.II(5), p. 14, and above, Chapter 7, p. 290.

251 On the diplomatic activity during the last days of the conference, involving in particular India, Malaysia, China, the United States and the United Kingdom, see *Benedick*, *Ozone Diplomacy*, pp. 188-196. The difficult developments were reflected in the successive documents UNEP/OzL.Pro.WG.IV/7/Rev.1-5.

252 The annual per capita consumption of originally controlled substances (Annex A to the Protocol) had to remain below 0.3 kg, and for newly controlled substances below 0.2 kg (Annex B); see Amendment, article 5 (1)-(2); UNEP/OzL.Pro.2/3/Annex II, pp. 31-32.

253 From document UNEP/OzL.Pro.WG.IV/7/Rev.2 (issued 25 June 1990) onwards, the text of the later article 10A was not challenged any more.

254 See Amendment, new article 10A; UNEP/OzL.Pro.2/3/Annex II, p. 36.

Only during the final hours of the conference was it agreed that the implementation of control measures by article 5 countries »will depend upon the effective implementation of the financial cooperation ... and transfer of technology«²⁵⁵ as provided for by the new articles 10 and 10A of the Protocol. The compromise recognized the close relationship between the two elements of the Protocol, but it did not imply the right of developing countries to cease implementation of obligations automatically or unilaterally. Instead, it envisages a subtle and complex review and dispute settlement mechanism that takes into account the special situation of developing countries.

As a general obligation without any further requirement, the situation of developing countries as well as the effective implementation of the financial mechanism and the transfer of technology shall be reviewed by the Meeting of the Parties not later than 1995²⁵⁶. In addition, any individual developing country finding itself unable to implement the control measures due to an inadequate implementation of the new articles 10 and 10A may so notify the Secretariat. The notification will be circulated to all parties to the Protocol. It will be considered by the Meeting of the Parties which will decide on appropriate action²⁵⁷. The Meeting of the Parties will, moreover, consider complaints of developing countries finding themselves unable to obtain the required amounts of controlled substances to meet their basic domestic needs during the extended transition period applicable to these countries²⁵⁸. With these clauses, the Meeting of the Parties as the highest policy-making organ of the international regime acquired a number of new functions. It would continuously supervise the obligations to which the developing countries as a group are committed and their ability to implement these commitments. Upon request, it would also examine the particular situation of individual members of this group. Finally, it would review the implementation of commitments of the industrialized countries as a group with regard to the North-South dimension of the regime and thus provide an incentive for these countries to comply with their obligations.

The settlement of this final dispute paved the way for the adoption of the other parts of the comprehensive North-South dimension of the regime. According to the Amendment of the Montreal Protocol²⁵⁹, the parties would establish a mechanism that provided financial resources and technical cooperation to enable developing countries to meet their obligations arising from the Protocol. The mechanism would meet *all* incremental costs incurred by these countries in complying with the control measures. It would be financed by contributions from countries not operating under article 5, and funds would be additional to other financial transfers to developing countries. Besides other multilateral, regional and bilateral cooperation, the mechanism would include a Multilateral Fund. Contributions to the Fund would be as-

255 See Amendment, article 5(5); UNEP/OzL.Pro.2/3/Annex II, p. 32.

256 See Amendment, new article 5(6)-(8); UNEP/OzL.Pro.2/3/Annex II, p. 33.

257 In the meantime, the Non-compliance Procedure shall not be invoked against the notifying party. On this procedure, see below, Chapter 7, pp. 314-319.

258 See Amendment, new article 5(4); UNEP/OzL.Pro.2/3/Annex II, p. 32.

259 See the new article 10 of the Amendment, UNEP/OzL.Pro.2/3/Annex II, pp. 34-36.

sessed according to the UN-scale of assessment²⁶⁰. Bilateral and, in particular cases approved by the parties, regional cooperation might be counted up to a certain percentage toward the contribution to the Fund, if they strictly related to assuring compliance with the Protocol, provided additional resources and met agreed incremental costs.

The Fund would operate under the authority of the Meeting of the Parties and according to its overall policy decisions. The parties to the Protocol would decide on the programme budget for each fiscal period. An Executive Committee to be established by the parties would develop specific operational policies, guidelines and administrative arrangements and monitor their implementation. The Executive Committee would discharge its functions with cooperation and assistance from the World Bank, UNEP, UNDP and other appropriate agencies. The membership of the Executive Committee would be balanced between countries operating under article 5 and other countries.

Along the lines of the regular financial mechanism²⁶¹, the second Meeting of the Parties established an *Interim Financial Mechanism* for the three year period from 1991 to 1993 that included a Multilateral Fund²⁶². For the first three years, the Interim Multilateral Fund would have a size of US \$ 160 m but, envisaging the desired participation of India and China, this amount «could be raised by up to \$ 80 million during the three-year period when more countries become parties to the Protocol»²⁶³. Remarkably, the establishment of the multi-million dollar Interim Fund was merely based on a decision of a doubtful formal legal nature²⁶⁴.

For the administration of the Interim Multilateral Fund, the Meeting of the Parties established an Executive Committee for a three year period and adopted its terms of reference²⁶⁵. The Executive Committee carefully balances the interests of the two groups of countries involved, i.e. contributing and benefiting countries. Each group is represented by seven members and selects its members separately. The United States' claim for a permanent seat, therefore, became a matter for informal settle-

260 The qualification of contributions as 'mandatory' has been carefully avoided, see above. The European Community is not a member of the United Nations and is, therefore, not assessed by the scale. It is, however, a member of the Montreal Protocol and the Vienna Convention and contributes 2.5 % to the administrative budgets of the respective Secretariats. It declared that it was not in a position to contribute to the Fund, see report, UNEP/OzL.Pro.2/3, para. 43. While the Commission of the Community desired to contribute like all other parties to the Protocol, some larger member states and subsequently the Council of Ministers refused to accept independent contributions by the Community. An extraordinary Council was held by the environment ministers attending the second Meeting of the Parties to settle this question.

261 Except for some additional wording due to the immediate entry into force of the Decision, the wording of the new article 10 of the Amendment, UNEP/OzL.Pro.2/3/Annex II, pp. 34-36 and of Decision 8, *ibid.*, pp. 12-14, were identical.

262 See Decision 8, UNEP/OzL.Pro.2/3, pp. 12-14. Appended to the Decision was an indicative list of incremental costs as agreed by the Working Group at its third meeting, see *ibid.*, Annex IV, Appendix I.

263 Terms of Reference; UNEP/OzL.Pro.2/3/Annex IV, Appendix IV, para. 1.

264 A discussion of the legal basis of this Decision has been carefully avoided during the preparatory process. On its legal implications, see *Ott*, The New Montreal Protocol, pp. 203-204; see also *Gehring*, International Environmental Regimes, pp. 49-50.

265 See UNEP/OzL.Pro.2/3/Annex IV, Appendix II.

ment by the group of contributing countries²⁶⁶. Any re-arrangement of the representation of article 5 countries upon the accession of China and India was exclusively a matter of concern for the group of receiving countries²⁶⁷. The offices of the chairman and the vice-chairman rotate annually between the two groups.

The interim Executive Committee develops and monitors the implementation of specific policies, guidelines, and administrative arrangements. It adopts the three-year budget for the Interim Multilateral Fund and allocates the Fund resources to the three implementing agencies involved in the operation of the financial mechanism, i.e. the World Bank, UNEP, and UNDP. It also develops criteria for project eligibility. Moreover, it considers and approves country programmes and project proposals exceeding US \$ 500,000. It reviews complaints by article 5 parties with decisions on projects below that limit. Hence, the Executive Committee retains a framework competence determining specific policies and approving country programmes. It is the organ of the contracting parties to decide on large projects and to review disputed decisions concerning smaller ones. In contrast, the implementation of larger projects and the initial decision about smaller ones falls within the competence of the implementing agencies.

The Executive Committee is assisted by a new Secretariat, 'co-located' with UNEP. However, major contributors rejected the idea of combining the Fund Secretariat with the Secretariats of the Convention and the Protocol in Nairobi. The Meeting of the Parties excluded this issue from the agenda of the London conference and assigned its settlement to the Executive Committee²⁶⁸.

The terms of reference of the 'Interim Multilateral Fund'²⁶⁹ carefully divide the competences between the Secretariat of the Fund and the implementing agencies. The Committee should invite UNEP to perform functions in the fields of research and data gathering and act as a clearing house, invite UNDP and other agencies in the areas of their expertise to elaborate feasibility and pre-investment studies and to provide technical assistance, and invite the World Bank and other agencies to administer and to manage the financing of the agreed incremental costs. In practice the management of the largest part of the Fund in financial terms would fall under the competence of the World Bank. The Executive Committee is not bound to cooperate in this area *only* with the World Bank and may involve other agencies such as the regional development banks, but the terms of reference preclude cooperation

266 The group of contributing countries agreed on a number of regional groups, including a separate group for the United States; see *Benedick*, *Ozone Diplomacy*, pp. 184-185. In particular, it selected the following seven members: Canada, West Germany, Finland, Japan, the Netherlands, the USA and the USSR; see UNEP/OzL.Pro.2/3, para. 44 (a).

267 The article 5 countries selected Brazil, Egypt, Ghana, Jordan, Malaysia, Mexico and Venezuela; see UNEP/OzL.Pro.2/3, para. 44 (b). The selection occurred on the understanding that the group could modify its representation during the three year election period; see *ibid.*, para. 45.

268 See Terms of Reference of the Interim Multilateral Fund, UNEP/OzL.Pro.2/3/Annex IV, Appendix IV, para. 17. Canada offered to host the Fund and its Secretariat as well as the Executive Committee meetings during the interim period. This offer was accepted for the Secretariat, see Decision II/8 B, UNEP/OzL.Pro.2/3, p. 15. At its first meeting in September, the Executive Committee determined Montreal as the seat of the Multilateral Fund and its Secretariat, see *Benedick*, *Ozone Diplomacy*, p. 186.

269 See UNEP/OzL.Pro.2/3/Annex IV, Appendix IV.

with UNEP. Provided that the World Bank would accept this invitation, »the *President of the World Bank shall be the Administrator of the programme*, which shall operate under the authority of the Executive Committee«²⁷⁰. The Fund Secretariat takes part in the supervision and guidance of World Bank activities. The Chief Officer of the Fund Secretariat (affiliated to UNEP) is responsible for the budget as a whole²⁷¹. It is his responsibility to annually report on the accounts to the parties and to adjust the budget in case of contributions falling short of requirements to avoid deficits.

On this basis the Meeting of the Parties entrusted its President (and not, for example the Executive Director of UNEP) to ensure that the Executive Committee established with effect from 1 January 1991 an 'Interim Multilateral Fund for the Implementation of the Montreal Protocol' operating under the agreed terms of reference²⁷².

The structure of the financial mechanism was formally established for the interim period. Accordingly, the Terms of Reference of the Interim Fund did not automatically apply to the regular Fund. Likewise, the Terms of Reference of the Executive Committee were made subject to review after three years²⁷³. However, all legal instruments were drafted in a way that allowed their transfer without further modification to the regular financial mechanism²⁷⁴. Changes were not expected unless a new consensus emerged between contributing and benefiting countries.

In conclusion, the second Meeting of the Parties to the Montreal Protocol adopted, apart from the reinforcement of control measures, a comprehensive package directed at attracting the participation of developing countries. The regime was supplemented with a scheme for the sharing of burdens between North and South that was unprecedented in international environmental relations. Whereas the tightening of control measures depended upon agreement among the industrialized countries, this arrangement comprised both industrialized and developing countries. The principal interlocutors of the future donor countries were not even members of the regime. Rather, in exchange for an acceptable burden sharing they promised to participate within the regime and to commit themselves to its obligations.

3. Further Expansion and Consolidation: Copenhagen and Beyond

The London revisions of the Protocol constituted an important step in the development of the regime, but they did not settle its final structure. Only two years after the London conference, and only three months after the entry into force of the

270 Terms of Reference for the Interim Multilateral Fund; UNEP/OzL.Pro.2/3/Annex IV, Appendix IV, para. 15 (emphasis added).

271 *Benedick, Ozone Diplomacy*, p. 186, notes that UNEP's rather symbolic role was augmented as the Executive Committee at its first session assigned 'a banking function' to the organization.

272 See Decision 8 (5); UNEP/OzL.Pro.2/3, p. 13.

273 See Decision II/8 (6), UNEP/OzL.Pro.2/3, p. 13.

Amendment²⁷⁵, the fourth Meeting of the Parties was again concerned with the Multilateral Fund. It was also able to tighten the control measures once again and supplemented the regime with a 'Non-compliance Procedure' that strengthened its institutional arrangement. The conference convened in Copenhagen in November 1992 was preceded by two meetings of the Open-ended Working Group in April and July 1992. It consisted of a third meeting of the Open-ended Working Group, a preparatory meeting and the fourth Meeting of the Parties itself, convened at ministerial level²⁷⁶.

3.1. *Quarrels about the Funding Mechanism*

The establishment of the Multilateral Fund largely fulfilled its purpose of encouraging developing countries to participate in the regime and commit themselves, with a grace period of ten years, to observing the valid control measures. By 1993 membership had grossly changed. The regime did not only include almost all industrialized countries, but also the majority of developing countries (see Table 7.3). Several developing countries with huge internal markets and a particularly high potential for growth in ozone depleting substances sacrificed their plans for basing their economic development on the production and use of these substances. More specifically, China joined the Protocol in 1991 and India followed a year later²⁷⁷. A possible loophole of international cooperation in the issue-area of protection of the ozone layer had been effectively closed.

Table 7.3: Coverage of the Regime

| Number of Parties | Member Countries of the Montreal Protocol | | | | |
|----------------------|---|------|------|------|------|
| | 1989 | 1990 | 1991 | 1992 | 1993 |
| Industrial Countries | 29 | 31 | 32 | 33 | 36 |
| Developing Countries | 23 | 33 | 43 | 64 | 86 |
| Total | 52 | 64 | 75 | 97 | 122 |

Source: data from document UNEP/OzL.Rat.27²⁷⁸

By the time of the fourth Meeting of the Parties, the Interim Fund had started its operation. It had financed the elaboration of country-specific programmes for 39

²⁷⁴ *Benedick*, *Ozone Diplomacy*, p. 186, does not even consider the possibility of a re-negotiation of the Terms of Reference upon establishment of the regular Fund.

²⁷⁵ The Amendment entered into force as late as August 1992 and not by the beginning of 1992 as envisaged.

²⁷⁶ On the Copenhagen conference, see *Gehring/Oberthür*, the Copenhagen Meeting; and *Rowlands*, The Fourth Meeting of the Parties.

²⁷⁷ See UNEP/OzL.Rat.27.

²⁷⁸ Membership as of December 31 (1993 only as of July 31). Figures reflect dates of deposit of instruments of ratification; figures for industrial countries include the European Community as a separate member of the regime.

developing countries. Nine of these programmes, including that for China, had been approved. They covered more than 50 % of the consumption of controlled substances in article 5 countries²⁷⁹. In accordance with the London compromise, the size of the Interim Fund was raised upon accession by China and India to US \$ 200 m and US \$ 240 m respectively²⁸⁰.

However, the group of donor countries did not fully meet its commitments. By November 1992 the Fund had received less than 80 % of 1991 contributions and less than 70 % of 1992 contributions²⁸¹. The bulk of arrears was caused by two regime members, namely the Russian Federation and France. The problem was due to two completely different issues, both of which could have possibly jeopardized the entire North-South arrangement.

The Russian reluctance to meet the financial commitment was closely related to economic and political turmoil. Unlike the more recently adopted Climate Change Convention, the Montreal Protocol distinguishes between two groups of regime members, namely beneficiary countries operating under article 5 and donor countries not doing so. Despite their difficult economic situation, most East European countries, including the states succeeding the former Soviet Union, are grouped as donor countries. Some of them conceived themselves incapable of contributing to the Fund in hard currency²⁸². Russia and other successors of the Soviet Union simply did not meet their obligations.

The underlying economic problem was widely recognized among the industrialized countries. Nevertheless, unilateral non-compliance, however warranted substantively, may have a dangerous impact on cooperation. Since the size of the Fund is adjusted according to the needs of the beneficiary countries, it would not be able to meet all of their incremental costs, if contributions were not fully paid. The developing countries, in turn, might be expected to reject compliance with their obligation to control ozone depleting substances if the financial mechanism did not function as designed. Moreover, sincere contributors might refuse any increase of their own commitments²⁸³ and some of them might even follow the precedent and unilaterally cease to contribute.

279 See oral account of the Executive Committee's Chairman, UNEP/OzL.Pro.4/15, paras. 25-27; for a summarizing description of the Fund and its operation, see UNEP/OzL.Pro/ExCom/10/40/Annex I.

280 See Decision III/22 (d), UNEP/OzL.Pro.3/11; and Decision IV/18 (3), UNEP/OzL.Pro.4/15. These figures refer to the three year budget of the Fund. Thus, the envisaged 'real' size of the Fund amounted to US \$ 53.3 m for 1991 (i.e. one third of US \$ 160 m), US \$ 73.3 m for 1992 (i.e. another US \$ 53.3 m plus one half of the additional US \$ 40 m related to the accession of China), and US \$ 113.3 m for 1993 (i.e. another 53.3 m plus another 20 m plus another additional 40 m related to India's accession).

281 According to an informal document entitled «Status of Contributions of Parties Towards the Trust Fund for the Interim Multilateral Fund for the Implementation of the Montreal Protocol» only US \$ 42 m of the US \$ 53.3 m for 1991, and only US \$ 50 m of the US \$ 73.3 m for 1992 had been paid as of 19 November 1992.

282 See statement of the Russian Federation at the end of the fourth Meeting of the Parties, UNEP/OzL.Pro.4/15, para. 81.

283 The report of the Open-ended Working Group notes that «a number of delegations added that there could be no question of increasing the size of the Fund until existing contributions had been fully paid up». UNEP/OzL.Pro/WG.1/7/4, para. 107; see also *ibid.*, para. 112.

Therefore, the Netherlands proposed an amendment of the Protocol that would enable the Meeting of the Parties to exempt any party from any of its obligations upon a written request²⁸⁴. This enabling clause was directed at increasing the flexibility of the regime and at avoiding *unilateral* decisions of non-compliance. It envisaged a case-by-case approach rather than the permanent or temporary institution of an intermediate group of regime members. During the deliberations it turned out that the Meeting of the Parties was already competent to exercise this right of exemption. Moreover, decisions of this kind could be prepared by the Implementation Committee established under the 'Non-compliance Procedure'²⁸⁵.

Thus, the fourth Meeting of the Parties did not amend the Protocol text²⁸⁶, although it followed the intention of the Dutch proposal. It immediately considered and decided three formal requests for relief from contributions to the Fund in convertible currency submitted by Bulgaria, Hungary and Poland²⁸⁷. It 'encouraged' these states to find a solution in collaboration with the Fund Secretariat and the Executive Committee. Contributions could, for example, be made 'in kind', that is, in the form of expertise, technology or products. At the same time it involved all three groups of interested countries, namely the applicants, the beneficiaries of the Fund, and the (other) contributors, in the finding of a solution to the problem. Responding to this Decision, Poland declared its preparedness to meet its commitments²⁸⁸, while the Executive Committee explored possibilities of contributions in kind for six East European states, namely Belarus, Hungary, Russia, Ukraine, the Czech Republic and Bulgaria²⁸⁹. Whatever the result of this assessment, the situation remained under the supervision of the Meeting of the Parties and its subsidiary bodies²⁹⁰. It was removed from the realm of unilateral decision-making and reintroduced into the sphere of collective decision-making.

The French reluctance to pay its contributions pointed at an entirely different problem. In London the parties to the Protocol had agreed to establish the regular Fund at their Meeting following the entry into force of the London Amendment²⁹¹. The Terms of Reference for the Fund and its Executive Committee were clear in this respect and allowed their immediate application to the regular Fund. The Executive Committee had estimated the needs for the years 1994-1996 between US \$ 480 m and US \$ 620 m²⁹². The Nairobi-based Secretariat of the regime had

284 See UNEP/OzL.Pro/WG.1/6/5/Annex I. South Africa and the Russian Federation associated themselves with the proposal, see UNEP/OzL.Pro/WG.1/7/4, paras. 70-71 and 74.

285 On this Procedure, see below, Chapter 7, pp. 314-319.

286 Although some interested countries, in particular Russia and South Africa, fought vigorously for a formal amendment, see UNEP/OzL.Pro/WG.1/8/2, paras. 70-71 and 78.

287 See Decision IV/21, UNEP/OzL.Pro.4/15.

288 See report of the Executive Committee UNEP/OzL.Pro/ExCom/10/40/Annex V.

289 See UNEP/OzL.Pro/ExCom/10/40/Annex VI.

290 During the Meeting of the Parties of 1993, five Eastern European countries 'requested' the regime members to decide at its meeting in 1994 on a special status for countries with economies in transition; see Declaration, UNEP/OzL.Pro.5/12/Annex VIII.

291 See new article 10 of the Montreal Protocol.

292 See report UNEP/OzL.Pro.4/8 para. 24.

later recommended the figure of US \$ 500 m²⁹³. However, some major Western donor countries were still discontent with a Fund that operated independently of other international institutions for the transfer of resources from the North to the South²⁹⁴.

Fund matters were discussed within the Open-ended Working Group in July 1992²⁹⁵. On that occasion the United Kingdom supported particularly by the Netherlands proposed on behalf of the member countries of the European Community to integrate the Multilateral Fund into the Global Environmental Facility (GEF) that was jointly established by the World Bank, UNEP and UNDP²⁹⁶. In June 1992, the GEF had been designated as the principle funding mechanism for the newly established global climate regime²⁹⁷, but it was still in the 'pilot stage' and required institutional restructuring.

The initiative by the European Community amounted to a challenge of the London compromise. It was vigorously opposed by the developing countries. More surprisingly, it did not gain the support of other major donor countries. The United States, in London an emphatic supporter of a strong role of the World Bank, had accommodated itself with the independent Fund and occupied a permanent seat on the Executive Committee. On the basis of this constellation of interests, the Working Group recommended the establishment of the Multilateral Fund and the review of its operation not later than 1995²⁹⁸. Although this 'decision' was adopted by consensus, the members of the European Community did not support it²⁹⁹.

Immediately prior to the Copenhagen conference, Italy and France renewed the Community initiative. They proposed a temporary extension of the *Interim* Multilateral Fund, an adjustment of its budget for 1993 at the widely agreed figure of US \$ 113.3 m (i.e. the size of the Fund in 1992), the later replenishment upon assessment of its needs in 1993, and a review of the financial mechanism in 1995 in the light of experience made with the GEF³⁰⁰. The proposal was intended to postpone the decision whether to establish the regular Fund or integrate it into the GEF. It avoided any specific financial commitment beyond the contributions for 1993. It would thus prevent any medium term planning of the Fund and its beneficiaries and jeopardize the timely accommodation of contributions within the domestic budgets of the donor countries.

The developing countries vigorously struggled for the immediate establishment of the regular Fund and for the adoption of a three-year budget³⁰¹. They refused to

293 See UNEP/OzL.Pro/WG.1/7/2/Rev.1.

294 For a brief discussion of their reasons, see Rowlands, *The Fourth Meeting of the Parties*, pp. 28-29.

295 On this meeting, see 'Montreal Protocol: Financing the Implementation'; *Environmental Policy & Law* 22 (1992), pp. 315-318.

296 See Rowlands, *The Fourth Meeting of the Parties*, p. 28, and UNEP/OzL.Pro/WG.1/7/4, para. 108.

297 See UN Framework Convention on Global Climate Change, articles 11 and 21(3).

298 See UNEP/OzL.Pro/WG.1/7/4, para. 117; the 'decision' of the Working Group amounts to a recommendation to the Meeting of the Parties.

299 See UNEP/OzL.Pro/WG.1/7/4, para. 118.

300 See proposal submitted by France and Italy, UNEP/OzL.Pro.4/CRP.1.

301 The developing countries supported the figure of US \$ 500 m; see UNEP/OzL.Pro/WG.1/7/4, para. 119.

further participate in the preparatory meeting that immediately preceded the formal Meeting of the Parties and threatened to prevent the adoption of decisions in the field of control measures, unless agreement on the establishment of the regular Fund was reached. The conflict over the Multilateral Fund paralysed the meeting for a whole day until a compromise was found³⁰².

The Meeting of the Parties eventually established the regular Fund³⁰³ and set its budget for 1993 at US \$ 113.3 m. Whereas it refrained from exactly determining the budgets for 1994 and later years, it determined their margin. Commitments for 1994 would not be lower than those for 1993, and the size of the Fund for 1994-1996 would be between US \$ 340 m and US \$ 500 m, i.e. between continued contributions at 1992/1993 levels and estimates of the Secretariat³⁰⁴.

To sum up, activities within the regime in the field of North-South relations were primarily directed at consolidating the established financial mechanism. However, consolidation does not at all mean that activities were of little importance. At different levels past arrangements were challenged by unforeseen developments that required community responses to stabilize and reinforce the ambitious institutional structure established in previous years.

3.2. *Further Development of Control Measures*

Although the fourth Meeting of the Parties was dominated by Fund issues, it once again made considerable progress in the field of control measures. The Third Meeting of the Parties (1991) had requested the assessment panels to update their reports of 1989³⁰⁵. The findings of the scientific and technological deliberations, elaborated by several hundred experts from almost fifty countries, were again summarized in a synthesis report³⁰⁶ and formed the cognitive basis of the political negotiations.

The experts agreed that the problem of ozone layer depletion was still growing. High ozone decreases attributable predominantly to surface activities had been observed not only in the Antarctic region but also in middle and high latitudes. The scientific assessment panel projected a peak of chlorine concentrations in the stratosphere around the year 2000 and expected that the full implementation of the London control measures would lead to the disappearance of the ozone hole only in the second half of the next century. The scientific assessment therefore confirmed the persistence of the underlying environmental problem.

³⁰² See *Gehring/Oberthür*, The Copenhagen Meeting, p. 10.

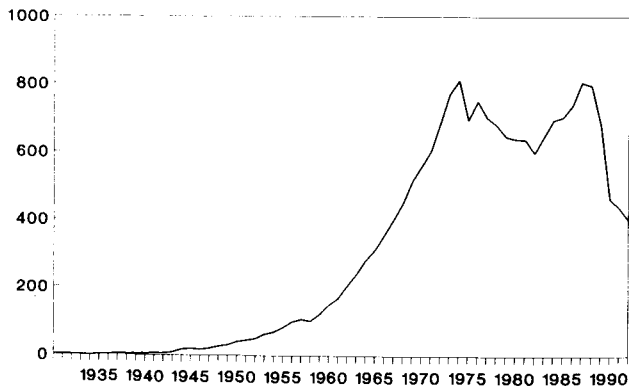
³⁰³ See Decision IV/18, UNEP/OzL.Pro.4/15.

³⁰⁴ The fifth Meeting of the Parties (1993) agreed on a three year budget of US \$ 510 m, see Decision V/9, UNEP/OzL.Pro.5/12.

³⁰⁵ See Decisions III/11 and III/12, UNEP/OzL.Pro.3/11.

³⁰⁶ UNEP/OzL.Pro/WG.1/6/3.

Figure 7.1: Annual Production of CFCs 11 and 12



Figures in 1000 metric tons; source: Oberthür, Politik im Treibhaus, p. 117³⁰⁷.

However, it was the technological (and economic) capacity to substitute ozone depleting substances that already constituted the truly limiting factor for a number of years. At least as important was therefore the success of existing control measures. The trend in production (accompanied by an assumed similar trend in consumption) of CFCs had turned sharply in 1988 (see Figure 7.1.). The merged economic and technological assessment panel estimated that the consumption of CFCs had decreased world-wide by 40 % below the base-line of 1986 and that the consumption by the industrialized countries would drop below 50 % in 1992. This amounted to an implementation of the Protocol three years ahead of schedule³⁰⁸. A similar trend appeared for halons (see Figure 7.2.).

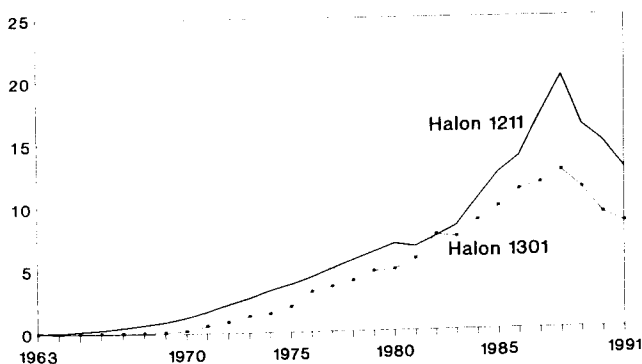
Apparently, economies had reacted immediately on the *conclusion* of the Protocol, and not merely on the legally binding force of its control measures. Industry appeared to be highly sensitive to political decisiveness and far more rapidly capable of developing substitutes than anticipated. Responses from industry provided room for tightened control measures. The economic and technological assessment panel assumed that controlled substances could already be phased out by 1995 - 1997, provided that transitional substances such as HCFCs and partially halogenated fluorocarbons (HFCs) were available³⁰⁹.

³⁰⁷ Figures from Alternative Fluorocarbons Environmental Acceptability Study (AFEAS) cover only production from reporting companies; coverage is estimated to have decreased from an initial 90 % to about 75 % due to uneven global reductions in recent years.

³⁰⁸ See UNEP/OzL.Pro/WG.1/6/3, para. 31.

³⁰⁹ See synthesis report UNEP/OzL.Pro/WG.1/6/3, para. 33.

Figure 7.2: Annual Production of the Two Major Halons



Figures in 1000 t; source: Figures from Halons Technical Options Committee, Report 1991, Nairobi.

Against this scientific and technological backdrop, the three major producers and consumers of ozone depleting substances, i.e. the EC, the United States and Japan, declared in spring 1992 their intention to phase out CFCs by the end of 1995. These unilateral decisions reflected widespread agreement on the accelerated phase-out of controlled substances. Accordingly, the EC, the USA and Canada proposed a phase-out of controlled CFCs and carbon tetrachloride by 1996³¹⁰. Whereas the two North American countries wanted to retain the existing intermediate step (50 % reduction in 1995), the EC favoured a reduction of 85 % as soon as 1994. Some smaller industrialized countries proposed a complete phase-out by 1995³¹¹. On methyl chloroform proposals differed only slightly more³¹². Phase-out schedules for these substances did not create any more serious conflicts (for eventually agreed schedules, see Table 7.4. below).

The technology and economic assessment panel had agreed that the production of halons, the most important group of ozone depleters apart from CFCs, could also be phased out by 1995-1997, if a halon banking system was established that guaranteed the supply of some essential installations in the medium term³¹³. Accordingly, the original submissions proposed the phase-out of halons by 1995 (Sweden, Austria, Norway, Switzerland, Canada) or 1996 (EC and USA)³¹⁴.

However, during the July meeting of the Open-ended Working Group an informal expert group considered a phase-out by 1994 technically feasible and assumed that

³¹⁰ See report of the legal drafting group of April 1992, UNEP/OzL.Pro.4/2, pp. 3, 6 and 7.

³¹¹ See proposals of Sweden, Austria, Switzerland and Norway, UNEP/OzL.Pro.4/2, pp. 3, 6 and 7.

³¹² The EC proposed -50 % in 1994 and -100 % in 1996, the USA -100 % in 1996 without intermediate steps, Canada -85 % in 1995 and -100 % in 2000, and the four smaller industrialized countries -100 % in 1995; see UNEP/OzL.Pro.4/2, p. 8.

³¹³ See synthesis report, UNEP/OzL.Pro/WG.1/6/3, para. 33.

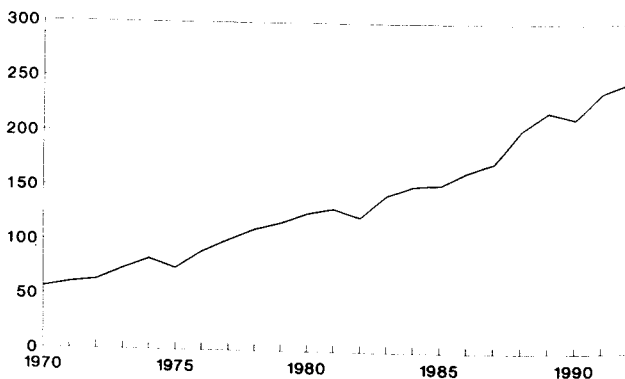
³¹⁴ See UNEP/OzL.Pro.4/2, p. 4.

the production of halons in industrialized countries would cease even before that date³¹⁵. This earlier date was taken over into the recommendations of the Executive Director of UNEP³¹⁶ and agreed by the Working Group immediately prior to the fourth Meeting of the Parties³¹⁷ without becoming a key issue.

These measures were subject to the simplified 'adjustment' procedure. They entered into force within six months of their adoption in Copenhagen for all parties of the Montreal Protocol (original substances) and its London Amendment (London substances) respectively.

In contrast to the widespread agreement in the field of substances already subject to control, views varied widely concerning the control of further substances. Hydrochlorofluorocarbons (HCFCs), of which only a few were actually marketable or in the process of industrial development, have ozone depletion potentials of considerable variance which are throughout lower than those of fully halogenated CFCs but not at all negligible. HCFCs are relevant as transitional substances to accelerate the replacement of CFCs. Production of the most important HCFC-22 has increased steadily over the past twenty years (see Figure 7.3.). Hence, HCFCs provide a future market of considerable size, but their uncontrolled growth is hardly desirable from the perspective of ozone layer protection.

Figure 7.3: Annual Production of HCFC-22



Figures in 1000 t covering about 90 % of global production; source: figures from Alternative Fluorocarbons Environmental Acceptability Study (AFEAS).

Since the London Meeting, the idea of a cap on the production and consumption of these substances had gained considerable support. Austria, Norway, Sweden and Switzerland proposed limiting the production and consumption of HCFCs to 2-4 % of CFC consumption in 1986 and restricting their use. From 2000 onwards, new

³¹⁵ See UNEP/OzL.Pro/WG.1/7/4, para. 42

³¹⁶ See UNEP/OzL.Pro.4/10, para. 8.

equipment containing or produced with HCFCs should not be installed any more, and the substances should be phased out by 2005-2010³¹⁸. The European Community generally supported the concept of a cap, while the United States favoured a restriction of usages and a distinction between substances with higher and lower ozone depleting potentials³¹⁹. Moreover, the two major actors in the issue-area insisted on considerably longer transitional periods.

The July meeting of the Open-ended Working Group did not reach any specific recommendations. However, ensuing consultations by the Executive Director with a small number of experts led to an outline of the eventually adopted reduction scheme³²⁰. Accordingly, consumption of HCFCs should be limited by 1996 to 1989 levels plus a certain percentage (i.e. 2-4 %) of CFC consumption in 1989. The eventual phase-out by 2020 should be reached over two intermediate steps (2000: -25 % and 2005: -50 %). While this general outline was agreeable, the figures were disputed. The United States struggled for a high baseline from which future reductions would be calculated and for a certain allowance of HCFC consumption beyond the year 2020 to guarantee the re-filling of existing installations especially for stationary air conditioners with a lifetime of up to 40 years³²¹. The former of these issues was only settled during the final hours of the Copenhagen conference, the latter led to the peculiar 'tail' from 2020 onwards. Nevertheless, the smaller industrialized countries succeeded in somewhat accelerating the pace of reductions beyond 1996. It was France that prevented agreement on a 35 % reduction as early as 2003 so that the European Community, although competent in the field of control measures, did not manage to speak with one voice (for the eventually agreed figures see Table 7.4.). In addition to these reduction steps, which may become subject to some acceleration by adjustments in future rounds, the Meeting agreed to restrict and control applications of HCFCs from 1996 onwards.

While HCFCs are economically highly relevant, it turned out that bromine containing partially halogenated hydrocarbons (HBFCs) were not yet in use³²². Their control and immediate phase-out did not therefore pose major difficulties and merely constituted a precautionary measure.

HFCs, another group of substitutes for CFCs, have not been addressed expressly. These substances do not contain chlorine or bromine and do not contribute to ozone depletion, but they have a significant global warming potential. It is therefore not clear whether they will fall into the issue-area of ozone layer protection, although their economic relevance relies on the measures adopted here. The scientific assessment panel was mandated to scrutinize the global warming potential of transitional substances in general³²³, but an initial express reference to HFCs in that deci-

317 See UNEP/OzL.Pro.4/2/Rev.1.

318 See proposal in UNEP/OzL.Pro.4/2, p. 13.

319 See UNEP/OzL.Pro/WG.1/7/4, para. 49.

320 See Note by the Executive Director UNEP/OzL.Pro.4/10/Add.1.

321 See *Rowlands*, The Fourth Meeting of the Parties, p. 27.

322 See UNEP/OzL.Pro.4/10/Add.1, paras. 1-4.

323 See Decision IV/12, UNEP/OzL.Pro.4/15.

sion proposed by the Netherlands stirred the protest of the observing chemical industry and was later deleted at the request of the United Kingdom.

Table 7.4: Development of Control Measures under the Montreal Protocol

| Substances (Base-line) | Montreal 1987 | London 1990 | Copenhagen 1992 |
|--|---|--|--|
| CFCs 11, 12 113, 114, 115 (1986) | mid 1989: freeze mid 1993: -20 % mid 1998: -50 % --- | mid 1989: freeze 1995: -50 % 1997: -85 % 2000: -100 % | mid 1989: freeze 1994: -75 % 1996: -100 % --- |
| Halons 1211, 1301, 2402 (1986) | 1992: freeze --- --- | 1992: freeze 1995: -50 % 2000: -100 % | 1992: freeze 1994: -100 % --- |
| 10 other CFCs (1989) | --- --- --- | 1993: -20 % 1997: -85 % 2000: -100 % | 1993: -20 % 1994: -75 % 1996: -100 % |
| Carbon tetra- chloride (1989) | --- --- | 1995: -85 % 2000: -100 % | 1995: -85 % 1996: -100 % |
| Methyl chloroform (1989) | --- --- --- --- | 1993: freeze 1995: -30 % 2000: -70 % 2005: -100 % | 1993: freeze 1994: -50 % 1996: -100 % --- |
| HCFCs (1989 plus 3.1 % of CFC consumption in 1989) | --- --- --- --- --- | --- --- --- --- --- | 1996: freeze 2004: -35 % 2010: -65 % 2015: -90 % 2020: -99.5 % 2030: -100 % |
| HBFCs | --- | --- | 1996: -100 % |
| Methylbromide (1991) | --- | --- | 1995: freeze |

Source: Figures from Montreal Protocol as adjusted and amended.

However, a serious conflict arose on a substance that had not been on the agenda of the ozone regime so far, namely methyl bromide. It has a considerable ozone depleting potential that is particularly effective in the short and medium term. Restricting its use would considerably alleviate the peak load of ozone depleting substances on the stratosphere. The scientific assessment panel estimated that an immediate reduction of methyl bromide by only 10 % would be comparable to an acceleration of the phase-down of CFCs and methyl chloroform or of halons by

three years³²⁴. The technological and economic assessment panel did not explore man-made sources of the substance and the possibilities for its substitution. An interim scientific, technological and economic assessment issued in June 1992³²⁵ revealed that large quantities of methyl bromide were used for soil fumigation (i.e. as a pesticide) (ca. 80 %) mainly in warmer developed countries, including the Mediterranean members of the European Community and the United States. Methyl bromide was also used for commodity fumigation (ca. 15 %) in particular in developing countries, that is, for food storage, pre-shipment and quarantine purposes, and in structural fumigation appliances (ca. 5 %). While substitutes existed for the first use, it was not entirely clear whether they existed for the latter ones.

Since the United States was compelled to ban the substance under its Clean Air Act once its ozone depletion potential (about 0.7) was determined conclusively, it proposed a complete phase-out by 2000³²⁶. The European Community was generally favourable to methyl bromide controls but had to take into account the interests of its Mediterranean members and did not accept more than a freeze in 1995. The developing countries as a group rejected any obligation in respect of this substance³²⁷. Fierce protest also came from Israel, a major producer and exporter of methyl bromide³²⁸.

Against this background, the Copenhagen meeting agreed only on a freeze of the consumption and production of methyl bromide in 1995. Yet, this initial step is highly important because the substance will become subject to the simplified adjustment procedure as soon as the Copenhagen Amendment enters into force. The scientific and technological assessment panels are requested to submit information about the substance in time for consideration by the Open-Ended Working Group prior to the Seventh Meeting of the Parties in 1995. Moreover, in a Resolution the parties resolved to decide not later than 1995 on reduction targets beginning at the latest in 2000³²⁹.

This accelerated pace of regime development appeared to be too fast for the developing countries. The traditional automatic transfer of obligations applicable to industrialized countries with a ten year grace period to article 5 countries came to an end. It was agreed in Copenhagen to adjust the obligations of these countries beyond the London revisions in the course of a major review of their situation in 1995³³⁰ that will include an assessment of the operation of the financial mechanism and the Multilateral Fund.

324 See UNEP/OzL.Pro/WG.1/6/3, para. 72. However, the share of anthropogenic sources of the substance (as compared to natural sources) was still unknown.

325 See «Synthesis Report of the Methyl Bromide Interim Scientific Assessment and Methyl Bromide Interim Technology and Economic Assessment», Nairobi June 1992.

326 See UNEP/OzL.Pro.4/2, p. 18.

327 See UNEP/OzL.Pro/WG.1/7/4, para. 58.

328 Israel was represented during the Copenhagen negotiations almost entirely by representatives from the interested industry.

329 See Decision IV/22, UNEP/OzL.Pro.4/15, and Resolution, *ibid.*, Annex XV.

330 See article 5(1) as amended in Copenhagen.

The next important revision of the Protocol may be expected for 1995. It will comprise a review of the control measures in respect of the substances newly introduced in Copenhagen, i.e. methyl bromide and HCFCs, and a possible new arrangement between the North and the South.

3.3. Organizing Reactions to Non-compliance

The implementation of regime norms proceeds largely at the domestic level. Actors may sincerely comply with these norms, but they may occasionally be unable or not willing to do so. Non-compliant behaviour always threatens to undermine established cooperation. As in the case of Eastern European countries failing to contribute to the Fund, regime members may wish to react, in one way or another, to such incidents.

The international regime for the protection of the ozone layer comprises two fundamentally different mechanisms for such reaction. The Vienna Convention contains a dispute settlement clause that also applies to disputes arising under the Protocol³³¹. This clause focuses on the individual level of a conflict, in which two (or a limited number of) individual parties are involved. However, disputes have also a collective aspect. Incidents of non-compliance amount to offences of individual parties against the commitment entered into collectively by all parties. A case of non-compliance always affects the community of regime members as a whole. Therefore, the Montreal Protocol includes an obligation to develop »procedures and institutional mechanisms for determining non-compliance«³³².

The first Meeting of the Parties was unable to work out such procedures and mechanisms and established a legal working group on the subject³³³ that was faced with three widely differing proposals. The United States proposed the adoption of a procedure that combined the individual and collective aspects of possible incidents of non-compliance³³⁴. A party considering another to be in non-compliance should submit a complaint to the Secretariat which would offer the latter a right of reply. If the complaint was disputed, dispute settlement should take place according to the Vienna Convention, i.e. among the two disputing parties³³⁵. Upon conclusion of these proceedings, the Meeting of the Parties to the Montreal Protocol should collectively draw appropriate conclusions in conformity with the settlement. It could, for example, recommend reductions beyond the requirements of the Protocol to compensate for excess production and/or use of controlled substances in former years. If the party concerned did not follow such recommendations, the Meeting of the Parties would decide on further steps. Hence, the United States concept incor-

331 See Vienna Convention, article 11.

332 See Montreal Protocol, article 8. The clause was introduced at the request of the United States.

333 See Decision 8, UNEP/OzL.Pro.1/5, and paras. 52-56, *ibid*.

334 See the revised United States proposal, UNEP/OzL.Pro.LG.1/2/Annex II.

porated the conciliation procedure under the Vienna Convention into a larger non-compliance procedure that could eventually lead to collective action against a non-compliant party.

A Dutch submission adopted a somewhat different approach³³⁶. A compliance committee would be established. In case of a complaint submitted to the Secretariat, the committee would promote a friendly settlement of the dispute. If this was not possible, the matter would be transferred to the procedure according to the Vienna Convention. In addition, the compliance committee would recommend action to the Meeting of the Parties if a regime member did not comply with the Protocol or with an award rendered. Action by the Meeting of the Parties could include a waiver of the right to vote or the treatment of a non-complying party as a non-party in respect of trade restrictions. According to this concept, the non-compliance procedure was much closer to the individual aspect of a dispute. The compliance committee would provide another layer of conciliation prior to any dispute settlement proceedings under the Vienna Convention and supervise the implementation of awards rendered under the dispute settlement clause of the Convention.

Australia focused entirely on the collective side of disputes about non-compliance. Contrary to several modes of individual dispute settlement, 'the determination of compliance or non-compliance should be as far as possible a time-bound, non-political process, producing a legal and technical decision'³³⁷. The proposal recognized that conciliation opportunities should be built into the procedure but ascertained that *the parties as a group* had an interest in the rapid legal and technical appraisal and its expeditious submission to the Meeting of the Parties. The assessment of the state of compliance would be considered as an open-ended task of the parties as a whole. Therefore, Australia proposed assigning an important role to the Secretariat of the regime, which should regularly report on compliance and non-compliance. If it identified an incident of non-compliance, *the Secretariat* would circulate among all contracting parties a report including an explanation by the accused party. An arbitration commission would scrutinize the correctness of the technical report delivered by the Secretariat. The commission would be attended by one member appointed by the accused party, one member representing the collective interests of all parties and those of the Secretariat, and a third member appointed jointly. Results would be discussed by the Meeting of the Parties. Hence, this concept focused entirely on compliance with the Protocol and not on the settlement of disputes between individual parties. In fact, Australia proposed to designate the Secretariat as the 'guardian of the Protocol'.

The legal working group, faced with these three approaches, agreed on a number of general conclusions for a non-compliance procedure³³⁸. The procedure should not

335 According to the Vienna Convention, article 11, parties shall negotiate, seek the good offices or mediation by a third party, submit the conflict to conciliation, to an agreed Arbitration Procedure, or to the International Court of Justice.

336 See UNEP/OzL.Pro.LG.I/CRP.1.

337 Australian proposal, UNEP/OzL.Pro.LG.I/CRP.4.

338 See *Non-compliance with Ozone Agreement*; Environmental Policy & Law 19 (1989), pp. 147-148.

be confrontational. It should be set in motion by one or more parties registering concern with the Secretariat, but the functions of the Secretariat should be confined to servicing and administration. Decisions should only be taken by the Meeting of the Parties and should be recommendatory rather than mandatory³³⁹. At any rate, the establishment of a »supranational body to review data«³⁴⁰ was rejected.

On this basis, the working group elaborated a Non-compliance Procedure that comprised the establishment of an 'Implementation Committee'³⁴¹. Like the Australian proposal it focused entirely on the collective side of incidents of non-compliance and did not refer to the dispute settlement procedure of the Vienna Convention. It could be triggered by a complaint of one or more parties submitted to the Secretariat. The Secretariat would invite the accused party to reply. Proceedings should then be transferred to the Implementation Committee, which consisted of five states elected by the Meeting of the Parties. The Committee should seek to settle the dispute amicably, i.e. it should discharge conciliation functions. It should report to the Meeting of the Parties which would then decide upon steps to bring about compliance with the Protocol.

Unlike the Australian proposal it did not assign an independent role to the Secretariat, and unlike the proposals from the United States and the Netherlands it did not contain any express reference to possible collective responses to established cases of non-compliance. Especially the United States and the Nordic countries³⁴² were discontent with this 'encouragement-based approach' and favoured a »more stringent and punitive approach«³⁴³.

In search of a compromise, the second Meeting of the Parties (1990) adopted the Non-compliance Procedure as prepared on a provisional basis³⁴⁴ and established the related Implementation Committee³⁴⁵. In addition it renewed the mandate of the legal working group for further consideration and extended it to the elaboration of terms of reference for the Implementation Committee³⁴⁶.

In the following session of the working group, the Commission of the European Community submitted a comprehensive proposal for the reinforcement of the Non-compliance Procedure³⁴⁷. According to this plan, the Secretariat of the regime, and not only the member states, should be competent to trigger the procedure. Moreover, the Implementation Committee should be able to request further information and even gather information within the territory of a party, if that party agreed.

339 See UNEP/OzL.Pro.LG.1/3, para. 9.

340 UNEP/OzL.Pro.LG.1/3, para. 14.

341 See UNEP/OzL.Pro.LG.1/3/Annex; reprinted in *Environmental Policy & Law* 19 (1989), p. 223.

342 See *Benedick, Ozone Diplomacy*, p. 183.

343 Secretariat note UNEP/OzL.Pro.WG.IV/3, para. 4.

344 The working group had not agreed on the appropriate procedure for adoption, see UNEP/OzL.Pro.LG.1/3, para. 18. Generally, this could be done by a simple decision of the Meeting of the Parties that became immediately applicable to *all* parties, or by an annex which provided the opportunity to opt out within six months according to the Vienna Convention, article 10 (2)(b)-(c).

345 See UNEP/OzL.Pro.2/3, para. 47.

346 See Decision II/5, UNEP/OzL.Pro.2/3.

347 Reprinted in UNEP/OzL.Pro/WG.3/2/3/Annex.

Any member of the Committee involved in a case of non-compliance should be replaced. Beside these modifications of the procedure, the Community proposal comprised an 'Indicative List of Steps to Bring about Full Compliance with the Protocol'. The list addressed three distinct types of non-compliance, namely failure to report data, failure to comply with control measures, and failure to comply with trade restrictions, and spelled out possible reactions of the community of regime members. These reactions included the treatment of non-compliant parties as non-parties in respect of trade restrictions and a stop of financial transfers to non-compliant article 5 countries. The Community proposal thus combined the most stringent aspects of the three initial submissions and supplemented them with further elements.

During its session, the working group settled a number of aspects, but it did not finalize the new draft procedure. It agreed that the two instruments mentioned in the mandate, namely the Non-compliance Procedure and the terms of reference of the Implementation Committee should be integrated into a single document³⁴⁸. It also agreed that the Implementation Committee should not have judicial or executive powers but should rather play an advisory role³⁴⁹. However, the competences of the Committee to make recommendations to the Meeting of the Parties and to engage in fact finding were disputed. Although reflected in one of the new draft articles, the right of the Secretariat to trigger the non-compliance procedure was also not fully accepted³⁵⁰. The working group did not even agree whether it was competent to discuss the proposed indicative list and recommended that this issue be settled by the third Meeting of the Parties³⁵¹.

The third Meeting of the Parties (1991) renewed and extended the mandate of the legal working group. It requested the working group to identify possible situations of non-compliance, to develop an indicative list of advisory and conciliatory measures to encourage full compliance, and to draw up an indicative list of measures that might be taken by the Meeting of the Parties in case of non-compliance³⁵². In addition, the Meeting decided to extend the membership of the Implementation Committee from five to ten³⁵³. Both Decisions reflected the increased relevance of the mechanism for an organized response to incidents of non-compliance.

During its third meeting, the working group finalized the new Non-compliance Procedure that was adopted by the fourth Meeting of the Parties without further modification³⁵⁴. All open disputes were resolved along the lines of the original proposal of the European Community. However, as a novel element, the procedure may now be instigated by a party which finds itself unable to comply with its obligations. This clause encourages regime members to avoid unilateral decisions that contradict

348 See UNEP/OzL.Pro/WG.3/2/3, para. 19.

349 See UNEP/OzL.Pro/WG.3/2/3, para. 14.

350 See UNEP/OzL.Pro/WG.3/2/3, paras. 14 and 16 respectively.

351 See UNEP/OzL.Pro/WG.3/2/3, para. 21.

352 See Decision III/2, UNEP/OzL.Pro.3/11.

353 See Decision III/3 (e), UNEP/OzL.Pro.3/11.

regime norms and to introduce anticipated problems into the multilateral process even before they generate conflicts.

The procedure constitutes a fairly strong institutional device. In two respects it goes beyond classic inter-governmental dispute settlement. The Secretariat of the regime may trigger the procedure in any case of non-compliance. Hence, information received from third parties, e.g. industrial and environmental NGOs, may enter the regime process through an active Secretariat even if it is not sponsored by the government of a member state. The Implementation Committee may engage in fact-finding, upon invitation of the party concerned even in the territory of that party. The Committee may also make recommendations to the Meeting of the Parties. It shall elaborate these recommendations without the participation of the parties concerned. And yet, neither the Secretariat nor the Implementation Committee become political or judicial organs. The Meeting of the Parties to the Protocol, i.e. the supreme policy-making organ of the regime, retains the final decision in every case of non-compliance that cannot be settled amicably.

The comparatively smooth adoption of the Non-compliance Procedure was not least due to the conflict on the list of possible situations of non-compliance. This list would define the margin of applicability of the procedure. Some situations were virtually undisputed, including violations of article 2 of the Protocol (control measures), article 4 (trade restrictions), article 7 (date reporting) and article 10A (transfer of technology)³⁵⁵. However, two other possible situations were heavily disputed. Some countries, including the United States, held that contributions to the Multilateral Fund were made voluntarily. Despite the relevance of the Fund for the North-South arrangement within the regime, they disagreed that the failure to contribute to the Fund might constitute a situation of non-compliance with the Protocol. This point of view was heavily criticized by some developing countries³⁵⁶. The second point of disagreement addressed the status of decisions of the Meeting of the Parties. Some countries were of the opinion that decisions were of an inferior legal status as compared to the Protocol itself. China made a formal reservation³⁵⁷.

The legal working group submitted, therefore, the draft list of possible situations of non-compliance with two paragraphs in square brackets that indicated prevailing disagreement³⁵⁸. During the preparatory meeting immediately preceding the fourth Meeting of the Parties in Copenhagen (1992) the United States and China renewed their reservations and prevented the adoption of the complete list by consensus. The Meeting could have adopted a reduced list, but this solution was unfavourable to the majority position because it would have amounted to excluding the disputed aspects from the competences of the Implementation Committee. It was therefore agreed to

354 See Decision IV/5 and Annex IV, UNEP/OzL.Pro.4/15. Non-compliance Procedure reprinted in *Environmental Policy & Law* 23 (1993), pp. 51-52.

355 See report of the legal working group, UNEP/OzL.Pro/WG.3/3/3, paras. 33, 36, 40.

356 See UNEP/OzL.Pro/WG.3/3/3, paras. 37-38, 50.

357 See UNEP/OzL.Pro/WG.3/3/3, para. 41.

358 See UNEP/OzL.Pro/WG.3/3/3/Annex II.

drop the list altogether³⁵⁹. The questions of the status of decisions taken by the Meeting of the Parties and of contributions to the Fund remain thus pending.

More than five years passed between the emergence of the idea of a Non-compliance Procedure in the original Montreal Protocol and its final adoption in 1992. The lasting negotiations on the Procedure produced a continuous development toward a strong and operative institutional arrangement intended to avoid unilateral decision-making as far as practicable and to decide as many disputed issues as possible multilaterally. The individual dispute settlement mechanism under the Vienna Convention proved to be inoperable to stabilize regime cooperation and was supplemented (and in practice probably replaced) by a mechanism addressing the collective side of incidents of non-compliance.

4. Conclusion

The international regime for the protection of the ozone layer has developed rapidly during the past decade. The process started with the dragging and inconclusive negotiations on initial measures to control anthropogenic emissions of ozone depleting substances prior to 1985. It accelerated when the positions of a limited number of predominantly Western industrialized states, among them the most important state-actors within the issue-area, converged and eventually cleared the way for the adoption of a cooperative arrangement that was itself severely restricted in a number of aspects. The original Montreal Protocol of 1987 addressed only a limited number of ozone depleting substances. Despite its goal of an eventual complete phase-out of these substances, it spelled out a detailed schedule only for a partial phase-down. The original Protocol merely addressed the most urgent short-term problems. Indeed, it facilitated agreement on these problems by temporarily excluding all other contentious issues, but it did not constitute more than an interim arrangement which had to be supplemented by further measures as soon as possible.

Less than two years after the entry into force of the Vienna Convention and the Montreal Protocol, the member states of the international regime bridged remaining gaps of the international control of the issue-area and agreed on a far-reaching revision of the original institution. In London, reduction schedules for all substances controlled under the original Protocol were considerably tightened and accelerated. In addition, a number of other ozone depleting substances became subject to internationally agreed control measures. Moreover, the regime was supplemented by an arrangement between North and South that opened the way for the extension of its geographical scope toward a truly global membership. However, some contentious issues were again excluded from the arrangement. Among them was the control of transitional substances with a low but far from negligible ozone depleting potential.

³⁵⁹ See UNEP/OzL.Pro.4/15, para. 69.

Industry had already accepted that markets for controlled substances declined, while markets for transitional substances still promised rapid growth.

Another two years later and only a few months after the formal entry into force of the London Amendment the member states of the international regime adopted another revision of the regime norms. In Copenhagen they once again tightened the phase-out schedules for all substances controlled under the Protocol and extended specific control measures to other ozone depleting substances, including transitional substances. Moreover, they consolidated and reinforced the ambitious financial transfer mechanism that provides the foundation of the comprehensive North-South arrangement within the issue-area. And they supplemented the institutional structure of the regime with a formalized Non-compliance Procedure that internalizes dispute settlement into the on-going negotiation process. A further revision of the regime is scheduled for 1995.

Hence, international cooperation within the issue-area was subject to an accelerating process. The initial instruments, i.e. the Vienna Convention and the Montreal Protocol, were unsatisfactory in themselves. They did not constitute more than interim arrangements that could be replaced by more far-reaching cooperative arrangements within surprisingly short periods of time. The international regime for the protection of the ozone layer may be considered as a »blueprint for success«³⁶⁰ precisely because it successfully addressed an intricate international environmental problem step by step and institutionalized a dynamic process of regime development. Success of regime governance does thus not only depend on the effectiveness of a cooperative arrangement valid at a given time. It is at least as much related to its contribution to generating new arrangements that address the underlying problem more comprehensively or more thoroughly.

360 See *Noble-Allgire*, *The Ozone Agreements*, p. 308.

Part IV: Cooperation and International Governance

Chapter 8

Structural Explanations and Theoretical Puzzles

The dominant approach to international regimes, as outlined in Chapter 1, examines primarily, if not exclusively, opportunities for cooperation in different constellations of interests. Although regime theory has much to say about the constraints of a given constellation of interests for cooperation, the preceding exploration of the establishment and development of the two international environmental regimes on long-range transboundary air pollution and the protection of the ozone layer did not primarily address the constraints prevailing within the relevant issue-areas. This lack of attention to situative structures and their impact on outcomes does not at all imply that their relevance is underestimated or denied. Undoubtedly an existing constellation of interests exerts a major influence on cooperation and cooperative arrangements. However, situative structures do not constitute the focus of the present study. Rather, the fruitful research programme of mainstream regime theory is employed as the foundation for further inquiry.

The preceding case studies suggest that the emergence and institutionalization of cooperation within the issue-areas on long-range transboundary air pollution and the protection of the ozone layer cannot be understood without an analysis of development *over time*. Several factors on which the preferences of actors involved in the issue-area rely changed over time, and so did the preferences of actors and constellations of interests made up of these preferences. Hence, the 'structure' of an issue-area is not a stable and exogenously given factor. Rather, the findings suggest that institutions for international governance within an issue-area may play a role in influencing the *process of structuring* decision situations and issue-areas.

The present chapter has an intermediate function. It links the assessment of current regime theory in Part I with the detailed and necessarily descriptive analysis of two international environmental regimes in Parts II and III. On this basis it develops the central research question for the subsequent theoretical exploration of the phenomenon of international regimes.

For this purpose the Chapter resumes the argument of the preceding case studies. Section 1 briefly summarizes the institutional development of the international regime on long-range transboundary air pollution and explores the pattern of interdependence among the actors prevailing within the issue-area as well as the constellations of interests during several rounds of negotiations. Section 2 does the same for the regime on the protection of the ozone layer. In conformity with the principal assertion of mainstream regime theory it turns out that constellations of

interests heavily influenced emerging cooperative arrangements. However, constellations of interests changed frequently and so did the resulting cooperative arrangements. Despite these changes international governance in the two issue-areas appears fairly stable. Section 3 develops this divorce of a comparatively stable institutional framework and rapidly changing constellations of interests as a central puzzle of regime theory.

1. The International Regime on Long-range Transboundary Air Pollution

Transboundary air pollution is widespread in Europe, i.e. in a densely populated and heavily industrialized region that is divided into a large number of relatively small national territories. While in locally limited cases of international air pollution victim and source states are sufficiently clearly identifiable to settle disputes, the situation is far more complex in the case of long-range transboundary air pollution. Pollutants travel distances of hundreds or even thousands of kilometres prior to their eventual precipitation. Environmental damage occurs in areas far from industrial centres and is not clearly related to identifiable sources of pollution.

Since air pollution does not respect territorial boundaries, the regional atmosphere could be conceived of as an environmental common. However, air and air space are traditionally considered as natural resources under the jurisdiction of nation states¹. Despite the difficulties of establishing the causal chain between a particular source and identified damage, long-range transboundary air pollution was always considered as a problem of unilateral deprivation². There were no claims to control air pollution in the interest of mankind but to minimize its *transboundary* effects. Accordingly, air pollution of exclusively domestic relevance was excluded from the international agenda³.

1.1. Regime Development

The establishment of the international regime on long-range transboundary air pollution is rooted in two initially unrelated international processes. Upon discovery of large-scale acidification of Scandinavian lakes due to sulphur dioxide (SO₂) emis-

1 While outer space has a different legal status, the boundary between the atmosphere and outer space is not clearly defined; see *Rummel-Bulska*, The Protection of the Ozone Layer, pp. 286-287; *Christol*, Modern International Law of Outer Space, pp. 500-512; *Wolfrum*, Internationalisierung staatsfreier Räume, pp. 271-272.

2 A country exporting pollutants to a neighbouring country deprives the latter of the enjoyment of clean air, an undamaged environment and, not least, of pollution capacity which could otherwise be used by its own industry. On the concept of amenities rights, see *Goldie*, International Principles of Responsibility for Pollution, pp. 325-328.

3 See the title of the relevant international instrument ('Convention on Long-range Transboundary Air Pollution'). With an increasing extension of a country's territory, the share of air pollution which is generated and deposited domestically increases, while the relevance of exchange across boundaries decreases. In practice, the distinction of total emissions and transboundary fluxes is only relevant for territorial giants, e.g. the Soviet Union and the United States.

sions originating not least from major European industrial centres, e.g. Great Britain and Germany, the Nordic countries launched a major campaign for international cooperation to control SO₂ emissions and their adverse effects. Simultaneously, the Soviet Union and a number of Eastern European countries promoted a European security conference to enhance cooperation among the European countries and to stabilize the post-war European state system as well as the international boundaries which emerged from World War II.

The Nordic countries successfully introduced their limited and comparatively technical problem into the Conference on Security and Cooperation in Europe (CSCE). Within this overall political framework environmental cooperation proved to be a largely undisputed sub-issue. Accordingly, the Final Act of the CSCE (Helsinki 1975) comprises an unusually detailed commitment by almost all the European and the two North American countries to jointly establish a European monitoring and evaluation programme (EMEP) on the long-range transmission of air pollutants within the UN Economic Commission for Europe (ECE)⁴.

Almost immediately upon conclusion of the CSCE, the Soviet Union proposed the holding of high-level meetings in several areas of East-West cooperation. The entirely political initiative was designed to reinforce the link between technical cooperation and overall political détente. The suggested meeting on the environment proved to be the least controversial. Again environmental issues in Europe were closely related to the CSCE process and East-West relations. Western countries established a number of conditions for the topics of the envisaged meeting. Only transboundary air pollution met these conditions. Accordingly, Western conditions unintentionally provided a favourable situation for the Nordic initiative to establish an international regime on long-range transboundary air pollution⁵.

The Nordic countries did not envisage a comprehensive agreement. Their proposal comprised a constitutive initiative for the establishment of a continuing process of international cooperation concerning long-range transboundary air pollution. For that reason a formally binding convention should primarily contain general principles and institutionalize a deliberation and decision process in the form of a regularly meeting conference of the contracting parties. The proposal also comprised a substantive initiative for an initial set of detailed commitments by the parties to reduce SO₂ emissions. Since these obligations would have to be permanently reviewed and occasionally adapted to changing circumstances, they should be codified in an annex to the convention.

The European Community appeared as the major interlocutor of the Nordic countries and tried to avoid a formally binding convention, while the socialist countries hardly intervened in the environmental negotiations. Eventually, the constitutive part of the Nordic initiative was successful. In 1979 the Convention on Long-range Transboundary Air Pollution was adopted at the high-level meeting on the environ-

⁴ See above, Chapter 2, pp. 76-78.

⁵ See above, Chapter 3, pp. 94-99.

ment and signed by almost all the European and the two North American states. First and foremost, the Convention establishes a regularly meeting 'Executive Body' as the supreme decision-making organ. While an interim implementation mechanism for the immediate entry into force of the constitutive decisions was agreed upon, the substantive part of the Nordic initiative failed. Detailed provisions on the reduction of emissions proved to be unacceptable especially to the Western countries.

Hence, a serious deliberation process about norms regulating the behaviour of actors in the issue-area of long-range transboundary air pollution began within the framework of the ECE on an ad hoc basis. By 1979 this process was permanently institutionalized. It gained de facto (although not yet formal) independence from the parent organization. But the substantive part of the Nordic proposal, i.e. the demand to reduce emissions or transboundary fluxes of SO₂, had been effectively rejected.

Upon entry into force of the Convention (1983), the Nordic countries re-launched their substantive claim and submitted detailed proposals to the first session of the Executive Body. By that time, the progressive deterioration of forests had caused wide public concern within a number of states in the centre of Europe. These countries, in particular West Germany, now supported the Nordic initiative. Although several Western and Nordic countries and the Soviet Union committed themselves unilaterally to a 30% reduction of SO₂ emissions or their transboundary fluxes, internationally coordinated action could not be agreed upon. But the traditional coalition between the (now enlarged) group of environmentally concerned states and the leading socialist country re-appeared⁶.

The initiating countries successfully gathered additional support for their proposals from both Eastern and Western countries in a series of meetings outside the institutional framework of the Convention. In 1984 the Executive Body agreed to launch negotiations on a protocol that was adopted in 1985. It commits the contracting parties to a 30% reduction of SO₂ emissions by 1993. The Protocol was accepted by 21 countries while some major polluters, including the United States, the United Kingdom and Poland, abstained.

Already at the first session of the Executive Body (1983) a number of countries seized the opportunity to set the issue of NO_x emissions on the international agenda. Upon conclusion of the SO₂-Protocol in 1985 the Executive Body decided to work out a second protocol and expanded the scope of the international regime considerably. The negotiations were less well prepared in advance and lasted for three years. In addition, they were not facilitated any more by the coalition between environmentally concerned and socialist countries. Nevertheless, in 1988 a protocol was adopted and signed by 27 countries including all the important members of the regime. It provided for a stand-still of NO_x-emissions by 1995 and is expressly conceived as a first step within a comprehensive approach to regulate NO_x emis-

6 See above, Chapter 4, pp. 143-153.

sions. It envisages future NO_x reductions on the basis of environmentally acceptable levels of *deposition* ('critical loads'). This approach marks a shift of the principal focus of the international regime from *transboundary* air pollution as a matter of international conflict to the collective control of atmospheric pollution in the common interest. The preparation of this revised approach began immediately.

In the meantime an important member country, namely West Germany, succeeded in employing the existing institutional framework for the promotion of another issue of concern to it, namely the control of 'volatile organic compounds' (VOCs) that are a major source of photo-oxidant pollution (so-called 'summer smog'). Negotiations started immediately upon adoption of the NO_x -Protocol in 1988. The third substantive protocol within the regime, addressing the reduction of VOC emissions, was adopted in 1991 and signed by 20 regime members.

In the same year negotiations began on a new instrument for the reduction of SO_2 emissions that shall replace the first SO_2 -Protocol. For the first time air pollution abatement strategies coordinated within the regime will not be founded on an emission-based approach any more, but on critical loads, i.e. levels of environmentally acceptable deposits. The new SO_2 -Protocol, envisaged to be adopted in 1994, is therefore conceived as the first instrument 'of the second generation', to be followed as soon as possible by a revised NO_x -Protocol and other instruments addressing further pollutants (e.g. heavy metals and persistent organic compounds).

To summarize, the establishment of a permanent deliberation and decision process in the field of long-range transboundary air pollution was based on a historically unique constellation of interests and a close link between general political and environmental issues. Within this framework, various groups of interested actors launched initiatives for specific agreements. Three of these substantive arrangements have so far been successfully concluded, while a fourth one was almost ready for adoption at the beginning of 1994. The highly dynamic process of regime operation is still continuing and a number of new projects will be addressed in the years to come.

1.2. *Environmental Interdependence and Constellations of Interests*

The purpose of the present sub-section is to explore the relationship between the structure of the issue-area and international governance. Long-range transboundary air pollution may be conceived as a game of environmental interdependence⁷ as suggested by the two roots of regime formation. The Nordic countries had always demanded that their polluting neighbours, especially the United Kingdom and West Germany, reduce their emissions of sulphur dioxide with the intention of achieving a decrease of the *transboundary* fluxes of this pollutant. The transboundary aspect of air pollution also served as a possible field of East-West cooperation embedded in the process of political *détente*. In accordance with the block concept the Soviet

⁷ See also Schwarzer, *Weiträumige grenzüberschreitende Luftverschmutzung*.

Union had initially proposed to address only the fluxes of air pollutants across the Iron Curtain. If the transboundary aspect of air pollution created the international conflict that led to regime formation, it will constitute the appropriate basis for the assessment of the interests of the participating states⁸.

Beyond the issue-area specific environmental interdependence, other factors, e.g. environmental consciousness or the economic ability to combat air pollution⁹, will have influenced the interests of the actors concerned. However, these factors are actor-specific and located at the unit level. They were not part of the pattern of interdependence within the issue-area, although they had an impact on the concrete assessment of preferences by the actors individually. Accordingly, the argument proceeds in two stages. It examines the issue-area specific problem of environmental interdependence as a systemic phenomenon and subsequently assesses the actual ('subjective') preferences of the participants during the rounds of negotiations.

In the first step the problem of environmental interdependence among the European states regarding SO₂ shall be analyzed according to the annual budgets of imports and exports of this pollutant on the basis of EMEP calculations for 1980, i.e. the year after the adoption of the Convention and the base year of SO₂ control measures. Two indicators clearly elucidate the position of a country in the environmental interdependence game. Indicator 1 reflects the ratio between exports and imports (exports : imports) of SO₂ pollutants that determines to which degree a country benefits or suffers from the unregulated situation. A ratio of below 1.0 means that a country was a net importer and predominantly suffered from externalities of foreign economic activities. And vice versa: a ratio of above 1.0 indicates that a country externalized part of the adverse environmental effects of its own economy. Indicator 2 shows the share of domestically produced deposits within the territory of a country as the percentage of the total amounts deposited within this country (home-made deposits : total deposits x 100). It reflects the degree to which a country was still able to address the environmental problem of air pollution domestically. A low percentage indicates that most of the deposits within a country stemmed from abroad, while a high percentage means that air pollution was predominantly a domestic problem.

From the point of view of environmental interdependence countries with net imports are the natural beneficiaries of internationally coordinated abatement strategies, while countries with net exports are the natural winners of an unregulated situation. Furthermore, countries that have lost their sovereignty in the field of air pollution control to a high degree benefit from internationally coordinated emission controls (if they are at all interested in environmental protection), because they re-gain some influence on their domestic environmental

8 From a problem-structural perspective, the conflict about transboundary air pollution is a 'consensual' conflict, i.e. a conflict in which actors do not dispute the general goal of cooperation, but are faced with a scarcity of means. For this problem-structure, the Tübingen project predicts only a medium probability of cooperation; see Rittberger/Zürn, *Towards Regulated Anarchy in East-West Relations*, p. 31.

9 Sprinz, *The Domestic Sources*, for example, accounts for economic costs and environmental benefits.

situation. In contrast, countries whose sovereignty in the field was not severely encroached upon do not win by international controls that would be accompanied for these countries by losses of sovereignty.

The participating countries may be divided into four groups¹⁰. Some European states were less involved in the interdependence problem of long-range transboundary air pollution (Group 1). These states, including Iceland, Ireland, Portugal, and Turkey, were small producers and not major exporters of air pollutants. At the same time, they were not significantly affected by imported pollutants due to their fringe location in the region¹¹. Accordingly, members of this group did not gain nor suffer from an unregulated state of affairs. They might be expected not to participate in an international agreement.

Table 8.1: SO₂ Interdependence: the Downwind Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|-------------|--------|--------|-------------|--------------------|----------------|-------------|
| Romania | 33 | 369 | 0.09 | 36 | 405 | 9 % |
| Norway | 24 | 179 | 0.13 | 20 | 199 | 10 % |
| Switzerland | 29 | 104 | 0.28 | 17 | 121 | 14 % |
| Austria | 73 | 237 | 0.31 | 45 | 282 | 16 % |
| Sweden | 89 | 259 | 0.34 | 74 | 333 | 22 % |
| Finland | 99 | 176 | 0.56 | 97 | 273 | 36 % |

Figures in 1000 t of Sulphur¹²; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits reflect the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of SO₂ within a country.

Second, a limited number of downstream countries (Group 2) were heavy net importers, as shown by their Indicator 1 value of significantly below 1.0. These countries had almost lost control of their national environmental policies, because the bulk of sulphur dioxide deposits in their territories came from abroad while only 10 % and 35 % stemmed from domestic sources (see Table 8.1.). Group 2 countries, including Norway, Sweden, Finland, Austria, Switzerland and Romania, suffered from an internationally unregulated situation. These countries would gain almost automatically from international cooperation directed at reducing transboundary fluxes of air pollutants. Mutual cooperation is, therefore, assumed to

¹⁰ Only a selection of important European countries is reflected in the following tables.

¹¹ For import-export budgets of SO₂ in 1980, see *ECE, The State of Transboundary Air Pollution, Air Pollution Studies No 5*, pp. 28-29.

¹² Figures are based on EMEP budget calculations for 1980, *ECE, The State of Transboundary Air Pollution, Air Pollution Studies No 5*, p. 28. EMEP does not extend to North America.

occupy a high rank in their order of preferences, while defection by other groups, including mutual defection, would occupy the bottom ranks¹³.

Third, the immediate counterparts of Group 2 were some important net exporting countries (Group 3). This group comprised countries benefiting from the geographical advantages of their up-wind location in Europe, e.g. the United Kingdom and Spain, as well as exceptionally heavy polluters, i.e. East Germany (see Table 8.2.). Group 3 countries were characterized by high net exports of pollutants (with an Indicator 1 value significantly above 1.0). Their deposits were primarily home-made (above 70 %) and their pollution abatement policies were therefore not contingent upon international cooperation. These countries gained from the existing unregulated situation. Regardless of the action of other countries, they were better off by choosing non-cooperation. Their dominant strategy would be defection¹⁴.

Table 8.2: SO₂ Interdependence: the Upwind Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|---------|--------|--------|-------------|--------------------|----------------|-------------|
| UK | 887 | 156 | 5.7 | 647 | 803 | 81 % |
| Spain | 401 | 179 | 2.2 | 491 | 670 | 73 % |
| GDR | 1233 | 282 | 4.4 | 680 | 962 | 71 % |

Figures in 1000 t of Sulphur¹⁵; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits reflect the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of SO₂ within a country.

Fourth, most interesting for the assessment of the situative structure is another group comprising many important industrialized countries in the central part of Europe, including the Netherlands, Belgium, Denmark, France, West Germany, Hungary and Poland (Group 4). These countries were characterized by huge imports of externally produced pollutants and at the same time huge exports of domestically produced emissions (Indicator 1 was around 1.0). Despite their high exports these countries had only limited leverage for domestic environmental action (their Indicator 2 was around or below 50 %). The situation of the Soviet Union

13 Derived from the problem of environmental interdependence, the preferred outcome of Group 2 countries should be as follows: since acid deposition is to a high degree externally produced, they are assumed to prefer cooperation by other actors while themselves choosing defection (DC), thus gaining environmental benefit without having to incur costs. Their second preferred outcome would be mutual cooperation (CC). Their order of preferences could therefore be adjusted at DC > CC > DD > CD. This constellation reflects the Prisoners' Dilemma.

14 The order of preferences of these countries may therefore be assessed at DC > DD > CC > CD. That is, while the dominant strategy is defection, they would gain even more if their counterparts cooperated; their least preferred outcome would be cooperation while others defected.

15 Figures are based on EMEP budget calculations for 1980, see ECE, The State of Transboundary Air Pollution, Air Pollution Studies No 5, p. 28.

was somewhat different. It was a heavy net importer of SO₂ pollutants. However, domestically emitted pollution accounted for more than half of total deposits due to its extraordinary geographical expansion. Compared to Group 2 countries the Soviet Union retained fairly good control over its state of the environment. For that reason, it is also placed in Group 4 (see Table 8.3.).

Table 8.3: SO₂ Interdependence: the Mixed Motive Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|--------------|--------|--------|-------------|--------------------|----------------|-------------|
| Netherlands | 117 | 123 | 1.0 | 52 | 175 | 30 % |
| Denmark | 117 | 65 | 1.8 | 45 | 110 | 41 % |
| FRG | 678 | 583 | 1.2 | 499 | 1082 | 46 % |
| Poland | 800 | 719 | 1.1 | 724 | 1443 | 50 % |
| CSFR | 721 | 402 | 1.8 | 416 | 818 | 51 % |
| France | 636 | 527 | 1.2 | 625 | 1152 | 54 % |
| Hungary | 369 | 193 | 1.9 | 223 | 416 | 54 % |
| Soviet Union | 314 | 2233 | 0.14 | 2868 | 5101 | 56 % |

Figures in 1000 t of Sulphur¹⁶; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits reflect the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of SO₂ within a country.

Countries of this group were truly interdependent within the issue-area. Changes of conditions in one country would lead to changes in other countries; and changes were unidirectional, that is, positive changes in one country would lead to positive changes in other countries. However, the interests of these countries were 'mixed'. If they did not care about the problem of air pollution, they did not overly suffer from the unregulated situation. If they cared, Group 4 countries could have been better off by region-wide cooperation¹⁷. Hence, the countries of this group, comprising many important states within the region, might have conceived of the situation as a Prisoners' Dilemma¹⁸.

From the interdependence pattern a purely systemically determined constellation of interests may be derived that does not account for variations within the groups but produces a number of interesting insights. It suggests that Group 2 (downwind) countries would struggle most vigorously for internationally coordinated emission

¹⁶ Figures are based on EMEP budget calculations for 1980 from ECE, The State of Transboundary Air Pollution, Air Pollution Studies No 5, p. 28.

¹⁷ See Deutsch, Power and Communication, pp. 300-301.

controls, while Group 3 (upwind) countries would attempt to prevent the adoption of international control measures or water down the obligations. It also points to the low interest of Group 1 countries in substantive cooperation within the issue-area as well as to the minor role of these countries for the success of cooperation. Most interestingly, however, the analysis of environmental interdependence draws attention to the key role of Group 4 (mixed motive countries). Not only did this group comprise a number of key countries in Europe. Their expected behaviour was also not clearly determined by their position in the interdependence game. Appreciating environmental protection they would realign with Group 2 countries. Emphasizing the costs of pollution abatement they would join Group 3¹⁹. If Group 4 countries adopted a fairly coherent behaviour, they would marginalize one of the two groups of countries with systemically determined interests within the issue-area; their behaviour would be decisive for the success of cooperation.

These considerations explain a great number of developments within the issue-area. As expected, the initiative for regime formation and the demand for substantive internationally coordinated abatement programmes stemmed from Group 2 countries. Although some members of this group (e.g. Romania) were not active, others, in particular the Nordic countries facing early and large-scale environmental damage from soil and water acidification, even adopted a dominant strategy of cooperation for internal reasons²⁰. Likewise, Group 3 (upwind) countries preferred the unregulated situation over international controls. The UK and Spain, for example, did not become members of the SO₂-Protocol and East Germany never ratified the instrument. The countries from Group 1 were not particularly interested in air pollution control and also did not join the SO₂ accord. Moreover, as expected, the behaviour of Group 4 countries was decisive for the eventual outcomes.

At the time of negotiations on the Convention (1978/79), the entire group did not favour substantive reductions of emissions. At that time a few upwind countries alone promoted cooperation, while the Group 4 countries firmly realigned with Group 3. On the basis of this constellation of interests, a substantive cooperative arrangement could not be agreed upon. However, all the European and the two North American members of the CSCE and the ECE adopted the Convention on Long-range Transboundary Air Pollution. This step was linked to East-West détente, i.e. a very different game²¹. While being a result of overall political negotiations, the Convention established transboundary air pollution as a permanent item on the international agenda and changed the situation within the issue-area.

18 Hence, their order of preferences would be $DC > DD = CC > CD$. For systemic reasons, countries of this group would prefer other countries to cooperate while they defected. They would primarily avoid cooperating while other countries defected. Mutual defection and mutual cooperation were at the same level.

19 Accordingly, Group 4 countries could choose, for internal reasons, an adjusted order of preferences of either $DC > DD > CC > CD$ (Deadlock), or $DC > CC > DD > CD$ (Prisoners' Dilemma).

20 This sub-group adjusted their ranking to $CC > CD > DC > DD$ and behaved according to this adjusted strategy.

21 *Kratochwil*, Rules, Norms, Values, p. 304, draws attention to the fact that situations may comprise different games.

About five years later, many countries in Group 4 had changed their attitude profoundly. West Germany, one of the most important Group 4 countries, adopted a dominant strategy of cooperation in 1981. It was followed by other Western members of Group 4 and some more countries of Group 2. These countries strongly favoured coordinated pollution abatement programmes because more than half of the deposits within their territories originated from abroad. The camp of countries desiring substantive international cooperation had significantly increased²².

Some other Group 4 countries, in particular from Eastern Europe, had not adopted a dominant strategy of pollution abatement. These hesitant members of Group 4, as well as the polluters from Group 3, were the primary addressees of the now powerful demand for an SO₂-Protocol. Their immediate involvement in the issue-area was a consequence of their participation in the Convention that was conceived of as a breakthrough in European East-West politics in particular by the Eastern European countries. The institutional framework of the regime was a major source of influence that motivated these countries to accept serious emission reductions²³. During the preparations for the SO₂-Protocol the Soviet Union joined the 30 %-Club of countries committing themselves unilaterally to pollution abatement and encouraged other East European states to cooperate²⁴.

Hence, the firm rejection of serious international controls of SO₂ emissions by the decisive Group 4 countries unravelled in the early 1980s. Some countries adopted a dominant strategy of pollution abatement, while the preparedness of others to cooperate was contingent on the decisions of the former²⁵. The unravelling was supported and accelerated by the existence of the institutional framework of the regime²⁶. In effect most countries in Group 4 now favoured cooperation. Accordingly, the constellation of interests within the issue-area *as it appeared in the negotiations* changed fundamentally and allowed the adoption of the SO₂-Protocol.

Although the problem of SO₂ emissions had dominated the regime formation phase, international governance of the issue-area was not limited to this pollutant. Immediately upon conclusion of the SO₂-Protocol Nitrogen Oxides were addressed. Cooperation regarding SO₂ abatement strategies was distinguished from cooperation on NO_x abatement strategies by a number of factors. Unlike SO₂ emissions, NO_x emissions did not only stem from power stations (stationary sources) but also from automotive traffic (mobile sources). The share of emissions from mobile sources

22 An acid rain arrangement between these countries alone would largely have reflected a state of 'harmony' short of cooperation.

23 See Lang, *Völkerrecht und Außenpolitik zwischen Ökonomie und Ökologie*, pp. 22-23.

24 See above, Chapter 4, pp. 143-153.

25 Surprisingly, the Tübingen case study on long-range transboundary air pollution does not address the relevance of participation of Eastern countries for an assessment of the effects of the regime. Instead, it considers the '30 %-Club' of Western cooperators as the core of the regime, without, however, exploring the suggested possibility that these countries basically acted in a situation of 'harmony'; see Schwarzer, *Weiträumige grenzüberschreitende Luftverschmutzung*, pp. 24-25.

26 Normative-institutional factors form one out of five parameters determining cooperation according to the Tübingen framework of regime analysis; see Rittberger/Zürn, *Towards Regulated Anarchy in East-West Relations*, pp. 42-43.

varied between 20 % and 80 % from country to country²⁷. The comparatively high emissions of Western European countries with advanced rates of motorization originated from mobile sources. Unlike SO₂ emissions around 1980, NO_x emissions were still rising due to an increasing rate of motorization when the NO_x-Protocol was negotiated in the latter half of the 1980s. Accordingly, the constellation of interests on the problem of environmental interdependence regarding NO_x emissions differed from that regarding SO₂ emissions in a number of respects.

Again, the European countries may be divided into four groups according to their involvement in the interdependence game regarding NO_x at the time of the negotiations. European fringe countries with comparatively low emissions *and* with low depositions (Group 1), e.g. Iceland, Ireland, Turkey and Portugal, were not seriously interdependent regarding NO_x emissions.

Table 8.4: NO_x Interdependence: the Downwind Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|-------------|--------|--------|-------------|--------------------|----------------|-------------|
| Austria | 186 | 684 | 0.3 | 36 | 720 | 5 % |
| Switzerland | 139 | 304 | 0.5 | 33 | 337 | 10 % |
| Sweden | 328 | 853 | 0.4 | 115 | 968 | 12 % |
| Norway | 175 | 576 | 0.3 | 66 | 642 | 10 % |
| Finland | 381 | 463 | 0.8 | 115 | 578 | 20 % |

Figures in 100 t of Nitrogen Oxides²⁸; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits show the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of NO_x within a country.

A second group comprised a number of heavily importing downwind countries (with an Indicator 1 of significantly below 1.0). These countries, including Norway, Sweden, Finland, Austria and Switzerland, had almost completely lost control over the deposition of NO_x in their territories because only 5 % to 20 % of the total deposits originated from domestic sources (see Table 8.4.). For these countries international cooperation was the only way to address NO_x deposits seriously²⁹.

The immediate counterparts of the disadvantaged countries of Group 2 were net exporting (upwind) countries that retained control over a significant amount of NO_x depositions in their territories (Group 3). The United Kingdom was the principal upwind country. Its exports were ten times higher than its imports and more than two thirds of its deposits were home-made (see Table 8.5.). However, West

²⁷ See EB.AIR/WG.3/6/Annex I, para.17.

²⁸ Figures are based on EMEP budget calculations for 1988, see ECE, Assessment of Long-range Transboundary Air Pollution, Air Pollution Studies No 7, p. 34.

²⁹ Their order of preferences could be set at DC > CC > DD > CD.

Germany was also a major net exporter while retaining control of almost half of the NO_x deposits within its territory. These countries were able to externalize a significant part of the environmental costs of their economies. They gained from an internationally unregulated situation.

Table 8.5: NO_x Interdependence: the Upwind Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|---------|--------|--------|-------------|--------------------|----------------|-------------|
| FRG | 4143 | 1283 | 3.2 | 1173 | 2456 | 48 % |
| UK | 2884 | 296 | 10.7 | 626 | 922 | 68 % |

Figures in 100 t of Nitrogen Oxides³⁰; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits show the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of NO_x within a country.

Lastly, there was a large number of mixed motive countries (Group 4). Many of them, including the Netherlands, East Germany, Czechoslovakia and Poland, were modest net exporters. They were able to externalize a certain share of the adverse environmental effects of their economies. However, they retained control over a rather limited share of NO_x deposits within their territories. Some others, e.g. the Soviet Union and Spain, were net importers but retained significant control over NO_x deposits within their territories.

The environmental interdependence among the European countries regarding NO_x pollution differed from that regarding SO₂ emissions. The low Indicator 2 for many countries (reflecting the share of deposits that could still be controlled domestically) pointed at a somewhat higher interdependence. However, many mixed motive countries in Group 4 were serious net exporters, while a key member of the regime, i.e. West Germany, fulfilled the conditions of a Group 3 country. The United Kingdom and West Germany appeared as natural beneficiaries of the existing unregulated situation. As in the case of SO₂, the success of substantive cooperation would depend on the attitude of the mixed motive countries. If they appreciated environmental protection, they would support cooperation and realign with Group 2, but if they hesitated to incur the costs involved, they would be content with the unregulated situation and join Group 3.

It is not surprising that the initiative for cooperation on NO_x emissions stemmed from a number of Group 2 (downwind) countries. For domestic reasons, however, the initiative was vigorously supported by West Germany, which had launched major air pollution abatement programmes and would, over time, also lose control of NO_x deposits within its territory. Hence, a natural beneficiary of the unregulated

³⁰ Figures are based on EMEP budget calculations for 1988, see ECE, Assessment of Long-range Transboundary Air Pollution, Air Pollution Studies No 7, p. 34.

Table 8.6: NO_x Interdependence: the Mixed Motive Countries

| Country | Export | Import | Indicator 1 | Home-made Deposits | total Deposits | Indicator 2 |
|--------------|--------|--------|-------------|--------------------|----------------|-------------|
| Italy | 1222 | 712 | 1.7 | 514 | 1226 | 42 % |
| France | 1928 | 1374 | 1.4 | 877 | 2251 | 39 % |
| Netherlands | 993 | 283 | 3.5 | 64 | 347 | 18 % |
| GDR | 1425 | 825 | 1.7 | 199 | 1024 | 20 % |
| CSFR | 1297 | 873 | 1.5 | 250 | 1148 | 22 % |
| Poland | 1798 | 1584 | 1.1 | 675 | 2259 | 30 % |
| Soviet Union | 752 | 3718 | 0.2 | 2843 | 6561 | 43 % |
| Spain | 482 | 615 | 0.8 | 415 | 1030 | 40 % |

Figures in 100 t of Nitrogen Oxides³¹; export is the amount of emissions of a country that is not deposited domestically; import is the amount of pollutants deposited in the territory of a country that is not produced domestically; Indicator 1 reflects the ratio of exports : imports; home-made deposits constitute the amount of deposited pollutants that originates from domestic sources; total deposits show the full amount of deposits within the territory of a country regardless of whether originating from domestic or from foreign sources; Indicator 2 reflects the percentage of home-made deposits from total deposits of NO_x within a country.

situation had already unilaterally adopted a dominantly cooperative strategy. The initiators advocated a rather tight 30 % reduction of emissions as well as the participation of as many regime members as possible. Most Western members of Group 4 joined the initiative³² that was addressed at all other regime countries, but primarily at the more hesitant East European members of Group 4 and the United Kingdom. Moreover, the principal downwind country in North America, i.e. Canada, struggled for the expansion of the NO_x regulation to the American continent.

Again, the established institutional framework delimited the group of addressees of the initiative. These countries faced the choice between active participation and abstention from cooperation. They favoured a broad participation that prevented marginalization, mitigated the influence of the initiators and watered down the scope of substantive cooperation. Unlike the SO₂ precedent, the cooperating group was established first and the obligations second. Hence, the principle struggle occurred over the specific commitments of the envisaged cooperative arrangement. In this struggle the environmentally progressive states were weak because they could not offer much in exchange for the acceptance of tight control measures. The NO_x-Protocol emerged from this constellation of interests. While all important regime members, altogether 27 signatories, agreed to cooperate, the principal obligation, a stand-still of emissions, remained far behind the demand of the initiating group.

³¹ Figures are based on EMEP budget calculations for 1988, see *ECE, Assessment of Long-range Transboundary Air Pollution, Air Pollution Studies No 7*, p. 34.

³² These countries committed themselves later in a 'declaration' to a 30 % reduction of NO_x emissions; see above Chapter 4, p. 172.

To conclude, international governance in the issue-area of long-range transboundary air pollution produced different cooperative arrangements that emerged from distinct decision situations and were based upon specific constellations of interests. When the Convention was hammered out in 1979/78, the actual constellation of interests was unfavourable to a substantive pollution abatement programme and substantive emission reductions were not agreed upon. A few years later the constellation of interests had changed profoundly although the environmental interdependence among the European states remained basically stable. The adoption of a serious cooperative arrangement became possible in accordance with this new constellation of interests. The interdependence among the European countries was different in regard to NO_x pollution, and so was the constellation of interests as it appeared during the negotiations. The NO_x accord emerged from this third constellation of interests within the issue-area.

Accordingly, the issue-area of long-range transboundary air pollution is *not* immediately related to a specific constellation of interests. It is related to a comparatively stable pattern of interdependence. Upwind countries, e.g. the United Kingdom, retained their privileged position, while the classic downwind countries, e.g. the Nordic countries, held their disadvantaged position. However, there were other upwind countries whose privileged position was not founded on their geographical location but on their emission patterns, namely East Germany in the case of SO_2 and West Germany in the case of NO_x . Once their emission patterns changed, the group affiliation of these countries would also change. Hence, even the pattern of environmental interdependence within the issue-area is not necessarily stable over time. Although the position of a country in the interdependence game will have affected its actual preferences in a specific decision situation, it did *not* determine them. Variations occurred in all groups. For example, Romania did not behave like other Group 2 countries in respect of SO_2 , nor did West Germany regarding NO_x . Even more important, for a large group of countries (Group 4) environmental interdependence did not recommend a clear strategy. Accordingly, the interests pursued within the negotiations by the countries of this group varied widely. Their domestically determined preferences explained most of the modifications of the relevant constellation of interests.

Most importantly, the preceding analysis draws attention to the fact that international governance, unlike particular cooperative arrangements, was not closely related to an issue-area specific constellation of interests.

2. The International Regime for the Protection of the Ozone Layer

The discovery of the chemical interaction between chlorofluorocarbons (CFCs), a group of anthropogenic and widely used chemicals, and stratospheric ozone drew attention to a new and unanticipated international environmental problem. A number of industrialized states in North America and Western Europe responded immediately at national level, but other countries reacted modestly or not at all.

While the problem of air pollution in Europe involved intricate interdependence between upwind, downwind and 'mixed motive' countries and comprised a domestic and an international dimension for all of them, the protection of the ozone layer resembles the tragedy of the commons closely³³. There are no 'upwind' and 'downwind' countries. For countries conceived as rational utility maximizers the problem may be overcome only by international cooperation.

2.1. *Regime Development*

By the beginning of the 1980s the Nordic countries initiated negotiations within the United Nations Environment Programme (UNEP) on an institutional framework to develop policies and strategies for the protection of the ozone layer. Similar to their initiatives in the area of long-range transboundary air pollution they did not envisage a comprehensive agreement to solve the problem of man-made ozone depletion in a single step. The Nordic countries suggested the institutionalization of a permanent process of cooperation in the issue area³⁴. For that reason an institutional apparatus with a permanent conference of the contracting parties and a secretariat should be established on the basis of a framework convention. These constitutive decisions should be supplemented by general principles guiding future cooperation in the issue-area. Specific obligations should be codified in annexes to the convention that might be amended more simply than the convention. Beyond this institutional arrangement the Nordic countries submitted a substantive initiative that comprised an initial set of measures to control CFC emissions.

Whereas the Convention on Long-range Transboundary Air Pollution had been subject to a lasting dispute that was settled only in protracted and time-consuming negotiations, the details of the Convention for the Protection of the Ozone Layer were largely uncontroversial. The instrument was adopted by a diplomatic conference in 1985 and established the framework for a permanent deliberation and decision process for the coordination of action to protect the ozone layer and for the moulding of international norms to govern the issue-area. In contrast, the substantive part of the Nordic proposal was heavily disputed³⁵. It was designed to extend the measures already adopted by some participating countries to all other regime members. Yet, these other countries rejected any additional measures. Accordingly, the diplomatic conference of 1985 was not in a position to adopt a protocol to the Convention. However, the substantive part of the Nordic initiative was not effectively rejected. The conference agreed that negotiations should be continued with the aim of adopting a protocol in 1987 and established an interim mechanism that replaced the envisaged substantive agreement by another constitutive decision.

33 For the tragedy of the commons and environmental collective goods, see *Hardin*, *The Tragedy of the Commons*; *Wijkman*, *Managing the Global Commons*, pp. 511-512; *Stein*, *Cooperation and Collaboration*.

34 See above, Chapter 5, pp. 203-206.

35 See above, Chapter 6, pp. 222-234.

Upon resumption of the negotiations scientific observations of the Antarctic 'ozone hole' were published and serious damage to the ozone layer was no longer only predicted. Moreover, industry in some countries indicated that substitutes for CFCs were available. The United States, supported by the Nordic countries, acquired the leading role and proposed a comprehensive plan for a complete phase-out of CFCs and another major group of ozone depleting substances in several successive steps. Other countries, e.g. Canada and the Soviet Union, favoured an international management regime that allocated national emission quotas. During the negotiations the position of the European Community as the primary interlocutor of the United States collapsed under international and internal pressure. Other participants followed this partial reversal of positions so that the Montreal Protocol on Substances that Deplete the Ozone Layer could be adopted in 1987.

The scope of this first substantive agreement in the issue-area was limited in a number of respects. It envisaged a partial reduction of emissions of two major groups of ozone depleting substances. A complete phase-out could not be agreed upon and several ozone depleting substances were not addressed at all. Moreover, the Protocol was supported primarily by a limited number of Western industrialized countries. Most Eastern European and developing countries stayed apart. In the short run the regime addressed the bulk of emissions of ozone depleting substances, but over time free riding would become a serious problem. The control measures adopted in 1987 were considered as a preliminary agreement to be replaced by more stringent measures as soon as possible. Therefore, the Protocol envisaged a continuous process of negotiation and in fact largely duplicated the deliberation and decision process established under the Convention. At least every four years, beginning in 1990, control measures should be reviewed.

When the Convention and its Protocol entered into force in September 1988 and January 1989 respectively, a comprehensive review of scientific and technological knowledge was already under way. The first Meeting of the Parties to the Montreal Protocol launched a new round of negotiations to tighten the control measures³⁶. The European Community had completely revised its position and the negotiations were characterized by a broad consensus among the major actors on most subjects.

Less than three years after the painful adoption of the Montreal Protocol the regime members agreed on a thorough revision of internationally coordinated measures to protect the ozone layer. In 1990 the Meeting of the Parties adopted a comprehensive package of amendments to the Montreal Protocol that increased the number of controlled substances and accelerated the phase-out of almost all major ozone depleting substances. Moreover, the parties accepted a package of measures to encourage the participation of developing countries and established a Multilateral Fund to finance the incremental costs of the transition of developing countries' economies to ozone friendly technologies. In an unprecedented instance of North-South cooperation the industrialized countries agreed to pay the costs of environ-

³⁶ See above, Chapter 7, pp. 269-271.

mental cooperation while the developing countries sacrificed the opportunity to employ comparatively cheap ozone depleting substances.

The London revisions of the Montreal Protocol did not constitute the last cooperative arrangement adopted in the framework of the regime. In 1992, only two years later, the Meeting of the Parties to the Protocol agreed on another arrangement that tightened control measures once again. And this arrangement envisages the adoption of even more stringent measures in the next round of negotiations scheduled for 1995.

Like the regime on long-range transboundary air pollution the international regime for the protection of the ozone layer is a highly dynamic international institution that has considerably developed over time. Both regimes comprise an institutional framework and a number of substantive agreements. But while the air pollution regime led to a proliferation of parallel agreements with distinct memberships, the scope of the ozone regime expanded gradually in a series of fundamental revisions of the main instrument.

2.2. *Environmental Interdependence and Constellations of Interests*

The interdependence pattern within the issue-area of the protection of the ozone layer may seem to be apparent. Action to protect the ozone-layer fulfils the two familiar conditions of a collective good. Its benefits cannot be limited to contributing actors (non-excludability). And the same unit of the collective good may be 'consumed' by an unlimited number of actors alike³⁷. Despite varying sensitivity toward environmental issues, the depletion of the ozone layer would hit all countries alike. In its environmental dimension it did not allow a distinction between winners and losers. As soon as the relevant actors in the issue-area were convinced that the total costs of collective action were lower than its total gains, the group was faced with a positive sum game in which cooperation and the overcoming of a collective dilemma promised mutual gains. Still, the composition of the group mattered. Generally, the achievement of collective action is believed to be most difficult in a large group of small actors, while it is does not pose a major problem (more precisely, it is not even necessary) in the 'privileged' group dominated by one large actor. Cooperation does not have to include *all* actors, but it must cover a certain minimum share of the total problem to be beneficial for the cooperators (i.e. cooperation must at least comprise the *k*-group)³⁸.

Hence, the assessment of the pattern of interdependence within the issue-area focuses on the composition of the group of actors involved. Therefore, states are distinguished according to their relevance in the issue-area that will be determined according to their market shares in respect of the production and consumption of

37 On these conditions, see Snidal, *The Limits of Hegemonic Stability*, pp. 590-593.

CFCs in 1986. CFCs were the group of ozone depleting substances that was addressed first and contributed most to the environmental problem. In 1986 negotiations on the Montreal Protocol started again upon abortion of the first round of deliberations the year before³⁹.

Table 8.7: Distribution of CFC Production and Consumption in 1986

| Country | Production | Percentage | Consumption | Percentage |
|--------------|------------|------------|-------------|------------|
| EC | 456.6 | 42 % | 317.1 | 32 % |
| USA | 328.8 | 30 % | 306.0 | 31 % |
| Japan | 131.7 | 12 % | 118.1 | 12 % |
| C.I.S.[USSR] | 120.4 | 11 % | 110.7 | 11 % |
| Canada | 19.5 | 1.8 % | 20.0 | 2 % |
| Australia | 15.4 | 1.5 % | 14.3 | 1.4 % |
| Brazil | 12.2 | 1.4 % | 11.0 | 1.1 % |
| South Africa | 11.3 | 1.0 % | 12.8 | 1.3 % |
| Global | ca. 1100 | 100 % | ca. 1000 | 100 % |

In 1000 t of CFCs; percentages reflect a country's share from global production and consumption respectively; source: UNEP/OzL.Pro.4/6 (figures submitted by the countries concerned); the global figures are rough estimates⁴⁰.

The figures on production and consumption of CFCs in 1986 (see Table 8.7.) indicate that the issue-area was not dominated by a single actor that could have provided the collective good unilaterally. The actors involved did thus not form an Olsonian 'privileged group'. Rather, the issue-area was dominated by two giants of almost the same size with a combined control of more than two thirds of the market, i.e. the United States and the European Community⁴¹ (Group 1).

The market shares of two other countries, namely the Soviet Union and Japan (Group 2), were not insignificant but considerably below those of the Group 1 countries. These countries controlled more than 10 % of the market each. Their behaviour had immediate effects within the issue-area, i.e. on the market and on the state of the ozone layer, that could not simply be ignored by other actors. Accord-

38 On the theory of collective action and its relationship to mainstream regime theory, see above, Chapter 1, pp. 38-41. On the concept of *k*-groups, that is, cooperative segments of larger groups, see *R. Hardin*, *Collective Action*, pp. 40-41; and *Snidal*, *The Limits of Hegemonic Stability*.

39 See above, Chapter 6, pp. 235-236.

40 Figures for global production and consumption are difficult to obtain. The Scientific Assessment Panel of the ozone regime operates with a figure of 990,000 tons for 1985; see UNEP/OzL.Pro.WG.II(1)/4, p. 40. Production figures reported by the regime members for 1986 are slightly higher, although some minor producers such as India and China had not reported data by November 1992. *Benedick*, *Ozone Diplomacy*, p. 26, provides the following market shares for the production of the two major CFCs 11 and 12 in 1986: EC (43-45%); USA (30%); Japan (11-12%); Soviet Union (9-10%).

41 The European Community is assessed as a single 'country' because it succeeded in acting as a single entity throughout the negotiations.

ingly, these countries had to take into account anticipated reactions of their co-actors to their own behaviour.

The individual market share of all other countries (Group 3) was of minor importance and did not exceed two per cent. Their individual behaviour did not seriously affect the market of ozone-depleting substances, nor the state of the ozone layer. Unlike the members of Group 1 and Group 2, these countries were able to determine their behaviour regardless of the anticipated reactions of co-actors. In this position the taking of a free ride could be a rational strategy.

This composition of the group of actors suggests that the two giants in the issue-area (Group 1) would have to form the core of a cooperative *k*-group. Their active participation would be indispensable for international cooperation. None of them could seriously expect to take a free ride *and* benefit from cooperation among other countries. In contrast, the medium-size actors from Group 2 did not necessarily belong to the *k*-group required to establish and support a lasting cooperation. Any attempt by these countries to take a free ride might jeopardize cooperation, but it would not necessarily prevent it. Finally, the small countries of Group 3 would affect the success of cooperation only if their *aggregate* market share was high. This was not the case in the short run. However, the relative importance of possible free riders from Group 2 and Group 3 would increase over time if a *k*-group successfully established cooperation and reduced their own market shares. All countries that were interested in the establishment of cooperation within the issue-area had to support cooperation among the two giants irrespective of whether they were inclined to take a free ride.

These considerations on the structure of the issue-area provide the background for the exploration of the constellations of interests in the different rounds of negotiations. In 1984/85 the negotiations comprised around 20 serious participants. Among them were most Western industrialized countries and the Soviet Union, i.e. all members of Group 1 and Group 2. The comparatively low number of participants did not preclude meaningful cooperation in the issue-area because these actors controlled an aggregate market share of about 90 %.

The participants were faced with a constitutive proposal of the Nordic countries to establish a permanent deliberation and decision process on measures to protect the ozone layer. This institutional framework did not immediately address cooperation. In this game actors would not cooperate to protect the ozone layer but merely to address the problem collectively. It was, however, not a situation of harmony understood as the ability of actors to pursue their own interests without (negatively) affecting those of their co-actors, because this interest could not be pursued unilaterally.

The two giants from Group 1 and the comparatively few participating countries of Group 3 advocated the adoption of a framework convention. They preferred mutual

cooperation to mutual defection⁴². The remainder of Group 3 did not participate and implicitly favoured unilateral defection to cooperation⁴³. Interestingly, the two medium-size countries of Group 2 endeavoured to prevent coordinated international action, but they participated in the negotiations. They preferred mutual defection to mutual cooperation, but they also favoured cooperation over *unilateral* defection⁴⁴. In this constellation of interests free riders could not be motivated to cooperate, while the reluctant countries from Group 2 did not have the means to prevent cooperation altogether. The former abstained, but the latter signed the Convention contingent on the decision of their co-actors.

During the same negotiations the participating countries were also faced with a substantive initiative. Several of them, including the United States and some members of Group 3, pursued a *dominant* strategy of cooperation and had, for domestic reasons, adopted unilateral measures to reduce CFC emissions. Now they aimed at inducing other countries, especially the European Community and the Group 2 countries, to follow this step⁴⁵.

Their addressees had not cooperated so far. They benefited from the dominant cooperative strategy of their co-actors. Emission reductions achieved by other countries relieved them from acting themselves. Moreover, the European Community had been able to acquire a significantly increased market share due to US reductions. Hence, the dominantly cooperative strategy of some actors considerably reduced the incentive for others to cooperate. The European Community and the Group 2 countries could not win by institutionalized cooperation. Accordingly, they adopted a dominant strategy of defection⁴⁶.

The constellation of interests toward the substantive proposal in 1984/85 resembled a 'Rambo' game. It was characterized by one group of countries with a dominantly cooperative strategy and another group with a dominantly defective one. Cooperation among the former group was not necessary, and cooperation with the latter was not possible. This analysis readily explains the failure of the envisaged protocol in 1985. The two results of 1985 were thus not mutually contradictory. The actual constellations of interests within the negotiations differed fundamentally due to the different attitude of the European Community toward the two interrelated proposals. The distinct constellations of interests caused different outcomes, namely the successful adoption of the Convention and the failure to agree on a protocol. As expected, agreement among the two giants led to cooperation and encouraged smaller actors also to cooperate, while disagreement among the giants prevented cooperation altogether.

42 The order of preferences of these countries was therefore $CC > DD > DC$, unilateral cooperation (CD) not being a viable option.

43 These group 3 countries had an order of preferences of $DD > DC > CC$.

44 The order of preferences for Group 2 countries was therefore $DD > CC > DC$.

45 The order of preferences of these countries may be set at $CC > CD > DC > DD$. They preferred mutual cooperation most but also cooperated unilaterally; and they disliked mutual defection most.

46 The order of preferences of these countries may be set at $DD > DC > CC > CD$, or, depending on the perception of the environmental problem $DC > DD > CC > CD$.

In 1986 the parties resumed their negotiations. The United States and some Group 3 countries proposed a complete phase-out of several ozone-depleting substances over a number of intermediate stages assuming that the depletion of the ozone layer could not be stopped without a total elimination of relevant emissions. Actors supporting this plan preferred mutual cooperation to any other option but were reluctant to cooperate unilaterally⁴⁷. Another group of actors, including the European Community, the two medium-size countries from Group 2 (Soviet Union and Japan) and some Group 3 countries (e.g. Canada) did not favour the complete phase-out of ozone depleting substances. These countries advocated the internationally supervised reduction of emissions. They agreed on the desirability of avoiding uncontrolled ozone depletion but struggled over the size and distribution of remaining the pollution quota. They did not prefer cooperation to any other option. Free riding constituted a viable option for all of them except the European Community⁴⁸.

The negotiations on the Montreal Protocol were dominated by the confrontation between the two giants. Both of them had changed their preferences. They agreed now *that* internationally coordinated measures to protect the ozone layer should be adopted but they disagreed on the stringency of these measures. In this struggle the European Community was again in a strong position. It forced the participating actors into negotiations on the amount of reductions and the distribution of remaining pollution rights. On this latter issue the two giants had coinciding interests because of their high per capita consumption of ozone depleting substances. They rejected attempts to redistribute emission quota and favoured the basing of future reductions on existing emission and production figures. They had also a joint interest in precluding free riding as far as possible. They agreed on trade restrictions for non-parties that were not least addressed at Japan and on a specific exemption for the Soviet Union. Hence, the outline of the Montreal Protocol of 1987 may be explained largely by the constellation of interests among the two giants. The participation of the Group 2 countries and some less important states may be conceived as responding to the agreement between the two giants, while some Group 3 were unconditionally favourable to cooperation.

In 1989/90 another round of negotiations was conducted to tighten the control measures. The European Community had completely reversed its position and now favoured a rapid and full phase-out of a number of ozone depleting substances. Many industrialized countries, including both Group 1 countries, now adopted dominant strategies of cooperation that included unilateral action. In addition, some minor industrialized countries, in particular from Scandinavia, also favoured the immediate control and limitation of some substitutes to major ozone depleting substances. These substances 'of the second generation' constituted an expanding mar-

47 The order of preferences of these actors resembles that of Stag Hunt situations ($CC > DC > DD > CD$).

48 In their order of preferences mutual defection ranked below mutual cooperation ($CC > DD$) and unilateral defection ranked above unilateral cooperation ($DC > CD$). Their pay-off structure thus resembled that of a Prisoners' Dilemma ($DC > CC > DD > DC$).

ket. A number of major actors in the issue-area, including the United States, the European Community and Japan, rejected their control. Hence, the constellation of interests had again fundamentally changed. The adoption of tightened measures to control the original Montreal substances and the rejection of the effective control of substitutes came close to 'harmony' games between the two giants. The cooperative arrangement adopted in London reflects anew the area of agreement between them while more far-reaching control measures put forward by smaller actors were rejected.

In 1992 the preferences of the two giants and other participants had again altered. Established control measures could be tightened once again. Likewise, all major actors now believed that some control of the production and use of substitutes with an ozone depleting potential was indispensable while these chemicals were essential for some intermediate future. Accordingly, the focus shifted to the amount of global pollution rights and their distribution. In this case the two giants were involved in a 'Prisoners' Dilemma' situation that allowed cooperation while more far-reaching demands for an accelerated phase-out of transitional substances were ignored. Hence, the Copenhagen agreement emerged from another distinct constellation of interests.

In yet another decision situation the two giants lost their dominant position in the issue-area. Many important developing countries had not joined the regime by 1989. Their relevance would grow over time and threatened to undermine the established cooperation in the long run. All regime members favoured the participation of these countries. However, the majority of developing countries was not prepared to accept control measures without compensation for the costs of these measures. This dispute may be conceived as a bilateral conflict in which the regime members cooperated dominantly, while the non-members defected dominantly. Accordingly, the latter group defined the terms of the game over the conditions of their participation and achieved the establishment of the Multilateral Fund in exchange for the accession of all the important developing countries to the regime.

To conclude, international governance in the issue-area of long-range transboundary air pollution produced several successive cooperative arrangements based on distinct constellations of interests. The constellation of interests prevailing in 1985 allowed the establishment of a permanent cooperative process but not the adoption of substantive cooperation. In 1986/87 the important actors had revised their preferences, and the adjusted constellation of interests allowed the adoption of a first substantive arrangement, i.e. the original Montreal Protocol. In 1989/90 the preferences of important actors had again changed considerably and caused another fundamental alteration of the constellation of interests that made possible the adoption of another cooperative arrangement, i.e. the London revisions of the Montreal Protocol. The Copenhagen revisions of the Protocol were based on yet another constellation of interests. Lastly, a very different game took place between the regime members and non-members on the conditions of accession of the latter

group. It was the only game that was not dominated by the two giants in the issue-area but by the (former) free riders.

The pattern of interdependence within the issue-area on the protection of the ozone layer is rather stable. Protection of the ozone layer is and continues to be a collective good and involves the problems of collective action. Likewise, the issue-area is and continues to be dominated by a low number of key actors, in particular the two giants, although the game on the condition of participation of the developing countries in the regime emphasizes that this domination is not as firmly established as it may seem. The interdependence pattern within the issue-area was surely important for the determination of the preferences of actors in a specific decision situation but other factors intervened and caused rapid changes of interests, ensuing changes in the constellation of interests, and changes in cooperative arrangements that emerged from these constellations of interests. Remarkably, the issue-area on the protection of the ozone layer does also not comprise a stable constellation of interests.

3. The Puzzle of International Governance in Rapidly Developing Issue-Areas

The preceding sections examined patterns of interdependence among actors and constellations of interests in specific rounds of negotiations within the two issue-areas of long-range transboundary air pollution and protection of the ozone layer. They concluded that the interdependence pattern had an impact on the actual preferences of actors in a decision situation, while it did not determine these preferences entirely. It could not account for variations in the behaviour of countries with similar positions of interdependence, nor for significant changes in the behaviour of certain countries over time. However, the preferences of actors and constellations of interests made up of these preferences produced rather accurate explanations of outcomes if assessed empirically⁴⁹. Prevailing constellations of interests strongly affected the provisions of emerging cooperative arrangements. Hence, the constellation of interests of the participating actors in a given decision situation constitutes a prime variable for the explanation of outcomes.

However, the interests of actors relevant to a given issue-area and the constellations of interests made up of these preferences are not necessarily stable over time. The interests of a given actor in a decision situation are themselves affected by a number of factors. The environmental concern of a country may increase upon emergence of a 'green party' or following the coming to power of a new government. The modification of the perceived national interest in a decision situation may be caused by the discovery of an environmental crisis, such as the detection of the 'ozone hole' due to the emission of CFCs or the deterioration of central European forests by acid rain. The interests pursued by a country at the international level may also be affected by the development of substitutes for an environmentally adverse tech-

⁴⁹ Zürn, *Interessen und Institutionen*, p. 98, holds that alternatives should be assessed as perceived by actors, i.e. empirically.

nology or substance. The adoption of unilateral measures in response to domestic pressure, such as the United States ban on CFC-propelled spray cans or the West German air pollution abatement programmes, will almost inevitably have an impact on a country's internationally pursued interests.

Hence, the preferences of a single country depend on numerous factors that may be stable, develop continuously or even change unexpectedly and suddenly. It is therefore not surprising that aggregate national interests pursued by a country may also change over time. Only in the short-term and in a given decision situation may preferences be *assumed* to be stable. The two issue-areas of long-range transboundary air pollution and the protection of the ozone layer were affected by numerous alterations of the preferences of a participating country.

Constellations of interests that are entirely made up of the interests of several actors involved in a decision situation are even more unstable. They may be affected by a change of the preferences of any one of the actors involved. As soon as the interests of an actor change, the relevant constellation of interests may also change and generate modified constraints for the actors concerned. In fact, upon change in the constellation of interests actors play a new game⁵⁰. In the two issue-areas explored in the present study constellations of interests within negotiations changed frequently and rapidly.

If the purpose of cooperation is the improvement of sub-optimal outcomes, as mainstream regime theory assumes, cooperation is immediately related to a given constellation of interests. It is as sensitive to change as the underlying constellation of interests. Moreover, as soon as a *cooperative arrangement* is assumed to reflect cooperation closely, it will also be as sensitive to change as the underlying constellation of interests. With a certain time lag, an arrangement that is not supported by the constellation of interests any more will break down or become irrelevant, unless the actors concerned adopt a new arrangement that better reflects the modified constellation of interests⁵¹. The arrangements reflecting cooperation within the issue-area of the protection of the ozone layer have altered frequently over the last decade. Cooperation was unsuccessful in 1985 apart from auxiliary obligations addressing scientific collaboration and data supply, while successive cooperative arrangements were adopted in 1987, 1990, and 1992. All of these outcomes were readily explained by the relevant constellations of interests. Likewise, the failure to adopt a cooperative arrangement on the reduction of SO₂ emissions in 1979, its successful adoption in 1985, as well as the NO_x accord in 1988 were explained by the specific constellations of interests prevailing in these decision situations.

Hence, the two international regimes explored in the present study do not undermine the assumed close link between interests, constellations of interests, opportunities for cooperation and the resulting cooperative arrangements. However, this

50 Note that situative structuralism is sensitive to change because it usually assumes that actors do not change their orders of preferences during the game; see Weede, *Der ökonomische Erklärungsansatz*, p. 254.

51 On the relevance of the 'time lag' for explaining regime effects, see Krasner, *Regimes and the Limits of Realism*, pp. 501-503; and above, Chapter 1, pp. 30-31.

clear and undisputed link leads to a puzzling consequence: the set of successive cooperative arrangements in the issue-area of the protection of the ozone layer could hardly be considered as a coherent international regime. A rigid mainstream regime analysis limiting inquiry to the relationship of constellations of interests, opportunities for cooperation and cooperative arrangements would have to interpret the observed phenomenon as a series of successive and parallel regimes that were independent of each other. After all, the constellation of interests prevailing in the issue-area in 1985 supported only a very limited regime for coordinated data collection and joint research. Founded on a different constellation of interests, this regime was supplemented in 1987 by a regime to distribute pollution rights. In 1990 the latter was replaced by a regime envisaging the complete phase-out of several ozone depleting substances that was, in 1992, supplemented by a separate regime to control problem-loaded substitutes. Since 1990 yet another regime organized the participation of developing countries.

Even more puzzling is the interpretation of the phenomenon observed in the other issue-area because it precludes any attempt to explain the different agreements as minor modifications of a single cooperative arrangement. In the issue-area of long-range transboundary air pollution distinct sub-groups of regime members adopted several cooperative arrangements that addressed different groups of pollutants. An analysis relying solely on the relationship between the relevant constellation of interests, opportunities for cooperation and resulting cooperative arrangements would have to reject the existence of a comprehensive international regime on long-range transboundary air pollution. Instead, it might identify a number of independent issue-areas with specific structures and related opportunities for cooperation. It might conclude that the Geneva Convention reflected an international regime of East-West politics. Independently of it, separate international regimes addressing transboundary SO₂ pollution, transboundary NO_x pollution and transboundary VOC pollution had emerged on the basis of separate constellations of interests.

Admittedly, these conclusions are highly hypothetical. Regime analysts do not in fact propose that the issue-area of the protection of the ozone layer be governed by a series of succeeding regimes with extremely short life-times⁵². And they do not usually suggest that the issue-area of long-range transboundary air pollution be governed by a number of pollutant-specific regimes⁵³. However, the somewhat strange conclusions of the present argument draw attention to the fact that international regimes governing dynamically developing issue-areas must consist of more than mere cooperative arrangements, although these arrangements will constitute important parts of them.

52 See *Breitmeier*, *Ozonschicht und Klima*; *Parson*, *Protecting the Ozone Layer*. For expressly structural analyses this may be due to the predominant assessment of one of the successive arrangements, namely the Montreal Protocol of 1987; see e.g. *Sprinz/Vaahitoranta*, *The Interest-Based Explanation*.

53 See e.g. *Levy*, *European Acid Rain*; and *Schwarzer*, *Weiträumige grenzüberschreitende Luftverschmutzung*. *Sprinz*, *The Domestic Sources*, is expressly concerned with the 'substance' of international environmental cooperation, i.e. with a particular cooperative arrangement

Despite the rapid development of both constellations of interests and cooperative arrangements emerging from their basis, the overall appearance of international governance within the two issue-areas is remarkably stable. Apparently, international governance within the two issue-areas is firmly established; the international regimes concerned are far from overall breakdown⁵⁴ when an outdated cooperative arrangement is replaced by a new one. Rather, the adoption of new cooperative arrangements to replace or supplement existing ones constitutes a regular and desirable aspect of international governance⁵⁵. Obviously, the cooperative arrangements of the two international regimes explored in the present study are embedded or 'nested' in wider processes that make them parts of comprehensive governing institutions⁵⁶.

It may be useful to recollect the first stage of the development of the international regimes on long-range transboundary air pollution and the protection of the ozone layer. In both cases international governance did not start with the acceptance of cooperative arrangements. Instead, it started with the establishment of an institutional framework and the adoption of detailed constitutive norms that were not mere substitutes for the failure to take substantive decisions. In both cases proposals of the initiating countries were not limited to substance but advocated the establishment of permanent decision processes as independent components of the governing institutions⁵⁷. Hence, from their very beginning, the two international regimes were intended to comprise a constitutive component that made the institutional framework *process-oriented*.

Regular meetings of the parties formed the core of the constitutive component of both regimes. These meetings were mandated to elaborate more detailed prescriptions to regulate the respective issue-areas. The regime-specific institutional framework, reflected in the conventions, was designed to transform the decision process in the issue-areas concerned from an unorganized state to a level of comparatively high institutional sophistication. From this perspective it makes sense that the establishment of an issue-area specific institutional apparatus did not accompany a substantive cooperative arrangement but preceded its adoption. The institutional framework was not (or at least not only or primarily) intended to *stabilize* established cooperation but to facilitate the adoption of specific arrangements. Hence, international governance must include the process of realizing cooperation and producing cooperative arrangements.

The transfer of an issue-area from unorganized (i.e. basically unilateral) to organized (i.e. collective) decision-making as well as the lasting process of organized decision-making may have an impact on the calculation of interests by the

⁵⁴ On 'regime change' see above, Chapter 1, pp. 44-46.

⁵⁵ This notion of 'governance' does *not* immediately refer to substantive agreement reflecting cooperation, as it does in the usage of the Tübingen project; see *Rittberger*, International Regimes in the CSCE-Region.

⁵⁶ The concept of 'nesting' may account for the arrangement of more general and more specific cooperative institutions. On 'nesting', see *Keohane*, The Demand for International Regimes, p. 334, *Aggarwal*, Hanging by the Thread, pp. 8-16, and *Aggarwal*, The Unravelling of the Multi-Fibre Arrangement, p. 620.

⁵⁷ On the Nordic proposals. see above Chapter 3, pp. 106-109 and Chapter 5, pp. 203-206.

individual actors⁵⁸. Principally international governance acquires the ability to affect the process of shaping and re-shaping decision-situations and constellations of interests⁵⁹ over time. In the two issue-areas explored the actors were able to perceive their interests differently in successive or parallel decision situations even though the patterns of interdependence remained fairly stable, and such changes of preferences occurred frequently. As soon as the institutional framework, that is, the process of collective decision-making, exerts influence on the perception of his own interests by a given actor, it must be conceived as indirectly affecting the relevant constellation of interests that heavily influences outcomes of a specific round of negotiations. Hence, international governance may overcome the strict dichotomy of structure establishing constraints and process operating within these constraints⁶⁰.

This is not the place to study the areas of possible institutional influence on outcomes in depth. A brief remark on three of these areas shall suffice at this stage of the argument. The assessment by an actor of his preferences in a given decision situation may be conceived as a cost-benefit calculation weighing up the disadvantages and advantages of cooperation⁶¹. The outcome of this calculation may be affected at both the cost side and the benefit side. The benefit side of the calculation addresses the degree of desirability of cooperation from an actor's perspective. It is closely related to problem perception.

Problems are not effectively placed on the international agenda unless actors recognize them as relevant⁶². In the case of environmental problems this recognition is closely related to the availability and acceptability of scientific knowledge and its interpretation⁶³. Other things being equal, the benefit from collective action will increase if a given problem is perceived as more severe than before and preferences may change accordingly. In the two international regimes explored in the present study the purposeful affection of problem perception by the actors concerned played an important role⁶⁴.

58 This transformation is in fact the essence of the concept of 'complex interdependence', developed by *Keohane/Nye*, *Power and Interdependence*. Its impact will be discussed below, Chapters 10-13.

59 Significantly, in the conclusion of their inductive study *Levy/Keohane/Haas*, *Improving the Effectiveness of International Environmental Institutions*, do not primarily refer to cooperation within given structures but to influencing actors' interests, and that is, influencing structures of relevant issue-areas.

60 On this dichotomy, see *Czempiel*, *Die Organisation der Sicherheit in und für Europa*, p. 195; and *Keohane/Nye*, *Power and Interdependence Revisited*, pp. 745-746. On the desirability of combining inquiries in structure and process, see *Nye*, *Neorealism and Neoliberalism*, p. 249.

61 Costs and benefits do not only refer to economic factors, but may include environmental, social and political factors.

62 On the relationship between agenda-setting, regime building and (technical) knowledge, see *E. Haas*, *Why Collaborate*. See also the conclusions of *Levy/Keohane/Haas*, *Improving the Effectiveness of International Environmental Institutions*, pp. 399-400.

63 The concept of 'epistemic communities', introduced by *P. Haas*, *Saving the Mediterranean*, p. 55, and *P. Haas*, *Banning Chlorofluorocarbons*, refers expressly to the relevance of expert knowledge for regime development.

64 *Levy*, *European Acid Rain*, attributes much of the influence of the regime to its raising of problem perception; *Parson*, *Protecting the Ozone Layer*, emphasizes the contribution of the regime to the raising of problem perception.

A recognized problem will not affect the preferences of an actor unless he has the capacity to respond to it. The *response capacity*⁶⁵ is therefore another important factor for the determination of actors' preferences that addresses the *overall costs* of a particular option. Generally, the costs of action for a given country decrease with increasing response capacity. International regimes may purposefully enhance the response capacity of its members. Within the two regimes on long-range transboundary air pollution and the protection of the ozone layer the transfer of information, technology and financial resources has been institutionalized in a number of mechanisms to enable countries to cooperate that could (or would) not do so without this assistance.

Moreover, the institutional framework of an international regime may influence the boundaries of an issue-area and the group of actors involved in it⁶⁶. A particularly well-suited example is the expansion of the issue-area of long-range transboundary air pollution from Western Europe (OECD countries) to all parts of Europe that may be assumed to have exerted significant influence on the constellation of interests within the issue-area. It mitigated the intra-Western conflict and implied that all substantive initiatives for the adoption of control measures automatically address the heavy polluters from Eastern Europe⁶⁷.

These three factors of problem perception, response capacity and delimitation of the issue-area may suffice to illustrate the assertion *that* the institutional framework of an international regime *may* possibly exert influence on the constellation of interests among actors that in turn heavily influences outcomes, i.e. specific cooperative arrangements. The influence on the structure of an issue-area depends on the institutional distinction of the framework of the governing institution that comprises a process of collective decision-making and cooperative arrangements that result from this process. Both components must be conceived as two complementary parts of a comprehensive international regime. An approach to international regimes that focuses exclusively on constellations of interests and cooperation emphasizes one aspect of the governance of rapidly developing issue-areas, but it ignores the other. Accordingly, it cannot examine the influence of the institutional framework on a resulting cooperative arrangement. But this theoretical perspective does not mean *that* this influence is completely inconceivable.

4. Conclusion

The present chapter explored the interdependence patterns among actors within the issue-areas under consideration and confirmed by and large the assertion of main-

65 On the relevance of 'capacity' for action, see Prittwitz, *Das Katastrophen-Paradox*, in particular pp. 107-112; and Jänicke/Mönch, *Ökologischer und wirtschaftlicher Wandel*, pp. 400-401. See also Levy/Keohane/Haas, *Improving the Effectiveness of International Environmental Institutions*, pp. 404-406.

66 On the relevance of 'adding and subtracting issues and parties', see Sebenius, *Negotiation Arithmetics*, and Sebenius, *Negotiating the Law of the Sea*, pp. 182-218.

67 See also Levy, *European Acid Rain*, p. 110.

stream regime theory that cooperation is closely related to the underlying constellation of interests.

However, a closer look at international governance within the issue-areas revealed that the international regimes under consideration were not limited to a single instance of cooperation. Both of them comprised a number of distinct cooperative arrangements. In the regime for the protection of the ozone layer these arrangements formed a series of succeeding cases of cooperation, while in the regime on long-range transboundary air pollution they constituted parallel instances of cooperation. All of these cooperative arrangements were based on their own underlying constellation of interests and could, therefore, be considered as independent regimes. Yet, despite the multitude of relevant constellations of interests both regimes appear as comparatively stable and comprehensive, although rapidly developing, international institutions. And in both cases regime establishment started with the adoption of framework conventions that lacked substantive cooperation.

These empirical observations constitute anomalies in mainstream regime theory. Apparently, the establishment of institutional frameworks that are not immediately related to cooperation cannot be accounted for. And a series of successive short-term arrangements is not easily accommodated within this theoretical approach. From the perspective of theory building these inconsistencies may be interpreted in either of two ways. They may be attributed to natural variation of a standard phenomenon and be 'explained away' as minor and largely irrelevant occurrences. But they may also be conceived of as theoretical puzzles that trigger further inquiries and may produce new insights into the phenomenon of international regimes. The present study follows this second path and attempts to ask new questions.

Careful empirical observation discloses that the two international regimes under consideration apparently consist of two distinct but interdependent parts. They comprise a comparatively stable institutional framework for the governance of the respective issue-areas that is not closely related to rapidly and frequently changing issue-area structures. The regimes also comprise a number of distinct cooperative arrangements that are immediately based on specific constellations of interests.

The conception of these regimes as composed of two distinct parts does not simply reduce the constitutive component to an annex of a cooperative arrangement. On the contrary, it draws attention to the mutual relationship between these two parts. Despite the close relationship of cooperative arrangements and changing constellations of interests the question arises whether a comparatively stable institutional framework specifically established for the governance of an issue-area may influence the interests of actors and the resulting constellations of interests. There are indications that this may be the case. However, the present chapter did not provide answers, it merely raised questions.

Part V: Dynamic International Regimes

Chapter 9

A Concept of Norms and Social Institutions

Chapter 1 concluded that regime theory, in particular its mainstream version, does not have a reliable concept of norms and their influence on outcomes in international relations at its disposal, although there is hardly any disagreement that international regimes are made up of norms. In fact, all four components of the widely accepted definition of international regimes, i.e. principles, norms, rules, and decision-making procedures, constitute norms in the understanding of the present study. Hence, norms are not at all irrelevant to regime theory.

Approaches to international cooperation based on rational choice relate international regimes closely to the constellation of interests prevailing in a given issue-area, and that is, to the issue-area structure. Chapter 8 explored the relevance of structural analyses for the explanation of institutions in the two issue-areas of long-range transboundary air pollution and protection of the ozone layer. It revealed that some parts of the regimes under consideration, namely their specific cooperative arrangements, were fully compatible with structural findings, while other parts, namely their overall institutional frameworks, largely escaped structural explanation. Moreover, although the emergence of regimes was closely related to the constellation of interests prevailing within a given issue-area, over time this constellation was subject to regime influence. While the process of interaction among actors was limited by structural constraints, over time it would itself affect these limits. These considerations challenged the simple causal relationship between the issue-area structure and emerging institutions.

The present chapter lays the foundations for an approach to international regimes that elucidates the contribution of institutions to international governance without disregarding the limiting impact of structural constraints. It elaborates a concept of norms and social institutions that is compatible with the rational choice assumptions of mainstream regime theory. The argument avoids recourse to such concepts as morality, justice, or altruistic motives of actors for compliance with norms. The concept of norms and social institutions reaches inevitably far beyond international regimes. It provides insights in the relevance of institutions and their influence on the behaviour of rational actors. It also clears the ground for the later development of theoretically sound criteria for the delimitation of international regimes as a particular type of institution in the international system.

The argument starts from the clear-cut assumptions of rational choice approaches and inquires into the role that 'expectations' have for fully rational actors (Section

1.1.). Subsequently, it relaxes the rigid assumption of the omniscience of actors and argues that actors deciding under these more realistic conditions require devices to determine their action in routine situations. For this reason they may unilaterally generate rules of thumb that draw on past experience (Section 1.2.). However, frequently experience does not exist and actors must assess the expectations of their co-actors regarding their own behaviour. 'Norms' emerge as soon as a group of interacting co-actors develops coinciding normative expectations. They provide guidelines for decision-making but do not necessarily envisage optimum outcomes. Communication is not a prerequisite for the emergence of norms. In simple normative systems clusters of norms, or social institutions, governing specific areas of interaction may rely on action alone (Section 1.3.).

Norms are *collective* standards of behaviour. They are not in the possession of an actor alone but always emerge from interaction among at least two actors. However, their influence will increase in larger groups (Section 1.4.). In simple normative systems the generation, reproduction and eventual replacement of norms may take place within a single comprehensive interaction process that stabilizes norms *and* adapts them to changing circumstances (Section 1.5.). Norms influence outcomes of interaction among rational actors in a number of ways. They are always directed at affecting the decisions of these actors. They implicitly encourage voluntary compliance, but they also incorporate mechanisms to raise the costs of non-compliant behaviour (Section 1.6.). Section 1 concludes that rational actors must take norms of this type into account, unless they are assumed to be omniscient. However, they retain the ability to pursue their interests even beyond the constraints established by valid norms. These actors do not conform to the omniscient 'homo oeconomicus', nor to the norm-bound 'homo sociologus'. For them norms *and* interests matter.

Section 2 argues that the concept developed in this Chapter, while revealing the nature of norms and social institutions, is far too broad to be directly applicable to international regimes because social institutions in this understanding may be assumed to exist in almost any area of interaction in the international system. A brief look at the two issue-area explored in the present study illustrates that additional criteria must be identified.

1. Norms and Simple Normative Systems

Mainstream regime theory assumes throughout that actors merely act. All 'communication' must be done by action. Either verbalized communication amounts to a specific form of action (e.g. warnings and threats), or it is mere 'cheap talk' and may be neglected. The present Section explores norms and social institutions from this theoretical perspective: actors are not assumed to communicate *and* act. In later chapters this assumption will be relaxed.

1.1. *The Relevance of Expectations for Rational Actors*

Rational choice approaches generally assume that rational actors strive for the maximization of their goals according to a fixed order of preferences¹. Frequently, actors do not pursue their interests independently of each other, but in constellations involving other actors with conflicting interests². Accordingly, the number of options available to rational decision-makers is constrained. The structure of a given situation includes the interests and resources of other actors and must be carefully evaluated. The perception and misperception of policies, plans and future actions of co-actors matter³. So do possible reactions to the action that is to be decided. Usually, the consequences of different policy options cannot be tested in a trial and error type of action. They must be evaluated in advance on the basis of anticipated outcomes. Hence, implicitly or explicitly expectations play an important role for rational choice approaches to the analysis of international relations.

There can be no doubt that structural realism as developed by Waltz⁴ recognizes the importance of expectations of actors. According to this concept, the overall structure of the international system guides the decisions of actors most appropriately. This guideline is fairly stable. »A structural change is a revolution ... because it gives rise to *new expectations about the outcomes* that will be produced by the acts and interactions of units whose placement in the system varies with changes in structure«⁵. It is important to note that a Waltzian 'revolution' proceeds at two different but closely related levels. First, the structure of the system changes as a matter of fact (i.e. 'objectively'). Even though it may be the consequence of policies adopted by actors, from the perspective of the individual actor this development occurs beyond his own control at the systemic level. It may be *observed* by the actors concerned. Only if and when it is *realized* by an actor *will his expectations* about outcomes also change. Accordingly, this second part of the revolution proceeds at the actors' level. It is concerned with an actor's 'subjective' image of the 'objective' situation. Somewhere at this level the interpretatory apparatus on which his political analysis so far relied is adjusted in accordance with the observation of a structural change.

Likewise, familiar game theoretical models of conflict situations emphasize the importance of expectations for outcomes. In standard constellations of games, opposing actors are in (partial) conflict with each other. Mutual expectations about the *anticipated* behaviour of their respective counterparts gain relevance. The expectations of actors about outcomes are no less important in the theory of the supply of public goods. Olson's distinction of small and large groups and the

¹ See above, Chapter 1, pp. 24 and 33-40.

² Situations which allow actors to pursue their interests without having to take into account other actors and their interests reflect a state of 'harmony' and are of little interest to rational choice theories, see Keohane, *After Hegemony*, pp. 52-53.

³ See Stein, *When Misperception Matters*.

⁴ See Waltz, *Theory of International Politics*, and above, Chapter 1, pp. 23-25.

⁵ Waltz, *Theory of International Politics*, p. 70 (emphasis added).

opportunity for cooperative action in medium size and k -groups are based upon the expectations of actors about the relevance of their individual decisions for the supply of a collective good⁶. In the large and in the small group actors (other than a hegemon) may individually act upon the expectation that the supply of the good in question does not depend on their behaviour. Members of medium size and k -groups determine their action in the light of their expectations of the behaviour of their co-actors.

Hence, structural approaches do not deny the role of expectations. Implicitly, they assume that actors generate expectations about outcomes in given situations and acknowledge that the 'subjective' perception of an 'objectively' existing situation is fraught with difficulties. They are of interest precisely because they recommend appropriate options in complex decision-situations that require strategic action, i.e. decisions *contingent* on anticipated decisions of one or more other actors. In fact, these approaches discharge the task of assisting the generation of a 'subjective' (intra-actor) picture of an 'objectively' given situation⁷.

Structural approaches deprive situations of much possibly problematic empirical information. Under the assumption of full rationality, information gaps, time lags and errors in perception do not appear. Accordingly, the two steps of a structural change become virtually congruent. Structural changes are *at the same time and fully* realized as such by the actors concerned. These actors perceive the structure of a given situation correctly and adjust their behaviour accordingly.

However, decision-situations are not necessarily fully determined by structure. While game-theoretical models provide stable solutions for certain constellations (including isolated Prisoners' Dilemma situations), decisions in other constellations must be based on considerations beyond the game. For example, actors in a Stag Hunt situation⁸ and in a medium size or k -group gain most by mutual cooperation. A rational actor may attempt to achieve the preferred outcome of mutual cooperation and risk failing. He may also prefer to minimize his risk and choose defection. The game has two equilibrium outcomes and structural analysis does not clearly recommend a single strategy. The choice does not least depend on the degree of risk that an actor is willing to accept. Yet, even ambitious actors accepting a certain risk will cooperate only if they expect to a sufficiently high degree that their counterparts will also choose cooperation. If they expect them to defect, rational actors will have to choose defection. Accordingly, the choice of rational actors in these situations does not only depend on structural determination but also on their individual predisposition and on their expectations about the behaviour of their co-actors.

6 See Olson, *The Logic of Collective Action*; on the theory of the supply of public goods, see above, Chapter 1, pp. 38-40.

7 For a stimulating approach toward the necessity of actors to 'construct' their own reality prior to decisions about action, see Jachtenfuchs, *International Policy-making as a Learning Process*.

8 On the particularities of this game model, see above, Chapter 1, p. 37. The pay-off structure of 'Stag Hunt' situations is $CC > DC > DD > CD$.

In short, structural indetermination of decision situations provides an inlet for the intervention of factors beyond structure into the decision-making process of rational actors, even according to the rigid assumptions of rational choice approaches.

1.2. Bounded Rationality and 'Rules of Thumb'

Frequently, structural approaches rely on the implicit premise that actors do not incur any costs in the calculation of their optimum strategies. This premise implies that actors are able to continuously re-consider situations, to generate expectations about the anticipated behaviour of other actors, and to re-assess their strategies to achieve their preferred goals. It implies, moreover, that the necessary information is available and that actors may process it adequately. Hence, these structural approaches place constraints exclusively in the environment of the deciding actor. This assumption is not realistic, neither for individuals nor for the corporate actors relevant in international relations. The complexity of real-world situations apparently complicates the calculation of strategies significantly⁹.

Contrary to actors in parsimonious and elegant structural theories, real-world actors act under conditions of uncertainty. Uncertainty does not only originate outside a given actor faced with a decision problem, e.g. in the form of risk, non-determined factors or lack of information about relevant options and their consequences. It may also reflect the internal constraints of an actor, i.e. his limited capacity to process the available information¹⁰. The sheer amount of information and the complexity of decision situations may preclude the straightforward evaluation of possible strategies¹¹. These actors are trapped in an information processing dilemma. They cannot always be perfectly aware of their own interests in a specific situation, and that is, they are hindered in simply choosing their optimum strategy. Instead, they must *search* for an acceptable strategy and may be forced to settle for a result below theoretically possible optimum outcomes¹². The rationality of these actors is 'bounded'¹³.

Under conditions of bounded rationality, attention shifts from the identification of goals to the identification of suitable strategies for action. Actors hindered in evaluating all possible strategies inevitably have to stop the search for a suitable strategy

⁹ Zürn, *Interessen und Institutionen*, pp. 78-79, draws attention to this fact.

¹⁰ The distinction between theories placing constraints in the environment of actors, and theories assuming constraints also of the capacities of the actors themselves is emphasized by Simon, *Theories of Bounded Rationality*, p. 162.

¹¹ Chess is a classic example for a highly complex but fully determined situation. The rules of the game are perfectly well known. One or more optimum strategies exist; see von Neumann/Morgenstern, *Theory of Games*, p. 125. Yet, the number of possible strategies to be evaluated is far beyond the capacity of any human mind or computer. Simon, *Theories of Bounded Rationality*, pp. 165-166, estimates that it is in the order of 10^{120} .

¹² Note that the relaxation of the assumption of omniscience does not sacrifice the perspective of *intentional* and rational behaviour of actors as adopted by methodological individualism, see Voss, *Rationale Akteure und soziale Institution*, pp. 11-15, and Bueno de Mesquita, *The War Trap*, pp. 29-32.

at one point or another. They may be aware that options providing higher benefits might exist. But they do not know exactly *where* precisely to stop their search. They require acceptable modes of selection¹⁴. Instrumental rationality focusing on best solutions is replaced by procedural rationality focusing on the identification of good solutions. Simon suggests that an actor in these situations generates some *aspiration* as to how good an alternative he should find. As soon as the actor discovers an option meeting his level of aspiration he will terminate the search and choose this alternative. Simon calls this mode of selection *satisficing*¹⁵.

The concept of satisficing has interesting implications for the assessment of the relevance of norms in the international system. As soon as a rational and egoistic actor is precluded from maximizing his goals and is forced to resort to satisficing, he is in a position to accept a number of outcomes with varying additional benefits as long as his aspiration level is met¹⁶. His margin for possible cooperation with his co-actors increases. However, in the form of 'aspiration' the concept of satisficing introduces a subjective component determined at the actor's level. This component is entirely determined by the decision-making actor and may vary according to circumstances¹⁷.

Keohane introduces the concept of 'bounded rationality' into the analysis of international regimes but draws slightly different conclusions. At one point in his influential study on international regimes he relaxes the rigidity of the rationality assumption¹⁸. He argues that actors faced with an overwhelming complexity of decision-situations have to rely on stabilized practices or 'rules of thumb' for the making of day-to-day decisions. These rules may well guide decisions in the majority of situations. Thus, a study designed as a critique and modification of Realism¹⁹ and setting out from the assumption of complete rationality eventually introduces stabilized practices as a necessary device of guidance for 'rational' actors²⁰.

13 See Simon, *Rational Decision Making in Business Organizations*, p. 502: 'Rationality is bounded when it falls short of omniscience. And the failures of omniscience are largely failures of knowing all the alternatives, uncertainty about relevant exogenous events, and inability to calculate consequences.'

14 See Simon, *From Substantive to Procedural Rationality*. The terms 'instrumental rationality' employed by structural approaches and 'substantive rationality' as employed by Simon are used interchangeably in the present study. Both terms focus on the *maximization* of goals according to an established order of preferences.

15 See Simon, *Rational Decision Making in Business Organizations*, p. 503. The following example may illustrate this suggestion: A car owner hopes to sell his car for at least 5000 dollars. If somebody offers him 5200 dollars at the second day, he will sell, irrespective of the fact that he may receive an offer of 6000 dollars a week later. On the impact of bounded rationality for structural analysis, see Zürn, *Interessen und Institutionen*, pp. 82-86.

16 See also the idea of the 'veil of ignorance' put forward with a similar conclusion by Brennan/Buchanan, *The Reason of Rules*, pp. 28-31.

17 'Aspiration levels are not static, but tend to rise and fall in consonance with changing experiences. In a benign environment that provides many good alternatives, aspirations rise; in a harsher environment, they fall'; Simon, *Rational Decision Making in Business Organizations*, p. 503.

18 See Keohane, *After Hegemony*, pp. 112-114.

19 Keohane, *After Hegemony*, p. 14.

20 It is surprising that the concept of 'bounded rationality' has not attracted much attention in the debate on international regimes despite its possible bridging function between the 'structural' and the 'reflective' branches of regime theory. An exception is Zürn, *Interessen und Institutionen*.

However, Keohane's focus is not an inquiry into rules and norms but a collection of arguments supporting the relevance of international regimes. He simply asserts that actors may either generate their rules of thumb unilaterally or take them from international regimes that had originally been established for a different purpose, namely the stabilization of agreed international cooperation²¹. Keohane does not elaborate on the nature of these rules of thumb, nor their coming into being. Having been introduced as a device to facilitate routine decision-making, their function is clear. Yet, the way in which they precisely fulfil this function remains somewhat unclear.

Like aspirations rules of thumb are determined unilaterally by the decision-making actor to assist in the generation of a subjective picture of a complex, 'objectively' given situation. They are established by himself and exclusively address himself. Yet, unlike aspirations rules of thumb are not freely chosen. They refer to comparable past situations and to the experience of the decision-maker with prior choices. An actor chooses to behave as he behaved before because prior action produced acceptable results. Rules of thumb reflect the coagulated experience of prior situations. They are meaningful only because of their inherent time perspective. Therefore, they do not exist for new situations.

Despite their close relationship to past situations the reliability of rules of thumb for the making of decisions depends on their sufficiently close reflection of present reality. In their essence they shall *predict future occurrences*. And these predictions may turn out to be true or false. Rules of thumb are therefore supported by validity claims. They may discharge their task only as long as an iterated situation does not significantly change, either in respect of its structure or as to its perception by the decision-maker or concerning his individual order of preferences or aspiration. They are invalidated once significant change occurs in one of these dimensions. Therefore, these rules involve the general preparedness of actors to learn from disappointment²². They do not constitute norms but 'cognitive expectations'²³ precisely because their contribution to reducing complexity relies on their adaptability.

The relaxation of the assumption of complete rationality and the recognition that the rationality of actors is bounded introduces new risks into the process of decision-making. Uncertainty increases and the actors require devices to reduce the complexity of decision situations. Rules of thumb allow actors to draw on past experience and constitute one important type of such devices. But their application requires general stability of situations while change invalidates them. In short, as soon as the rationality of actors is bounded the demand for stability increases.

21 Keohane, *After Hegemony*, pp. 115-116, suggests that the second alternative provides actors with mutually accepted and applied rules of thumb and reinforces the cooperation underlying an international regime which is almost by definition in the interest of the participating actors.

22 Nevertheless, at times actors may attempt to stabilize them counterfactually; see Luhmann, *Rechtssoziologie*, p. 50.

23 On the distinction between 'cognitive' and 'normative' expectations, see Luhmann, *Rechtssoziologie*, pp. 42-43, and *Galtung*, *Expectations and Interaction Processes*.

1.3. *Structural Indetermination and Normative Expectations*

Both game and group theory indicate areas of structural indetermination. In a Stag Hunt game rational actors may choose between a prudent strategy that minimizes their risk and a more ambitious strategy that promises the best possible outcome but includes a certain danger of complete failure. Actors in medium size groups and iterated Prisoners' Dilemma situations face a similar choice²⁴: the strategy that minimizes their risk precludes the optimum outcome and the strategy that promises the optimum outcome involves an increased risk of failure.

Although these model situations are grossly under-complex and comparatively clear-cut, their structure does not clearly recommend a single option. The prudent and the risky strategy are equally 'rational'. Rational actors trapped in these situations acquire a margin of discrete choice. Within the limits of structural constraints they may decide entirely according to their own preferences and may change these decisions freely. Within these limits they may 'do as they like'. If actors act under conditions of bounded rationality, they will have an even wider margin of free choice because they cannot always be clearly aware of all options for action and their implications. Uncertainty may cause unawareness of structural constraints. And constraints that are not known do not affect decisions (although they might exist 'objectively').

However advantageous increased margins of discrete choice may be for a decision-maker, they have some unfortunate consequences. A decision made by one actor forms a constraint for simultaneous or subsequent decisions by his co-actors. Deliberate choice on the part of one actor constitutes a source of increased uncertainty elsewhere. And this uncertainty caused by the initial actor has repercussions on his own decision-making. It renders the calculation of possible effects of and reactions to his own decision highly problematic because his co-actors also have a wide margin of free choice. The complexity of the decision situation grows, uncertainty increases and so does the risk involved in decision-making.

In structurally indeterminate situations outcomes depend partially on the mutual attitudes of actors toward each other²⁵. Consider an actor involved in a Stag Hunt situation. If he expects his co-actor to defect or if he is uncertain about his reaction, this actor will choose defection. But if he expects him to cooperate, he will also choose cooperation. Actors faced with this type of situation must cope with the problem of contingency and free choice. Unlike the information processing dilemma, this problem is not immediately related to individual actors. And unlike the evaluation of a constellation of interests, it is not concerned with identifying 'objectively' given constraints. Rather, it is based on the absence of such

24 In the long run iterated Prisoners' Dilemmas come close to assurance games; see *Sen, Choice, Orderings and Morality*.

25 On the relevance of past experience and of the general attitude of actors towards each other see *Kratochwil, Rules, Norms, Values*, pp. 317-318.

constraints and arises from interaction between a number of co-actors involved in a situation.

If these actors were aware of the attitude of their counterparts toward appropriate behaviour in the given situation, they could base their own decision on this information²⁶. They will have to assess unilaterally what their counterparts expect from them. They must 'expect expectations' and this task is risk-prone²⁷. Hence, it is useful for these actors to have devices that guide their decisions in these areas of contingency and choice. Unilaterally generated rules of thumb do not fully discharge this task. They reflect cognitive expectations and indicate how the decision-maker anticipates the behaviour of others, but their usefulness relies on regular behaviour and stable situations.

The actors may also unilaterally develop normative demands that indicate how co-actors ought to behave in the opinion of a decision-maker. Yet, the unilaterally generated normative expectations of different actors may be mutually contradictory. In a structurally indeterminate Stag Hunt situation, for example, one actor might demand that his co-actor cooperates, while the other believes that both of them should have the freedom to pursue the minimum-risk strategy. Even more devastating, actors may disagree as to the meaning of 'cooperative' and 'defective' behaviour. Hence, the straightforward dissemination of unilateral normative demands does not facilitate decision-making either.

However, unilateral normative demands may gradually converge and develop toward common normative expectations. This process does not necessarily involve verbalized communication and collective decision-making. It may take place tacitly without any verbalized communication. The task for the decision-maker is the assessment of the behaviour that his co-actors expect from him in a given situation. He determines unilaterally what he believes their expectations to be. These beliefs must be as realistic as possible. If they prove to be wrong, they must be adapted unilaterally. Over time, these unilateral beliefs may converge on the basis of regular interaction. As soon as almost all actors expect (unilaterally) that almost all of their co-actors expect from them a particular behaviour in a given situation, a commonly accepted norm has developed and is tacitly institutionalized²⁸. This norm reflects coinciding normative expectations of a number of actors. It indicates appropriate behaviour and informs them how 'one' behaves, and that is, how one 'ought' to behave in a given situation.

As soon as the normative expectations of a number of regularly interacting actors converge and these actors develop common norms, they have at their disposal mutually acceptable standards for the appraisal of behaviour. These standards provide a more clear-cut picture of 'defective', 'cooperative' and 'indifferent'

26 However, if the actors behaved as perfectly rational as *Axelrod*, *Evolution of Cooperation*, pp. 31-33, advises them, they would achieve cooperation almost automatically even in Prisoners' Dilemma situations. These actors would start with cooperation (according to the niceness rule) and continue to cooperate (according to tit for tat).

27 Note that 'expectations of expectations' involve a double contingency and thus a double risk of disappointment; see *Luhmann*, *Rechtssoziologie*, pp. 31-39.

options for action²⁹ and thus facilitate decision-making. Unlike cognitive expectations or rules of thumb, common normative expectations do not provide a realistic picture of 'objective' facts. Like all expectations, they may be disappointed, but unlike their cognitive corollaries they do not rely upon an inherent preparedness to learn from incidents of disappointment. They serve as standards of 'appropriate' behaviour in areas that are not determined structurally and therefore require choice. Norms may discharge their orientation function only if they are stabilized counterfactually, i.e. despite contradictory behaviour³⁰.

The preceding discussion sheds light on the meaning of some notions used in the present study. 'Norms' shall be defined in terms of their function for rational actors. They shall reduce the complexity of decision situations and assist decision-making in structurally indeterminate situations that require choice. They reflect the common normative expectations of the actors involved in a given interaction. This concept of norms emphasizes their function as an institutional device to facilitate interaction. So far, it does *not* address their content, i.e. the policy prescribed by these norms³¹. For that reason, it does *not* assume that norms recommending appropriate, i.e. mutually expected behaviour implicitly or expressly envisage collective optima. In the indeterminate Stag Hunt situation with its two possible strategies for rational action a norm could either recommend the cooperative but risky strategy or the defective minimum-risk strategy. In both cases the uncertainty inherent in decision-making would be reduced. It is also *not* assumed that norms are always complied with. What matters is solely that they are used as standards of behaviour (while action may well deviate from behaviour as prescribed).

Norms in this sense do not exist 'objectively'. They are immediately related to a specific interaction within a specific group of actors. If a group of regularly interacting actors develops common normative expectations (norms), it transforms into a 'community'. In the present study the existence of a 'community' does not imply any kind of solidarity among community members (although there may be some solidarity among them), nor the existence of community-oriented behaviour contradicting parochial interests (although there may be cases in which actors sacrifice parochial interests and pursue community goals). The term 'community' simply refers to the fact that norms have developed among the community members to facilitate their interaction and guide their decisions.

A norm does usually not stand alone. If interaction is norm-governed, it will usually be governed by a set of norms. These norms are closely related to each other *and* to the interaction governed. Other interactions by other groups of actors will be governed by other sets of norms. A set of norms that is comparatively independent

28 On institutionalization, see *Luhmann, Institutionalisation*, p. 28.

29 On the relevance of norms for the provision of clear-cut options for choice, see *Oye, Explaining Cooperation under Anarchy*, pp. 16-17.

30 The general characteristic of counterfactual stability of normative expectations does not preclude their adaptation; see *Luhmann, Rechtssoziologie*, p. 50; and below, Chapter 9, pp. 367-368. But in contrast to cognitive expectations, adaptation is not a precondition for their persistence.

31 The approach is, therefore, fundamentally distinct from that of *Elster, The Cement of Society*, pp. 97-151.

of other sets of norms and governs a particular interaction is conceived of as a 'normative system' (or a 'system of norms'). A normative system constitutes a 'social institution'.

Normative systems (social institutions) and their norms may institutionalize tacitly, that is, they may evolve from interaction within a group of actors without verbalized communication. They may rely entirely on unilateral beliefs generated on the basis of this interaction. In this case they shall be called 'simple normative systems' because they do not involve communication about norms, nor deliberate decisions adopted by the community of actors collectively³².

1.4. *The Nature of Collective Standards of Behaviour*

Norms reflect normative expectations that are common to a number of actors involved in regular interaction. They do not exist only for a single actor. A prerequisite for their emergence is the existence of a group comprising at least two actors. Another precondition is the existence of a margin of choice for these actors stemming from the partial indetermination of the situation in which they are involved. Stag Hunt situations involving two parties reflect the marginal case of the smallest possible group of actors faced with only two options to choose between. It shall serve as the point of reference for the development of the nature of norms.

As long as two actors involved in a Stag Hunt situation resort to unilateral decision-making, they cannot avoid the risk inherent in decisions in indeterminate situations. Being prudent they will never reach the optimum outcome, being ambitious they risk failing. Only incidentally may they achieve the optimum outcome³³. However, as soon as they develop a common expectation as to the 'appropriate' behaviour in the given situation, they become aware how they 'ought' to behave. In this way they reduce the risk of misperception and acquire a certain ability to anticipate the prospects for cooperation. If they commonly expect that one 'ought' to cooperate, there will be no reason to defect. If they commonly expect that minimizing risk is the appropriate behaviour, they will not adopt the ambitious strategy and may avoid the danger of complete failure. The emergence of a common norm informing about appropriate behaviour matters. It changes the situation and has an impact on the decisions of rational actors.

This norm is closely related to the structure of the decision situation in which the actors are involved. Structure *excludes* options and determines the margin of structural indetermination to be filled by the norm. But the recommendation of appropriate behaviour is not determined by this structure. After all, the function of the norm is to provide an additional selection criterion in the area of structural contingency.

32 In Chapter 10 it will be argued that international regimes, unlike basic normative systems, must emerge from communication and involve collective decision-making.

33 See the remarks by Kratochwil, *Rules, Norms, Values*, pp. 314-316, on the relative improbability of a cooperative outcome in a Stag Hunt situation with three actors, even though cooperation is their mutually preferred outcome.

It may be freely chosen by the actors concerned. However, it may not be determined by any of them unilaterally. It emerges from their (repeated) interaction. The norm is only indirectly related to the two actors individually, but it is immediately related to them collectively.

If an actor in a Stag Hunt situation accepts a certain risk of failure and his counterpart also prefers the ambitious strategy promising the optimum outcome, a common normative expectation will recommend cooperation. In this interaction cooperation will be the rational strategy. One of these actors may be involved together with a third actor in a similar Stag Hunt situation. If this third actor is significantly more sensitive to risk and prefers the minimum risk strategy, the relevant norm will recommend 'defection' as the appropriate behaviour (i.e. it will inform the actors not to expect cooperative behaviour).

Accordingly, an actor may not only participate in different unconnected decision situations³⁴. He may also participate in numerous distinct communities of commonly expecting actors. Moreover, despite a similar structure of these decision situations, the common normative expectations developed by the related communities may vary, and it will be rational for one and the same actor to decide in different communities in the light of different norms. The norms are meaningless without the actors participating in the decision situations. They address the actors solely as members of the relevant communities. Their influence is limited to the actors participating in the related communities. It would be useless and even involve the risk of serious difficulties if an actor attempted to base his behaviour in a given situation on norms generated and applicable elsewhere.

Unlike the unilaterally generated rules of thumb discussed above, norms are external to the actors concerned. Despite their emergence from interaction among actors, norms are not located at the actor level. They are a collective phenomenon related to a particular process of interaction among specific actors. The emergence of norms and their ability to fulfil their orientation function is a result of two opposite processes oscillating between the actor level and the community level. The actors participating in a situation and interacting at the level of actors will develop common normative expectations as to appropriate behaviour. In an upward process they generate norms and constitute a community of actors with common normative expectations. In the reverse downward process these norms address the actors in their capacity as members of the related community.

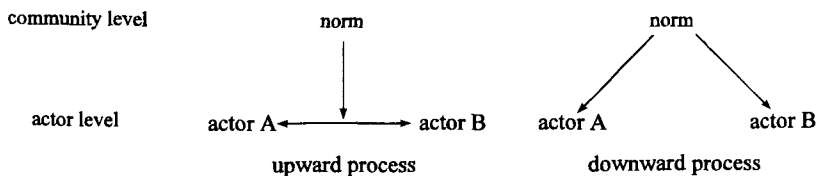
This twin process of transfer from the actor level to the community level and back to the actor level may occur within a minimum interaction group of two actors. Even in this marginal case a common norm addressed at one of the two actors is not identical with the normative demands of his counterpart toward him, nor with his own demands. It is a collective standard that applies to both actors simultaneously. In a situation offering more than two options for choice this collective standard

34 This assumption is inherent in the issue-area approach and is thus at the very root of regime theory; see above, Chapter 1, pp. 26-28.

may, for example, recommend an option that was not the preference of either of the two actors concerned³⁵.

However, norms for communities of two actors are still very close to the rules of thumb discussed above. It is true that rules of thumb comprise implicit *predictions* as to how a counterpart *will* behave and are subject to change upon disappointment if their predictions prove to be false. In contrast, norms are made up of normative expectations informing how one *ought* to behave and are generally upheld upon disappointment. And yet, a common normative expectation based upon interaction within a group of two actors is jeopardized by deviant behaviour of one of them because doubts may appear whether the behaviour indicated by the formally valid norm is still expected. After all, the community is limited to two actors and the behaviour of either one of them is highly important for their common normative expectations. Hence, in a stable situation not only norms may exist but also rules of thumb. And in a situation of instability and conflict both norms and rules of thumb lose their ability to guide actors' decisions.

Figure 9.1: Moulding and Application of Norms in the Minimum Group



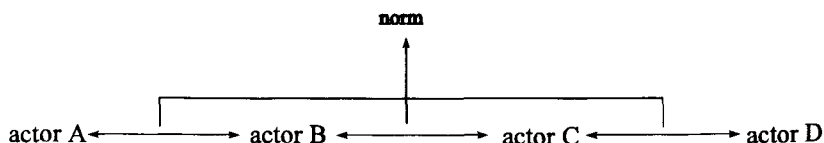
Norms governing an interaction among two actors are a marginal, albeit not unimportant case. It presupposes that the two actors concerned develop their norms specifically for their particular interaction. The validity of their norms does not extend to combinations of other actors engaged in similar interactions. An actor engaged in interactions with different counterparts cannot simply transfer norms from one interaction to another. The necessity to develop new norms for every new area of interaction and for every combination of two actors raises the costs of interaction dramatically. Therefore, norms may develop within larger groups of actors. These norms are not exclusively applicable to one interaction among clearly identified actors, but to any comparable interaction among any combination of actors out of this larger group. Norms of this sort relieve actors immediately involved in an interaction from developing their own norms. They do not only facilitate one limited interaction but a variety of actual and possible future interactions. They are not limited any more to informing how two actors collectively expect each other to behave. They now indicate how 'one' behaves in comparable situations. Hence, the

³⁵ Coleman, *Foundations of Social Theory*, p. 234, defines that «a norm concerning a specific action exists when the socially defined right to control this action is held not by the actor but by others».

relevance of common normative expectations grows with their increased ability to orient decision-makers within an enlarged group.

The emergence of norms common to larger groups of actors changes the picture dramatically in regard to the upward process of norm generation as well as to the downward process of norm application. Still norms are moulded in an upward process on the basis of interaction among the actors concerned. Yet this basis is not any more limited to one specific interaction between two clearly identified actors. It is made up of a number of specific interactions between various combinations of actors. Whereas in the minimum interaction group each participating actor played an overwhelming role and could heavily influence both the interaction and the process of norm moulding, the relevance of particular actors and specific interactions decreases in larger groups (see Figure 9.2.)³⁶.

Figure 9.2: Norm-moulding in the Enlarged Group



Norms do not require the implicit or explicit consent of all participating actors any more. It suffices now that *almost* all actors expect that *almost* all other actors of the relevant community expect a particular behaviour from them in a given situation. The consensus will necessarily be an implicit one because the individual actor is not involved any more in all the relevant interactions of the community. Moreover, the tacit institutionalization of norms constitutes an inherent stabilization mechanism because it is not based on the express agreement of individualized opinions which could be subject to ad hoc changes³⁷.

The distinction between the minimum interaction group and the enlarged group is even more important in respect of the downward process of norm-application. In the minimum interaction group collective norms exclusively address the two actors immediately interacting. In the enlarged group norms address all actors participating in the relevant community. The community members are now divided into two sub-groups. Besides the limited number of immediately interacting members there is a group consisting of the remaining actors. These members are third parties to a specific interaction. They are not interested in the particular situation and its outcome. However, they are also addressed by the norms governing such situations

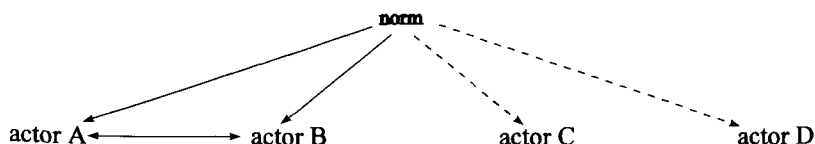
36 For the sake of simplicity, Figure 9.2. does not display all possible relationships of bilateral interaction among the four actors.

37 See Luhmann, *Rechtssoziologie*, pp. 67-69. These norms rely on the successful over-estimation of existing agreement among the community of anonymous, non-identifiable actors.

because these norms also inform them about how 'one' behaves in comparable situations in which they may be involved in the future (see Figure 9.3.).

The appearance of third parties changes the decision situation fundamentally³⁸. Third parties may be interested in preventing action that destabilizes the commonly accepted norms. They may thus intervene in a conflict that would itself not have gained their attention. Accordingly, actors are forced to take into account not only the substantive interests of their immediate counterparts in a specific decision situation but also the interest of third party community members in normative stability.

Figure 9.3: Norm-application in the Enlarged Group



The (tacit) participation of third parties reinforces the prescriptive force of norms. Decisions in conformity with these norms will create comparatively little complication. The implication of non-compliant behaviour is, however, not confined to the reactions of an immediate counterpart any more. Non-compliance is a choice against the expectations of a wider community of actors. Due to the implicit presence of third parties, it will involve higher costs than a parallel action in the absence of clear-cut expectations³⁹.

In short, the power of social institutions (i.e systems of norms governing the interaction within a community of actors) relies on two different factors. On the one hand, norms guide the decisions of actors and facilitate the process of decision-making. Actors will require this orientation function if their rationality is bounded. On the other hand, norms constitute standards for appraisal of the behaviour of community members by observers that are also members of the relevant community of actors but third parties to a specific interaction. While the first factor reduces the risks inherent in decision-making, the second factor affects the constellation of interests that rational actors have to take into account, depending on the willingness of the observing third parties to intervene.

³⁸ See Luhmann, *Rechtssoziologie*, pp. 65-66.

³⁹ See Hardin, *Collective Action*, p. 175: »Conventions are like social institutions that have power over individual decisions because there are expectations built on the institutions, implying costs to those who challenge the institutions.« See also Keohane, *Neoliberal Institutionalism*, p. 4; and Young, *Regime Dynamics*, pp. 278-279.

1.5. *An Integrated Process of Interaction*

The norms of simple normative systems do not rely on verbal communication and collective decision-making. They evolve from regular interaction within a group of actors. For that reason every unilateral action and every limited dispute among community members has a substantive and a normative dimension. On the one hand, the actors involved pursue their own interests. They act according to their own goals or they quarrel over advantages and desire to settle a dispute in their own favour. The substantive dimension addresses the subject disputed in the conflict and the goal pursued by the action. In this dimension a conflict or an action are relevant only for the actors immediately concerned.

However, an action or a conflict may challenge common norms deliberately or unintentionally. They also have a normative dimension. In this dimension the action and the dispute are a matter of concern for all community members even if they are not immediately affected by their substance. In its normative dimension a conflict between two community members or an action of a single member is transformed into a constellation in which an individual actor (or a limited number of individual actors) challenging valid norms faces the community of actors at large. In their substantive dimension a unilateral action or a bilateral conflict relate to the pursuit of interests by individual actors, in their normative dimension they touch on the collective interest of the community members in reliable standards of behaviour.

From the community perspective norms may discharge their orientation function regardless of the policy prescribed. Most members of a community must share most normative expectations at any given time. Otherwise the system would threaten to fall apart⁴⁰. However, norms prescribe policies. They grant rights and impose obligations. They may have an impact on the distribution of goods and opportunities among actors. Inevitably they are more advantageous to some actors than to others. Hence, actors may be discontent with valid norms⁴¹. The generation of common norms and the formation of a community of actors do not automatically ensure that all of these norms are accepted by all community members at any time. Individual actors may be interested in a change of norms rather than in their stabilization.

As long as a norm is not challenged, it discharges its orientation function. Actors desiring to change the policies prescribed must attempt to attract the attention of community members and challenge the existing tacit consent. They may do so by action that violates undesired norms⁴². Incidents of non-compliance may thus comprise implicit claims by actors for normative change. They introduce a dynamic

40 Note the relevance of the famous observation by *Henkin*, *How Nations Behave* p. 47, that «almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time».

41 A purely system-theoretic perspective on normative systems as developed by *Luhmann*, *Rechtssoziologie*, is exclusively concerned with the function of normative systems. It disregards the policy-related questions addressed by *Lasswell*, *Who Gets What, When, How*.

42 Episodic violations of norms may have a testing function for members of the community who wish to terminate it, «pushing to see whether control intention has waned and whether the prescription may henceforth be violated

factor into the so far static concept and constitute the driving force for normative development. For an existing simple normative system, incidents of non-compliance are thus of an ambiguous nature. They challenge existing norms and disturb the operation of normative systems. But they also provide a mechanism for the adaptation of norms to changing circumstances⁴³.

The effect of incidents of non-compliance on a normative system depends entirely on the reactions of the community, in particular of the third parties observing conflicts about norms without being directly involved in them⁴⁴. As long as most actors remain convinced that most of their co-actors continue to expect a certain behaviour in a given situation, norms will remain stable despite non-compliant behaviour. Yet, if they begin to doubt whether existing norms are still appropriate to guide their decisions, common normative expectations are undermined. After all, outdated normative expectations do not indicate any more how one is to behave appropriately at the moment of decision-making⁴⁵.

Unlike cognitive expectations, norms are not 'falsified' or immediately invalidated by incidents of non-compliance. But they must be restabilized counterfactually⁴⁶. For this purpose a community of actors has to respond to incidents of non-compliance. One mechanism for the stabilization of challenged norms is the enforcement of compliance. While this mechanism is highly important in modern domestic legal systems, enforcement in the international legal system is fraught with the well-known difficulties related to the absence of an effective enforcement apparatus. It is important to note, however, that the relevance of norms is not genuinely linked to effective enforcement⁴⁷. Incidents of non-compliance are not necessarily incompatible with the continued relevance of norms⁴⁸. No normative system, however integrated, relies exclusively on this device.

with diminished likelihood of sanctions or with impunity'; *Reisman*, *International Lawmaking: A Process of Communication*, p. 111.

43 See *McDougal/Reisman*: *International Law in Policy-Oriented Perspective*. A dynamic approach to international law has been developed by the Yale Law School ('New Haven approach'). For an introduction, see *Chen*, *Introduction to Contemporary International Law*; for a discussion of its merits, see *Falk*, *The Status of Law*, pp. 642-659. The concept has aroused vehement critical and even hostile comments that are, however, not primarily related to its dynamic and realistic dimension but to its policy-orientation, see *Schlochauer*, *Rezension*; and *Kratochwil*, *Rules, Norms and Decisions*, pp. 195-200. For a well-founded critique of its ideological basis, see *Krakau*, *Missionsbewußtsein und Völkerrechtsdoktrin*, pp. 459-518. Adherents of the New Haven Approach tend to attribute the hostile attitude of critics to their ignorance of the complex concept, see *Schreuer*, *New Haven Approach und Völkerrecht*, p. 79, and *Moore*, *Prolegomenon*, pp. 60-69.

44 For an approach to international law responding to this effect, see *Reisman*, *Incidents*. On the concept, see *Falk*, *The Validity of the Incidents Genre*; and *Bowett*, *International Incidents*.

45 While *Reisman*, *International Lawmaking*, p. 111, relates conflicts about norms to the control component of prescriptions, i.e. the degree to which deviant behaviour is sanctioned, it is here related to the ability of the community to re-stabilize the challenged norm, either by sanctions or otherwise.

46 See *Luhmann*, *Rechtssoziologie*, p. 43; and *Galung*, *Expectations and Interaction Processes*.

47 As traditional legal positivism suggested, see *Kelsen*, *Principles of International Law*, pp. 18-89. Similarly *Weber*, *Wirtschaft und Gesellschaft*, pp. 181-194.

48 *Young*, *International Cooperation*, pp. 71-72, emphasizes that no legal system strives for complete compliance with its norms. Even in highly integrated systems, a degree of 'economization' of control and enforcement occurs.

Non-compliant parties may be sanctioned by a wide variety of encouraging and discouraging measures⁴⁹ which may be taken by members of the community and reduce the benefits of non-compliant behaviour⁵⁰. For example, non-compliant actors may be excluded from the relevant community, depriving them of the benefits of a general application of recognized norms. An incident may also be interpreted as a justified exception - with the consequence that relevant norms are considered not to be applicable *in this specific case*. Or incidents of non-compliance may simply be ignored, thus relieving the community of actors from having to respond to them⁵¹ without undermining the validity of existing norms. All these mechanisms are designed to assure that the members of the community may continue to expect particular expectations of other actors concerning their own behaviour. The endeavour to restabilize norms is thus addressed to all members of the community, while the specific measures *may* be directed at the non-complying party.

The endeavour to stabilize a challenged norm may be successful, but it may also fail. The comprehensive interaction process ensures that norms are either reproduced or modified and adapted to changing circumstances⁵². It is this tension between stability and change, between the collective interest in stable guidelines for decision-making and the individual effort for a better accommodation of parochial interests that makes normative systems, or social institutions, work over time⁵³. Although they serve as (relatively) stable standards of behaviour valid within a community of actors, they rely on permanent interaction, i.e. on a continuous stream of unilateral action and limited disputes with implicit claims for normative change by individual actors pursuing their interests⁵⁴. This stream of implicit claims produces a corollary stream of response action with implicit community reactions. Some claims are transformed into commonly prescribed policies while others are rejected. In this comprehensive interaction process normative expectations of the community members converge into common norms. Normative expectations commonly accepted at a given time are continuously confirmed and renewed, while outdated ones are abolished⁵⁵.

Norms of this type emerge from interaction and require its continued support. They do not exist independently of it and they do not have points of reference external to the interaction on which they are based. In particular, they do not refer to concepts of morality or ethical standards beyond the control of the actors involved in the

49 See Young, Compliance and Public Authority.

50 See Reisman, Sanctions and Enforcement.

51 See Luhmann, Rechtssoziologie, pp. 60-63.

52 See Reisman/Suzuki, Recognition and Social Change, pp. 403-407.

53 The co-existence of the two patterns of stability and change of social institutions is widely recognized, see e.g. Lau, Interaktion und Institution, p. 119.

54 In the terms of the New Haven theory, this process amounts to an all-embracing 'world social process' and a 'world power process', see McDougal, Law and Power, p. 108; McDougal, International Law, Power and Policy, pp. 166-167; or to a 'world community process', see McDougal/Reisman, International Law in Policy-Oriented Perspective, pp. 103-104.

55 From a system-theoretical perspective, the normative system operates through a process of decisions about norms, see Luhmann, The Unity of the Legal System; and Teubner, Recht als autopoietisches System.

relevant interaction. It may therefore be assumed that powerful actors will be able to accommodate their interests and claims better than weaker ones⁵⁶. In fact, actors that have a more significant influence on the process than their co-actors *are* more powerful⁵⁷.

Unlike the 'rules' of rule-oriented (positive) approaches, norms in this understanding have an immediate impact on actors' calculation of preferences in specific situations⁵⁸. While 'rules' may acquire an 'objective' existence divorced from the perception of the relevant community of actors and its members, norms may not be divorced from the supporting community of actors⁵⁹. While rules are general and must therefore be applied to cases⁶⁰, i.e. triggered by 'conditional programmes' and 'if-then' relations⁶¹, norms reflect expectations related to *particular situations* and already incorporate the implications of a specific context in which a decision is made. While in a rule-oriented system, such as positive international law, obligations may be derived logically, norms must be assessed empirically⁶². Unlike rules, norms never fail to reflect normative expectations of a community of actors.

To sum up, in simple normative systems norms are generated, reproduced and eventually replaced within a comprehensive process of interaction within a community of actors. The process integrates the components of norm-moulding and norm-application. It comprises a continuous flow of individual action and community responses that are themselves made up of individual actions of other members of the community. This process produces norms that are by definition meaningful for decision-making because they rely on interaction and immediately reflect the actual normative expectations of the actors concerned.

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- 56 Regime theory attributes this conclusion to 'constraint choice'; see *Keohane*, *The Demand for International Regimes*, p. 330: 'Actors' choices will be constraint in such a way that the preferences of more powerful actors will be accorded greater weight.' It is, however, also accepted by sociologically informed approaches to international law. For the New Haven Approach, see *Reisman*, *Law from the Policy Perspective*, p. 7: 'Lawful acts, to be sure, will require a minimum degree of effectiveness and ..., over time, effective acts are likely to be deemed lawful.'
- 57 'Power' refers to influence on a collective decision process; see *McDougal*, *International Law, Power and Policy*, p. 172; and *Rosenau*, *Before Cooperation*, pp. 878-879. It is not immediately related to 'capabilities' in the Waltzian sense, nor to the Weberian ability to impose one's will upon others even against their resistance ('Macht bedeutet jede Chance, innerhalb einer sozialen Beziehung den eigenen Willen auch gegen Widerstand durchzusetzen', *Weber*, *Wirtschaft und Gesellschaft*, p. 28).
- 58 The distinction between interaction-based and rule-oriented concepts of norms turns out to be a major difference between mainstream and 'reflective' approaches to international regimes. While the mainstream adopts an essentially rule-oriented concept, see Chapter 1, pp. 44-49, all reflective approaches discussed above, Chapter 1, pp. 50-56, adopt either implicitly or explicitly an interaction-based concept; see expressly *Kratochwil*, *Contract and Regimes*.
- 59 In contrast to the assumption of *Kimminich*, *Völkerrecht und internationale Beziehungen*, pp. 131-132, the function of norms remains nevertheless to inform how one *ought* to behave.
- 60 In formal judicial decision-making, this stage comprises the selection of applicable rules, see *Schachter*, *Towards a Theory of International Obligation*, pp. 12-15.
- 61 See *Luhmann*, *Ökologische Kommunikation*, pp. 125-130.
- 62 See *McDougal*, *International Law, Power, and Policy*, p. 171, and also *Casper*, *Rechtsrealismus*, pp. 165-168. The evaluation is not always a simple task, see *Young*, *International Law and Social Science*, p. 62.

1.6. *The Influence of Norms*

Whereas norms, or normative expectations common to a community of actors, inform decision-makers about 'appropriate' behaviour in given situations, they do not provide certainty as to actual behaviour and they do not ensure compliance. Actors always retain the final decision about their own behaviour in specific situations. They may choose to behave contrary to valid norms, and this choice may be rational from their point of view. Norms may thus reflect a tension between the common normative expectations developed within a community of actors and the specific interests of an individual member of this community in a given decision situation. Therefore, the criterion of 'effectiveness' of a given norm cannot immediately relate to the degree of compliance with it. Rather it must refer to the influence that norms exert on decisions of actors that determine their behaviour⁶³. This influence is based on two interrelated but distinct mechanisms. Norms have an inherent authority *and* they are supported by a control component.

From a purely utilitarian perspective the influence of norms is negligible. Actors will behave as advised by a given norm if compliance is in their interest, otherwise they will defect. It is not the norm itself, but the pursuit of parochial interests and the prospect of beneficial cooperation that induces compliance. Decisions are entirely based upon consideration of the substantive policy prescribed. Norms do not have any inherent authority⁶⁴ and do not 'intervene' in the internal process of decision-making.

As soon as complex decision situations preclude the clear identification of optimum solutions and actors' rationality is 'bounded', *procedures* supporting the search for acceptable solutions are required⁶⁵. The rationality of actors deciding under these constraining conditions shifts from the instrumental to the procedural type as soon as they lose their ability to calculate their behaviour in a given decision situation. Bounded rationality does not preclude that actors engage in some consideration of their options for action. If they cannot assess all options alike, they may resort to valid norms as a starting point and compare the anticipated outcome of compliant behaviour with their aspiration of what reasonably could be expected. While these actors may intend to refuse compliance if their aspirations are not met and they identify a better strategy, norms enter and affect the process of calculation. Actors use the relevant norms as standards for the appraisal of different options of behaviour, although they refuse to 'internalize' them and do not apply them without further questioning.

Actors may also apply existing and widely accepted norms as devices to avoid the cumbersome and time-consuming assessment of the advantages and disadvan-

63 See Kratochwil, *The Force of Prescriptions*, p. 703.

64 See Eder, *Die Autorität des Rechts*, p. 209.

65 See Simon, *From Substantive to Procedural Rationality*.

tages of different options of behaviour⁶⁶. In this case, they also exploit the function of norms to reduce complexity. They adopt them as internal standards for their decision-making, but they do not question their appropriateness for the time being *even though they could do so at any time*. Challenging the suitability of these norms would diminish their assistance. It would require precisely the kind of activity which their application was to avoid, namely the *separate and detailed* calculation of costs and benefits of different options. Actors desiring to use norms in this way must 'internalize'⁶⁷ them and comply almost automatically⁶⁸. They behave as required by the norm *because* the norm recommends this behaviour.

Hence, norms acquire an inherent authority that is immediately related to the internal process of identification of interests in a given situation⁶⁹. The authority dimension of norms refers to their legitimacy and addresses the degree to which actors are *convinced* that they ought to behave accordingly, i.e. that they ought to choose a particular out of a number of possible options in a given situation. It does not necessarily guarantee voluntary compliance. But it draws attention to certain options recommended by norms and assures that actors take them into account when deciding about their behaviour. In short, actors recognize how they ought to behave, irrespective of whether they eventually decide to behave as they ought to do. This is one aspect of the force of norms⁷⁰.

However, international norms will only rarely be based exclusively on their own authority⁷¹ because the actors retain the ability to behave contrary to valid norms. Incidents of non-compliance challenge and destabilize these norms. As far as other members of the relevant community, i.e. third parties to a specific dispute, are inclined to react to non-compliant behaviour, norms are also supported by a control component. The control component signifies that *and to which extent* the community of actors is prepared to support the common norms by response action⁷².

Control does not exist per se. It relies on the action of the community members and is not limited to military or police-like actions. In a very broad sense, control creates coordinated expectations of indulgences and deprivations, of rewards and

66 Obviously, they may be taken as rules of thumb reflecting cognitive expectations, as suggested by *Keohane*, *After Hegemony*, pp. 115-116. Yet, the relevance of these rules of thumb relies upon the effectiveness of the underlying norms.

67 Defining 'internalization' of norms as basing decisions on them without questioning their appropriateness allows the transfer of this mechanism to corporate actors, e.g. governmental bureaucracies.

68 This source of influence of norms on decisions due to restrictions in the capacity of actors to fully calculate their interests in particular situations is recognized in regime theory; see *Stein*, *Coordination and Collaboration*, pp. 322-323.

69 The frequently deplored inability of international law to govern the international system misses this point, since norm-compliance proceeds to a large degree tacitly; see *Sohn*, *The Effectiveness of International Law*, pp. 58-59. See also the plea for the 'domestication' of international law by *Trimble*, *International Law, World Order and Critical Legal Studies*, pp. 834-845.

70 See *van Dijk*, *Normative Force and Effectiveness of International Norms*, pp. 19-22.

71 See *Reisman*, *International Lawmaking: A Process of Communication*, p. 112.

72 See *Moore*, *Prolegomenon*, p. 51.

punishments that raise the costs of non-compliance⁷³. It is part of the comprehensive interaction process on which simple normative systems rely. However, control produces collective action problems⁷⁴.

Norms contribute to 'organizing' these reactions. They provide generalized, i.e. widely accepted expectations of appropriate behaviour in given situations and serve as standards for the appraisal of behaviour. In this form they enter the decision process of all community members, including third parties observing a specific interaction. They enhance the probability that the appraisal of facts and incidents converges in spite of the fact that this appraisal is necessarily performed separately by the individual actors. Moreover, norms may recommend appropriate behaviour of which most actors expect that it is expected by most of their co-actors in the case of incidents of non-compliance. Norms may thus indicate appropriate reactions and invest them with legitimacy. They transform conflicts from disputes between two (or a limited number of) conflicting parties to disputes between the community of actors with normative expectations on the one side and one or a few non-compliant community members on the other side⁷⁵.

Through their control component norms exert influence at two levels. First of all, they provide community standards for the distinction between appropriate and inappropriate behaviour and implicitly envisage response action to non-compliant behaviour. Admittedly, response action may be costly and community members may refrain from reacting to an incident of non-compliance. However, the decision-maker cannot be sure that this will be the case. The prospect of reactions alone may change the situation. It must be taken into account by the decision-maker. Secondly, norms may recommend reactions to non-compliant behaviour. In this dimension they address the observing third parties directly. It is now up to these observers to decide whether to comply with the relevant norms or not. What has been said about the influence of norms so far now applies to these third parties. Hence, norms exert their influence at both levels on the process of decision-making. Control is, therefore, closely related to the authority of both the norm challenged by an incident of non-compliance *and* the norm guiding community reactions to such incidents. In contrast, the execution of controlling behaviour is already beyond the norm's immediate influence and depends upon existing power resources and other factors.

Hence, norms may exert an immediate influence on the decisions of the actors directly involved in an interaction or indirectly concerned with its outcome as observing third parties. They do not immediately determine action and cause behaviour, rather they 'intervene' in the process of the calculation of interests and behaviour by the actors concerned.

73 See *Reisman*, *Sanctions and Enforcement*, p. 384. On the wide variety of positive and negative sanctions available in the international system, see *Young*, *Compliance and Public Authority*. On negative sanctions, see also *Fukatsu*, *Coercion and the Theory of Sanctions*.

74 *Elster*, *The Cement of Society*, pp. 40-41, draws attention to the fact that responses to non-compliant behaviour constitute a collective good and may lead to 'second order free riding'.

75 See the similarity to *Heilbrunner*, *Sanctions and Third Parties*.

Norms have an inherent authority and they are supported by a control component⁷⁶. Their influence relies on the integration of their authority and control components⁷⁷. A norm exclusively supported by its own authority constitutes a marginal case because compliance becomes a unilateral matter for the deciding actor and third parties are virtually or actually absent. A norm exclusively based on control constitutes the opposite marginal case because compliance rests entirely on third party reactions. However, authority and control will appear in different combinations. The stabilization of a norm with little inherent authority will require a more powerful control component. And vice versa, a highly accepted norm may be a meaningful device for the guidance of actors' decisions despite a weak control component.

Therefore, measures to enhance the authority of a norm may be as suitable to increase its influence as steps to reinforce its control component.

1.7. A Brief Clarification of the Model of 'Actors'

The existence of norms and their use as standards of behaviour is fully compatible with the model of actors conceived of as rational and egoistic utility maximizers. While norms may not have a major impact on the behaviour of omniscient actors, they matter for actors deciding in complex situations and acting under conditions of 'bounded rationality'. Simple normative systems may emerge exclusively on the basis of regular interaction within a group of actors. Their norms do not have to be affected by community-oriented or moral considerations whatsoever. They simply fulfil an orientation function for the decision-making actors and in this way facilitate interaction. It may be rational for an actor to comply with commonly accepted norms, but he always retains the opportunity to realize advantages by non-compliant behaviour. Despite the existence of norms, actors do not lose their ability to pursue their own interests whether in conformity or in contradiction with common norms.

However, norms are a collective phenomenon based on interaction within a community of actors. They are removed from the control by the members of this community unilaterally. An actor may determine his own action, but he cannot unilaterally choose the norms that govern a given interaction. Norms favour certain policy options and deligitimatize other ones. Moreover, they regroup the community members in respect of a given interaction and may motivate intervention even by third parties that are not immediately interested in a specific dispute. Norms may therefore indirectly affect the constellation of interests of a decision situation. In short, the decision-maker is bound into a web of social norms⁷⁸ that constitute constraints on his decisions⁷⁹.

⁷⁶ McDougal/Reisman, *The Prescribing Function*, pp. 355-356.

⁷⁷ See Higgins, *Integration of Authority and Control*.

⁷⁸ For a particularly lucid outline of this approach, see Parsons, *The Social System*.

⁷⁹ See Habermas, *Theorie des kommunikativen Handelns*, Vol. I, p. 132.

Accordingly, the model of rationally behaving and egoistic utility maximizers requires clarification. As soon as his rationality is bounded, the actor is not a clear-cut 'homo oeconomicus' any more, who exclusively pursues his parochial interests. Rather, the pursuit of his interests relies on the existence of norms, and is influenced by these norms. However, he is also not a full-fledged 'homo sociologicus', whose action is entirely determined by existing norms⁸⁰. He retains the ability to choose action that contradicts common norms. This ability may be narrowly limited for small actors in large communities. It will be particularly important for comparatively large actors in relatively small communities, such as states in the international system. Hence, an actor with bounded rationality deciding in complex situations will act goal oriented, but he will do so in the light of valid norms⁸¹. He will combine properties of the 'homo oeconomicus' and the 'homo sociologicus'.

2. Simple Normative Systems and International Regimes

Simple normative systems as outlined in the preceding section are rather widespread in the international system. The operation of this type of normative system does not depend on the existence of a sophisticated apparatus for the moulding, reproduction and eventual replacement of norms. Groups of actors may develop common normative expectations although they do not acquire the ability to take decisions collectively. Norms may be generated, applied and enforced on the basis of decisions made exclusively by the actors concerned. Decision-making remains decentralized. The sole condition for the emergence of simple normative systems is regular interaction within a group of actors.

The existence of simple normative systems in international relations is widely recognized⁸². Only in exceptional cases and for intermediate periods of time may interaction be assumed to proceed completely without normative guidance⁸³. Customary international law constitutes an almost perfect system of norms of the type outlined above. Simple normative systems are also recognized phenomena within the debate about international regimes. Young introduces them in the form of 'spontaneous regimes'⁸⁴. Likewise, Keohane accounts for tacitly institutionalized norms in the form of 'conventions', defined as »informal institutions, with implicit rules and understandings, that shape the expectations of actors«⁸⁵. Zürn introduces

80 On the theoretical difference between goal-oriented and norm-rational approaches, see Barry, *Economists, Sociologists, and Democracy*.

81 See the lucid discussion by Schimank, *Erwartungssicherheit und Zielverfolgung*.

82 See the observation by Ruggie, *International Responses to Technology*, p. 559, that »international behaviour is institutionalized«.

83 Examples may be entirely new areas of interaction or issue-areas in which guiding norms have broken down and are not immediately replaced; see Young, *Problems of Concept Formation*, p. 340.

84 See Young, *Regime Dynamics*, pp. 282-289.

85 See Keohane, *Neoliberal Institutionalism*, p. 4; and Keohane, *The Analysis of International Regimes*, pp. 28-29.

'constitutive norms' that are not issue-area specific and form a sort of ground layer of international norms⁸⁶.

While the existence (and relevance) of simple normative systems is widely recognized, the regime quality of these systems is hotly disputed. According to the widely agreed 'consensus definition'⁸⁷, the notion of 'international regimes' comprises simple normative systems of the type developed in the present chapter. Some authors of the 'reflective' approach therefore adopt a wider notion of international regimes that includes almost all social institutions in the international system⁸⁸. This broad notion leads almost inevitably to the conclusion that close to all areas of international relations are governed by international regimes⁸⁹. However, too broad a definition does not provide a clear and manageable analytical concept⁹⁰. The nature of norm-guided behaviour in the two issue-areas of long-range transboundary air pollution and the protection of the ozone layer illustrates this problem.

The adverse effects of air pollution by sulphur dioxide, although known for a long time, were originally addressed almost exclusively at the domestic level. International complications were limited to rare cases of heavy pollution close to international boundaries. On the basis of clear evidence of the causal relationship between source and damage, some of these incidents became political issues and even led to third party adjudication⁹¹. Apart from these frontier-area issues, decision-makers could assume that air pollution was a purely domestic problem. They did not have to expect the submission of international claims related to domestically produced air pollution. The case was even clearer concerning Chlorofluorocarbons (CFCs). Unlike SO₂, these substances were not undesirable by-products of economically benign production processes but themselves trading goods. The adverse effects of their use were not known. Hence, both decision situations were widely non-contentious. Actors pursued their own interests without constraining the choice of their co-actors and their own behaviour was not constrained by the normative expectations valid within a community of actors. In short, 'harmony' prevailed.

Nevertheless, these situations free of international conflict facilitated the emergence of a consensus of actors about appropriate (and inappropriate) behaviour in these situations. Normative expectations institutionalized tacitly. According to these expectations economically beneficial activities could take place *without interference*

86 See Zürn, *Interessen und Institutionen*, pp. 149-150. He cites the principle of 'pacta sunt servanda' as an example.

87 See above, Chapter 1, p. 44.

88 See Young, *Regime Dynamics*; Young, *Toward a New Theory of Institutions*.

89 This is precisely the conclusion reached by Young, *Problems of Concept Formation*, p. 340; see also Puchala/Hopkins, *Lessons from Inductive Analysis*, p. 247.

90 Similarly Efinger/Rittberger/Zürn, *Internationale Regime in den Ost-West-Beziehungen*, p. 67.

91 Particularly famous is the Trail Smelter Case, a dispute between the United States and Canada on air pollution originating from a smelting plant, that was settled by an arbitration court in the 1930s; see Reports of International Arbitral Awards, Vol. III, pp. 1905-1982. On the case, see Read, *The Trail Smelter Dispute*.

by other actors, although they caused emissions of the substances in question⁹². Interference in these activities 'ought' to be avoided. As long as the harmony of interests prevailed, these widely shared normative expectations were of little immediate impact. However, upon challenges of the existing situation, institutionalized normative expectations tended to corroborate established policies.

The existing pattern of behaviour was challenged by some actors on the basis of new scientific knowledge (related to the beliefs that long-range transboundary air pollution caused damage to the environment and that CFC emissions depleted the ozone layer). Initially, a clear causal relationship could not be established between particular sources of SO₂ emissions and certain environmental damage; and the assumed depletion of the ozone layer was not empirically verified. Nevertheless, some actors advanced the substantive demand that emissions of SO₂ and CFCs be reduced. Implicitly they did even more: on the basis of still vague evidence they claimed a considerably expanded right of other countries to interfere in what had so far been domestic affairs of countries emitting the incriminated substances. The claims were thus not only directed at substantive issues. Simultaneously they jeopardized *established normative expectations* as to the separation of domestic and international affairs. Other countries rejected these claims and insisted on upholding the established norms without major modifications. Originally accepted norms became a matter of conflict.

The twin nature of conflicts in normative systems appears. A number of actors quarrelled about substantive advantages and policies. But these substantive disputes were embedded in a wider interaction process. They had an impact on existing norms and indirectly affected other actors and other matters of substance. These disputes constituted conflicts of interests of the actors involved but they also formed the driving force for processes of normative change that eventually led to the establishment of international regimes in the two issue-areas concerned.

Hence, without overstressing the notion of 'international regime', the two international regimes explored in the present study did not have specific predecessors. After all, they are concerned with newly discovered problems and govern newly established issue-areas. And yet, these international regimes did not emerge 'ex nihilo', i.e. out of a state of anarchy⁹³. The absence of clearly identified issue-areas and related international regimes does not imply that expectations of expectations had to be calculated and re-calculated for every single decision. Social institutions according to the broad concept developed above existed even in these areas of international relations, but they were not international regimes in the more specific sense.

92 The two components of this expectation, the *obligation* to avoid environmental damage beyond national jurisdiction, and the *right* to an unhampered exploitation within these constraints, are reflected in the famous Principle 21 of the 1972 Stockholm Conference on the Human Environment quoted above, Chapter 3, p. 107.

93 On this idea, see *Keohane*, *After Hegemony*, p. 79. It has been presented without any further elaboration, but is apparently derived from the example of successive international economic orders, from British domination (prior to 1914) through an intermediate period lacking leadership, to United States domination after 1945 institutionalized in GATT.

Accordingly, the delimitation of international regimes from social institutions at large requires additional distinguishing criteria.

3. Conclusion

International regimes were not discussed in the present chapter. Starting from the premises of rational choice approaches to international relations and avoiding resort to moral or value explanations and altruistic motives of behaviour, norms were introduced as the principal components of international regimes and their function and their modes of influence on the making of decisions of behaviour by actors were addressed. The operation of simple normative systems that rely exclusively on interaction was examined. This exploration of norms and simple normative systems in the broader perspective of social institutions provides a basis for the analysis of international regimes as a distinct form of social institution.

Before rational actors can decide about their behaviour in given situations, they must generate 'expectations' about these situations. The success of rational choice approaches is closely related to their facilitation of such expectations. However, frequently the complexity of situations is overwhelming compared to the capacity of actors to process information. Actors do not know all particularities of a given situation any more. In particular, they cannot always be sure how the consequences of their own action might affect their interests. They are not automatically aware of their optimum strategy and require procedures to identify acceptable strategies. In short, their rationality is 'bounded'. For these actors it becomes rational to draw upon experience in similar preceding situations and to establish 'rules of thumb' for routine decision-making. These rules are unilaterally generated and may be changed at any time. They must be revised when their recommendations no longer lead to the expected results.

Unilaterally generated decision routines require stable patterns of interaction. They are sensitive to change and not applicable to 'new' situations. In these cases other institutional devices may facilitate decision-making. Actors must become aware how their co-actors expect them to behave in a given situation. They must know how 'one' behaves. For this purpose they need commonly accepted standards of behaviour, or norms. Against the backdrop of guiding norms actors may decide whether to behave accordingly or not. Hence, the primary function of norms is to assist actors' decision-making in the light of complex decision situations. Norms do not necessarily constrain their choice by precluding preferred options.

Regular interaction among a group of actors constitutes the only necessary condition for the emergence of norms. Even if these actors exclusively interact directly without communication, they will over time develop uniform standards, or common normative expectations, as to how 'one' behaves within this group. These standards may recommend a collective optimum, but they do not necessarily do so. At any rate, they are solely based upon the interaction between the members of the

relevant group. Consequently, the behaviour of actors and the conflicts among them acquire a dual nature. While actors pursue their goals and struggle over substantive advantages, their action contributes to the moulding of common norms. The substantive dimension of a conflict may be limited to two (or a small number of) actors, but its normative dimension affects the entire community. It may destabilize common norms and jeopardize established standards of behaviour. Accordingly, the conflict is observed by third parties not immediately involved in the conflict. If common standards are threatened, these third parties may be inclined to intervene in one way or another in the initially limited conflict.

Although norms may evolve from interaction entirely without verbal communication among the actors involved, they constitute a collective phenomenon. Therefore, a group of actors having developed common norms forms a community within which these norms are valid. And the emergence of this community may affect (to a smaller or larger extent) constellations of interests and decision situations. This effect has been developed for simple normative systems. It does not disappear in more elaborate institutions that comprise sophisticated devices for the making of collective decisions.

Hence, while not having addressed international regimes as a specific type of international institution, the present chapter drew attention to some important characteristics of social institutions at large. If social institutions are closely related to interaction among a group of actors, interaction leading to the establishment of international regimes may constitute a promising field of inquiry. If social institutions are not necessarily stable over time, the analysis of the development of international regimes over time promises fruitful results. And if destabilization of norms by actors' behaviour may be counteracted by community action, it will be important to investigate how this is done within international regimes.

Chapter 10

International Regimes: A Specific Type of International Institution

The preceding chapter argued that norms are inseparably linked to the interaction process from which they evolve. Norms may emerge from regular interaction among actors alone; they are not necessarily based upon verbal communication and collective decision-making. Simple normative systems are widespread and not particularly demanding. They lack any institutional apparatus whatsoever. Their norms are not at all negligible because they affect the behaviour of actors. However, simple normative systems do not constitute suitable instruments for the purposeful modification of behaviour. For this reason, they shall not be considered as international regimes.

While this observation identifies classes of institutions that may be *excluded* from the notion of international regimes, the positive distinguishing marks of this particular type of international institution are not entirely clear. A new and clearer notion of international regimes is required. The present chapter is devoted to an exploration of the criteria by which international regimes may be distinguished from other types of institutions in the international system.

The chapter begins with a brief recollection of the argument developed in the previous chapters. It recalls the direction of the research programme of mainstream regime analysis as well as the lack of a reliable concept of norms and institutions and concludes that international regimes constitute devices for the improvement of sub-optimal outcomes in socially problematic situations. Subsequently, it juxtaposes simple norms evolving from direct interaction and norms emerging from a sphere of communication that allows a community of actors to adopt decisions collectively. It is argued that, despite their inherent risk of failure, only norms of this latter type may serve as devices for 'social engineering'. Finally a modified and theoretically founded concept of international regimes is developed that integrates cooperative arrangements and an institutional framework for the moulding and application of their norms.

1. International Regimes: The Question Reformulated

Regime theory is closely related to the search for international institutions that 'matter'. A broad agreement exists that international regimes *are* institutions in the international system¹. Yet, it is not so clear what international regimes really are. It is true that a widely recognized and applied 'consensus definition' of these institu-

¹ See Keohane, *International Institutions: Two Approaches*; see also Rittberger/Zürn, *Transformation der Konflikte in den Ost-West Beziehungen*, p. 400; and Young, *Toward a New Theory of Institutions*.

tions exists that encompasses four regime components (principles, norms, rules and decision-making procedures) and relates them to some conditions². Although the conditions are subject to some criticism, the core of the definition remains undisputed. Virtually all approaches to international regimes assume that international institutions of this type are, in essence, systems of norms of different quality. And yet, the 'consensus definition'³ did not fulfil the minimum condition of a *definition*, namely providing criteria for the recognition of international regimes and for their distinction from other phenomena. The research programme of the dominant mainstream did not operate with this definition because it is not epistemologically compatible with its structural approach⁴. Other branches of regime theory did not do so either⁵. Consequently, a concept of international regimes is required that corresponds with the general approach toward international regimes adopted so far and that is at the same time theoretically founded.

The mainstream of regime theory must constitute a cornerstone of this concept. This approach focuses primarily on the opportunities for cooperation among the actors involved in a given decision situation⁶. Opportunities depend on the structure of this situation that is made up of the constellation of interests of the participating actors. The starting point is the insight that unilaterally determined behaviour may produce collectively *and individually* sub-optimal outcomes. Actors may be locked in a dilemma arising from the contradiction between individually and collectively rational behaviour. Models reflecting this dilemma most lucidly are the Prisoners' Dilemma and the large group⁷. Constellations of interests not leading to dilemmas and sub-optimal outcomes are of less interest precisely because they do comprise opportunities for cooperation⁸.

This research design leads immediately to the conclusion that interesting situations comprise (at least) two possible outcomes, namely a sub-optimal and an optimal one. Actors faced with the former will have to adjust their behaviour to achieve the latter⁹. They must do so collectively, and the 'adjustment' of their behaviour will indicate an identifiable turnover. If rational and egoistic utility maximizers engage in cooperation, they will do so voluntarily because cooperation promises to further their interests. This assumption renders mainstream regime theory suitable for the analysis of international cooperation because the international system lacks powerful enforcement agencies. However, there is another implication in the concept of cooperation of mainstream regime theory. If actors engage in

2 See Krasner, *Structural Causes and Regime Consequences*, p. 186.

3 See Chapter 1, p. 44.

4 For a discussion, see above, Chapter 1, pp. 44-49.

5 For a theoretically less convincing attempt to address the issue, see Young, *The Politics of International Regime Formation*.

6 This fact is due to the 'economic' perspective towards institutions, see generally Schotter, *The Economic Theory of Social Institutions*.

7 On the implications of these models and their relevance for mainstream regime theory, see above, Chapter 1, pp. 33-40.

8 Unless they are combined in packages with an overall 'mixed motive' constellation of interests; see Zürn, *Interessen und Institutionen*, p. 216.

9 See Keohane, *After Hegemony*, pp. 51-52.

cooperation, they will do so deliberately and purposefully. Actors changing from the pursuit of their parochial interests (leading to sub-optimal outcomes) to the realization of mutually beneficial cooperation will be aware of their adjustment of behaviour.

These considerations provide important hints for the type of institutions sought. The research design of mainstream regime theory suggests that a point may be identified at which the improvement of outcomes begins due to the adjustment of behaviour deliberately chosen by the actors concerned. It is therefore not surprising that the thrust of attention of regime analysis has been focused on international institutions related to contracts, conventions and other forms of negotiated agreements. While the very fact of formalization is not of interest, these institutions comprise a precise point at which cooperation becomes effective. They also reflect voluntary and purposeful cooperation among actors (as opposed to tacitly institutionalized practice).

Although this contraction of the research perspective has been justified mainly with practical reasons¹⁰ it is thus not purely incidental. It may be founded on implicit theoretical reasons. After all, the research programme of regime theory is not concerned with institutions in international relations at large¹¹. It is precisely directed at institutions that are apt to *improve* sub-optimal outcomes. It inquires into institutions for the intentional and purposeful governance of issue-areas in the international system¹². International regimes are the institutional instruments for international governance that is directed at improving outcomes¹³. A type of institution has to be identified that fulfils this function.

The theoretical inconsistencies of the dominant approach to international regimes brought to light by the empirical exploration of the international regimes on long-range transboundary air pollution and protection of the ozone layer and the structural analysis of the related issue-areas¹⁴ constitute another starting point for a theoretically founded regime concept. While some parts of these institutions, namely their specific cooperative arrangements could easily be accommodated within mainstream regime theory, other parts, namely their institutional frameworks, could not. Despite these observations there seems to be no doubt *that* the examined institutions must be considered as comprehensive international regimes. The regime concept must therefore take account of the ambiguous appearance of the two international regimes in question.

10 Keohane/Nye, *Power and Interdependence Revisited*, p. 741, note that an inquiry into the effectiveness and operation of tacitly institutionalized regimes would be difficult to conduct. Even Young with his broad concept of international regimes hardly explores any tacitly established or otherwise informal international institution, see e.g. Young/Osherenko, *Testing Theories of Regime Formation*.

11 See Rittberger/Efinger/Mendler, *Toward an East-West Security Regime*, p. 57.

12 'Governance' is always intentional, see Rosenau, *Governance, Order and Change*, p. 217: 'governance is order plus intentionality'.

13 On 'governance by international regimes', see Kohler-Koch, *Die Welt regieren*, pp. 123-128.

14 See above, Chapter 8, pp. 343-348.

Finally, a concept of international regimes as a particular type of institution made up of norms has to be theoretically related to norms and social institutions. The considerations of the preceding chapter constitute therefore a third cornerstone for the present inquiry. The emergence of norms was attributed to the existence of regular interaction among a group of actors and their demand for devices to assist decision-making. The power of norms to affect outcomes was, however, not only explained by their facilitation of routine decision-making. It was related to the emergence of communities of actors and to the possibility of reactions of community members to non-compliant behaviour of their co-members. The norms of these communities and interaction among their members were inseparably linked. They were just two sides of the same coin. If the interaction process ceased, the related norms would disappear; and if the common norms disappeared, the related communities would dissolve. If international regimes are systems of norms, they will not in this respect differ profoundly from simple normative systems. Any distinguishing mark must be related to the process of interaction from which norms emerge.

Hence, the following discussion of the particularities of international regimes is based on three distinct foundations. It relies on a deficit analysis of mainstream regime theory as to a reliable concept of norms and institutions. It refers to empirical observations of the institutional structure of the two regimes explored in the present study that are partially incompatible with current regime theory. And it is rooted in a theoretical conception of norms and normative systems.

2. Communication and Collective Decisions

Frequently, the desire of an actor to change a given situation will require only modification of his own action. Occasionally, however, it will depend on the adaptation of behaviour of one or more of his co-actors. In these cases change does not emerge automatically. A precondition is the creation of an international conflict. Previously non-contentious situations must be transferred into contentious ones. Actors desiring to change existing situations must demand changes in the behaviour of their co-actors. They must attract the attention of their addressees and establish new issues on the international agenda¹⁵.

The existence of problems alone does not launch this process¹⁶. The placing of the issue of long-range transboundary air pollution on the international agenda was not immediately caused by the acidification of Scandinavian lakes and the deterioration of Central European forests. It was triggered by the successful translation of these environmental problems into social problems by a number of claimant countries. Likewise, the scientific discovery of the relationship between the emission of

15 See E. Haas, *Why Collaborate ?*, p. 362: «An international issue arises when the terms of interdependence are questioned by one or more of the parties concerned, provided the weaker party succeeds in persuading the stronger to pay attention.» Thus, attention is scarce and the destabilization of institutionalized expectations requires active promotion by claimants.

16 See Luhmann, *Ökologische Kommunikation*, pp. 62-63.

certain chemicals and ozone depletion did not place the issue of ozone layer protection on the international agenda. It was the demand by some countries addressed at others to adopt protective measures. The (physical) environmental problems at stake could well have existed without translation into international issues. This distinction between an 'objectively' given problem and a social one draws attention to the important role of initiating actors¹⁷ for regime establishment and social change. It also emphasizes the relevance of problem perception for the nature of the ensuing international conflict¹⁸.

Principally, the options for actors desiring to create an issue and induce change may be distinguished according to two dimensions. Actors may direct claims toward one or a limited number of their immediate counterparts (bilateral claims), or they may involve third parties (multilateral claims). And they may focus at the substance of a conflict at stake (substantive claims) or at norms governing the behaviour of actors in the issue-area (normative claims).

2.1. *Substantive Claims and Interaction*

The Nordic countries, concerned about the acidification of their lakes, desired to address the substance of the environmental problem at stake. Initially, they demanded that a limited number of key polluters, say the United Kingdom and West Germany, significantly reduce their emissions. They were less concerned with European cooperation in the area of air pollution at large. Likewise, the United States, having already adopted unilateral measures to protect the ozone layer, demanded that the European Community follow this step¹⁹. It was less concerned with establishing global cooperation to protect the ozone layer. These initial claims were immediately directed at the reduction of specific atmospheric pollution. They clearly addressed matters of substance and founded substantive conflicts.

These claims were also directed at a limited number of identifiable co-actors immediately involved in the situation. They generated two clearly delimited camps of actors, namely the claimants and the addressees of claims. Hence, they were of a bilateral nature. The number of actors involved in bilateral situations is not necessarily limited to two²⁰. The dispute about the acidification of Nordic lakes comprised at least four countries, namely Sweden, Norway, the United Kingdom

17 Referring to 'entrepreneurship', Young, *The Politics of International Regime Formation*, p. 355, has drawn attention to the role of initiating actors. He notes that international organizations may occupy the role of entrepreneurial leaders for regime establishment.

18 See E. Haas, *Is there a Hole in the Whole?*, pp. 834-835. Consider the hypothetical case that the Nordic countries had not claimed a reduction of sulphur dioxide emissions but compensation for the damage suffered. The claim would have been directed at financial flows and not immediately at environmental protection. Over time, it could have resulted in the emergence of tradable pollution rights, addressing not environmental damage as such but its economic implications.

19 On the bilateral conflict predominantly between the United States and the European Community, see *Benedick, Ozone Diplomacy*, pp. 23-39.

20 For a more formal concept referring exclusively to the number of actors involved in a situation, see *Keohane, Multilateralism*, p. 731.

and West Germany. However, analytically this situation may be reduced to a bilateral conflict between the two camps of polluting and polluted states. Accordingly, bilateralism shall be understood as a mode of interaction. Bilateral situations are limited to the actors immediately involved in a conflict. And these actors must be grouped in two clearly identifiable groups that are homogeneous toward the subject of the conflict.

Bilateral situations come close to 2 x 2 game theoretical models. Their complexity is low in respect of the number of actors (or homogeneous groups of actors) involved. Third parties do not play any role and their interests do not have to be taken into consideration. Therefore, bilateral situations allow a clear focus of positive and negative action, e.g. incentives as well as coercion, threats and punishment toward the sole counterpart or opposing group. Reciprocity among actors or groups of actors is direct²¹. Actors may employ the whole range of power resources potentially affecting the relations between the disputing parties²². Their action is not limited to the specific field of conflict. Linkages with other mutually interesting issues are possible²³.

The outcomes of bilateral conflicts will be heavily affected by the constellation of interests among the actors involved in the conflict situation. Concerning the two issue-areas explored in the present study, the constellations of interests were not benign towards the desired change. The Nordic countries demanded the engagement of some source countries in pollution abatement without being able to reciprocate within the issue-area. Likewise, the United States could not offer advantages in exchange for desired European cooperation that the Europeans would not be able to obtain without cooperation. The bilateral conflicts did not constitute positive sum games, they resembled 'Rambo'²⁴ or Deadlock situations. Yet, the linkage of the environmental claims to other pending issues with reverse Rambo constellations could have changed the games. The United States could have imposed serious trade sanctions on the European Community to induce the latter to combat ozone depletion. Hypothetically, the Nordic countries could have done so in regard to the United Kingdom and Germany. Linkages of this type may bear heavy costs. What matters here is that they may be made unilaterally. In their absence, the situations remain unchanged and the related conflicts unsolved.

Claimants are not forced to resort to their own means. They may seek to win the support of third parties that are not immediately interested in the originally disputed substance. They may attempt to transform an initially bilateral situation into a multilateral one. For the creation of a multilateral issue they must attract the attention of third parties. As a member of NATO Norway could have linked Western

21 Keohane, Reciprocity, pp. 16-19, provides a useful distinction between *direct* and *diffuse* reciprocity.

22 During the 1970s, Sweden and Norway attempted to promote their demands in respect of the reduction of sulphur dioxide emissions as a primary goal of their foreign policies; see Lang, *Internationaler Umweltschutz*, pp. 173-174.

23 The concept of foreign environmental policy underscores the relevance and recommends the linkage of environmental problems to issues pending in other fields; see Prittwitz, *Umweltaußenpolitik*, pp. 13-27.

24 On 'Rambo' constellations, see Zürn, *Interessen und Institutionen*, pp. 209-218.

European security cooperation to the environmental problem of the acidification of Scandinavian lakes by emissions from some of its NATO partners. Hypothetically, Norway could have threatened to preclude manoeuvres on its territory, or even to leave the alliance altogether²⁵. Hence, Norwegian action could have jeopardized security cooperation in Western Europe. Norway's NATO partners would have been forced to consider the underlying environmental problem although many of them had no vested interests in it.

While a bilateral situation is limited to two opposing camps of parties directly involved in a conflict, multilateral situations necessarily involve third parties that are not immediately interested in the underlying substantive dispute²⁶. Multilateral situations are therefore more complex than their bilateral corollaries. Analytically, they are composed of a complex web of bilateral relations. In this example Norway, did not only exert pressure on its immediate counterparts causing the acidification of its lakes but also on all other NATO members. It hoped that the third parties to the initial conflict would press the polluters to cooperate in the field of long-range air pollution because they wished to stabilize security cooperation. Hence, cooperation to solve the environmental problem would be made possible by the deliberate expansion of the situation to third parties. (Principally, Norway's NATO partners could also have rejected the Norwegian claim and joined the side of the polluters. It is not a matter of interest here whether the hypothetically assumed Norwegian rationale would have been a sound one).

The composition of different substantive conflicts may facilitate agreement even if some of the component bilateral relations did not directly support the reciprocal exchange of benefits²⁷. The fundamental distinction between bilateralism and multilateralism is best illustrated by the ideal case of trilateral trade. It consists of three actors and three bilateral exchanges. Since all of these exchanges are non-reciprocal, none of them would be made in isolation. Yet, their combination may produce a positive-sum game for all actors involved. The rationale is that all actors invest in the trilateral trade, and that all of them gain (otherwise they would not participate). And yet, none of them gains his benefits from the party toward whom he makes his concession.

Except for very basic 'conventions' such as 'pacta sunt servanda', the three actors participating in a multilateral situation may be committed to very different obligations. Barter trades come close to the ideal situation. A may offer to deliver a textile machine, but B can pay only in manufactured clothes that are not of much benefit to A. To conclude their trade they need a textile broker (C) who takes the

²⁵ In fact, the example is not as hypothetical as it may seem. Environmentalists suggested precisely this kind of linkage.

²⁶ The concept of multilateralism adopted here is thus less formal than the pure reference to the number of actors as put forward by *Keohane*, *Multilateralism*, p. 731. However, it remains a category of interaction to be distinguished from substantive concepts such as the reference to 'multilateral principles' proposed by *Ruggie*, *Multilateralism*, p. 567, and *Martin*, *Interests, Power, and Multilateralism*, pp. 767-768.

²⁷ Generally, reciprocity is assumed to be an important element of international agreements, see *Simma*, *Das Reziprozitätselement im Zustandekommen internationaler Verträge*, and *Blenk-Knocke*, *Zu den soziologischen Bedingungen völkerrechtlicher Normbefolgung*, pp. 68-72.

clothes from B and pays the money to A. Hence, the existence of multilateral principles is not a precondition for multilateralism. Likewise, multilateralism is not limited to the provision of collective goods (although collective goods may be provided by multilateral cooperation).

What matters is that multilateral situations preclude direct reciprocity. Reciprocity in multilateral situations is, therefore, usually diffuse²⁸. Actors may not easily reciprocate directly the non-cooperative behaviour of co-actors. Both incentives and pressure by an actor cannot be focused on specific counterparts any more without incurring undesirable side-effects on third parties. Rather, actors must compare the costs of participation in the situation with their overall returns unrelated to exchanges with individual co-actors. Moreover, the complexity of multilateral situations lowers the probability that mutually beneficial outcomes are achieved solely by interaction²⁹. But the example of the hypothetical Norwegian link of environmental and security issues demonstrates that adverse claims may be accommodated even in multilateral situations exclusively by interaction and unilateral decision-making.

Figure 10.1: Reciprocity in Bilateral and Multilateral Situations



The immediate effects of a substantive conflict settled by interaction and unilateral decision-making are limited to the actors involved in the dispute. Yet, according to the concept of norms and simple normative systems developed above³⁰ conflicts comprise two interrelated dimensions. They address limited substantive disputes but in doing so they contribute to the more comprehensive process of norm-moulding. Substantive disputes and their solutions constitute an input into the unorganized interaction process in which generally applicable normative expectations are moulded, stabilized and replaced. They may therefore have implications for third parties. Although substantive disputes are not immediately directed at changing normative expectations, they may, for example, provide precedents for similar

²⁸ Somewhat more hesitant is *Keohane*, *Reciprocity in International Relations*.

²⁹ On the relevance of direct reciprocity in game-theoretically modelled situations, see *Oye*, *Explaining Cooperation under Anarchy*, pp. 15-16. Likewise, the evolution of cooperation from unorganized situations has been related to a particularly well-suited strategy of direct reciprocity, namely Tit for Tat, see *Axelrod*, *The Evolution of Cooperation*. In multilateral decision situations Tit for Tat does not work, see *Martin*, *Interests, Power, and Multilateralism*, pp. 770-771.

³⁰ See Chapter 9, pp. 366-369.

claims by other actors and thus contribute to the tacit modification of norms. In this sense, almost all decision situations are implicitly norm-moulding.

Figure 10.2: Cause-Effect Relationship for Simple Normative Systems



However, it is important to recall the causal relationship between actors' decisions, interaction and norms (see Figure 10.2.). As long as actors do not communicate they may address the norm-moulding process only by action. And their action remains focused on co-actors that are immediately interested in the substance at stake. In basic normative systems, unilateral decisions and interaction *cause* the moulding, stabilization and replacement of norms. Normative implications are an effect of substantive conflicts. Only then they may affect future decisions of actors in similar situations and stabilize established interaction. Due to this cause-effect relationship, sets of norms of this type form simple normative systems and not international regimes.

2.2. Separation of Interaction and Communication

Actors desiring to change an existing situation do not have to resort to bilateral interaction with immediately interested co-actors or to linkages of their claims to other issues forcing third parties to intervene into the conflict. Rather, they may seek the support of third parties that fight similar disputes and are thus in comparable situations. They may endeavour to combine substantively independent but similar conflicts to a larger issue-area for which a comprehensive solution may be sought.

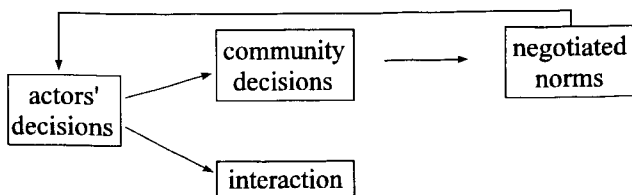
The Nordic countries chose this third strategy when they introduced the issue of long-range transboundary air pollution into the established fora of existing international organizations and negotiation processes. These claims retained their substantive core, but they were not any more limited to the substance of the underlying conflict. Rather, the claims now focused on changes of norms governing the behaviour of actors in a wider issue-area.

The modified focus of these claims changed the situation fundamentally. Their effects were not limited to the initial substantive conflict, but former third parties were immediately addressed by possible modifications of existing normative expectations. Due to its geographical location Italy was, for instance, not addressed by claims regarding the acidification of Scandinavian lakes. But modifications of generally applicable norms concerning transboundary air pollution in Europe were immediately relevant for Italian economic activities. The enlarged claims now

addressed the complex web of partially non-reciprocal deprivations of environmental amenities by the long-range transmission of air pollutants. While many bilateral exchange budgets were not balanced and in isolation these situations had a deadlock structure, combined in a multilateral situation they might become a single comprehensive positive sum game.

In this type of conflict situation norms shall be employed as devices for the deliberate and purposeful change of the behaviour of actors involved in the enlarged situation. They shall serve as instruments for 'social engineering'. These norms cannot simply evolve from interaction as they do in simple normative systems. While tacitly institutionalized standards of behaviour are 'caused' by interaction, norms serving as instruments for 'social engineering' must be purposefully designed. Inevitably, their moulding must take place separately from the interaction that they are intended to govern³¹. Communities of actors must be able to address norms directly and to by-pass tacit institutionalization of simple norms. Therefore, actors attempting to modify established behaviour by normative change must also seek to establish a form of interaction that allows immediate decisions about norms without prior resort to action.

Figure 10.3: Cause-Effect Relationship for Cooperative Arrangements



Negotiations provide this additional form of interaction. They do not preclude action but double the opportunities for interaction. Within a single issue-area actors may now separately act *and* communicate in verbal terms. They continue to act and may thus affect the process of tacit institutionalization of norms, and simultaneously they negotiate to collectively mould norms intended to govern a given issue-area and to replace tacitly institutionalized norms. Negotiations provide opportunities for persuasion and joint problem solving, both directed at changing actors' preferences³². The participating actors decide unilaterally about the appropriate steps to pursue their interests during the negotiations, but the outcome, e.g. an agreed cooperative arrangement, amounts to a collective decision of the relevant community about the norms that shall govern a given issue-area. Hence, the causal relationship

31 Zürn, *Bringing the Second Image (Back) In*, pp. 300-302, observes that less powerful states employ this type of conflict situation more often than those with important power resources.

32 See below, Chapter 11, pp. 406-411, and Caporaso, *International Relations Theory*, pp. 613-615. Zellenthin, *Zur Rolle der Konferenzdiplomatie*, p. 24, emphasizes that the perception of motivations and reasons for action by counterparts may only be evaluated through verbal communication.

has changed. In the sphere of communication actors determine their moves unilaterally, but they do so with a view to influencing the collective process of norm-moulding that culminates in the collective adoption of norms designed to purposefully affect the underlying interaction. (see Figure 10.3.).

While negotiations establish a sphere of communication separate from the sphere of action, they do not precisely reflect the constellation of power and interests of the underlying issue-area³³. Although actors with strong issue-area power resources may be assumed to exert more influence than those without such resources, negotiations exclude the direct reliance on classic sources of influence such as military and economic power. However relevant these sources of power may be in the sphere of action, they have an impact on the structure of the decision situation within the negotiations only to the degree to which they may be effectively transferred into the sphere of communication.

The exit option provides the general mechanism to link the spheres of action and communication. Generally, an actor cannot be forced to negotiate. He may at any time threaten to leave the negotiations or to reject an envisaged agreement. Threats of exit must be credible. Their credibility is based on the availability of better opportunities to protect parochial interests outside the conference room than within. The ability of an actor to use the exit option in combination with his relevance within the issue-area (i.e. the amount of damage for the remainder of the community caused by this step) constitutes his principal power resource during negotiations. In the sphere of communication other resources are not immediately applicable. This reliance on a single power resource facilitates the aggregation of the resources of several actors that may now jointly threaten to choose exit³⁴.

Hence, traditional sources of power indirectly affect the relevance of an actor's (express or implicit) threat to leave negotiations or to refuse their results, but these sources of power are mitigated by intervening factors. Constellations of interests and related power resources may differ significantly between negotiations in the sphere of communication and direct interaction in the sphere of action. In particular, the relative influence of actors that are powerful in unorganized situations may seriously decrease. Actors may therefore be inclined to refuse participation in negotiations. After all, claimants promoted the transfer of the situation not least to reinforce their influence and to realize their claims. While actors in the international system generally retain the option to choose exit and may at any time resort to the sphere of action, non-participation may be costly. Actors refusing to participate sacrifice their ability to influence the organized decision process. If the community of actors decides about norms despite their absence, they risk being confronted with normative expectations coherently accepted as valid by the remainder of the community. They may eventually be forced to accept these norms *ex post* without having pursued their interests within the decision process. Accordingly, actors

33 On issue-area power structure, see *Keohane/Nye, Power and Interdependence*, pp. 49-54.

34 This consequence of organized processes has been repeatedly observed, see *Rohstein, Regime-Creation by a Coalition of the Weak*, and *Keohane/Nye, Power and Interdependence*, pp. 54-58.

faced with a multilateral decision situation *have to choose* whether to participate (cooperation) or not (defection)³⁵.

Countries attempting to initiate changes of behaviour by norms will endeavour to produce a situation that forces the actors concerned to make this choice. They may invite them to specifically organized fora³⁶. However, it is much less burdensome to exploit the regularly meeting fora of existing international organizations³⁷. International regimes are therefore frequently initiated and established within the framework of existing international organizations. For example, the Nordic countries first set their claim for the reduction of transboundary air pollution on the agenda of the OECD and later on those of the CSCE and the ECE. They promoted their initiative for international action to protect the ozone layer within UNEP. These multi-purpose international organizations and negotiation processes temporarily provided a framework for the establishment of a sphere of verbal communication divorced from action within the two issue-areas concerned.

The choice of the institutional framework for an *initiative* to establish an international regime has an immediate impact on the community of actors for which future norms will be valid. Moreover, it has an immediate impact on the constellation of interests that forms the basis for norm-moulding. Apparently, it mattered whether the acid rain problem was discussed within the OECD and addressed a circle of countries from the Western hemisphere or whether it was addressed within the CSCE and the ECE that included Eastern Europe. While the four countries of the initial substantive conflict were parties of both communities, the group of third parties to this underlying conflict differed significantly. The harshness of the intra-Western conflict was mitigated by the intervention of countries from the Eastern hemisphere.

If a group of actors, be it established *ad hoc* or within an existing international organization, recognizes a problem as relevant, preliminary decisions have to be made on the range of issues that are clustered into the emerging issue-area. The original conflict will probably be at the centre of the issue-area. Yet, the community may agree to exclude some questions for the time being and attach priority to others. Actors not involved in the original conflict may launch additional claims³⁸. All these aspects affect the decision about the boundaries of the emerging issue-area³⁹. It must also be determined *how* authoritative decision-making shall take

35 They face the problem of members of an organization disagreeing with decisions; they may choose between 'voice', i.e. protest and pursuit of interests *within* the organization, or 'exit', i.e. leaving the organization; see Hirschman, *Exit, Voice and Loyalty*.

36 This form of regime establishment is particularly relevant in case of a limited number of parties concerned, e.g. in respect of the international regime for the protection of the Baltic Sea, see Boszek, *International Protection of the Baltic Sea Environment*, pp. 798-800.

37 Rochester, *Global Policy and the Future of the United Nations*, p. 152, underscores this function of international organizations.

38 A typical example of additional issues in the field of environmental diplomacy is the claim by participants with inferior technological and economic capacities for transfer of technology and/or financial resources.

39 Accordingly, boundaries of issue-areas are artefacts, albeit issues shall be related to each other to some degree; see Haas, *Is there a Hole in the Whole?*, pp. 833-838.

place. Accordingly, constitutive decisions will be adopted that clarify the conditions for the adoption of norms⁴⁰.

Deliberations about these decisions may be considered as 'pre-negotiations'⁴¹. They determine the institutional framework for the future negotiations and shape the decision situations of the envisaged negotiations⁴². These steps of international governance by international regimes, namely the delimitation of an issue-area and the establishment of a constitutive framework for the negotiation of norms, envisage the general possibility of future revisions of established normative expectations. However, they do not indicate that the actors concerned are largely inclined to accept profound alterations of these expectations.

Up to this point, the process has gone a long way although a decision on the substance of the conflict has not yet been taken. A community of actors has acquired the ability to decide collectively about the norms governing an issue-area. Decisions about the adoption and change of norms may now be made independently of the sphere of action. The mechanism for the establishment of norms is not any more tacit institutionalization based on direct interaction. Negotiations provide a form of managed and controlled settlement of conflicts that avoids recourse to the sphere of action until the disputes are solved⁴³. The norms emerging from this process rely solely upon agreement according to procedural norms valid and applied during the negotiations. They are thus subject to a different form of interaction⁴⁴.

If the negotiations are successful⁴⁵, they will produce cooperative arrangements whose norms constitute collectively determined devices for the purposeful modification of actors' behaviour. These norms are commonly established instruments for the purposeful intervention in an established interaction. However, an important caveat has to be made. The generation of norms in the sphere of communication divorced from the sphere of action and the related reversal of the causal relationship between norms and interaction are fraught with risks of failure. Negotiations do not ensure that actors act and communicate coherently, nor do they guarantee that agreed norms are implemented. While norms evolving tacitly from interaction are inevitably 'realistic' and permanently adapted to changes of interaction, negotiated norms may be too far divorced from the sphere of action to influence decisions of behaviour.

40 For the important distinction between constitutive and substantive ('policy') decisions, see *McDougal/Reisman*, *International Law in Policy-Oriented Perspective*, pp. 119-120; *McDougal/Lasswell/Reisman*, *The World Constitutive Process*, p. 192.

41 See *Zartman*, *Prenegotiation: Phases and Functions*, p. 5.

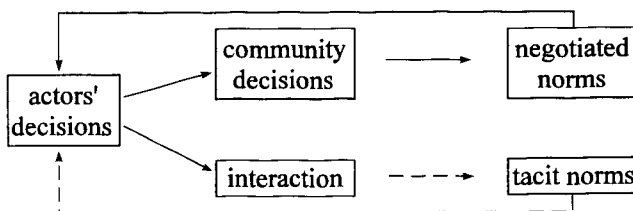
42 Prenegotiations structure both decision situations and negotiations, i.e. decision processes, in various ways, see *Gross Stein*, *Getting to the Table*, pp. 212-217.

43 Since conflicts are the source of change, they cannot be per se undesirable as assumed by *Haggard/Simmons*, *Theories of International Regimes*, pp. 508-509. At stake is not the avoidance of conflicts but their handling.

44 *Czempiel*, *Friedensstrategien*, p. 82, notes that it is difficult to overestimate the impact of organized decision-making on the behaviour of actors. On the relevance of 'cheap talk' for international regimes see also *Kydd/Snidal* *Progress in Game-theoretical Analysis*, pp. 123-127.

45 On the impact of negotiations on outcomes, see below, Chapter 11, pp. 411-426.

Figure 10.4: The Inherent Risk of Failure of Negotiated Norms



The ability of a community of actors to generate devices for the purposeful modification of behaviour is thus limited. Actors may ignore the guidance by negotiated norms and determine their behaviour according to norms that are institutionalized tacitly on the basis of direct interaction. If an issue-area is subject to two different sets of norms, actors will resort to guidance by the realistic simple norms. The more ambitious negotiated norms lose their relevance and become 'dead letter'. Hence, while implementation is comparatively unproblematic in the case of tacitly institutionalized norms, it forms a crucial stage for the effectiveness of negotiated norms.

2.3. *Negotiated Norms and International Regimes*

The process of norm-moulding and its resultant norms are always closely related. The moulding of norms in basic normative systems relies on action and unilateral decision-making by actors in spite of the collective nature of these norms. Communities of actors do not acquire the ability to adopt decisions collectively. A fundamental change occurs as soon as norms are adopted by negotiation. The negotiation forum acquires the function of a collective decision-making body of the community. This body is entirely made up of the actors involved in a given situation. During negotiations actors determine their moves unilaterally but *as a group* they are enabled to decide collectively⁴⁶.

If the norms of international regimes are assumed to emerge from negotiations among actors, regime establishment will comprise two distinct stages. First of all, a process of organized communication about norms designed to govern an issue-area has to be established. Decisions at this stage are of a purely constitutive quality.

⁴⁶ An interesting corollary to these two types of norm-moulding is the distinction between 'negative' and 'positive' coordination among bureaucracies identified by *Scharpf*, *Komplexitätsschranken der politischen Planung*, pp. 173-175; *Scharpf*, *Die Handlungsfähigkeit des Staates*, p. 627; and *Scharpf*, *Positive und negative Koordination*. 'Negative coordination' closely resembles tacit institutionalization of norms, while 'positive coordination' involves the cumbersome process of exchange of express opinions and active search for a (new) consensus.

They are not immediately concerned with substance. Actors decide unilaterally whether to participate in this process. They take part in a game concerning the making of collective decisions. If and when they decide in the affirmative, communication about norms designed to govern the respective issue-area is separated from the sphere of action. This step constitutes itself a form of cooperation. Actors agree to adjust their behaviour concerning the mode of interaction within the issue-area. Unless they choose exit, be it tacitly or openly, permanently or temporarily, actors recognize negotiations as the appropriate arena for the making of decisions about norms governing the issue-area. Accordingly, the focus of an actor's behaviour to pursue his interests will at least partially shift from activities in the sphere of action toward influencing the negotiations.

During the initial stage of the two international regimes on long-range transboundary air pollution and protection of the ozone layer continuous negotiations were established as permanent processes of communication about norms designed to govern the related issue-areas. The substantively meagre results could have been fixed in decisions or resolutions of the parent international organizations. However, in this case the issues at stake were threatened with removal from the international agenda and might have fallen 'dormant'⁴⁷. In the two issue-areas under consideration actors institutionalized communication about norms regardless of the success of specific claims. Moreover, the adoption of framework conventions separated the communication processes of the respective regimes from those of the parent international organizations. The establishment of autonomous regime processes reduced the prospect of linkages of issues across regime boundaries⁴⁸. Regularly, cooperation would have to be achieved within these boundaries⁴⁹. Hence, from the beginning both regimes comprised comprehensive and stable communication processes for the moulding of norms designed to govern the related issue-areas.

Within these institutional frameworks, actors struggle for the accommodation of their parochial interests with the collectively agreed outcome. Substantive cooperation emerges from a deliberately established institutional framework that is separate from the sphere of action. This framework affects the delimitation of the issues put together in a given issue-area and the group of actors concerned with these issues. In the two issue-areas of long-range transboundary air pollution and protection of the ozone layer a number of distinct cooperative arrangements emerged according to the constellation of interests prevailing within specific decision situations. Once constellations of interests and structures of decision situations changed, new arrangements and new sets of norms were adopted. These successive or parallel cooperative arrangements emerged from established processes of communication

47 In the terminology of *Vasquez/Mansbach*, *The Issue-cycle*, p. 261; see also *Mansbach/Vasquez*, *In Search of Theory*, pp. 120-122.

48 Linkages across boundaries of issue-areas require 're-politicisation' of issues, i.e. agenda-setting at higher political levels and in different arenas. On the relationship between higher political and lower transgovernmental levels of decision, see *Keohane/Nye*, *Transgovernmental Relations*, pp. 59-60.

49 *Sebenius*, *Designing Negotiations Toward a New Regime*, pp. 122-126, discusses extensively the appropriate extension of the issue-area of the protection of the global climate, since linkages have to be made *within* the issue-area.

about norms. Hence, over time cooperative norms changed while issue-area specific institutional frameworks remained comparatively stable.

The alleged contradiction of the institutional appearance of the two international regimes⁵⁰ draws attention to an important property of international regimes at large. As soon as their norms are believed to emerge from organized communication and collective decisions among actors, the establishment of an international regime comprises a constitutive and a substantive dimension. The former establishes a process of communication and constitutes an institutional framework while the latter refers to cooperative arrangements emerging from this framework. These two dimensions fulfil different functions within the regime process. They are closely interrelated but they do not co-vary simultaneously.

3. International Regimes: the Concept Reformulated

The preceding discussion provides the basis for a reformulation of the concept of international regimes and for the development of criteria for this particular type of institution in the international system. Two cornerstones delimitate this task. Mainstream regime theory indicates the range of institutions that are of interest for research on international regimes. It focuses on cooperation and institutional arrangements that are apt to change actors' behaviour. Yet, 'reflective' approaches argue that institutions do not affect behaviour in as clear-cut a manner as might be desirable from a theoretical point of view. The present study accommodates an interest-based view of international regimes with an institutional perspective. It argues that international regimes always comprise a constitutive (procedural) dimension *and* a substantive (cooperative, interest-based) dimension.

3.1. *A Revised Regime Definition*

The traditional 'consensus' definition of international regimes and virtually all of its derivatives do not meet the requirements of a theoretically founded *definition* of international regimes, that is, a set of criteria by which international regimes may be identified and distinguished from other types of institutions in the international system. Evidently, a new definition should not dismiss all of the components of current definitions. On the contrary, it should adopt as many of them as compatible with a comprehensive and theoretically founded concept of international regimes. According to these criteria, international regimes are characterized by five distinguishing marks.

1. *Systems of norms.* There is virtually no disagreement among theorists that international regimes are systems of norms of different types. The core of international regimes will be their substantive norms prescribing internationally coordinated

50 See above, Chapter 8, pp. 343-348.

behaviour. Norms of this category are referred to in the consensus definition as 'norms and rules' which may not always be clearly distinguished from each other. Norms of a completely different type are what has been called here 'constitutive norms'. They also prescribe behaviour, but they do so in respect of the process of norm-moulding and collective decision-making. Although they may be identified in the consensus definition as 'decision-making procedures', their relevance has been grossly underestimated because the process of interaction largely escaped regime analysis. International regimes may also comprise a component that indicates the *direction* of the desired modification of behaviour in the issue-area and guides the collective intervention⁵¹. This component comes close to the 'principles' of the consensus definition. Hence, regime analysis relies on the assumption that coordination of behaviour in the international system is achieved by means of norms.

2. *Negotiations and collective decisions.* Norms are inevitably related to some type of interaction among actors. They may emerge either directly from the sphere of action (tacit institutionalization), or from the sphere of communication. Norms of the first type are not suited to purposefully affecting the behaviour of actors. Apparently it is this function of normative systems that attracts the attention of regime analysts. Only norms emerging from the sphere of communication may be established purposefully to *influence* action.

If international regimes constitute devices for the improvement of sub-optimal outcomes, their norms must emerge from negotiations and the relevant communities of actors must acquire the ability to take decisions collectively. This criterion does not imply that *all* norms of a given international regime have to be subject to express deliberations and formal decision-making. On the contrary, the widely applied procedure of consensus decision-making provides a mechanism for the tacit institutionalization of undisputed norms⁵². Rather, the criterion refers to negotiations as a process of verbal communication about norms that leads to general agreement and enables one or more parties involved in this process to demand deliberations and collective decisions about any specific norm.

3. *Multilateralism.* Norms do not guarantee their compliance. They incorporate the inherent risk of destabilization. While their principal function is the orientation of decision-making actors, they also provide a standard for the distinction of actors into those behaving 'appropriately' and those not doing so. Community reactions to non-compliant behaviour determine the future relevance of a given norm. They may re-confirm the continued validity of the norm and stabilize it, or they may reveal its dwindling support, undermine its validity and lead to its eventual replacement. Interaction is thus not limited to the stage of norm-moulding. Community reactions must support the norm throughout its lifetime and may finally lead to its replacement.

⁵¹ This aspect will be addressed in Chapter 12.

⁵² See below, Chapter 11, pp. 417-421.

Norms unfold their real power only in multilateral situations because they may organize reactions of third party community members⁵³. They allow the separation of the community of actors into two groups concerning any given particular action. Some actors are immediately involved in the action while the rest appraises it from an observer's perspective. An actor behaving contrary to common standards may therefore be faced not only with his immediate counterpart but with the remainder of the community. Beyond an actor and his immediate counterpart the ideal situation of norm application therefore comprises third parties that are related to a specific action only through applicable and commonly accepted norms. This source of power is lacking in bilateral situations. A bilateral agreement has usually failed as soon as it is cancelled by one of the two actors concerned. Norms of bilateral normative systems must be entirely voluntarily complied with because third parties do not exist. Nevertheless, bilateral international regimes may exist. But they constitute a marginal case and may not be used as reference cases for the exploration of the nature of international regimes.

4. *Issue-Area Specificity*. There is virtually no disagreement on another constituent factor of international regimes, namely their issue-area specificity. Throughout, regime analysis adopts a sectoral approach to international relations that conceives international regimes as independent institutions or even as 'islands of order in a sea of anarchy'. The sectoral approach to institutions distinguishes the concept of international regimes fundamentally from that of international law (although international regimes are frequently based on international legal treaties and conventions)⁵⁴. An issue-area is not limited to the clustering of related issues in larger issue-areas. It extends to identifiable interaction and communication among a group of actors that are members of a community for which the norms of an international regime are relevant. Hence, issue-areas do not have an objective existence. They are composed of the issues clustered together by a group of actors and refer to interaction among these actors concerning these issues.

5. *Effectiveness*. Unlike basic normative systems incorporating an inherent mechanism of adaptation that makes their norms relevant almost by definition, international regimes will always be accompanied by a certain risk of failure. After all, their distinguishing mark is the emergence of their norms from a sphere of organized communication divorced from the sphere of action. They must be implemented and implementation may fail. While effectiveness is thus an important criterion, for theoretical reasons the rate of compliance is not a particularly well-suited indicator for the effectiveness of norms⁵⁵ because norms are not invalidated by incidents of non-compliance. They may influence the decisions of an actor, although he does not comply with them. Still, regime analysis is not interested in normative systems that remain dead letter.

⁵³ See above, Chapter 9, pp. 361-365.

⁵⁴ On the implications of regime analysis for international law, see Gehring, *International Environmental Regimes*.

The discussion of the present and of the preceding chapter provides a theoretically founded criterion for the separation of international regimes and dead letter. The norms of international regimes must constitute the standards of behaviour that guide actors' decision-making and inform them about how 'one' behaves. That is, actors' decisions must not be guided by rival, tacitly institutionalized norms. Negotiated sets of norms that have not yet replaced existing basic norms applicable to the same issue-area shall therefore not be considered as international regimes. Likewise, negotiated sets of norms that are, over time, replaced by tacitly institutionalized norms lose their regime quality. Hence, if negotiated norms are not applied, or not applied any more, regimes do not exist or cease to exist. With this qualification frequent incidents of non-compliance may indicate that relevant norms are ineffective and that a regime does not exist (any more).

In combination, these five criteria amount to a modified regime definition. An international regime may then be defined as '*a combination of (a) a set of international norms applicable to specific issue-areas that guides actors' decision-making and emerges from deliberate, collective (and usually multilateral) decisions of the participating actors and (b) the negotiations and organized decision processes from which these norms emerge and within which they are stabilized*'⁵⁶.

As a definition this delimitation of international regimes is not more than a deliberate choice. Yet, this choice is consistent with a concept of norms and normative systems that elucidates the function of norms as well as their modes and sources of influence. And it accommodates as far as possible the desire to confine regime analysis to institutions that 'matter' in the sense of improving sub-optimal outcomes by cooperation among actors. The definition *excludes* two classes of normative systems that do *not* matter in this framework. It distinguishes international regimes from simple normative systems which are mere consequences of interaction and which do not constitute devices for the deliberate influence of actors' behaviour. And it distinguishes international regimes from collections of negotiated (and usually written) rules that do not reflect actors' common normative expectations and that are, therefore, not effective. The definition thus contributes to focusing scientific attention on a class of international institutions that *may* matter.

However, the definition does not ensure that normative systems identified as international regimes do in fact matter. It does not distinguish between normative systems that precisely reflect the structure of a given decision situation and those systems that require adaptation of behaviour⁵⁷. International regimes will usually, but not inevitably, lead to modified outcomes because collective decision-making in

55 Occasionally, a certain rate of compliance is proposed as a necessary condition of international regimes; see Keohane, *Two Approaches*, p. 387; Zürn, *Interessen und Institutionen*, p. 149.

56 Hence, this concept attempts to combine the two aspects of norms (polity) and decision-making (politics). Accordingly, international regimes reach beyond the notion of 'political institution' as developed by Göhler, *Einleitung*, p. 10; and Göhler, *Institutionenlehre und Institutionentheorie*, p. 17.

57 On the conceptual distinction, see above Chapter 1, pp. 46-48.

negotiations entails a number of changes of the situation⁵⁸. However, the distinction between normative systems reflecting structure and those requiring adjustments of behaviour is blurred under conditions of bounded rationality. It is replaced here by a clear-cut distinction of regimes and other normative systems that allows inquiry into the impact of a given regime on outcomes.

3.2. *Static and Dynamic International Regimes*

The approach to international regimes developed in the present study links norms and communication about norms inseparably. It appreciates the institutional frameworks of international regimes *and* their cooperative arrangements. While the norms of international regimes by definition come into being through communication and collective decision-making, these two components may be ideally arranged in two different ways.

A community of actors may cease to communicate and decide collectively upon agreement about a set of norms designed to govern a given issue-area. In this case, the two components are arranged successively. Communication and collective decision-making precede the resulting set of norms. In regimes coming close to this type, claims of actors to modify the cooperative arrangement once agreed and reactions to cases of non-compliance cannot any more be decided collectively by the relevant community of actors in an organized process of communication. Decision-making inevitably resorts to the unorganized and frequently tacit process of unorganized interaction, unless issues are placed anew on the international agenda and new communicative processes are launched. International regimes of this type do not require the continued attention of regime members. However, they threaten to be undermined over time by rival norms emerging from interaction among the actors concerned. They are adequate for comparatively stable issue-areas in which structural changes and demands for the modification of norms are rare⁵⁹. Institutions of this type are difficult to adapt and are inherently 'static'. They constitute one extreme on a continuum⁶⁰.

However, the process of organized communication and collective decision-making does not necessarily terminate upon adoption of a (first) set of norms. In this case communication about norms and valid norms exist in parallel. In international regimes coming close to this type actors retain the ability to deliberate and decide collectively about matters concerning their common norms. Claims for the modification of norms and reactions to incidents of non-compliance may become subject to

58 Schachter, *The Nature and Process of Legal Development in International Society*, pp. 775-777 observes that even the codification of customary international law implies changes in prescription; on the impact of negotiations on the modification of the situation, see above, Chapter 10, pp. 387-392.

59 Significantly, multilateral international regimes rarely conform to this type; see the assessment by Müller, *Die Chance der Kooperation*.

60 Evidently, 'static international regimes' constitute the prototype of traditional international treaties. Note that formally they do not fall under the consensus definition of international regimes because they lack the component of 'decision-making procedures'.

organized communication and collective decision-making. International regimes of this type are highly dynamic⁶¹. They seem to be particularly adequate to govern issue-areas with rapidly developing constellations of interests that involve high risks of non-compliance and destabilization of common norms. Dynamic international regimes constitute the other extreme on the continuum. The regimes on long-range transboundary air pollution and protection of the ozone layer are particularly close to the ideal type of dynamic international regimes.

Between the two extremes of 'static international regimes' entirely divorcing norms and communication about norms and 'dynamic international regimes' integrating these two components, a variety of intermediate institutional arrangements may be conceived of. For example, communication about norms and collective decision-making may take place in the framework of existing international organizations⁶². If a separate body does not exist for this purpose, issues dealt with under the regime will have to compete with issues beyond the regime's confines. Alternatively, communication may take place in occasional review conferences or in meetings called together at certain intervals. All these arrangements provide communities of actors with some opportunities for communication *after* the adoption of a set of substantive norms. They are therefore located somewhere on the continuum between 'static' and 'dynamic' international regimes.

This brief discussion of different types of international regimes demonstrates that complementing cooperative arrangements with a process of communication about norms broadens the perspective of regime analysis and poses a host of new research questions related to the emergence of cooperative arrangements from a process of communication and their 'management' within this process.

4. Conclusion

The present chapter developed a norm-oriented concept of international regimes. Following mainstream regime theory, it assumed that international regimes as a particular type of institution in the international system should improve results in situations that otherwise yield sub-optimal outcomes. Following the concept of norms and normative systems developed in the preceding chapter it assumed, moreover, that norms and interaction among actors are inseparably linked.

61 This definition of 'dynamic international regimes' includes 'evolutionary regimes' identified by *List*, *Cleaning up the Baltic*, pp. 102-104. Similarly, *Lang*, *Is the Ozone Depletion Regime a Model for an Emerging Regime on Global Warming*, defines international regimes as complex sets of rules «which are generated by an intense process of international negotiations and which are subject to periodic changes». Therefore, *Lang*, *The Role of International Law in Preventing Misuse*, p. 38 considers regimes without mechanisms for the supervision and adaptation of rules as 'imperfect regimes'. Unlike the type of international governance identified by *Jessup*, *Parliamentary Diplomacy*, they are, however, closely related to a limited issue-area and a confined set of issues.

62 Apparently, *Rittberger*, *Peace Structures through International Organizations and Regimes*, p. 9, refers to this intermediate type of international regime. As an example, the Legal Committee of IMO performs deliberation and decision functions for the international regime on liability for oil pollution damage arising from the maritime transport of oil; see *Gehring/Jachtenfuchs*, *Haftung und Umwelt*, pp. 145-178.

The juxtaposition of norms that emerge from direct interaction among actors with norms originating from negotiations and collective decision-making emphasizes that the former do not constitute appropriate devices for purposeful intervention to modify the behaviour of actors because they immediately *result* from action. The effect of these norms is constrained to stabilizing *existing* patterns of behaviour. The causal chain is revised for negotiated norms. They emerge from a sphere of communication separate from the sphere of action. A given community of actors acquires the ability to adopt collective decisions independently of the *action* of its members. Negotiated norms may therefore be moulded for the purposeful alteration of interaction. Although norms of this type require implementation and carry the inherent risk of failure, international regimes designed to *purposefully improve* outcomes must be made up of negotiated norms.

If the mode of interaction matters by which international regimes and their norms come into being, this dimension must enter the scope of regime analysis. Hence, the existing regime concept was modified so as to refer exclusively to normative systems that have emerged from negotiations and collective decision-making and to expressly *include these negotiations and decision processes* in the definition of international regimes. The suggested modification addresses the same type of international institution that is already subject to regime analysis. However, it allows an expansion of the focus of scientific research toward the processes of norm-moulding and norm-application as well as toward the institutional framework of international regimes. It thus contributes to addressing new questions to an old subject.

Chapter 11

Negotiations and Cooperative Arrangements

The norms of international regimes emerge from negotiations that establish a sphere of organized communication separate from the underlying sphere of action. This origin distinguishes international regimes from simple normative systems whose norms are based on interaction without communication and on tacit institutionalization.

The divorce of a sphere of communication about norms from the sphere of action on which these norms are intended to exert influence is both necessary and problem-laden. It is necessary because only norms that are collectively decided upon in a sphere of communication may be purposefully designed to change actors' behaviour in situations that yield sub-optimal outcomes. It is problem-laden because negotiated norms cannot exert influence unless the decision-making actors accept them as guidelines for their action and re-merge the two spheres. Negotiated norms always comprise the risk of remaining dead letters. It is therefore important that sets of norms forming cooperative arrangements are acceptable to the participating actors. Their adoption and implementation must promise individual benefits that cannot be gained without them.

The present Chapter explores the making of cooperative arrangements in negotiations. It starts with an examination of the rationality of interaction in negotiations. For this purpose it develops three pure modes of interaction, namely those of fight, game and debate, and argues that negotiations combine the two interaction modes of game and debate. Interaction in the mode of game is based on unilateral decision-making and distribution on the basis of relative bargaining power. It dominates the distribution of joint gains. Interaction in the mode of debate is directed at seeking agreement by the exchange of reasonable arguments. It determines the ability of a group of actors to establish cooperation and to solve common problems jointly. The combination of these two interaction modes is a prerequisite for international cooperation, but it makes negotiations cumbersome and time-consuming (Section 1).

This 'dilemma of negotiations' cannot be avoided, but it may be managed. Arguing may be protected from the early intervention of bargaining. Cognitive issues are particularly suitable for settlement by the exchange of arguments because these arguments may refer to experience, e.g. empirical observations. Hence, decisions on cognitive issues may be, and frequently are made separately from those involving social choice (Section 2.1.). Moreover, decision-making by consensus, i.e. the selection and putting aside of issues on which agreement has been achieved, implicitly favours arguing over bargaining. Early decisions are made predominantly by arguing whereas the relevance of bargaining increases toward the end of negotiations (Section 2.2.). The legitimacy of a cooperative arrangement rests on two

pillars, namely the balance of interests according to the distribution of bargaining power *and* the belief of actors to have negotiated a reasonable outcome. However, arguing will convince primarily actors immediately participating in the negotiations. If these actors are not 'states' but functional administrative units of states, the 'binding force' of negotiated arrangements may have to be broadened to include other sub-state actors. Formalization and ratification are procedures to extend the legitimacy of agreements (Section 2.3.)

Finally, the Chapter develops a basic model of the formation of international regimes (Section 3) that will be supplemented and extended in the following two chapters.

1. The Rationality of Negotiations

Rationality of action is not a clear-cut concept. Different types of rationality may recommend different decisions of action in a single situation. The choice of behaviour that is rational in a given situation involving two or more actors depends on the interaction mode that prevails among these actors. More than three decades ago Rapoport distinguished between three modes of social interaction, namely fights, games and debates¹. Each of them is related to a specific form of rationality. These three modes shall be considered as pure forms of interaction. In contrast, negotiations are not characterized by a distinct type of rationality. They combine the modes of games and debates. This hybrid form causes the 'dilemma of negotiations'.

1.1. The Rationality of Fights

The rationale of action in 'fights' is determined by envy of actors toward each other². Actors that are engaged in a fight endeavour to harm their counterparts irrespective of whether they incur costs and sacrifice advantages. These actors do not realize mutual gains, nor do they avoid mutual losses. Fights proceed in the sphere of action. Wars and physical conflicts are examples, but verbalized interaction may also be conducted in the interaction mode of fight (e.g. by using threats).

Actors engaged in a fight have a 'competitive attitude'³ toward each other. They do not maximize their absolute gains but their status relative to that of their counterparts. For a given actor A the relative gain will be $(a - b)$, if his absolute gain is (a) and the absolute gain of his counterpart is (b). These actors consider absolute losses by their counterparts as relative gains. It may pay more to increase the losses of one's counterpart than one's own absolute gains. Mutual gains do not occur. One actor involved in this type of interaction will always lose as much as his counterpart

1 See Rapoport, *Fights, Games and Debates*.

2 See Kratochwil, *Rules, Norms, and Values*, pp. 314-317.

3 See Scharpf, *Koordination durch Verhandlungssysteme*, p. 53.

wins for if the relative gain of actor A ($a - b$) is positive, that of actor B ($b - a$) will necessarily be negative. In effect, fights are zero-sum situations. Hence, the envy of actors interacting in the mode of fights renders situations unsuitable for cooperation⁴.

Fights may extend to negotiations. However, since the interaction mode of fight precludes cooperation, actors negotiating in this mode do not seek commonly acceptable collective solutions to overcome situations that yield sub-optimal outcomes⁵. Accordingly, these negotiations cannot produce cooperative arrangements. At best, they may constitute a device to affect the sphere of action directly, e.g. by gaining time.

1.2. *The Rationality of Games*

Actors involved in a game do not have a competitive but an egoistic attitude toward each other. Unlike actors engaged in a fight that maximize relative gains, these actors endeavour to maximize their absolute gains irrespective of their status relative to each other. Hence, the gain of actor A is (a) and that of actor B is (b). Actors involved in a game tend to avoid unnecessary costs and losses, but they do not care about each other's well-being.

These actors reject the redistribution of welfare and advantages according to collective criteria, but they will engage in cooperation that promises mutual benefits and overcomes collectively and individually sub-optimal outcomes (positive-sum situations). In 'mixed motive' situations, e.g. resembling the Prisoners' Dilemma⁶, individually rational behaviour produces disadvantageous outcomes. All actors involved are better off if they manage to cooperate. For that purpose actors interacting in the mode of game may be inclined to adjust their behaviour from pursuing parochial interests to realizing joint gains. However, they may also attempt to realize additional gains from 'free riding', if possible.

Actors involved in a game decide and act unilaterally. They are aware of their preferences and determine them unilaterally in the light of a given constellation of interests. They decide in isolation about their behaviour on the basis of these preferences. Finally, they act in isolation according to their decisions. Their only means of coordination is strategic action, i.e. the unilateral anticipation of the preferences of their counterparts and the unilateral adjustment of their action to allow joint gains. Even in the case of cooperation, actors do not act collectively. Communication does not seriously facilitate cooperation as long as actors decide

⁴ However, possibilities for cooperation may emerge for actors maximizing both relative and absolute gains in situations that promise mutual advantages in absolute terms while not affecting their (relative) status; see Grieco, *Cooperation among Nations*, pp. 40-48. In fact, these actors interact in a combination of the fight and game modes.

⁵ See Scharpf, *Zur Theorie von Verhandlungssystemen*, p. 20.

⁶ On the Prisoners' Dilemma and other constellations of interests, see above, Chapter 1, pp. 34-38.

and act in isolation. Promises and agreements are not reliable, because actors hold a promise and comply with an agreement only as long as it serves their interests.

Even in case of mutually beneficial cooperation actors do not decide about collective outcomes. Outcomes result immediately from unilaterally determined decisions and prevailing constellations of interests that 'intervene' in the form of an 'invisible hand'. Moreover, the coordination mechanism automatically determines the distribution of joint gains among the participating actors. Distribution does not itself require coordination⁷. The perfect market is the primary example of this mode of interaction.

It is obvious that the interaction mode of game is highly important for the analysis of international regimes and cooperation in the international system. In fact, the theory of games and groups forms the conceptional core of the 'cooperation under anarchy' approach⁸ and mainstream regime theory⁹. The interaction mode of games is also highly relevant for negotiations¹⁰ as well as for the establishment and operation of international regimes.

1.3. *The Rationality of Debates*

Debate is yet another mode of interaction with a distinct rationale of decision-making. Unlike actors engaged in fights and games, actors participating in debates communicate and determine their behaviour by acts of understanding¹¹. They do not conceive of each other as enemies or as constraints for the pursuit of interests but as co-members of a community within which action shall be coordinated by agreement. These actors have a cooperative attitude toward each other. Still, they have parochial interests¹², but they pursue them under the condition that they may be accommodated with collectively agreed solutions¹³.

Actors interacting in the mode of debate establish a sphere of verbal communication separate from the sphere of action¹⁴. By verbal communication they conduct discourses about validity claims that accompany facts and norms. The truth of facts and the justification of norms become subject to an exchange of reasonable arguments¹⁵. In a discourse the claim of validity of a fact or a norm *must* be

7 See Scharpf, *Koordination durch Verhandlungssysteme*, p. 76.

8 See Oye, *Explaining Cooperation under Anarchy*.

9 See above, Chapter 1, pp. 33-43.

10 See Elster, *The Cement of Society*, pp. 50-96; Scharpf, *Koordination durch Verhandlungssysteme*.

11 See Habermas, *Theorie des kommunikativen Handelns* I, p. 385.

12 See Habermas, *Entgegnung*, pp. 364-366.

13 In game-theoretical terms, a communicative or procedural goal, namely agreement with co-actors, occupies the top rank of the order of preferences of these actors.

14 See Habermas, *Wahrheitstheorien*, pp. 213-214. On this approach, see Alexy, *Theorie der juristischen Argumentation*, pp. 134-177.

15 While the conduct of a discourse is thus inseparably linked to verbal communication, verbal communication may also be part of the sphere of action, Habermas, *Wahrheitstheorien*, p. 214, and even of strategic action (e.g. in the form of threats), see Habermas, *Theorie des kommunikativen Handelns* I, p. 396.

supported by at least one reasonable argument, and any challenge or rejection of a validity claim *must* also be supported by a reasonable argument.

The exchange of rational arguments in a discourse rests on a continuous change between different levels of abstraction¹⁶. The discourse starts when the validity claim accompanying a norm or a fact is challenged. For the settlement of the dispute by arguments, the participating actors invoke a more general level and identify the criteria for the validity of a fact or a norm. If disagreement prevails on these criteria, the actors enter a third level at which the criteria for the identification of appropriate criteria will be subject to exchange of arguments, and so forth. Having reached consensus at a high level of abstraction, this consensus may be invoked at lower levels. Hence, by changing between more general and more specific levels of argument actors will gradually approach consensus on the validity (or non-validity) of the disputed fact or norm¹⁷.

It may be risky to base the judgement about the truth of facts and the justification of norms solely on inter-subjective agreement because consensus may be incidental and unreliable. Inter-subjective understanding shall therefore lead to 'reasonable consensus' that could be reproduced any time and anywhere¹⁸. Otherwise a discourse becomes a 'pure procedure' in the understanding of Rawls¹⁹. Results must not be affected by power and loyalty, they must also not be affected by uneven opportunities of the participants for action beyond the discourse. In short, consensus will have to emerge from an 'ideal speech situation' that is free from external and internal constraints²⁰. The design of this 'ideal speech situation' is demanding if not entirely unrealistic²¹. Far from reflecting an empirical phenomenon it is, however, not a pure fiction. Actors could not interact in the mode of debate and determine collective decisions in discourses if they did not reciprocally *assume* the existence of this situation²².

The interaction mode of debate thus relies on the procedure of discourse. Its purpose is the reduction of uncertainty by a free exchange of arguments. Successively arguments are confronted with counter-arguments. Gradually contradictions dissolve. Over time a growing body of mutually accepted decisions replaces former disagreement²³. Actors interacting in the mode of debate do not merely advocate established interests. Debate is directed at convincing each other, i.e. at changing interests on the basis of improved insights. Actors engaged in a discourse do not know where the free exchange of arguments will eventually lead. They become

16 The theory of communicative action, *Habermas*, *Theorie des kommunikativen Handelns* I, relies on a formal-structural speech-act theory that shall not be discussed here. *Kratochwil*, *Norms, Rules, and Decisions*, pp. 29-34, has introduced speech act theory into the debate about international regimes.

17 See *Habermas*, *Wahrheitstheorien*, pp. 252-255.

18 See *Habermas*, *Wahrheitstheorien*, p. 239.

19 In a pure procedure, the substantive settlement of a dispute relies solely on the acceptability of the procedure; see *Rawls*, *A Theory of Justice*, p. 86. See also the critique by *Döbert*, *Verfahrensrationaliät*, pp. 27-34.

20 See *Habermas*, *Wahrheitstheorien*, pp. 255-256.

21 Note the similarity to the concept of a 'veil of ignorance' suggested by *Rawls*, *A Theory of Justice*, pp. 136-142.

22 See *Habermas*, *Wahrheitstheorien*, p. 258.

'companions in a natural evolution'²⁴ that determines their social optima²⁵. The discourse will produce results that are (believed to be) substantively warranted and *therefore* promise to constitute socially acceptable problem solutions.

Unlike games, debates do not automatically determine the distribution of joint gains. The terms of distribution are part of discursively reached solutions. Collective decisions about appropriate distribution will have to be subject to the exchange of reasonable arguments. Moreover, unlike the outcomes of games, these decisions are not implemented automatically. Actors may be convinced of the justification of a norm that results from a debate and consider it 'valid' and still refuse to use it as a guideline for their decisions. 'Factual' norms that really guide the decisions of actors may emerge beside these 'valid' norms²⁶.

The interaction mode of debate is fundamentally opposed to that of games. In games actors are egoistic utility maximizers, in debates they seek common understanding. In games they decide unilaterally, in debates they do so collectively. In games they interact by action, in debates they interact by communication. Obviously, the interaction mode of debate is relevant for negotiations. In negotiations actors seek common understanding, they decide collectively, and they communicate verbally.

1.4. Negotiations: Combining the Rationalities of Games and Debates

Cooperation in the international system, i.e. the adjustment of behaviour in situations that yield sub-optimal outcomes, presupposes the deliberate making of collective decisions, usually in the form of negotiations. Situations requiring cooperation are characterized by 'mixed motives'. Actors are commonly interested in improving sub-optimal outcomes and engage in negotiations to adopt cooperative agreements. They also retain partially contradicting interests that do not only preclude the automatic emergence of cooperation but reflect disagreement on the exact outcome of negotiations. Collective decision-making in negotiations does not change the preferences of actors and the 'mixed motive' nature of the underlying situation. It merely establishes a sphere of communication divorced from the underlying sphere of action. Yet, this step changes interaction within a community of actors profoundly. Actors are not any more limited to interacting by strategic action, they *may* attempt to convince each other of appropriate solutions to a given problem. Negotiations do

23 See Döbert, *Verfahrensrationalität*, p. 21.

24 See Döbert, *Verfahrensrationalität*, p. 22.

25 This collective optimum is exclusively based on understanding achieved within a community of actors, it may not be examined 'objectively'. The consequence is that interpreters, including scientific scholars, become participants of the communicative community; see also Honneth, *Kritik der Macht*, chapter 7. While according to positive economic theory actors A and B would maximize their collective gains ($a + b$), see Scharpf, *Koordination durch Verhandlungssysteme*, p. 54, here they may agree on an outcome that also takes account of other aspects, e.g. distributive justice.

26 See Habermas, *Wahrheitstheorien*, p. 229.

not limit interaction to the mode of game, they open the opportunity for interaction in the mode of debate²⁷.

Actors participating in negotiations are collectively interested in identifying an appropriate solution for their common problem, e.g. a solution that yields high joint gains. The mere pursuit of individual interests and the exclusive reliance on structural power do not suffice to solve the common problem. After all, this strategy already produced sub-optimal outcomes in the sphere of action. To overcome stalemate actors will have to *argue* over collectively beneficial outcomes. The exchange of reasonable arguments facilitates the identification of solutions to common problems²⁸. It allows gradual elaboration of substantively reasonable and socially acceptable arrangements. While the prospect of joint gains renders cooperation in 'mixed motive' situations advantageous, the prospect of reasonable solutions renders arguing advantageous. Actors conceived of as rational and egoistic utility maximizers (as throughout in the present study) may therefore be inclined to argue.

However, rational and egoistic utility maximizers do not primarily care about joint gains and collective optima. They endeavour to maximize individual gains. For these actors it matters how joint gains are distributed among the participants of a cooperation. In contrast to the outcomes of games, negotiated outcomes do not automatically settle the terms of distribution. These terms must be determined within the negotiation process. And in this regard actors' interests are not parallel but mutually contradictory²⁹. The determination of distributional outcomes requires that actors *bargain* over their relative shares of joint gains. Here, actors engage in a game over outcomes. Power and structural advantages play a major role while arguments will be less relevant.

Hence, in negotiations actors interact in the modes of debate and game alike. They must argue to achieve joint gains, and they will bargain over the distribution of these gains. Unfortunately, the two interaction modes are difficult to separate and mutually contradictory. Concerning any single move within negotiations, actors have to consider both dimensions³⁰. If an actor contributes to expanding the contract zone and to solving the common problem, he may be disadvantaged as to the distribution of joint gains. And vice versa: if he resorts to bargaining over the distribu-

27 Compare Elster, *Arguing and Bargaining*, with Habermas, *Faktizität und Geltung*, pp. 204-206. Both authors recognize the role of arguments and the importance of compromising and balancing interests. See the comments by Habermas, *ibid.*, pp. 408-414, on Elster's approach. Unlike the present study, they conceive of 'negotiations' as interaction exclusively in the game mode.

28 Fisher/Uri, *Getting to Yes*, recommended problem-solving strategies to further cooperation; see also Groom, *No Compromise*.

29 Elster, *The Cement of Society*, pp. 50-51, and Scharpf, *Koordination durch Verhandlungssysteme*, pp. 76-77 conceive of negotiations as pure bargaining, although Scharpf notes that pure bargaining would not lead to improved outcomes.

30 See Scharpf, *Verteilungskonflikte und Pathologien*, pp. 78-79.

tion of joint gains and his co-actors act alike, cooperation will not emerge. Accordingly, the participating actors are trapped in the 'dilemma of negotiations'³¹.

Consider an example from the negotiations of the initial Montreal Protocol in 1986/87. Unlike the first round of negotiations on the Protocol (1983-1985) the two major proponents within the issue-area, i.e. the United States and the European Community³², agreed that some sort of cooperation to protect the ozone layer was desirable. Yet, positions still differed widely. While the United States proposed a gradual phase-out of incriminated substances even beyond CFCs, the EC preferred a mere freeze of CFCs. Moreover, the United States as an importer of CFCs favoured control of *consumption* that would leave its CFC-producing industry comparatively unhampered, while the Community as a major exporter preferred control of CFC-*production* that would hit producing industries in both countries evenly but favoured its CFC-consuming industries in case of (temporary) shortages of supply³³.

From a negotiation-analytic perspective the situation may be conceived of as follows. Actor X (say, the United States) will favour cooperation if his gains (x) are positive. This is the case for any outcome that falls into the right half of the graphs below (Figures 11.1 - 11.5). Actor Y (say, the European Community) will also promote cooperation if his gains (y) are positive. This is true for any outcome in the upper half of the graphs. Accordingly, outcomes that fall into the northeastern quarter promise mutually beneficial cooperation. In the example, both actors expect gains from cooperation. Hence, they envisage an outcome in this quarter.

Figure 11.1: Proposal of Actor X

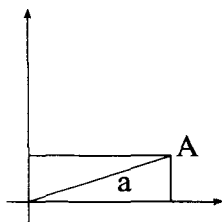
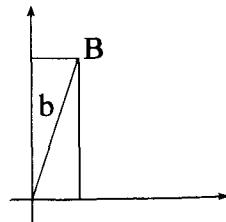


Figure 11.2: Proposal of Actor Y



However, the actors disagree on the exact location of the outcome within this quarter. Actor X proposes outcome A that would produce considerable joint gains (a), while the distribution of these gains would be grossly uneven. The gain of actor X (x_A), would outweigh the gain of actor Y (y_A) (see Figure 11.1). In contrast, actor Y would propose outcome B that would also produce significant joint gains (b),

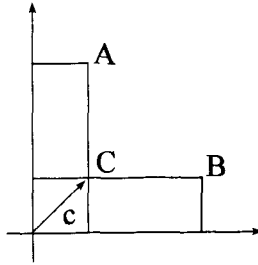
31 See Scharpf, *Zur Theorie von Verhandlungssystemen*, pp. 20-22; Sebenius, *Challenging Conventional Explanations*, pp. 329-332.

32 In the initial stages of the Protocol, outcomes were primarily determined by the constellation of interests among the two giants in the issue-area; see above, Chapter 8, pp. 338-343.

33 See above, Chapter 6, pp. 236-240.

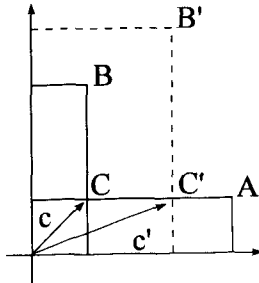
while, again, gains would be unevenly distributed. The gains of actor Y (y_b) would outweigh those of actor X (x_b) (Figure 11.2).

Figure 11.3: Agreement below the Pareto-Frontier



Under these conditions, C will be a commonly acceptable outcome (see Figure 11.3) that will produce, however, only modest joint gains (c). Outcomes A and B both constituted Pareto-optima, but beyond point C cooperation would further the benefits of only one party involved, namely actor X in case of solution A and actor Y in case of B. In effect, quarrels over the distribution of benefits precluded the full realization of cooperation up to the 'Pareto-frontier'³⁴.

Figure 11.4: Expansion of the Contract Zone through Adjustment of Preferences



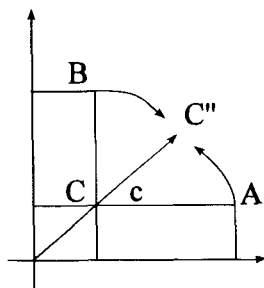
This sub-optimal outcome could be improved by an expansion of the contract zone. Assume that a convincing argument caused actor Y to reconsider his preferences. His preferred outcome would move from B to B', implying an increased benefit for both actors. This step would immediately result in an expansion of the contract zone and move the agreeable outcome from C to C' (Figure 11.4).

³⁴ Sebenius, *Challenging Conventional Explanations*, pp. 339-341, emphasizes that negotiations frequently settle far below the Pareto-frontier due to quarrels over distribution.

A short look at the distributive effect of this move illustrates the dilemma of negotiations. Although actor Y adjusted his preferences according to improved insights, he did not benefit from this move. Additional joint gains are exclusively exploited by his counterpart. The incentive for actor Y to propose the modified plan B' is therefore limited.

Actor Y will be better off if he does not focus on the expansion of the cake but on its distribution. He will then resort to bargaining, change from the interaction mode of debate to that of game and attempt to force his counterpart to accept his preferred solution. Negotiations now resemble the game-theoretical constellation of the Battle of the Sexes. Bargaining power will be important, but it must be sufficiently unevenly distributed to determine the outcome³⁵. In all other cases, a distributive compromise will have to be looked for. A successful distribution of gains could move the outcome along the existing contract curve from C to C' and benefit both actors (Figure 11.5)³⁶. But this solution will have to be identified. Once again, tough bargaining will be the appropriate strategy to increase an actor's share, but it may preclude agreement altogether.

Figure 11.5: Exploitation of the Contract Zone through Improvement of Distribution



In short, negotiations constitute a coordination mechanism between the market and the forum³⁷. It is not entirely based on unilateral decision-making and spontaneous coordination, but it is also not limited to idealistic arguing. The actors coordinate their behaviour voluntarily, but they do so collectively³⁸. It will be of advantage for them to engage in an exchange of reasonable arguments to expand the contract curve. But they will also bargain over the distribution of gains. Negotiations thus

35 Krasner, *Global Communications and National Power*, emphasizes that the 'cooperation under anarchy' approach largely ignores the distributional effects of institutional arrangements that are based on power, notably issue-area power.

36 Scharpf, *Koordination durch Verhandlungssysteme*, pp. 65-68, emphasizes that collective optima may be achieved in negotiations if side-payments are made, i.e. if distributional effects of cooperation are manipulated.

37 See Elster, *The Market and the Forum*.

38 Note that negotiations are also a coordination mechanism between the hierarchy and the market, see Mayntz, *Policy-Netzwerke und die Logik von Verhandlungssystemen*, pp. 44-49. On coordination mechanisms beyond the hierarchy and the market, see also Streek/Schmitter, *Gemeinschaft, Markt und Staat - und die Verbände*?

combine interaction in the modes of debate and game. Yet, these two modes have different rationalities and provide contradictory recommendations for action. This dilemma renders negotiations burdensome, costly and slow and threatens to prevent the achievement of optimum outcomes³⁹.

2. Managing the Negotiation Dilemma

International negotiations are not discourses for the search for best possible solutions. They shall identify solutions that are generally acceptable to the participating actors. These actors retain a permanent exit option. They cannot be hindered in leaving a collective decision process at any time. And they must voluntarily comply with collective decisions and commonly agreed cooperative arrangements because these arrangements cannot usually be enforced against non-compliant parties. Bargaining constitutes a mechanism that relates communication about norms to the actually existing distribution of power in the issue-area⁴⁰. It cannot be excluded from negotiations that shall produce results affecting the sphere of action. However, the predominance of bargaining may hinder the identification of best acceptable solutions. Distributive bargaining threatens to replace common problem-solving; sub-optimal outcomes may be the consequence. It is therefore in the common interest of the participating actors to organize negotiations so as to avoid this danger as far as possible. For a community of actors it is necessary to limit the negative impact of the dilemma of negotiations.

It is useful to look at the negotiation dilemma from the perspective of Rawls' typology of procedural settlement. According to this typology, the nature of decision-situations is made up of a combination of two factors, namely the existence (or non-existence) of independent criteria for the optimum outcome, and the existence (or non-existence) of a procedure that is sure to lead to this outcome. Rawls' most demanding type, 'perfect procedural settlement', obtains when an independent criterion exists for the identification of an optimum outcome and it is possible to devise a procedure that is sure to lead to this outcome⁴¹. An independent criterion for the identification of an optimum outcome may exist in the absence of a feasible procedure which is *sure* to lead to it. In this case of 'imperfect procedural settlement'⁴² the procedure has some independent impact on the actual outcome, although this impact is negative. In yet other situations an independent criterion for the optimum outcome does not exist. In the case of 'pure procedural settlement' the

³⁹ See *Scharpf, Verteilungskonflikte und Pathologien*, pp. 72-75.

⁴⁰ In negotiations in the shadow of the exit option the ability to choose exit determines an actor's bargaining power, see *Scharpf, Verteilungskonflikte und Pathologien*, p. 70.

⁴¹ See *Rawls, A Theory of Justice*, p. 85. An example is the division of a cake in pieces of an equal size; and the procedural solution is to let the person dividing the cake pick the last piece.

⁴² See *Rawls, A Theory of Justice*, pp. 85-86. Rawls gives the example of a criminal trial that should lead to conviction of the guilty, but may prosecute an innocent person.

appropriateness of an outcome relies exclusively on the procedure for its identification⁴³.

Negotiations and international cooperation are not easily accommodated with any of these three pure types of procedural settlement. Criteria for the determination of optimum outcomes may be established independently of the procedure (e.g. Pareto-optimality). However, negotiations may fail or end up with sub-optimal results. They hardly constitute a procedure that is sure to lead to the optimum outcome. Moreover, frequently situations will comprise more than one Pareto-optimum and a *specific* optimum outcome cannot be determined independently. Therefore, negotiations on a cooperative arrangement do not reflect the types of 'perfect' and 'imperfect' procedural settlement. Likewise, the actors do not determine the outcome of negotiations *solely* on the basis of a fair procedure. Rather, they wish to establish cooperation and outcomes must promise individual gains. Negotiations are therefore far from being 'pure procedural settlements'.

Beside his three pure types, Rawls develops the hybrid type of 'quasi-pure procedural settlement' that obtains when an independent criterion exists for the determination of an interval within which an optimum outcome should fall, but it does not establish the exact location of this outcome⁴⁴. In this case, two different procedures are required to determine the interval and the exact outcome within the interval respectively. International cooperation emerging from negotiations reflects this type rather closely. The optimum outcome is not entirely contingent on procedure, but it is also not exactly determined independently of procedure. It will not fall outside a certain interval, but it may be any point inside it. The lower limit of this interval is defined by the lowest common denominator, i.e. the disagreement point (C in the figures above) and the upper limit is made up by the Pareto-frontier. Outcomes of negotiations will not fall below the disagreement point because rational actors are in agreement up to this limit. Outcomes will also not cross the Pareto-frontier at which cooperation ceases to pay for at least one participant. The interval constitutes the contract zone. Inside disagreement prevails but any outcome promises higher benefits than settlement at the disagreement point.

The relationship between arguing and bargaining may now be reconsidered. The deliberate manipulation of the limits of the interval immediately relies on achieving and expanding common understanding. Arguing will be necessary to push the upper limit of the interval, i.e. the location of the Pareto-frontier, in the direction of allowing higher common gains. It will also be necessary to push the lower limit, i.e. the disagreement point, in the same direction⁴⁵. Within this interval, wherever its final place, rational argument loses its power. Here is the place for 'pure procedural settlement' in the form of bargaining.

⁴³ See Rawls, *A Theory of Justice*, p. 86. The example is a lottery.

⁴⁴ See Rawls, *A Theory of Justice*, p. 362. A modern constitution is an example.

⁴⁵ Contrary to Döbert, *Verfahrensrationalität*, p. 30, the aim is thus not solely to narrow the interval but also to shift its location.

Managing the negotiation dilemma in the common interest of the participating actors is therefore directed at defining as clearly as possible the interval within which bargaining takes place and at exploiting as far as possible the margin for the settlement of issues by rational arguments. Interaction in the mode of debate must be protected against early resort to the mode of game. For this purpose, the settlement of certain issues may be addressed separately and the technique of consensus decision-making may be employed.

2.1. Separate Settlement of Some Issues

Some classes of contentious issues are particularly suitable for settlement in the interaction mode of debate. They may be addressed in a discursive manner prior to or separate from the settlement of the remaining disputed issues.

Cognitive issues constitute the most important class of disputes suitable for discursive settlement. In essence cognitive issues consist of disputes about facts, i.e. about assertions regarding the objective world that are subject to validity claims⁴⁶. These claims may be true or false. They may be challenged by convincing arguments. And arguments may immediately refer to experience. Unlike normative demands, facts are not exclusively a matter of inter-subjective agreement. They must be in line with empirical observations and established causal relationships. To put it more simply, facts may be falsified and have to be replaced upon falsification⁴⁷. This has been the case, for example, upon the theoretical discovery of the ozone-depleting effect of CFCs that was not known before, and again upon the empirical observation of the Antarctic 'ozone hole' that was not predicted by theoretical models.

Their immediate link to experience beyond inter-subjective agreement renders cognitive issues highly inappropriate for deliberate social choice⁴⁸. Apparently, the familiar techniques of social choice, e.g. bargaining and voting, are not unsuited to settle the question whether CFC emissions really contribute to the observed depletion of the ozone layer. Any decision along these lines would only incidentally be in conformity with empirical observations and existing causal relationships⁴⁹. Hence, the external point of reference renders cognitive issues particularly suitable for settlement by discursive exchange of arguments.

Actors perceive reality on the basis of cognitive knowledge believed to be true. They generate cognitive expectations that inform them about facts and their appropriate interpretation. The generation of reliable cognitive expectations is a prerequisite for informed policy-making⁵⁰. The bulk of cognitive knowledge relevant for policy decisions is produced by communities of scientists and industrial experts. It

⁴⁶ See *Habermas, Wahrheitstheorien*, pp. 215-217.

⁴⁷ On the reaction upon disappointment of cognitive expectations, see *Luhmann, Rechtssoziologie*, p. 42; see also above, Chapter 9, p. 357.

⁴⁸ See *van den Daele, Zum Forschungsprogramm der Abteilung Normbildung und Umwelt*, p. 19.

⁴⁹ In contrast, social choice is highly important for decisions of appropriate *reactions* to these insights, see below.

⁵⁰ See also *Soroos, The Evolution of Global Regulation*, p. 119.

is usually not under the immediate control of the members of international regimes, i.e. states or their sub-units. Yet, knowledge is not necessarily self-evident or widely agreed. Experts and scientists may split into 'epistemic communities'⁵¹ that develop common, but mutually contradictory approaches to methods, understanding, and interpretation of facts concerning a given issue-area⁵². Actors participating in international negotiations may rely on incompatible information and interpretation of facts that determine their preferences and recommend contradictory decisions of action.

The integration of actors' perceptions of underlying facts and causations will facilitate international cooperation. For this purpose, the validity of relevant cognitive knowledge has to be assessed. If successful, the perception of actors and their interpretation of events and occurrences will converge. Moreover, the actors become aware how their co-actors interpret events and occurrences. In fact, these actors collectively re-construct their common perception of cognitive reality in the issue-area concerned⁵³.

This task cannot readily be discharged in political negotiations and bargaining processes precisely because the intervention of power undermines the validity of arguments. Therefore, it may be assigned to a separate discursive process usually organized in the form of expert deliberations. These expert deliberations are purposefully divorced from the level of political decision-making. They may serve negotiations only if they do not anticipate political deliberations and avoid political considerations as far as possible⁵⁴. Their task is the evaluation of existing information (and in some rare cases even the generation of information) according to professional standards. An expert group should not collectively promote the opinions and views of a particular epistemic community⁵⁵. Instead, it shall confront contradictory assertions about findings and interpretations and check the accompanying validity claims. It shall not avoid dispute. Rather it shall gradually settle contentious issues, achieve agreement and remove one issue after the other from the agenda of open questions⁵⁶. For that reason expert groups must be generally open

51 See *P. Haas*, *Obtaining International Environmental Protection*; *P. Haas*, *Do Regimes Matter ? P. Haas*, Introduction. On the concept of epistemic communities, see also *E. Haas*, *When Knowledge is Power*, pp. 41-46.

52 Epistemic communities do not, therefore, hold a monopoly of knowledge; see *P. Haas*, *Saving the Mediterranean*, p. 55.

53 On the 'construction of reality', see *Berger/Luckmann*, *Die gesellschaftliche Konstruktion der Wirklichkeit*; in the context of European Community decision-making, see *Jachtenfuchs*, *International Policy-making as a Learning Process*.

54 The rationality of these discourses contributes to forcing even participants that are not interested in reaching agreement to corroborate their claims with arguments; see *Bora/Döbert*, *Konkurrierende Rationalitäten*, pp. 92-93.

55 In contrast, an epistemic community may exert power if it manages to form a coalition with an existing power, e.g. if it manages to dominate an international organization or international regime process; see *E. Haas*, *When Knowledge is Power*, p. 42.

56 *P. Haas*, *Obtaining International Environmental Protection*, p. 352, misses the point when he claims, that »if epistemic communities exist, and if they can maintain fairly stable access to decision-makers and keep rivals at bay, then international arrangements, that closely resemble the community's preferences will develop and will endure«. Rather, the point is how to know which one out of a number of competing epistemic communities really promotes community interests.

and comprise representatives from different communities and nationalities that represent all major approaches to a given problem⁵⁷.

Political negotiations will be cleared from disputes about facts as far as these facts as conceived of as valid by a forum authorized by the actors concerned. Making the cognitive basis for political negotiations 'sufficiently clear' does not necessarily imply a high threshold of scientific evidence. At stake is the joint appraisal and interpretation of scientific findings in an authoritative way within the international regime⁵⁸. The development of convincing cognitive knowledge at the international level will exert influence on actors to adjust their interests accordingly. The establishment of a common interpretation of facts and causations among the members of an international regime may therefore influence their assessment of preferences at the domestic level⁵⁹.

Negotiation processes frequently separate decisions about cognitive knowledge from decisions about commonly accepted norms involving choice. Within the international regimes on the protection of the ozone layer and on long-range transboundary air pollution, extensive consultative mechanisms for the harmonization of interpretation and the appraisal of scientific findings and technological solutions have been established. They form important parts of the structure of these institutions.

International cooperation in the issue-area of long-range transboundary air pollution is not least founded on internally generated information that established the importance of transboundary air pollution in Europe with a sufficiently high degree of authority to support political negotiations within the regime. With their general agreement on the procedure for calculation of EMEP budgets, states recognize the reliability of these budgets and, subsequently, *that and to which extent* they contribute to the international problem of long-range transboundary air pollution. In addition, negotiations on protocols for the control of air pollutants are usually supported by consultations of technical experts about the availability of abatement technologies⁶⁰. Decision-making within the international regime for the protection of the ozone-layer is also prepared by the comprehensive evaluation of scientific findings and technological progress⁶¹.

Normative expectations that rely on a commonly shared perception of objective facts and causations may be challenged by the provision of convincing arguments. Reasonable arguments addressing the cognitive foundations of international cooperation may thus become a major source of influence in the decision-process⁶². To be

57 See Bora/Döbert, *Konkurrierende Rationalitäten*, pp. 78-79.

58 The question of 'how sure is sure enough' can only be decided on the basis of value judgements, see Cogalitzier, *Scientific Uncertainty, Public Policy*, p. 66.

59 This appears to be an incident of a cognitive 'second image reversed', i.e. the influence of international determinants on domestic structures (of knowledge); see *Gourevitch, The Second Image Reversed*.

60 Findings are published by the United Nations in the 'Air Pollution Studies' series.

61 See 'Synthesis-Reports', UNEP/OzL.Pro.WG.II(1)/4 (1989) and UNEP/OzL.Pro.WG.I/6/3 (1992).

62 There is no reason to believe that international «behaviour in the area of the environment differs dramatically from traditional forms of international behaviour»; P. Haas, *Saving the Mediterranean*, p. xxii, see also P. Haas, *Obtaining International Environmental Protection*, p. 347. This far-reaching conclusion may be the result of an epistemic misunderstanding. Haas does not, as may be expected in light of these claims, compare the findings

sure, challenges to commonly accepted cognitive knowledge require political initiatives and resources. The production of scientific and technological information may be costly. Actors may support the generation of certain information and withhold the dissemination of contradicting insights. The bulk of scientific evidence on the depletion of the ozone layer originated from the United States, i.e. from one of the major supporters of strong control measures. Likewise, technical work within the international regime on long-range transboundary air pollution is frequently discharged by task forces led by countries that are particularly interested in sponsoring and supporting the work⁶³. Hence, the production and submission of information and arguments is not protected from interest-oriented manipulation by actors.

It matters, however, that policy options may be corroborated by convincing cognitive arguments. Resources required to support claims do not originate from the realm of power in the traditional understanding but from the generation and provision of reasonable arguments. In this respect, »knowledge is power«⁶⁴. Its power is based on its reasonableness, that is, on the fact that it is subject to validity claims and that these claims may be scrutinized in discourse-like deliberations.

The fact that contentious cognitive issues are particularly suitable for settlement in discursive deliberations does not imply that separate discourses must be limited to this type of issues. During international negotiations it occurs now and then that legal expert groups convene to determine the compatibility of certain options with the body of formal international law. An example was the compatibility of trade restrictions under the Montreal Protocol with the international trade system (GATT)⁶⁵. Moreover, within the international regime for the protection of the ozone layer the economic consequences of protective measures have been compared with the non-activity option. Within these deliberations decisions are also largely based on arguments that refer to experience beyond the discourse, be it to the system of international law or the professional standards of economists.

The development of a body of commonly accepted cognitive (i.e. scientific, legal or economic) knowledge relieves negotiations on social choice from a number of issues. It may motivate actors to re-calculate their preferences. Even more, the body of commonly accepted knowledge will serve as a point of reference for arguments advocating or rejecting policy options. It will define an interval which actors cannot reasonably leave within political negotiations. The opportunity to separate expert deliberations from political negotiations does not imply, however, that all

derived from his case studies in the field of the environment (protection of the Mediterranean and protection of the ozone-layer) with cases located in other fields of international relations. Instead, he compares findings obtained under the prevailing, positivist paradigm of mainstream regime theory with his own, knowledge-based results. Findings from different fields of international relations that were derived on an epistemologically comparable basis might turn out to differ less significantly. To some degree, all international regimes depend on cognitive knowledge. On the role of cognitive knowledge for regime building in other issue-areas, see Putnam/Henning, The Bonn Summit of 1978 (global economy); and Cooper, International Cooperation in Public Health.

63 This procedure, inherited from ECE, shall avoid that desirable work is hampered by (pretended) budgetary considerations.

64 See the title of E. Haas, When Knowledge is Power.

disputes on cognitive (or legal, economic, etc.) questions may be solved in discursive expert groups. Some of these issues will usually remain pending. The absence of expert consensus reflects uncertainty and indetermination that may be bridged by social choice⁶⁶.

Suggestions to distinguish between issues that may be settled by arguing and others that are best decided by bargaining are usually derived from the dilemma of negotiations. They recommend that issues of distribution be separated from the remaining questions⁶⁷. Hence, they rely on a negative distinguishing mark. However, the negotiation dilemma arises precisely because decisions of distribution and on problem-solution are closely related. In contrast, the present perspective emphasizes the relevance of institutional mechanisms for the (positive) pre-selection and pre-decision of issues that lend themselves to discursive settlement according to the perception of a particular community of actors participating in a specific decision process.

2.2. Decision-making in Negotiations

On the basis of a, however limited, body of commonly accepted cognitive knowledge and common beliefs, the community of actors participating in the decision process of an international regime develops common normative expectations⁶⁸. Decisions about norms are a matter of social choice. They do not have points of reference beyond inter-subjective agreement⁶⁹. They are open to the intervention of preferences of the participating actors. Decision-making in the interaction mode of debate (discourse) may lead to reasonable decisions projecting ideal outcomes, but rational utility maximizers will refuse to follow them if action is required that contradicts their interests. Therefore, the generation of meaningful norms cannot by-pass bargaining.

Nevertheless, negotiations have an implicit mechanism that favours interaction in the mode of debate (arguing) over interaction in the mode of game (bargaining). Negotiations are directed at *integrating* opinions to achieve *mutually acceptable*

⁶⁵ See Lang, International Environmental Agreements and the GATT, p. 365.

⁶⁶ See Bora/Döbert, Kokurrierende Rationalitäten, p. 80.

⁶⁷ See Scharpf, Verteilungskonflikte und Pathologien, pp. 77-78.

⁶⁸ Social choice may therefore not be made prior to (at the very least anticipated) actual developments. On the relationship between these two elements see Rudolf, Technological Development and Codification of International Law, p. 433.

⁶⁹ See Habermas, Wahrheitstheorien, pp. 228-229; also Luhmann, Rechtssoziologie, pp. 40-53. To give an example, the decision whether CFCs really deplete the ozone layer may be founded on empirical observations concerning these substances and established 'laws of nature'. The decision does not affect the relationship between CFCs and the ozone layer, it merely influences *the perception* of this relationship. However, a decision on the appropriate reaction to this insight does not refer to objective facts and causations. It is a matter of social choice whether a community of actors decides that CFC emissions should be banned to protect the ozone layer, or agrees that emission reductions are not required. Both decisions are equally *meaningful* and may immediately affect outcomes (although the latter may be inconceivable).

decisions. The integration function is closely related to the making of collective decisions by consensus⁷⁰.

The adoption of decisions by consensus in negotiations does not depend on active support by individual actors. Decisions emerge automatically upon withdrawal of objections⁷¹. Informal consensus decision-making is in many respects similar to the mechanism of 'tacit institutionalization' from which norms in simple normative systems emerge⁷². Both mechanisms do not rely on explicit agreement among actors but on the absence of protest. It is not the making of common decisions but the attempt to effectively influence this process that requires activity on the part of interested actors. In negotiations and tacit institutionalization actors must choose between comparatively demanding objection and tacit agreement. On any particular decision, the participating actors are separated into two groups, those with vital interests in the issue and the rest for which the particular decision is of minor importance⁷³.

Unlike tacit institutionalization, decision-making in negotiations takes place within *organized* processes of communication. Actors are aware of the precise circumstances of decision-making. They know *where* these decisions are made, *when* they are made, and *to which community* of actors objections must be addressed. In organized decision processes actors may focus their endeavour to influence a particular decision and they may employ reasonable argument.

Whereas voting formalizes decision-making in the very procedure of casting votes, the chairman's statement 'if there is no objection, it is so decided'⁷⁴ merely declares that consensus *has already developed*. Actors desiring to interrupt or influence the process are prevented from merely casting a negative vote *during* decision-making. They must lodge objections *against an emerging trend* and intervene *in the open debate* before a decision is adopted. Serious objections must be accompanied by reasons. It pays for interested actors to convince their co-actors of the advantages of their preferred solutions. Only in this way may they build coalitions for the support of their proposals. Objections against the trend may always fail and opponents may

70 Sizoo/Jurrijens, CSCE Decision-making, p. 61, emphasize that »consensus is not merely a procedure laid down in a number of rules but an ideal which shapes the whole spirit of the conference«.

71 Frequently, consensus is not even formally defined, see Zemanek, Majority Rule and Consensus Technique, pp. 873-875, and Schmans, Einstimmigkeitsprinzip, p. 65. It may be defined as »the absence of any objection expressed by a Representative and submitted by him as constituting an obstacle to the taking of the decision in question«; see rules of procedure of the Helsinki Consultations preceding the Conference on Security and Cooperation in Europe, quoted from Sizoo/Jurrijens, CSCE Decision-making, p. 57. On the development of international decision-making, see Jenks, Unanimity, the Veto, Weighted Voting; and Sohn, Voting Procedures in United Nations Conferences.

72 See Luhmann, Institutionalisation, and above Chapter 9, pp. 359-360.

73 See the model of an 'ideal' negotiation arena, in which only those participants immediately interested in a negotiated issue are placed around the table, while observers sit in the back but retain a permanent right to intervene once they consider their interests touched; Pinto, Modern Conference Techniques, pp. 329-335.

74 See Chistol, The Modern International Law of Outer Space, p. 18 and Gehring/Jachtenfuchs, Haftung und Umwelt, p. 89.

find themselves in the unpleasant situation of isolation⁷⁵. Sole reliance on bargaining power will not suffice as long as other (weaker) participants do not withdraw their more convincing proposals.

Decisions in negotiations are not made by the adoption of comprehensive packages and contentious issues are not settled simultaneously. Rather, objections concerning more and more sub-issues are removed and the related disputes settled by agreement so that they may be put aside and disappear from the agenda. The gradual reduction in the complexity of decision situations is reflected in the removal of bracketed clauses, sub-clauses and figures from draft texts. Settlements achieved by consensus following an open debate are difficult to challenge because indifferent actors will tend to have already accommodated themselves with the result. Even for the most powerful actors it is difficult simply to withdraw agreement on a prior decision. The closed lines of all other actors may force them to re-join consensus⁷⁶. The United States experienced this effect in the course of the negotiations of the Multilateral Fund within the ozone regime, when it withdrew its prior consent to additional funding⁷⁷.

Negotiation is therefore not least a collective learning process. Gradually positions of the participating actors converge. The provision of reasons constitutes a valuable instrument to influence this process. Preferences of actors may modify upon convincing argument. This is especially relevant for complex negotiations involving a huge number of actors and many related issues⁷⁸. Complexity causes indifference of many actors on many issues and provides margins for common problem-solving without violating vital interests. Decision-making by arguing converges the limits of the interval within which the final outcome will eventually fall, although it will usually not fully determine this outcome.

Usually it will not be possible to settle all disputes by exchanging reasonable arguments. A limited number of key-issues will remain pending in a comparatively clear-cut manner. Frequently, these conflicts appear in the form of dichotomies, e.g. whether a particular obligation is supported or rejected. Or they address the exact point of settlement on a continuum, e.g. whether emission reductions or the amount of financial transfers should be somewhat higher or lower. Concerning these remaining issues complexity is severely reduced and uncertainty diminishes. Actors can now anticipate the contract zone and the size of possible joint gains. They are aware of their preferences and of those of their co-actors, and these preferences will remain fairly stable. In their final part, negotiations will therefore be dominated by bargaining over the distribution of joint gains. These final

75 Pressure upon non-agreeing individual actors may be an important integrative device; see *Jaenicke*, Die Dritte Seerechtskonferenz der Vereinten Nationen, p. 451. Isolation is not limited to the corporate actor concerned, but extends to the delegation representing this actor, which may become an effective transmitter of pressure.

76 See *Döbert*, *Vefahrensrationalität*, pp. 38-39.

77 See above, Chapter 7, pp. 295-296.

78 See *Young*, *The Politics of International Regime Formation*, pp. 358-359. Complexity and uncertainty is further increased as corporate actors always act through agents; see *Lax/Sebenius*, *Negotiating through an Agent*.

decisions will be determined, by and large, by the distribution of bargaining power within the decision situation⁷⁹.

Bargaining relates the separate sphere of communication to the underlying sphere of action. Therefore, the distribution of bargaining power inside negotiations should reflect as far as possible the distribution of 'real' power in the sphere of action. It is altogether undesirable that the institutional framework of negotiations significantly changes the distribution of power among actors. Unfortunately, consensus decision-making will have precisely this effect if it is conceived of as 'an institutionalized mutual right to veto'⁸⁰. In this case, it grants even the smallest participating actor the full right to block a decision. Negotiations can only succeed if actors voluntarily refrain from exploiting this extra source of bargaining power, as they do in the regime on long-range transboundary air pollution, or if consensus decision-making is established as an informal practice in the shadow of formal majority voting rules, as it is in the ozone regime⁸¹. In the latter case participants cannot be sure of not being eventually outvoted. The possibility to resort to majority voting exerts a disciplinary influence on participants⁸² because it provides the majority with a device to re-draw the boundaries of the relevant community.

Even if it does not constitute an extra source of bargaining power, the mechanism of consensus decision-making exerts influence on the final stage of negotiations. Decisions are still made by reaching mutual agreement upon withdrawal of all objections against a proposal. Convincing argument is still relevant. What has changed is the type of argument that counts. Actors do not any more predominantly argue over the appropriate solution of a problem and do not therefore invoke criteria of desirability. Now they argue over the acceptability of policy options and must invoke criteria concerning the appropriate balance of interests. Third parties with little or no bargaining power and minor parochial interests in the particularities of the outcome may heavily influence the eventual settlement⁸³. They may rationalize the process of separating options that are commonly acceptable from those that are not. Their successful intervention emphasizes that even in the final stage of negotiations outcomes are not always fully determined by interaction in the mode of game.

In the initial stages of negotiation actors will withdraw a proposal or objection once they become convinced of the appropriateness of other solutions. In the final stages they will withdraw a proposal or objection once they become convinced that it will not be acceptable to the community and will therefore not enter the final agreement.

79 Rational choice approaches throughout focus on this last stage of negotiations; see e.g. *Scharpf*, *Koordination durch Verhandlungssysteme*.

80 See *Vitzthum*, *Friedlicher Wandel durch völkerrechtliche Rechtsetzung*, p. 145.

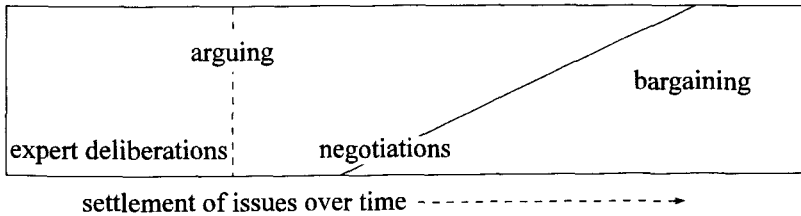
81 Majority voting in turn risks a divorce of power and majority; see *Buzan*, *Negotiating by Consensus*, p. 326. and requires a high degree of uniformity and confidence among the community of actors; see *Vitzthum*, *Die Bemühungen um ein Régime des Tiefseebodens*, p. 751.

82 See in respect of the UNCLOS III negotiations, *Eustis*, *Procedures and Techniques*, pp. 234-235. On the experience with majority voting within the European Community, see *Dehousse/Weiler*, *The Legal Dimension*, pp. 247-248.

83 See *Young*, *Political Leadership and Regime Formation*.

However, consensus decisions do not reveal the reasons for the withdrawal of unsuccessful proposals or objections. They do not indicate whether their proponents are 'really' convinced by other solutions, or whether they merely believe that their bargaining power does not suffice to make them commonly acceptable. In a broad grey zone, both motivations in combination may determine an actor's decision (see Figure 11.6).

Figure 11.6: Arguing and Bargaining in Negotiations



What matters is not the clarity of the delimitation of the interval but the relevance of interaction in the mode of debate (arguing) and its relationship to interaction in the mode of game (bargaining). Institutionalized processes of organized communication and collective decision do not exclude the balancing of interests through bargaining, but they implicitly reduce the relevance of this mechanism by providing a second mechanism for the integration of diverging opinions, namely the voluntary adaptation of preferences according to collectively elaborated insights.

2.3. The 'Binding Force' of Cooperative Arrangements

A cooperative arrangement resulting from negotiations and consensus decision-making may be assumed to gather wide support. Its legitimacy will rest on two pillars, namely the careful balance of interests of the participating actors according to the distribution of bargaining power in the issue-area promising joint gains and the conviction of the participating actors that the negotiated arrangement constitutes, under the given circumstances, an appropriate response to the underlying problem⁸⁴. Negotiations provide the institutional mechanism to balance interests and to select options according to their appropriateness. Actors having participated seriously in successful negotiations will be convinced that the resulting arrangement constitutes the best possible solution under given conditions because a better agreement could not have been achieved⁸⁵. In fact, the legitimacy of an international

⁸⁴ This notion of legitimacy refers to the 'procedural rationality' put forward by Eder, *Prozedurale Rationalität*. It is clearly distinct from the moral connotation adopted by Franck, *The Power of Legitimacy*, pp. 24-26.

⁸⁵ Decisions adopted by consensus may be assumed to incorporate as high a degree of material justice as can be realistically achieved in a given situation; see also Rittberger, *International Regimes and Peaceful Conflict*

agreement relies on a substantive and a procedural criterion. Actors must be substantively better off with cooperation than without; more precisely, they must *be convinced* that they are better off. And the precise outcome must be acceptable to them, that is, they must be convinced that the procedure adopted is sufficiently reasonable to produce acceptable outcomes⁸⁶. Actors that consider an international agreement as legitimate may still decide whether to comply with its provisions or to take a free ride. But they must be assumed to generally accept and support the result, including its distributive effect. Therefore, international governance of a given issue-area, i.e. the purposeful intervention to affect established behaviour in a collectively determined way, will itself be conceived as legitimate by the actors concerned if its core, i.e. the cooperative arrangement, is considered as legitimate.

However, the intervention of reasons as a source of influence that mitigates the relevance of bargaining power raises a serious problem. Arguments must be credible for a particular audience, and they must respond to assertions of co-participants that were actually made. A single assertion may be challenged in different ways and will then be defended by different arguments. Consider the assertion that 'the Montreal Protocol (of 1987) was the best possible outcome that could be achieved'. An environmental audience would discuss its relative insufficiency to protect the ozone layer, while an industrial audience might argue about high investment costs. Hence, the outcome of an exchange of arguments will be related to a specific communication process. The immediate effects of convincing arguments may be limited to the participating actors for only these actors had the opportunity to challenge validity claims. It matters therefore who the participating actors really are⁸⁷.

Unlike bargaining power that is largely if not entirely a property of states, it is not at all clear that the power of convincing arguments also extends to 'states'. In negotiations corporate actors always act through elites⁸⁸, i.e. through their delegates⁸⁹. Whom do these delegates represent? If states behave in a sufficiently coherent way and follow sufficiently homogeneous interests, they may be considered as unitary entities. However, given the increasing interdependence within the international system, states do not any more confine their external communication to traditional

Resolution, pp. 149-150. On the relationship of material justice and political circumstances, see *Vitzthum*, *Materielle Gerechtigkeitsaspekte der Seerechtentwicklung*.

86 The legitimacy of an agreement is thus closely related to the acceptability of the procedure of its coming into being; see *Luhmann*, *Legitimation durch Verfahren* ('legitimacy by procedure'). See also *Rittberger*, *Peace Structures Through International Organizations and Regimes*, p. 5, and *Vitzthum*, *Verfahrensgerechtigkeit im Völkerrecht*.

87 On the impact of active participation of actors in negotiations on the level of compliance, see *Schachter*, *The Nature and Process of Legal Development*, p. 778.

88 See *Young*, *Compliance and Public Authority*, pp. 38-40.

89 *Keohane/Nye*, *Transgovernmental Relations*, p. 45, initially emphasized the relevance of direct communication between representatives, i.e. persons in such fora: 'in the long run ... international organizations will affect how governmental officials define 'issue areas'', *ibid.*, p. 51 (emphasis added). The emphasis on individuals does not appear necessary to explain the phenomenon of transgovernmental relations nor adequate in the context of international relations theory. It was dropped by the same authors in their later work, see *Keohane/Nye*, *Power and Interdependence*.

channels of foreign relations controlled by ministries of foreign affairs⁹⁰. Instead, functional bureaucracies develop their own relations with their counterparts in other countries⁹¹. Accordingly, states may cease to act unitarily. They may pursue different and occasionally contradictory goals in different issue-areas and 'speak with different voices'⁹². In these cases, functional bureaucracies may constitute the true international actors⁹³.

As far as functional bureaucracies constitute the true participants in negotiations, the power of the arguments discussed will not immediately affect 'states' but merely these sub-state actors. As soon as the legitimacy of a cooperative agreement rests partially on these arguments, it will also be limited to sub-state actors unless rival bureaucracies consent to it. Indeed, Keohane and Nye observed that negotiations provide a source of bargaining power for functional bureaucracies at the domestic level. Sub-national actors from different states that interact within a given issue-area may build trans-governmental coalitions and support each other in their disputes with rival bureaucracies of their own states⁹⁴. In this case, sub-national actors occupy an intermediate role. They do not only represent states at the international level, they also promote agreed outcomes domestically⁹⁵. Intensified communicative relationships within distinct sectors may thus partially transform conflicts. Whereas international relations analysis traditionally locates conflicts at the international level, they may, in fact, appear at the domestic level⁹⁶.

Rival bureaucracies do not necessarily remain indifferent as to a given cooperative arrangement agreed upon at the international level. They may endeavour to actively hamper its implementation. An international agreement will not easily be rejected if the functional administrative units which participated in the process of decision-making at the international level are responsible for its implementation domestically⁹⁷. In contrast, the probability of failure will increase if implementation may be undermined by rival units.

The nature of 'defection', so important in mainstream regime theory, modifies accordingly. A functional administrative unit may well desire to implement an agreement and nevertheless be inhibited from doing so. Defection does not any

90 This development is also recognized by international lawyers; see *Zemanek*, Codification of International Law, p. 587: 'It is an axiom of international law that States as subjects of the law speak with one voice. *Reality disproves this legal fiction*, in particular in connection with multilateral law-making' (emphasis added). On foreign relations of the Austrian government, see *Zemanek*, *Autriche*.

91 *Keohane/Nye*, Transgovernmental Relations, p. 42, define 'transgovernmental relations' as a set of *direct interactions* among sub-units of different governments that are not controlled or closely guided by the policies of the cabinets or chief executives of those governments' (emphasis added). Hence, they intended to 'regard only the relatively autonomous activities of the lower-level bureaucracies' (ibid.).

92 States become 'multifaceted, even schizophrenic', *Smith*, Explaining the Non-proliferation Regime, p. 279.

93 *Keohane/Nye*, Power and Interdependence, pp. 24-36, identified functional bureaucracies as the proper actors in a large number of so-called 'low politics' issue-areas that come close to 'complex interdependence'. See also *McDougal/Lasswell/Reisman*, The World Constitutive Process, p. 138.

94 See *Keohane/Nye*, Transgovernmental Relations, pp. 46-47.

95 See *Putnam*, Diplomacy and Domestic Politics, pp. 433-434.

96 On the interdependence of processes proceeding at the domestic and at the international level, see *Putnam*, Diplomacy and Domestic Politics.

97 See *Young*, International Cooperation, p. 77.

more (solely) rest on the individual rationality of state actors and their alleged desire to take a free ride. It may result from competition between sub-state actors active in different issue-areas. Voluntary defection following from the pursuit of parochial interests diminishes. Instead, the relevance of 'involuntary defection'⁹⁸, that is, the ex post rejection of international agreements within the domestic process, increases.

It may therefore be useful to extend the 'binding force' of a cooperative arrangement beyond the functional bureaucracies that were immediately involved in its negotiation to 'governments' and 'states'. A convenient mechanism to achieve this task is the transformation of an agreement into formal international treaty law. Usually this transformation requires ratification and involves the participation of general national actors beyond the sector concerned, e.g. cabinets and parliaments⁹⁹. The ratification procedure provides an opportunity for these actors to carefully examine the agreement and an option to choose exit. The deposition of the ratification instrument with the depositary of the treaty thus symbolizes the acceptance of the (now legally) binding force of the cooperative arrangement¹⁰⁰ by governments and states and not only by their competent functional administrative units. Still, the extension of the binding force of a cooperative arrangement does not rest on its formalization¹⁰¹. It follows from the complicated process of ratification that requires the consent of high-level sub-state actors¹⁰².

However, a high price has to be paid for the transformation of a cooperative arrangement into a formal international treaty. Ratification requires the *active* acceptance of a treaty by any single state while exit may be chosen tacitly¹⁰³ and does not have to be justified. The rationale of ratification is that of unanimity. It is diametrically opposed to that of consensus decision-making. This is one reason for the sluggish entry into force of many international treaties¹⁰⁴. Revisions of a valid international treaty are usually also subject to the cumbersome process of ratification. Frequently the instrument of formal international treaty law will be too inflexible to meet the demand for the quick adaptation of agreed norms to changing

98 See Putnam, *Diplomacy and Domestic Politics*, p. 438.

99 The extent of the influence of parliaments on the content of an international agreement may still be low, see Tomuschat, *Der Verfassungsstaat im Geflecht der internationalen Beziehungen*, pp. 26-37.

100 Ago, *La codification du droit international*, pp. 102-108 identifies ratification as one of three stages for the codification of international law.

101 According to international law treaty-making does not depend on ratification. The Convention on the Law of Treaties defines: 'treaty' means an international agreement concluded between States in written form and governed by international law ... whatever its particular designation'. The ratification requirement is generally enshrined in domestic legislation; it may also be provided for by a particular treaty, see Kimminich, *Einführung in das Völkerrecht*, p. 232.

102 Except from the rare cases in which international adjudication is a viable option, the transformation of negotiated obligations into formal international law does not constitute an independent source of the extended binding force; Wolf/Zürn, *Macht Recht einen Unterschied*, pp. 12-17, do not sufficiently distinguish between these two dimensions.

103 The stage of ratification has always posed problems for the codification of international law, see Ago, *La codification du droit international*, and Ago, *Nouvelles réflexions sur la codification du droit international*, pp. 557-563; see also Zemanek, *Codification of International Law*, p. 501.

104 On some reasons for the slow process of ratification, see Schachter/Nawaz/Fried: *Toward wider Acceptance of UN-Treaties*.

circumstances. Hence, there are good reasons for a community of actors to place an international agreement below the threshold of formal treaty law¹⁰⁵.

It will depend on the particular circumstances whether the norms of an international regime are better codified in formal international treaties or in so-called 'soft law' instruments that circumvent the cumbersome ratification procedure and resort to decisions, resolutions and other less formal instruments but acquire no (or at least an inferior) formal legal status¹⁰⁶. In international regimes, norms of both types may co-exist¹⁰⁷. The functional distinction between these two types of codification may be delineated as follows.

'Soft law' agreements are highly flexible because they enter into force immediately upon their collective adoption. Hence, they reinforce the relevance of the stage of collective decision-making, but their binding force extends primarily to domestic actors that are closely related to the issue-area concerned. Due to their flexibility they are particularly well suited for technical and short-term or interim arrangements¹⁰⁸. The binding force of technical arrangements does not *have to* extend beyond the transnational community of actors involved in the negotiation process because they are of less concern beyond a specific issue-area. Interim and short-term arrangements usually require a high degree of flexibility because they are designed to bridge regulatory gaps for limited periods of time and may be replaced thereafter¹⁰⁹. The community of actors participating in the international regime for the protection of the ozone layer, for example, desired in 1990 to establish as quickly as possible a funding mechanism to allow the wide-spread participation of developing countries. Amendment of the Montreal Protocol (i.e. a formal international treaty) alone appeared to be too slow. Therefore the community of actors established a multi-million dollar Interim Multilateral Fund by a mere Decision of the Meeting of the Parties with a doubtful formal legal status¹¹⁰.

Unlike 'soft law' instruments international treaties acquire an enhanced binding force because domestic ratification involves a number of relevant state actors beyond the limits of the issue-area concerned. But the ability to mobilize widespread domestic support renders them highly inflexible. Formal international treaties are therefore the appropriate type of instruments to codify norms that shall last over an extended period of time or that are hotly disputed domestically. The

105 See *Lipson*, Why are some International Agreements Informal; *Aust*, The Theory and Practice of Informal International Instruments.

106 On 'soft law', see *Lang*, Die Verrechtlichung des internationalen Umweltschutzes; see also *Dupuy*, Soft Law and International Law of the Environment.

107 Beside norms codified in hard or in soft law, unwritten norms co-exist as a third type. An example from the international regime for the protection of the ozone layer is the making of decisions by consensus in the shadow of formal rules providing for majority voting.

108 By contrast, *Kratochwil*, Norms, Rules and Decisions, pp. 200-204, considers declarations of principles as the prototype of 'soft law' instruments. On the relevance of resolutions and decisions of 'Parliamentary Diplomacy', see *Sepúlveda*, Methods and Processes for the Creation of Legal Norms, pp. 444-451.

109 On a variety of new devices to overcome undesirable time lags, see *Sand*, Lessons Learned in Global Environmental Governance, pp. 14-18.

110 See *Gehring*, International Environmental Regimes, pp. 49-50. On the Interim Multilateral Fund, see above, Chapter 7, pp. 296-298.

delayed entry into force of lasting agreements (e.g. border treaties) will be of little relevance as compared to the higher binding force of treaties because the legitimating effect of serious negotiations may be assumed to decrease over time.

The Geneva and Vienna Conventions and their dependent treaties (protocols), i.e. the formal foundations of the two international regimes explored in the present study, offer the opportunity to combine both types of codification. On the basis of formal international legal treaties they establish an institutional framework for the hammering out of substantive norms. This general policy direction of cooperation in the issue-areas concerned and the institutional framework have thus been endorsed by the states at large. In contrast, the entry into force of decisions on specific measures, although formally amending the treaty, do not always require ratification.

One simplified amendment mechanism is the so-called 'opting out' procedure¹¹¹. Annexes to the Vienna Convention and the Montreal Protocol enter into force for all parties that do not notify their *disapproval* within a fixed period of time. This mechanism replaces the formal ratification procedure by another round of consensus during a fixed period of time after negotiations have been concluded. According to the Montreal Protocol modifications of control measures enter into force for all parties immediately upon adoption by the Meeting of the Parties. This mechanism further increases the flexibility of international cooperation.

Simplified amendment procedures of formal treaties establish a hybrid form. Amendments of this type are almost as flexible as 'soft law' because they avoid ratification and do not require the consent of sub-state actors beyond the issue-area. However, new (tightened) obligations coming into force by simplified amendment procedures cannot be ignored without breaking the umbrella treaty whose legitimacy and binding force is based upon a full-fledged ratification procedure. Treaty systems of this type combine the flexibility of 'soft law' with the enhanced binding force of formal international treaties.

To summarize, the binding force of a cooperative arrangement rests entirely on the conviction of actors that the outcome of negotiations reflects the best possible agreement under the given circumstances. The participating actors argued over the reasonableness of their arguments and bargained about the acceptability of their proposals. If these participating actors are not states but sub-national administrative units, the binding force of an agreement may have to be extended to more general and high-level sub-state units to bind 'the state at large'. Ratification and the transformation of an agreement into formal international law is a common procedure to this effect. Yet, even then the enhanced binding force is not rooted in the formal status of a legal instrument but originates from the domestic *process of formalization*.

¹¹¹ On procedures for a speedy revision of specific instruments, see *Bosselmann, Die Festsetzung und Bindungswirkung internationaler technischer Regeln*.

3. The Process of Regime Formation

The emergence of a cooperative agreement is a long process and involves a number of successive stages. It starts with the appearance of a problem on the international agenda and concludes with the effective generation of normative expectations that guide actors' behaviour in a given issue-area¹¹². In the present section, a preliminary model of this process shall be developed that covers regimes of both the static and the dynamic type. As any model of a social process it abstracts from specificities of particular norm-moulding processes and separates the stages in a more clear-cut manner than reality does. Even more, some norm-moulding processes may skip a stage or pass some stages in reverse order¹¹³. Nevertheless, the model draws attention to some typical aspects of the norm-moulding process. It will be expanded in the following two chapters.

Irrespective of whether an underlying problem has an objective existence, regime development does not start until a problem of interaction emerges on the international agenda. One or more interested actors must desire a change of existing normative expectations. These initiators must promote their claim successfully and gain the attention of the relevant co-actors in the international system. Hence, international cooperation understood as achieving joint gains by deliberate adaptation of behaviour begins with the stage of *Agenda Setting*. Inevitably this stage is discharged unilaterally by one or more initiators, although for that purpose the fora of established international organizations or communication processes may be exploited¹¹⁴.

Recognition of an issue as contentious and internationally relevant does not imply that a community of actors already engages in its settlement. Long-range trans-boundary air pollution had been on the ECE agenda for some years until the problem was seriously addressed, and ozone depletion remained dormant even longer on the agenda of UNEP. In the next stage actors define the range of issues that shall be clustered in the emerging issue-area and determine the group of actors that shall form the relevant community. Moreover, they separate a sphere of communication from that of action and agree in principle to settle the issues concerned at the former. Hence, they establish an *Institutional Framework*. This stage cannot be performed by some interested actors alone. Unlike the promotion of normative change it is inevitably subject to collective decision.

At the stage of *Information* actors develop their own perception of the problem at stake and clear the cognitive foundations for action. Decision-making is prepared by

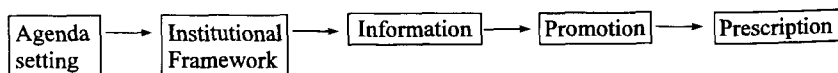
112 This model is adapted from the New Haven model of law as a process of authoritative decision; see McDougal/Lasswell/Reisman, *The World Constitutive Process*, pp. 133-154. For other forms of the policy-cycle, see Prittwitz, *Das Katastrophen-Paradox*, p. 95, and Soroos, *A Theoretical Framework for Global Policy Studies*, p. 311.

113 Modern policy-analysis denies the mechanistic conception of the policy-cycle; see Héritier, *Policy-Analyse. Elemente der Kritik und Perspektiven der Neuorientierung*, pp. 9-14.

114 In this case, the stage of *Agenda Setting* for the new regime coincides with the later stage of *Promotion* within the parent organization or communication process.

the collection, processing and dissemination of information concerning non-social aspects, e.g. the scientific foundations of an environmental problem, as well as social aspects, e.g. the assessment of preferences and interests of co-actors. To a large extent, this stage is performed by the participating actors unilaterally. Activities will not be limited to state-actors. Since cognitive knowledge is particularly wide-spread and usually not under the immediate control of states, non-state actors, e.g. scientists, epistemic communities, industrial and environmental non-governmental organizations, may participate in this stage. The stage of *Information* may acquire a collective dimension if negotiations produce cognitive consensus, in particular if they are preceded by the collective evaluation of facts that generates a common perception of the underlying problem.

Figure 11.7: The Process of Regime Formation



On the basis of their perception of the underlying problem actors submit and advocate their claims. At the stage of *Promotion* they intensify their demands for the authoritative prescription of a particular out of a number of possible policy options. This stage is inevitably decentralized. Like the stage of *Information*, it is not limited to the conference room and to officially participating (state-) actors. Claims may be promoted within or outside the negotiations proper but activities are intended to influence the organized decision process. Negotiations may become the core and focal point of a whole range of bilateral and multilateral diplomacy¹¹⁵, as well as of different types of activity by non-governmental actors raising public support or lobbying for their interests.

At the stage of *Prescription* unilaterally promoted claims of individual actors converge and form normative expectations common to the actors concerned. *Prescription* is not legislation, i.e. the adoption of instruments according to formal procedures, but the effective generation of common normative expectations. Unlike the moulding of norms in simple normative systems this stage is necessarily performed collectively in international regimes and focuses on the gradual reaching of common agreement. It is inevitably confined to the community of actors with a standing in the process, while the activities of outsiders may be directed at influencing these actors and remain at the stage of *Promotion*. Hence, NGOs participating as observers in the negotiations of the regimes on long-range transboundary air pollution and protection of the ozone layer may generate pressure within the conference room, but they do not accede to the stage of *Prescription*.

¹¹⁵ A particularly well-suited example is the '30 %-Club' that raised support for the later SO₂-Protocol; see above, Chapter 4, pp. 142-153.

The process of norm-moulding may be modelled as a chain of the aforementioned five successive stages. It reflects the idealized development of a cooperative arrangement over time. Although large overlaps between stages will occur in practice¹¹⁶, the model draws attention to norm-moulding *as a sequence of stages* and their mutual influence¹¹⁷. The outcome of each stage is affected by developments at preceding stages. The stage of Agenda Setting affects the following establishment of an Institutional Framework that will be tailored around the initial issue of the international agenda. The institutional framework delimitates the community of actors that will be involved in the process and the range of issues that may be addressed. It provides the necessary criteria for the selection of relevant Information. Social choice will be promoted and collectively made on the basis of the perception of underlying problems and cognitive knowledge. Hence, Information exerts influence on the stage of Promotion of specific policies, while effective Prescription of norms is an immediate result of the successful Promotion of claims.

The model draws attention to the change between stages that may be performed by interested actors unilaterally and other stages that require collective activity. While single actors endeavour to set issues on the international agenda, the decision to address the issue in the sphere of verbal communication related to the, however remote, prospect for a mutually beneficial cooperative arrangement must be made collectively. Only a group of actors can establish the necessary institutional framework and simultaneously constitute itself as a community. Likewise, the gathering and dissemination of information and the promotion of desired policy options are largely a matter of actors, while the effective generation of norms accepted as valid within the community of actors is a collective activity.

The collective establishment of an Institutional Framework and collective decision-making in the stage of Prescription are the minimum conditions for international regimes. Otherwise interaction and norm-moulding resort to the sphere of action and norms follow action instead of constituting instruments for deliberate change. However, other stages, in particular Information and Promotion, may also be performed collectively. The discussion on the role of cognitive consensus among actors suggests that more wide-spread collective activities facilitate negotiations and strengthen the emerging institution. Hence, all stages *may* acquire a collective dimension, but some must be open for interventions from beyond the organized process of communication.

Prescription is the final stage of the norm-moulding process, but it is not the end of the story. By definition, norms will guide actors' decision-making, but they may not be complied with. And even if actors adapt their behaviour according to valid norms, action may nevertheless fail to respond adequately to the underlying problem. These issues will be addressed in the following two chapters, and the interaction model will be elaborated and supplemented accordingly.

116 See also Schreuer, *New Haven Approach und Völkerrecht*, p. 69.

117 See Schubert, *Politikfeldanalyse*, p. 77.

4. Conclusion

The concept developed in the preceding chapter distinguishes international regimes from simple normative systems by the mode of interaction among actors. International regimes and their norms must emerge from organized communication and collective decision-making, i.e. usually from negotiations. Only norms of this type may serve as guidelines for the purposeful change of behaviour that promises joint gains.

Negotiations establish a sphere of communication beside the existing sphere of action. The norms of international regimes are moulded in the sphere of communication, but they should affect behaviour in the sphere of action. If rational and egoistic utility maximizers are envisaged to adapt their behaviour according to negotiated norms, negotiations of these norms may not be divorced from the constellation of interests and the distribution of power prevailing within a given issue-area. Negotiations cannot be discourses that exclude power and parochial interests to the greatest extent possible.

And yet, the transfer of decision-making from the sphere of action to that of communication changes the situation fundamentally. If actors desire cooperation, they will be forced to seek common agreement and cannot solely rely on unilateral decisions any more. They are not only 'constraints' for each other's pursuit of interests any more, they become like-minded members of a community of actors determined to overcome a sub-optimal outcome by cooperation. The collective search for solutions to their common problem requires a modification of interaction among the participating actors. Arguing becomes a viable form of interaction. It does not replace bargaining, but occupies an important role beside it.

Interaction by arguing is suitable for producing joint gains and furthering the common interests of the negotiating actors, while bargaining will intervene as soon as joint gains are distributed. The combination of these two modes of interaction causes the 'dilemma of negotiations'. Bargaining threatens to supersede arguing and to prevent the achievement of commonly beneficial outcomes altogether. It is in the common interest of the participating actors to protect arguing from the early intervention of bargaining.

For this reason, issues that are not immediately related to social choice and the distribution of costs and benefits are frequently dealt with separately. Cognitive issues are particularly well-suited for discursive deliberations because they refer to experience and empirical observation beyond social control. Consensus achieved in these separate proceedings facilitates a common perception of the underlying problem and narrows the range of remaining policy options that may be reasonably promoted. Moreover, especially in complex international negotiations arguing is implicitly favoured over bargaining by consensus decision-making that selects issues according to their degree of disagreement. Early decisions will usually rely

on convincing argument, while more contentious issues remain on the agenda until the final (bargaining) stages of negotiations.

The outcome of negotiations must be mutually beneficial and accommodate specific interests. The acceptability (legitimacy) of an arrangement rests on the careful balancing of interests and on the conviction of the actors to have negotiated a reasonable outcome. To be inclined to comply with his obligations an actor must be convinced that a cooperative arrangement is advantageous for himself (substantive aspect). He must also be convinced that the arrangement can be considered *under the prevailing circumstances* as reasonable concerning the distribution of net gains and the response to the underlying problem.

A cooperative arrangement of this type is immediately linked to a specific process of communication within a particular community of actors and based upon a balance of interests of these actors. It constitutes a *closed sectoral normative system*. Within the system, externally generated norms are not relevant, unless the community of actors deliberately chooses to internalize them. Its norms rely exclusively on the power, interests and problem-perception of the participating actors and on the relevant constellation of interests. Usually, the arrangement will not account for the interests of actors beyond the relevant community, and its norms do not mobilize stabilizing power beyond the community of actors. Unless the same actors develop rival norms that really govern the issue-area, the sectoral normative system fulfils all conditions for an international regime.

Chapter 12

The Policy Dimension of International Regimes

International regimes are not necessarily limited to ad hoc cooperation. The adoption of a mutually acceptable cooperative arrangement by collective decision-making may not always suffice to govern an issue-area. An international regime may be established not only to realize mutual benefits from cooperation but also in response to an underlying problem with an independent existence that cannot be solved at once. In this case the *direction of desired development* within the issue-area is determined separately from opportunities for cooperation. Hence, international regimes may comprise a policy dimension.

The policy dimension reflects some aspects of the 'principles' component of international regimes according to the consensus definition and has an orientation function for the decision process of an international regime. It indicates the direction of desired development of the behaviour of actors within a given issue-area. Therefore, it must be carefully distinguished from policies promoted by individual actors which may contradict each other. It must also not be intermingled with the goals and programmes agreed upon by a community of actors.

The present Chapter introduces the policy-dimension of international regimes. It starts with an inquiry into the theoretical relevance of the policy dimension of international regimes and argues that both mainstream regime theory and problem-solving approaches link policy and cooperation too closely to be able to accommodate them in a comprehensive approach (Section 1).

Subsequently, it unties the close link between policy and cooperation. A policy dimension largely separated from the issue-area structure and from cooperative arrangements founded on this structure will not be apt to immediately influence the behaviour of actors. Rather, it predominantly guides the decision process of international regimes. In this way it links scattered incidents of cooperation in a purposeful manner. The policy dimension is thus part of the institutional framework from which cooperative arrangements emerge (Section 2).

Finally, the Chapter examines opportunities for policy-making in dynamic international regimes and argues that policy-making in this type of regime is directed towards achieving gradual progress in the desired direction of change. Over time regime governance may itself become a source of structural change and enlarge the margin for cooperation in the issue-area governed (Section 3)

1. The Close Link between Policy and Cooperation in Current Approaches to International Regimes

According to the definition developed above¹ and in agreement with the general research perspective of regime theory, international regimes are conceived as negotiated and deliberately concluded devices for the improvement of sub-optimal outcomes². Hence, they are commonly adopted arrangements for the purposeful influencing of actors' behaviour. In contrast to simple normative systems, international regimes necessarily rely on an existing gap between actual and desirable outcomes. Without a perceived desirability of adaptation of behaviour to commonly agreed standards, cooperation will not emerge. Cooperating actors intend to affect outcomes *in a particular direction*. They pursue a common policy.

The analytical apparatus of public policy analysis may appear suitable for the analysis of the policy-dimension of international regimes. Indeed, the use of an important analytical tool of public policy analysis, namely the policy cycle, was proposed for the analysis of international regimes at the outset of the German regime discussion³. Yet, the transfer of this approach to the analysis of governance by international regimes is highly problematic because it risks adopting a problem-solving perspective. In particular the analysis of international environmental regimes frequently adopts this perspective⁴.

A problem-solving approach emphasizes the importance of the policy dimension⁵. It is founded on the identification of a problem of mutual concern that merits attention and must be solved in the interest of the relevant community of actors. Problems are not necessarily limited to their social dimension. A social conflict may be rooted in an underlying non-social problem. In this case, problem assessment may primarily refer to empirical observation and experience. It becomes largely a matter of scientific inquiry and expert knowledge. If the powerful actors of the international system, i.e. states, are not aware of an urgent problem or refuse to recognize its relevance, expert (or 'epistemic') communities⁶ may promote problem awareness. Once a problem has been recognized as relevant, experts may work out efficient strategies for its solution. They may develop scientifically founded goals and programmes for the realization of these goals⁷. The predominant actors of the inter-

1 See above, Chapter 10, p. 397.

2 See Rittberger, *International Regimes in the CSCE Region*, p. 361.

3 Rittberger/Wolf, *Policy-Forschung und internationale Beziehungen*, pp. 208-210, considered the policy cycle suitable for the analysis of international regimes. On the relationship between policy analysis and regime analysis, see Wolf/Zürn, *International Regimes und Theorien der internationalen Politik*, pp. 206-207.

4 See P. Haas, *Saving the Mediterranean*; Prittwitz, *Internationale Umweltregime*; and Keohane/Haas/Levy, *The Effectiveness of International Environmental Institutions*, pp. 3-8.

5 Policy analysis consists of two branches that either *explain* outcomes in terms of interaction among a group of actors (analytic branch) or *recommend* policies for adoption (prescriptive branch); see Scharpf, *Intergovernmental Policy Studies*, pp. 2-5. The present discussion exclusively addresses this latter, *problem-solving* approach, and it does so only as far as it is relevant for regime analysis.

6 See P. Haas, *Epistemic Communities and International Policy Coordination*.

7 See e.g. Haas/Williams/Babe: *Scientists and World Order*; Soroos, *Beyond Sovereignty*.

national system with their parochial interests may at best not hinder the solution of a recognized problem⁸.

From this perspective strategies and programmes are derived from the nature of an assessed problem by logical reasoning. This may explain the technocratic and prescriptive nature of this approach. Once the problem is clear, solutions may be worked out and then await implementation. From this perspective, international regimes constitute devices for solving recognized problems⁹. The participating actors establish specific goals and adopt programmes for their realization. Accordingly, an 'objectively' given problem (more precisely, its perception by experts on the subject) determines the policy of the regime. Moreover, the establishment of an international regime must be closely related to the intention of actors to overcome the underlying problem. It is then consistent to evaluate the success of international regimes in terms of the degree to which established goals have been achieved¹⁰.

Yet, it is not at all clear that the actors establishing an international regime do in fact have the serious intention of solving the underlying problem and of adopting a common 'global policy'¹¹. For example, the adoption of the Vienna Convention for the Protection of the Ozone Layer constituted a collective response to a proposal for collective action in the context of an existing environmental problem. The proposal was thus directed at changing the behaviour of the participating actors in a desired direction. However, the parties could not agree on the necessity to adopt thorough measures to effectively control emissions of ozone depleting substances. Apparently, substantive cooperation was not compatible with the constellation of interests prevailing in the issue-area. Depletion of the ozone layer was not yet perceived as a common problem whose solution would be mutually beneficial.

The adoption of the Geneva Convention on Long-range Transboundary Air Pollution was a similar response to the demand by some particularly heavily affected countries to adopt an internationally agreed pollution abatement programme in the context of an existing environmental problem. Yet, again wide disagreement prevailed on the *substance* of cooperation in the issue-area of transboundary air pollution. Apparently, the issue-area structure again precluded agreement on a substantive pollution abatement programme¹². Hence, regime formation in the issue-area of transboundary air pollution in Europe coincided with the wide-spread intention of the participating actors *not* to engage in substantive cooperation.

⁸ See e.g. P. Haas, *Saving the Mediterranean*, p. 111.

⁹ Soroos, *Beyond Sovereignty*, p. 21, argues that international regimes provide the institutional environment for international policies. Likewise, Prittwitz, *Das Katastrophen-Paradox*, pp. 263-267, considers regimes as devices for the accommodation of differing interests.

¹⁰ See Prittwitz, *Internationale Umweltregime; Kohler-Koch, Zur Empirie und Theorie internationaler Regime*, p. 46.

¹¹ The 'global policy' approach is nevertheless rather close to that of 'international regimes' if the term 'global' is understood as 'international' and does not necessarily comprise actors from all over the world. On global policy, see Soroos, *Beyond Sovereignty*; Soroos, *A Theoretical Framework for Global Policy Studies*. However, it is arguable whether it is in any way analytically more advantageous than regime analysis; see Donnelly, *Global Policy Studies: A Sceptical View*.

¹² See the assessment of the situative structure at the time of regime formation, Chapter 8, pp. 326-329.

The adoption of the two framework conventions was immediately related to the underlying environmental problems of transboundary air pollution and depletion of the ozone layer. In the absence of these problems the regimes would not have come into being. And yet, regime formation did not at all reflect the collective intention to solve the underlying problems. On the contrary, the majority of participating actors recognized these problems and nevertheless rejected serious programmes for their solution, while problem-solution was recommended by scientists and promoted by some interested parties.

Hence, even actors which are forced to recognize a given problem may reject serious action for its remedy. The existence of a problem and its perception does not necessarily imply that its solution enters the preferences of the relevant actors, far from it. Any endeavour to thoroughly solve the problem may contradict actors' preferences. Apparently, the levels of problem perception and of adaptation of behaviour to solve a recognized problem are far more loosely linked than assumed by problem-solving approaches.

Mainstream regime theory and its conceptional 'hard core', i.e. the theory of games and groups, link the levels of problem perception and adaptation of behaviour even more closely. These approaches do not address non-social problems that may be discovered. They exclusively address problems arising from socially problematic constellations of actors and their interests in given decision situations. For them, actors matter, and so do their interests and their structural power to pursue these interests within existing issue-area structures. Accordingly, relevant problems do not have an existence beyond the perception of actors and only to the degree that they affect their orders of preferences. What matters is not the phenomenon of, for example, ozone depletion, but the social conflict among actors concerning action in the related issue-area. Endeavouring to avoid the utopianism of problem-solving approaches mainstream regime theory is 'realistic' in the sense of exclusively focusing on the existing preferences of these actors.

While some constellations of interests are socially unproblematic and do not require cooperation among actors, and others preclude cooperation altogether, in a number of isolated 'mixed-motive' situations the individually rational behaviour of actors does not automatically lead to optimum outcomes. In these situations cooperation is necessary and desirable to improve outcomes. It is also possible (or at least not entirely impossible) because cooperation does not require the adaptation of actors' behaviour against their parochial interests¹³.

According to this concept, the ability to solve collective problems and achieve cooperation in the international system immediately rests on the constellation of interests of actors prevailing in a given issue-area. Hence, the issue-area structure determines the prospect for cooperation. It also determines the overall policy of this cooperation. In a situation of the sub-optimal supply of a collective good cooperation will necessarily be intended to supply this collective good. In a situation of the

13 On the concept of mainstream regime theory, see above Chapter 1, pp. 33-49.

Prisoners' Dilemma type, cooperation will inevitably be designed to overcome this dilemma.

If international regimes are, in essence, mere reflections of cooperation based on the structure of the issue-area governed¹⁴, this structure will by and large determine the policy direction of the related regime. The regime does not respond to the nature of the underlying problem (e.g. depletion of the ozone layer) but exclusively to opportunities for cooperation in an existing constellation of interests. As soon as the structure of an issue-area changes significantly, cooperation will have to change and may affect the overall policy of the related regime¹⁵. Far from being ordered in the empirically observed hierarchy¹⁶ the four components of international regimes form a comprehensive package.

However, in the cases of long-range transboundary air pollution and protection of the ozone layer, communities of actors established the institutional structure of the later international regimes despite prevailing disagreement about actual cooperation. At least in the case of long-range transboundary air pollution¹⁷ regime formation began prior to the collective anticipation of future cooperation. Despite prevailing disagreement about the type of appropriate action, and even about the fact *that* action was required, the direction of desirable development within both issue-areas clearly emerged from the process of regime formation. The adoption of the framework conventions was based upon demands to change behaviour *in the direction* of controlling human activities with certain adverse environmental effects. Implicitly, the relevant communities of actors agreed on issue-area specific standards for the distinction of 'better' and 'worse' options. Within the international regime for the protection of the ozone layer it was now clear that in a situation of choice the more protective of two alternatives was preferable to the less protective one because the latter would contribute relatively more to the depletion of the ozone layer. The adoption of any minor programme, whether unilateral or collective, to reduce, or even to limit the increase of CFC emissions would always be considered better than no such programme.

Hence, the close link in mainstream regime theory between overall policy and specific cooperation runs into conceptional difficulties. A constellation of interests

14 In the absence of a concept of institutions divorced from substantive cooperation, mainstream regime theory must adopt this premise, see above, Chapter 1, pp. 41-43.

15 Theoretical difficulties arising from this conception have been discussed above, Chapter 8, pp. 343-348. Mainstream regime theory observed that international regimes such as GATT comprise stable and dynamic components and responded to this phenomenon with the distinction between 'change within the regime' and 'change of the regime'; see *Krasner, Structural Causes and Regime Consequences*, pp. 187-188. Within a structural explanation this would have required a corollary conceptional distinction between 'minor' and 'major' changes of the constellation of interests of the related issue-area.

16 On the hierarchy of the four components, namely principles, norms, rules, and decision-making procedures, see *Krasner, Structural Causes and Regime Consequences*, pp. 187-188; and *Kohler-Koch, Zur Empirie und Theorie internationaler Regime*, p. 35.

17 Whereas the actors adopting the Vienna Convention agreed that a protocol should be negotiated and adopted within two years, the community of actors adopting the Geneva Convention did not even agree on an explicit reference to future instruments containing specific control measures; see Chapter 6, pp. 233-234, and Chapter 3, pp. 118-122 respectively.

that is unfavourable to cooperation will prevent the adoption of a meaningful cooperative arrangement. However, it does not prevent a group of actors from recognizing a problem and from adopting some preparatory steps that facilitate future cooperation and contribute to solving the underlying problem.

Despite their fundamental differences, the two approaches discussed have one aspect in common. They link the policy dimension of an international regime and its specific cooperative arrangements closely and logically. From a problem-solving perspective, the assessment of a given problem determines its solution. 'Rational' actors would follow scientifically founded programmes, although the recommended action may contradict their parochial interests. From the perspective of situative structuralism, actors are able to address common problems only to the extent that solutions do not contradict their parochial interests and promise collective and individual benefits. Conceptionally, both approaches are unsatisfactory. The former is highly utopian, while the latter is rather apologetic. More importantly, both of them do not readily explain the institutional development of the two international regimes on long-range transboundary air pollution and protection of the ozone layer.

2. The Conceptual Divorce of Policy and Cooperation

International regimes may be more than arrangements that merely reflect mutually beneficial ad hoc cooperation. They may be related to recognized problems that underlie immediate opportunities for cooperation. Problem-solution may be considered desirable although it is not (or not yet and not fully) possible because of incompatible parochial interests. In so far regimes may have a problem-solving component. However, international regimes cannot gain influence on actors' decisions about their behaviour unless they realistically respond to opportunities for cooperation arising from actually existing constellations of interests. In so far their obligations must not exceed structurally determined constraints of cooperation.

International regimes and their norms may thus have to discharge two different functions. They shall inform about behaviour that the relevant community of actors *really* expects from its members in specific situations. For that purpose, norms must be realistic. If they are too ambitious (or 'unrealistic'), they will tend to be ignored and may not be capable of fulfilling their orientation function any more¹⁸. However, international regimes and their norms may also indicate the direction of desirable development within an issue-area irrespective of actual opportunities for cooperation and develop a broader policy perspective. For that purpose norms may not be overly 'realistic' and too closely linked to the existing constellation of interests in a given issue-area.

Norms cannot discharge the functions of realistic prescription and far-reaching policy orientation alike. Realistic norms lack a policy component. Utopian norms

18 On the inherent instability of norms, see above Chapter 9, pp. 366-369; on the specific risk inherent in negotiated norms, see Chapter 10, pp. 391-392.

lack the ability to affect actors' decisions about behaviour. However, normative systems, including international regimes, may comprise specific prescriptions and proscriptions that should immediately affect decisions about behaviour by actors. And they may comprise more general principles that inform about the desirable direction of development in the issue-area¹⁹.

If international regimes discharge their functions of policy orientation and realistic guidance of behaviour separately, the analytical apparatus must be adjusted accordingly. The close relationship between the two levels of international governance assumed by both mainstream regime theory and problem-oriented concepts²⁰ must be dissolved. Inquiry into the 'realistic' aspects of normative systems, i.e. into the emergence and influence of norms that actually guide actors' behaviour may then be distinguished from an examination of the direction of desirable development of these expectations²¹.

For an assessment of the policy dimension and its function the nature of normative systems has to be recalled. Normative systems are based on the continuing generation of expectations of behaviour within a community of actors. Norms are made, stabilized and replaced in a permanent flow of decisions²². This decision process is influenced by a multitude of actors pursuing their interests. The decision process of international regimes coincides with negotiations, or it takes place with a view to influencing these negotiations.

The separation of the decision-process about specific norms and prescribed action on the one hand and its policy orientation on the other hand implies a two-level concept of decision-making²³. It recognizes that prescriptions are to a large degree influenced by the underlying interest structure which channels the steady flow of decisions based on the demands of individual actors for modifications of normative expectations. The policy dimension of an international regime establishes a normative 'super-structure' for the orientation of this decision process. It provides a standard which allows judgement about the desirability of a particular decision as compared to alternatives. In fact, the policy dimension of an international regime provides a sort of value orientation for decisions in the issue-area.

19 Schachter, *Towards a Theory of International Obligation*, pp. 29-30, distinguishes three levels, namely that of factual conduct, that of prescriptions invested with authority and control, and that of values. While the former refers to cognitive expectations, the two latter ones refer to normative expectations.

20 See above, Chapter 12, pp. 434-438.

21 This distinction is also reflected in the wide-spread definition of international regimes. The components of 'norms' and 'rules' may be considered as realistic prescription, while 'principles' constitute a policy orientation. However, the definition of 'principles' (beliefs of fact, causation and rectitude), see *Krasner, Structural Causes and Regime Consequences*, p. 186, raises a host of new questions. Beliefs of fact and causation are cognitive expectations that have to be adjusted upon contradictory information, while beliefs of rectitude are normative expectations that require stabilization in cases of disappointment.

22 This is the 'realistic' aspect of normative systems, including dynamic international regimes; see above, Chapter 9, pp. 366-369.

23 It is among the merits of the New Haven Approach to international law that it provides a theoretical concept that addresses the policy component of normative systems separately from their realistic components; see *Schreuer, New Haven Approach und Völkerrecht*.

The introduction of a policy-orientation into an institutional concept of international regimes that is based on a conception of rationally behaving and egoistic actors may raise difficulties. It may be apt to attract accusations that certain preferences or ideological considerations are being imposed on otherwise rationally behaving actors. In fact, problem-solving approaches have been considered as doing precisely this: postulating that problems exist, holding that they should be solved as well as requesting actors to accept this assessment and to behave accordingly. Likewise, the New Haven Approach to international law, which distinguishes between the policy dimension and the realistic level of international law, attempts to establish a general policy orientation of the international legal system on an empirical²⁴ and on a theoretical basis²⁵ despite the low degree of integration of the international system²⁶. These approaches replace the perspective of rationally behaving and egoistic utility maximizers with a community-oriented perspective that includes an externally defined collective rationality.

However, the crucial aspect is not the policy (or value) orientation of an international regime as such, nor the separation of policy orientation and realistic prescription. Rather, it is related to the generation of the policy dimension and to its introduction into the decision process. International regimes come into being by collective decisions of a community of actors. Participating actors usually retain a permanent exit option. Accordingly, the policy dimension of international regimes will have to be founded upon consensus of the actors involved in the decision process of a given issue-area. Hence, the policy dimension of an international regime is generated internally and based on agreement of the parties concerned. It reflects exclusively the values of the community of participating actors concerning the related issue-area. It does not draw upon sources beyond the actors' immediate control and it is not at all subject to the judgements of outsiders, be they scientists or moralists, claiming to 'know better' than the actors concerned what ought to be done. Evidently, outside considerations will exert influence on actors. But they are channelled through actors' beliefs and enter the policy dimension of an international regime only indirectly. Thus designed, the policy dimension exclusively reflects what actors believe to be 'good' solutions. Hence, an important obstacle for the

24 Empirical inquiry was based on the evaluation of a number of constitutions and 'great charters' of international law; see McDougal, *Law as a Process of Decision*, p. 67; McDougal, *International Law, Power and Policy*, pp. 138, 189; McDougal/Reisman, *International Law in Policy-Oriented Perspective*, p. 123.

25 From a theoretical perspective, the New Haven Approach relates the normative orientation of law to the promotion of interests of the community as a whole. 'The basic policy objectives for which the effective elites of the world maintain the global constitutive process of authoritative decision are to promote the *common interests of all peoples and to reject all claims of special interests*'; Chen, *Introduction to Contemporary International Law*, p. 85 (emphasis added). The interests of the international community are considered to be best reflected in an 'international order of human dignity'; see McDougal/Lasswell, *The Identification and Appraisal of Diverse Systems of Public Order*, p. 16.

26 Even earlier adherents of the approach emphasize that a single value system accepted by all actors in the international system may not be found, see Higgins, *Integration of Authority and Control*, p. 94; and Schachter, *International Law in Theory and Practice*, pp. 53-54. Critically also Kratochwil, *Is International Law Proper Law?*, pp. 31-34; and Schlochauer, *Rezension*.

integration of a policy orientation into a rational and interest-based concept of international regimes is removed.

Another risk remains to be dealt with. To be meaningful, the policy dimension of an international regime must be introduced into the decision process. Its general principles indicating the direction of desired development may be relevant for decisions about specific prescriptions but also for decisions about particular action if detailed prescriptions do not exist or are ambiguous. The New Haven Approach to international law claims this task for legal scholars²⁷. In domestic legal and political systems it is a matter of court decision-making. Referring the authoritative application of general principles in specific decisions to legal scholars and judges would externalize decisions. And the externalization of decisions always implies the risk of unexpected but authoritative decisions²⁸.

However, usually a group of actors desiring to establish an international regime do not refer decisions to outside institutions. The participating actors themselves introduce the policy-orientation into the process of communication about norms. Although communities acquire the ability to adopt collective decisions, these decisions immediately arise from communication among the actors concerned. Moreover, in the case of dynamic international regimes relevant communities may also collectively decide issues on the application of common norms in specific situations. Hence, the policy-orientation becomes effective for the decision process only through the actors concerned. It is not introduced by outside agents, e.g. legal or scientific experts or groups of experts, unless this task is expressly assigned to them.

The concept of a policy dimension of international regimes thus refined does not contradict an interest-based approach to international regimes. Rationally behaving and egoistic utility maximizers may have values irrespective of their options for action in specific decision situations. Communities of actors establishing international regimes for the governance of limited issue-areas may have common ideas of desired development within these issue-areas irrespective of their opportunities for cooperation in specific situations. Thus, the question is not any more how to accommodate the policy dimension within the present concept of international regimes. Rather, it is whether this dimension, now separated from the specific constellation of interests prevailing in a given issue-area, really matters.

Obviously, the policy dimension of international regimes has an even more indirect effect on outcomes than specific norms. It appears in the form of principles that are

27 See McDougal/Reisman, *International Law in Policy-Oriented Perspective*, pp. 114-116. Kratochwil, *Is International Law Proper Law?*, pp. 33-34 draws attention to the consequences of this approach: 'The scholar becomes the silent legislator in the absence of effective institutional mechanisms'.

28 For example, the International Court of Justice may base its decisions on 'general principles of international law'; see Statute of the International Court of Justice, Article 38, para. 1. On the consequences of judicial decision-making, see below, Chapter 13, pp. 459-467.

located at a high level of abstraction²⁹. Principles do not provide as detailed instructions as norms do and they do not establish 'goals' that may be met or missed³⁰. They may not, therefore, simply be 'complied with' or 'broken'. Principles provide a relative standard for the comparison of different options in a given situation. They allow the distinction of 'better' and 'worse' alternatives. Their high level of abstraction renders principles ambiguous. Usually they appear in pairs of contradicting standards³¹, be it sovereignty and international obligation, self-determination and territorial integrity, or, in the present context, environmental protection and economic development. The exclusive focus on one side of these pairs would almost automatically neglect the other side. Accordingly, principles will have to be balanced with each other in specific decision situations.

The policy dimension of an international regime, however, does not include pairs of principles at the same level. After all, the basis of regime formation is the successfully established demand for change in a specific direction. The policy dimension indicates the direction of desirable change, regardless of whether the existing constellation of interests supports cooperation for its realization. Hence, the clear orientation provided by its policy dimension supplements the regime with an express bias. Within the regime, certain options will be received more favourably than others. Alternatives promoting change according to the regime-specific policy direction hardly require justification. More precisely, they may be justified simply as 'good' ones by reference to the policy-orientation of the regime³². Other options have to be defended by reasons beyond the regime's normative framework, or they must be supported by power. For example, the restrictions on international trade with ozone depleting substances as well as with products containing these substances or produced with them (as provided for in the Montreal Protocol) may contribute to lowering the rate of free riding. They will be judged as desirable measures from the perspective of ozone layer protection. From the angle of free trade (GATT), however, they may be viewed as unfortunate infringements of international trade. Hence, the regime-specific standard biases the particular decision process. It is one-sided and may be balanced by the participating actors with external standards in a particular decision.

The biasing effect of the policy dimension has another consequence. Opportunities for cooperation leading to development in the desired direction will be realized. But within a given regime cooperation contrary to the established policy direction will be rejected. *Within the international regime for the protection of the ozone layer* measures that intend to achieve, say economic growth in developing countries or a

29 On the role of 'principles' and 'other standards' beside rules for the judicial process, see Dworkin, *Taking Rights Seriously*, pp. 22-26. Kratochwil, *Rules, Norms and Decisions*, p. 194, has introduced this concept into the debate on international regimes.

30 The policy dimension of international regimes is thus not an appropriate standard to assess the 'effectiveness' of international regimes, as proposed by Müller, *Regimeanalyse und Sicherheitspolitik*, p. 282, and Strübel, *Umweltregime in Europa*.

31 See Schachter, *The Nature and Process of International Legal Development*, p. 758.

32 The Harvard Negotiation Project holds that «principled negotiation» is a particularly promising strategy, see Fisher/Uri, *Getting to Yes*, p. 86.

more liberal world trade by an increased production of CFCs, will not be adopted (although they may be agreed by an identical group of states within another institution with a differing policy orientation). The policy dimension does not only constitute an indicator of desirable (positive) change. Simultaneously it precludes undesirable (negative) cooperation. The policy dimension of an international regime is thus a common standard of a particular community of actors that guides collective action in a given issue-area. It is necessarily specific to this community and applies only to this issue-area.

International regimes do not necessarily comprise a policy dimension. It will be completely missing, for example, if a regime is limited to a single cooperative arrangement founded on ad hoc strategic links between otherwise unrelated issues³³. If a policy dimension exists, it will guide the process of decision-making. It may facilitate arguing and support the collective selection of the more desirable alternative in choice situations. It may thus have an impact on the outcomes of specific collective decisions during negotiations that will be, admittedly, difficult to specify in a particular case. In dynamic international regimes, however, the policy dimension is absolutely indispensable.

3. Policy-making in Dynamic International Regimes

In Chapter 10 two ideal types of international regimes, namely static and dynamic regimes, were distinguished according to the relationship between negotiations and norms³⁴. In the former type negotiations terminate upon adoption of a set of norms, while they continue in the latter type. In this Section it will be argued that the policy dimension is an indispensable component of dynamic international regimes because this type of institution may comprise more than one cooperative arrangement. From a theoretical point of view, successive and/or parallel arrangements do not have to be interpreted as isolated cases of cooperation any more³⁵ but may be considered as parts of comprehensive institutions. We may thus speak of a single comprehensive international regime on long-range transboundary air pollution and of another single comprehensive regime for the protection of the ozone layer.

Consider a community of actors faced with a problem that cannot be solved immediately or fully due to structural constraints. In international regimes of the static type, international policy-making, i.e. collectively agreed adaptation of behaviour to overcome sub-optimal outcomes, is immediately related to the nature of a cooperative arrangement agreed upon³⁶. In dynamic international regimes this is funda-

33 On the difference between tactical and substantive linkage, see Haas, *Why Collaborate*, pp. 371-375. The random link of two 'Rambo' situations resulting in a Prisoners' Dilemma will usually be a purely tactical linkage, see Zürn, *Interessen und Institution*, pp. 216-218. On tactical linkage, see also Tollison/Willett, *An Economic Theory of Mutually Advantageous Linkages*.

34 See above, Chapter 10, pp. 398-399.

35 See above, Chapter 8, pp. 343-348.

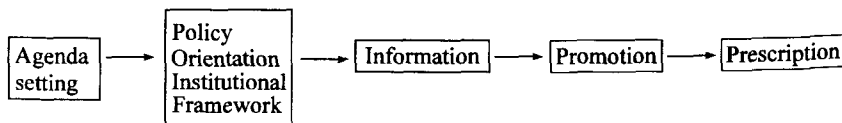
36 In the present chapter it is assumed that arrangements are seriously negotiated and largely complied with. On non-compliance and 'free riding' see below, Chapter 13.

mentally different. Here actors may gradually approach the solution to an 'objectively' existing problem and develop cooperation step-by-step. Upon adoption of a cooperative arrangement negotiations among them continue and may lead to successive or parallel agreements. Any single arrangement is nothing more than an interim or partial solution within an on-going process and may contribute to the creation of a positive 'ratchet effect'. Norm-setting becomes a viable device for 'social engineering' in the decentralized international system even beyond the structural limits existing at a given time³⁷ without over-burdening norms with utopian demands that undermines their influence on the behaviour of actors.

3.1. *Modelling the Operation of Dynamic International Regimes*

This effect is illustrated by the model of the decision process adapted from the preliminary model of regime formation developed in the preceding chapter. It conceives of the process of regime formation as a chain of successive stages, starting with the appearance of a problem on the international agenda and concluding with the effective generation of common normative expectations. It comprises the stages of *Agenda Setting*, *Institutional Framework*, *Information*, *Promotion* and *Prescription* (see Figure 11.3.). This model reflects the decision process of static international regimes in which organized communication about norms terminates upon adoption of a set of norms. With a slight modification it also applies to the formation of dynamic international regimes.

Figure 12.1: The Formation of Dynamic International Regimes



The sole difference is that a dynamic international regime must have, besides an institutional framework, a policy orientation that guides the decision process (Figure 12.1).

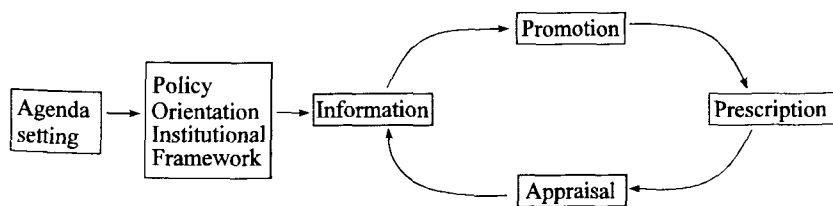
In static international regimes *Prescription* is the final stage of the norm-moulding process. Upon adoption of a cooperative agreement, negotiations and organized communication about norms among actors terminate and the ability of the relevant community to take collective decisions dissolves. In dynamic international regimes *Prescription* is not the final stage of norm-moulding, it merely provides the foundation for another round of norm-moulding.

³⁷ See the remarks on social engineering in the field of international environmental law by Lang, *Die Verrechtlichung des internationalen Umweltschutzes*, p. 283; and Lang, *Luft und Ozon*, pp. 278-280.

This new round of norm-moulding will start with an evaluation of the effectiveness of existing measures (see Figure 12.2.). At the stage of *Appraisal* the effects of a cooperative arrangement are evaluated with a view to its re-consideration and modification. The participating actors will unilaterally evaluate the costs and benefits of cooperation, but the institutional framework of regimes may also envisage collective review and revision procedures. Hence, *Appraisal* may be performed individually or collectively.

If *Appraisal* reveals the inadequacy of an existing cooperative arrangement or the prospect of an increased margin for cooperation, the process of norm-moulding may begin anew with the gathering and dissemination of cognitive knowledge and the advocacy of claims in the stages of *Information* and *Promotion*. If successful, the stage of *Prescription* will be reached again with the effective generation of new normative expectations and the conclusion of a new cooperative arrangement.

Figure 12.2: The Operation of Dynamic International Regimes



The model draws attention to two aspects that are important for the present discussion. First, it illustrates that the moulding of norms within dynamic international regimes amounts to a cyclical process. Norms and cooperative arrangements are not merely generated to guide actors' behaviour and 'govern' an issue-area, they are kept under continued re-consideration and review within an organized process of communication. Norms and cooperative arrangements are not necessarily designed to last for extended periods of time. On the contrary, upon adoption their replacement may already be envisaged.

Second, the model illustrates that the cyclical process, once set in motion, may skip the first two stages of regime development, i.e. *Agenda Setting* and *Policy Orientation/Institutional Framework*. It operates within an institutional framework that already exists. The prerequisite for the establishment of a cooperative arrangement, namely the transfer of norm-moulding from the sphere of action to the sphere of communication is already fulfilled. Also, a number of pre-decisions as to the boundaries of the issue-area in question and to the participants have been made. All these decisions remain valid unless they are modified by the relevant community of actors. At any rate, new demands for normative change within an issue-area governed by a dynamic international regime do not have to compete on the general

international agenda with issues beyond the issue-area. They may be advocated within an established communication process.

Accordingly, it may be reasonable for countries demanding normative change, e.g. the Nordic countries in the case of long-range transboundary air pollution, to accept the establishment of an 'empty' institutional framework even in the absence of substantive agreement, if they conceive it as the first step in a lasting process of international governance.

3.2. International Policy-making by Norms

International governance by dynamic international regimes is not necessarily limited to action within the space determined by the relevant structural constraints existing in a given issue-area. Inevitably, a cooperative arrangement cannot disregard these constraints without threatening to be ignored by the deciding actors. However, unlike their static corollaries dynamic international regimes allow development over time. Norms may be adopted to achieve the maximum exploitation of the existing margin of cooperation at any given point of time. They may also be adopted to induce change in the structural constraints and pave the way for extended cooperation in future rounds of norm-moulding.

The international regime for the protection of the ozone layer comprises provisions for the periodic review of agreed cooperative arrangements and thus institutionalizes the stage of *Appraisal* on a regular basis independently of the initiatives of particular actors. Similarly, the Protocols on NO_x and VOCs envisage their own replacement and provide that negotiations on successive instruments start almost immediately upon their entry into force. They do not only prescribe new rounds of norm-moulding. They also anticipate that the preferences of actors and the relevant constellations of interests will have sufficiently modified by that time to allow further agreement. Arrangements of this type do not affect preferences directly. They are designed to automatize the launching of new rounds of the process and remove decisions from the discretion of the relevant community of actors (although the actors concerned may always collectively change their prior decisions).

Institutional arrangements may also be directed at modifying and extending the basis of information for future rounds of negotiations. The body of commonly accepted cognitive knowledge developed in the two regimes explored in the present study is regularly reviewed and adjusted. Moreover, prescriptions may foresee the generation of new cognitive knowledge or the collection of data. Examples are the European Monitoring and Evaluation Programme (EMEP) in the framework of the regime on long-range transboundary air pollution and the collection of data on the production and consumption of ozone depleting substances in the framework of the regime for the protection of the ozone layer. Regime processes may also initiate research and development of specific knowledge. The Protocols on NO_x and

VOCs, for example, obliged the contracting parties to develop the 'critical loads'³⁸ approach, which provides a science-based foundation for future cooperative arrangements within the regime on long-range transboundary air pollution.

Hence, some prescriptions are intended to actively induce the change of cognitive knowledge. They are designed to broaden the cognitive basis on which actors found their preferences. If the rationality of actors is bounded, that is, if actors cannot be assumed to be fully informed of all aspects of an underlying problem and to be always entirely sure of their preferences in a given situation, changes of cognitive knowledge may lead to an adjustment of preferences. Over time it may affect the relevant constellation of interests.

Under ideal conditions of full information these effects would diminish. Actors would know whether a new round of cooperation promised increased benefits, and they had to be assumed to realize these gains. They were also able to clearly determine their preferences. Accordingly, they did not have to rely on automatically launched negotiation rounds and regime-induced cognitive knowledge. Yet, even under these idealizing assumptions the continuing communication process of a dynamic international regime may be apt to affect the underlying structure of the issue-area if the interaction process is conceived as proceeding at three different levels.

Mainstream regime analysis is conveniently limited to two levels, that of (state-) actors (unit level) and that of the regime (system level). In this case, regime norms eventually emerge on the basis of a given constellation of preferences. They may affect outcomes but they do not affect preferences. However, in many issue-areas 'states' are not the principal actors causing problems and having to adjust their behaviour. Environmental problems, for example, are less caused by states than by sub-state actors, say polluting industries. The preferences of sub-state actors aggregate in national interests that are represented in international negotiations by states or governmental bureaucracies. Likewise, international obligations are addressed at the member states of a regime that shall transform them into domestic law.

Hence, we are faced in fact with a three-level process of interaction that is traditionally assumed to be hierarchically organized. States and their governments function as intermediaries between sub-national actors and the international level. This hierarchical arrangement will break up if sub-national actors become immediate addressees of international norms³⁹.

This had been the case in the issue-area on the protection of the ozone layer in 1986/1987. In 1986 stalemate still prevailed. The United States chemical industry had already developed substitutes for ozone depleting substances, but could not market them due to uncompetitive prices. Chemical industries in several member countries of the European Community had no alternatives at their disposal yet and

³⁸ On the concept of 'critical loads', see above, Chapter 4, pp. 182-185.

³⁹ Hierarchy will also dissolve if non-governmental actors acquire an independent veto power at the international level that allows them to participate directly in the process of norm-moulding. For an example concerning the regulation of maritime shipping of oil, see *Gehring, Haftung für Umweltschäden*.

pressed their governments to reject measures for the control of CFCs. Hence, the market was blocked. The first Montreal Protocol (1987) changed this stalemate situation profoundly. From an environmental perspective it was largely insufficient to protect the ozone layer. But it envisaged gradually shrinking markets for CFCs and raised the prospect of expanding markets for substitutes.

Chemical industries in the industrialized countries recognized these signals and perceived them as significant changes in their decision-making environment. They did not await governmental regulations implementing the formal obligations of the Protocol. Investments in substitutes now promised future profits. Figures for the production and consumption of ozone depleting substances decreased sharply from 1987 onwards and led to voluntary over-implementation⁴⁰. Accordingly, the interests of important sub-state actors developed considerably within a few years. These changes allowed modifications of the preferences of state-actors and affected the structure of the issue-area so that in 1988/1989 negotiations on the tightening of control measures could be launched.

This is not to argue that the rapid development of the international regime for the protection of the ozone layer was only caused by this reflexive effect. Rather, it emphasizes that international policy-making by norms may be apt to affect the structure of an issue-area on which its cooperative arrangements are founded⁴¹. While it is obvious that the margin for deliberate change of issue-area structures will be limited, the three level design of international cooperation reveals a higher interdependence between norms and structure than expected by mainstream regime analysis. This effect is inseparably linked to development over time. It thus escapes the attention of an analytical approach that focuses on cooperation at a specific time⁴².

The opportunity to produce deliberate structural changes, however limited, emphasizes the relevance of the policy dimension of dynamic international regimes. If the structure of an issue-area, and that is, the preferences of actors involved in the related decision process, is to become subject to purposeful change over time, the direction of desirable development will have to be clear. This direction must be established independently of the issue-area structure at any given time because this structure is partially transferred from an independent into a dependent variable. Without agreement on the direction of desirable change, there will be no agreement on intermediate steps that could produce this change.

40 See *Gehring*, *International Action to Protect the Ozone Layer*; and above, Chapter 7, pp. 307-309.

41 *Nye*, *Nuclear Learning*, observed a similar phenomenon in a 'high politics' issue-area. Here, the bottom layer was not occupied by economic subjects but by state officials.

42 Note, however, the early observation by *Krasner*, *Regimes and the Limits of Realism*, pp. 503-508, that regimes may affect the interests of economic subjects and the difficulties in accommodating this observation within his analytical framework.

4. Conclusion

International regimes that are intended to develop cooperative arrangements over time must have a policy dimension indicating the desired direction of development in a regime-governed issue-area.

The present chapter argues that approaches to international regimes frequently link policy and cooperation closely and logically. Mainstream regime theory derives the policy dimension immediately from the nature of an existing social problem and the structural opportunities for its overcoming. It disregards the fact that underlying problems may be of a non-social, 'objective' nature. Problem-solving approaches tend to do the reverse. They identify problems and develop strategies and measures for their solution. They run the risk of disregarding the preferences of actors and constellations of interests prevailing in an issue-area. Mainstream regime theory derives policy from opportunities for cooperation, while problem-solving approaches derive (the necessity of) cooperation from the nature of identified problems. Both of them run into conceptional difficulties.

However, the close conceptional link between policy and cooperation may be untied. This step accounts for the central finding of mainstream regime theory that cooperation in the international system will be impossible unless founded on a suitable constellation of interests that promises joint gains. It also recognizes that, in many cases, international policy-making addresses problems that exist 'objectively', i.e. irrespective of structural opportunities for cooperation. Having been untied, the two components of interest-based cooperation and problem-related policy orientation must be related to each other. The policy dimension provides a standard of orientation for the decision process of an international regime, while cooperative arrangements reflect outcomes of this process. Still, actors will struggle over specific norms, but they will do so in the light of overall policy guidance that precludes an 'anything goes' approach. Hence, the orientation function cannot be discharged unless the policy dimension is largely dissolved from the preferences of actors, constellations of interests and resulting cooperation.

International regimes may or may not have a policy dimension, but for dynamic international regimes it is indispensable. Without a clear policy orientation independent cooperative arrangements cannot be integrated into a single comprehensive international institution. Without a clear policy orientation separate from the structural opportunities for cooperation at any given time international policy-making could not solve a given problem in a step-by-step approach. More precisely, it could not conceive of norms intended to affect an existing issue-area structure and to expand, over time, the opportunities for cooperation.

Chapter 13

The Stabilization of Regime Governance

Cooperation as understood in the present study is based on the emergence of normative expectations common to a number of actors that guide their behaviour in a way that promises the overcoming of sub-optimal outcomes. Cooperation emerges when actors act according to their common normative expectations. Its success is therefore closely related to the effective link between the sphere of communication in which norms are generated and the sphere of action in which cooperation may be realized. While hierarchically organized societies may, at least to some degree, enforce compliance with norms, this link can be established in the decentralized international system only through the voluntary implementation of common norms by the cooperating actors. Institutionalized cooperation will fall apart if actors ignore these norms.

Cooperation is not only threatened by anticipated free riding due to mutual distrust. Even successfully established cooperation is jeopardized by tacit destabilization that gradually produces mutual distrust. The adoption of realistic and mutually beneficial cooperative arrangements does not suffice to improve sub-optimal outcomes once and for all. These arrangements, i.e. the norms and institutions reflecting cooperation, must be permanently reproduced and restabilized. An explanation of international regimes and their operation cannot avoid addressing the problem of stabilizing institutionalized cooperation over time.

The stabilization of international regimes and their norms is closely related to their moulding. Successful stabilization confirms established normative expectations shared by the members of an international regime. The unsuccessful stabilization of challenged norms may straightaway lead to the modification of common normative expectations. Norm-moulding and norm-application are two sides of the same coin.

The present Chapter explores mechanisms to stabilize cooperative arrangements within dynamic international regimes. It starts with an analysis of situations that may destabilize an established international regime (Section 1). Two problems are important besides classic free riding in which a beneficiary of cooperation attempts to gain extra profits by unilateral defection. Norms may be unclear or ambiguous and therefore lead to conflict among actors, particularly if they must be interpreted unilaterally. Norms may also outdate because underlying conditions, e.g. the constellation of interests in the issue-area, change. Hence, destabilizing effects stem from a number of sources that include, but are not limited to, classic free riding.

Generally normative expectations may be stabilized, reproduced and developed by three different mechanisms. The task may be discharged in the sphere of action as part of an integrated interaction process that does not require institutional devices (Section 2.1.). For simple normative systems this mechanism has been developed in

Chapter 9. Since its effectiveness relies on direct interaction among actors and their unilateral decisions, it involves the risk of reproducing the original sub-optimal outcome that regime establishment was intended to overcome. Regime norms may also be stabilized through established institutions for third party dispute settlement, e.g. courts (Section 2.2.). This mechanism relies entirely on a norm-rational discourse about the appropriate application of existing norms in given contexts. In practice, negotiated norms must enter the system of positive international law. However, judicial decision-making does not take into account the specific interests of the actors concerned. It always involves the risk of rendering decisions that lack relevance in the sphere of action.

Lastly, regime norms may be stabilized by continued communication among the members of a community of actors (Section 2.3.). In this case the community members decide themselves whether and how to stabilize, develop or replace a challenged norm. The moulding of norms and their application are integrated in a comprehensive communicative process that does not disregard the function of regimes to support mutually beneficial cooperation, nor the necessary link to the interests of actors.

The Chapter then explores norm-stabilization within the two international regimes on ozone and acid rain (Section 3). It reveals a process of differentiation in which specific procedures and organs for norm-rational decision-making develop within the institutional framework of dynamic international regimes. The Chapter concludes that organized communication about norms is the suitable mechanism to stabilize cooperative arrangements within dynamic international regimes.

1. The Problem Refined

The establishment of an international regime and the adoption of a cooperative arrangement do not necessarily guarantee successful cooperation. Regime norms may be broken. The envisaged improvement of initially sub-optimal outcomes may fail. Accordingly, a community of actors with common normative expectations must actively reproduce cooperation and continuously stabilize the regime governing a given issue-area.

The interaction model developed for simple normative systems¹ conceives norm-moulding as a process of interaction within a group of actors. Interaction produces normative expectations shared by the participating actors and in this way institutionalizes norms² (upward process). Subsequently, these norms address the members of the relevant community and guide their decision-making (downward process). Community members respond to non-compliant behaviour within the same interaction process that led to the emergence of norms. Response action will stabilize existing norms if it is successful. The same action will automatically contribute

1 See above, Chapter 9, pp. 361-369.

2 See *Luhmann, Rechtssoziologie*, pp. 64-80.

to changes of common normative expectations if it fails. Accordingly, in simple normative systems the stabilization of existing norms and their adaptation to changing circumstances are parts of an integrated interaction process.

Yet, the norms of international regimes emerge *by definition*³ from negotiations, i.e. from organized communication, and not from direct interaction. The use of international regimes as devices for the deliberate modification of action relies on this divorce of the spheres of communication and action. The integrated interaction process must be interrupted. Although parochial interests and bargaining power intervene into negotiations, they do not link norms closely enough to the sphere of action to reproduce an interaction process that integrates the moulding, stabilization and development of norms. Therefore, negotiated norms always risk remaining or becoming dead letters.

The present discussion starts from two interrelated assumptions. First, it assumes that the actors participating in negotiations have the intention of elaborating common norms that motivate adaptations of behaviour and lead to the improvement of outcomes in situations that so far yield sub-optimal results. Hence, actors negotiate seriously and welcome effects on behaviour⁴. Second, it is assumed that actors will only accept a cooperative arrangement if they conceive of the underlying cooperation as serving their perceived interests. Hence, actors are assumed not to disguise 'real' interests by accepting arrangements whose outcomes they do not support. However, they are *not* assumed to act altruistically, although such behaviour would be conceptionally unproblematic.

Under these assumptions the common acceptance of regime norms changes the decision-making context for regime members fundamentally. Indicating appropriate behaviour in relevant situations, agreed norms inform the actors how mutual gains may be achieved. Normative expectations of actors within the community become homogeneous. Community members expect that the behaviour of their co-members be in conformity with common norms. Actors are aware that they *ought* to behave in conformity with these norms to achieve the envisaged joint gains.

These norms are not mere dead letters. They really guide the actors determining their behaviour. The actors will re-define their interests *in the light of common norms and homogeneous expectations of their co-actors*. There are good reasons to generally comply with these norms because they promise joint gains and incorporate, to the greatest extent possible, the interests of the participating actors. Nevertheless, institutionalized norms do not prevent actors from adopting non-compliant behaviour and from disputing over norms. Three fundamentally different types of non-compliance may be distinguished.

First, the norms of international regimes allow interpretation. They may be ambiguous and do not always provide clear-cut guidance for decisions in specific

³ On the definition of international regimes, see above, Chapter 10, p. 397.

⁴ It includes the marginal case of, for instance, a border treaty, in which actors codify existing behaviour to avoid undesirable change.

situations⁵. Frequently norms must be balanced with each other⁶. This will be particularly true if existing norms are applied to problems that were not thought of at the time of norm-moulding. Actors may disagree over the proper application of recognized norms. They may exploit the margin of interpretation to further their interests and to justify their action. Hence, the very fact of non-compliance may be disputed among the members of the community.

Second, the classic 'free rider' problem may re-appear even if cooperation has been successfully established. The actors concerned decide in the light of common norms and anticipate improved outcomes. They desire stability of both guiding norms and resulting cooperation. But, depending on the relevant constellation of interests, they retain a certain incentive to defect unilaterally. As soon as community members begin to doubt whether their co-actors intend to comply, cooperation may unravel altogether, because rational actors will cease to cooperate, if the minimum cooperative group (*k*-group) is undercut. Even successful cooperation is permanently threatened by the loss of support of the necessary number of cooperators and cooperative arrangements require continuous stabilization or reproduction⁷.

Third, a completely different form of non-compliance may occur over time, if the legitimacy of a cooperative arrangement diminishes. Legitimacy is rooted in two factors, namely a satisfactory balance of interests and the conviction of actors that they have elaborated a reasonable agreement⁸.

The legitimating effect of the decision process decreases almost automatically over time. It is closely related to a specific process of communication involving particular actors during which arguments are exchanged and disputes settled by conviction. As time passes, actors lose their ability to recall the precise reasons for specific decisions. This development does not matter as long as the final results of negotiations, i.e. the regime norms, are themselves perceived as reasonable. However, new arguments may be advanced that were not discussed in the negotiations and some others may lose their convincing power although they did influence the negotiated outcome. For example, initially reasonable predictions may prove to be wrong or measures may turn out to cause unexpected and adverse side-effects. Actors may assume that a new round of negotiations would produce a different set of norms.

The structure of an issue-area governed by an international regime may also change over time. Interests of actors may alter, e.g. due to the development of knowledge about underlying problems. New actors may become relevant within the issue-area and affect the constellation of interests⁹. A modification of the issue-area structure undermines the structural basis of a cooperative arrangement. A hypothetically re-

5 See *Chayes/Chayes*, *On Compliance*, pp. 188-192.

6 On normative ambiguity, see *Chen*, *Introduction into International Law*, p. 13.

7 Free riding must be kept below a certain level, it does not, however, have to be prevented entirely; see *Young*, *International Cooperation*, pp. 71-72; and *Chayes/Chayes*, *On Compliance*, pp. 197-201.

8 See above, Chapter 11, pp. 421-422.

9 In Chapter 8, pp. 348-349, some sources of rapid change in the two issue-areas explored in the present study have been discussed.

negotiated cooperative arrangement would differ from the existing one. The interests of some actors could be better accommodated than they actually are. These actors are disadvantaged by the existing institution. If their costs of cooperation outweigh their benefits they will leave the regime or disregard its norms. However, even if they still gain from cooperation, the cooperative arrangement will be (partially) deligitimized because it does not any more lead to the expected distribution of gains.

In short, regime members may not any more be content with an existing cooperative arrangement although they were at the time of its adoption. These actors are still interested in cooperation in the issue-area concerned, but they demand changes of the governing norms and their intended effects. They may use non-complying behaviour as a means to force the relevant community to pay attention to their claims for an adaptation of the cooperative arrangement to modified circumstances.

Non-compliant behaviour may thus be founded on fundamentally different motives. Incidents of non-compliance may be caused by the normative ambiguity of guiding norms. They may also reflect the attempt of actors to take a free ride while still favouring stable norms and continued cooperation. They may be caused by actors promoting modifications of the terms of cooperation. Or they may stem from a combination of these motives. Hence, like the norms of simple normative systems international regimes do not merely exist and guide actors' behaviour. They will quickly dissolve if the relevant community of actors does not actively stabilize and develop them.

2. Three Mechanisms of Regime Stabilization

While international regimes and their cooperative arrangements shall always emerge from negotiations, their stabilization may take place in different ways. It may entirely resort to the sphere of action. It may entirely rely on norm-rational (legal) communication. Or it may once again combine rational argument and balancing of interests within a process of organized communication among the regime members.

2.1. Direct Interaction: Resort to the Sphere of Action

International regimes and their negotiated norms may be stabilized and developed within the sphere of action. In this case, the members of a community do not any more decide collectively, they merely act unilaterally or in small groups. In fact, interaction takes place in the mode of game in which actors 'communicate' by action¹⁰. This mechanism will be particularly relevant for static international

¹⁰ On the interaction mode of game, see above, Chapter 11, pp. 403-404.

regimes because in this type of international institution organized communication about norms terminates upon adoption of a set of norms¹¹.

For an evaluation of the impact of regime stabilization in the sphere of action two interrelated dimensions of action must be distinguished. The action itself, i.e. the behaviour of a given actor, may be observed by co-actors. However, mere observation of the action does not usually reveal the motives behind the decision of an actor to behave in a certain way. Actors determine their action always unilaterally, but they cannot explain the motives for their behaviour unless they also communicate.

A community member desiring to comply with common norms must interpret regime norms unilaterally. Normative ambiguity and uncertainty about the precise content of obligations may force him to 'make his own law'. Another actor may deliberately opt for a free ride to pursue his parochial interests. Yet another regime member may trespass on common norms with the intention of instigating normative change.

All these actors decide unilaterally in the light of common regime norms and act. Their co-actors observe this action and may appraise it in the light of common norms *as they perceive them*. They may distinguish between compliant and non-compliant behaviour, but they will not be aware of the motives underlying the observed action. Therefore, they cannot distinguish between involuntary non-compliance due to normative ambiguity, classic free riding, and the promotion of normative change by non-compliant action.

Bilateral negotiations entered into by the disputing actors to settle a substantive conflict¹² within an issue-area governed by a international regime do not fundamentally change this fact, although they constitute a form of communication among actors. In the place of a unilaterally deciding actor, it is now two negotiating actors who must take into account the normative expectations of the community at large.

Assume that the bilaterally negotiating actors endeavour to accommodate their preferred outcomes with the normative expectations shared within the relevant community. In this case, the valid norms determine the limits of agreement. The bilateral conflict over substantive advantages will be partially transferred into a normative conflict, that is, a dispute over possible interpretations of valid and mutually recognized norms. The negotiating actors develop a bilateral understanding of what 'the law' is in the particular situation¹³. They jointly determine the limits set by accepted regime norms. For this purpose, they must invoke valid norms and argue. In short,

11 On the conceptional distinction between 'static' and 'dynamic' international regimes, see above Chapter 10, pp. 398-399.

12 Bilateral negotiations are the predominant way of settling conflicts in the international system; see *Bilder, International Dispute Settlement*, p. 137.

13 Therefore, bilateral understanding may nevertheless address 'triadic' norms that stem from beyond the control of the negotiating actors; on the distinction between 'dyadic' and 'triadic' norms, see *Franck, The Structure of Impartiality*, pp. 1-45.

they must engage in a norm-rational discourse¹⁴. Mechanisms of social choice such as bargaining and voting will be largely inappropriate. Within the limits established by common normative expectations, the disputing actors are free to determine the outcome according to their preferences. The relevance of the norm-rational discourse diminishes. The actors may argue or bargain and any settlement will, in fact, establish a limited bilateral cooperative arrangement in the shadow of a larger agreement¹⁵.

Hence, the bilaterally negotiating actors occupy the role of the unilaterally deciding actor. They determine their bilateral perception of community expectations and may over-interpret their margin of choice due to normative ambiguity. They may also agree to disregard valid norms and jointly take a free ride, or they may adopt non-compliant behaviour to instigate a process of normative change. Again, their co-actors observe the action of two regime members and may merely distinguish between compliant and non-compliant behaviour. They are not aware of the underlying motive of a bilaterally agreed decision. What counts is exclusively action, although this action is now based on (bilateral) communication.

The behaviour of any regime member will be observed by his co-members and appraised in the light of existing norms¹⁶. Non-compliant behaviour disturbs the smooth operation of a normative system and jeopardizes cooperation. Response action (sanctioning) may be desirable to stabilize an existing cooperative arrangement. However, it may be costly, and successful action will benefit all regime members alike. Response action is a collective good for the community members. While the cooperating actors will prefer the sanctioning of free riders to stabilize cooperation, any one of them may refrain from incurring the costs involved. Provision of this collective good reproduces the dilemma of cooperation and may lead to 'second order free riding'¹⁷. The dilemma is difficult to overcome unless a community of actors acquires the ability to organize 'second order cooperation' in the sphere of communication, i.e. to adopt decisions collectively and coordinate behaviour.

If actors intervene at all to stabilize common norms, they will do so primarily in their own interest. Powerful regime members may be more successful than weaker ones in stabilizing norms of their specific interest. Therefore, some norms of an international regime will be stabilized more effectively than others. Over time the validity of some normative expectations will be undermined and cease to serve as guidelines for decision-making, while the relevance of others will increase. Accordingly, normative expectations may tacitly develop even within fairly stable issue-areas. They will be even more sensitive to structural change and undermined legitimacy.

14 The norm-rational discourse is not limited to a discussion of norms but includes going back and forth between norms and facts. On the 'artfulness' of this type of discourse, see *Kratochwil, Rules, Norms and Decisions*, p. 240.

15 Negotiations in the shadow of valid norms are 'quasi-procedural settlements'. On this form of procedural settlement, see *Rawls, A Theory of Justice*, p. 362, and above, Chapter 11, pp. 411-412.

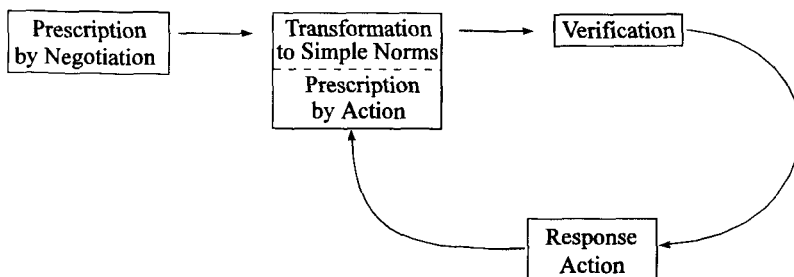
16 See *Reisman, International Incidents*.

17 See *Elster, The Cement of Society*, pp. 40-41.

In effect, cooperative arrangements reproduced in the sphere of action are transferred into fictitious simple normative systems. Despite their emergence from organized communication, they are treated *as if* they had emerged from the sphere of action. Negotiated norms constitute a limited input into the integrated process of direct interaction that stabilizes, develops and eventually replaces norms. The integration of interaction in the mode of game and debate (arguing and bargaining) is replaced by exclusive interaction in the mode of game that does not allow explanation and justification of behaviour toward the community of actors and prevents the collective response to problems.

The process of regime stabilization in the sphere of action may now be modelled. It starts when a community of actors adopts a set of negotiated norms and actors have generated commonly shared normative expectations. The stage of *Prescription by Negotiation* constitutes simultaneously the final stage of norm-moulding and the first stage of norm-application. From this stage onwards, actors' decisions are guided by their commonly accepted norms.

Figure 13.1: Regime Stabilization in the Sphere of Action



Negotiated norms replace former normative expectations based on direct interaction. If they shall be stabilized in the sphere of action, they must be *assumed* to be supported by action. In the intermediate stage of *Transformation* actors transfer regime norms into fictitious simple norms. Negotiated norms now occupy the same status as norms emerging from the sphere of action.

Existing norms inform actors how they ought to behave but they do not assure compliance. Community members will therefore observe action of their co-actors and compare it with commonly prescribed behaviour. Like the stage of Information in the norm-moulding process¹⁸, the stage of *Verification* is concerned with collecting knowledge about the activities of community members. However, information is now selected according to its relevance for the stabilization of cooperation.

Discovery of an incident of non-compliance is a necessary but not a sufficient condition for an active response. An actor may be aware of non-compliant behaviour of

¹⁸ On the process of norm-moulding during regime formation, see above, Chapter 11, p. 428.

a co-actor and still refrain from responding to it, e.g. due to high costs and/or disadvantageous power relations. However, non-action is also a form of response. It implicitly confirms deviant behaviour because it does not effectively reject it. In the stage of *Response Action* actors decide about their behaviour and act accordingly.

The reaction of community members to an incident of non-compliance determines the future of a valid norm. The validity of a norm may be reproduced and its guiding function reinforced. Its validity may also be challenged and its guiding function undermined. In any case the interaction of community members, i.e. the sequence of non-complying behaviour and reactions thereto, affects the content of the norm. Hence, in the stage of *Prescription by Action* both the content of a given negotiated norm and its relevance are re-determined. In the future actors will not (only) refer to the negotiated norm but (also) to the parallel norm based on direct interaction.

The model (Figure 13.1.) illustrates the nature of regime stabilization in the sphere of action. The mechanism relies entirely on unilateral decision-making and does not require an institutional apparatus. It produces extraordinarily low transaction costs. Moreover, its outcomes are realistic and meaningful in the sphere of action. However, the mechanism involves the risk that prescription by action replaces negotiated (regime) norms and undermines mutually beneficial cooperation. It threatens to re-establish the original sub-optimal outcome.

International regimes that lack institutional mechanisms or organized communication for the adaptation of negotiated norms to changing circumstances will be more suitable to govern fairly stable issue-areas than rapidly developing ones because change in the issue-area may accelerate modifications of behaviour and the replacement of negotiated norms. These regimes will also be more appropriate to govern issue-areas with a comparatively low number of participants because small communities may more easily re-establish ad hoc communication about norms, if necessary. Hence, it is not surprising that bilateral regimes, i.e. international regimes of the marginal (smallest possible) type¹⁹, frequently do not dispose of any institutional apparatus, while major international regimes hardly resemble the static type²⁰.

2.2. *Third-party Dispute Settlement: Institutionalizing Norm-rational Debate*

Third party dispute settlement is another way of stabilizing the norms of international regimes and their cooperative arrangements. Occasionally, third party decision-making contributes successfully to settling conflicts in the international system²¹. It is the existence of commonly accepted norms that enables conflicting

¹⁹ Bilateral regime are marginal because interaction necessarily involves the entire community.

²⁰ See Müller, *Die Chance der Kooperation*.

²¹ The International Court of Justice has, for example, settled a number of disputes on the delimitation of maritime boundaries. Judicial decision-making also constitutes an important institutional mechanism for the integration of the European Community, see Weiler, *The Transformation of Europe*, Mancini, *The Making of a Constitution for Europe*, Rasmussen, *On Law and Policy in the European Court of Justice*.

parties to submit their disputes to courts or similar third party agents, e.g. arbitration commissions²². The actors involved in a conflict may explain their behaviour and invoke commonly accepted norms. They may argue over the precise content of prescriptions relevant for the decision of a given case.

Institutions for third party dispute settlement are established by a community of actors. They function as agents of this community. Their decisions should not rest on the distribution of power among the disputing actors and their parochial interests. They should not take into account aspects that are not legally relevant²³. Rather, third party decisions must be accompanied by convincing reasons submitted by the deciding court or arbitration commission. Exclusive reliance on convincing legal argument and complete exclusion of bargaining reflect the ideal of judicial decision-making. Hence, adjudication is entirely based on the successful conduct of norm-rational discourses²⁴. It amounts to (almost) exclusive interaction in the mode of debate and is diametrically opposed to the stabilization of regime norms by action.

Many hopes rest on adjudication. It is believed to be a form of international dispute settlement that supports the 'rule of law' in the international system. For example, the Convention for the Protection of the Ozone Layer envisages, within a multifaceted mechanism, the settlement of disputes by the International Court of Justice (ICJ) or an ad hoc Arbitration Commission²⁵. Many founding members of the regime even favoured compulsory jurisdiction of the ICJ²⁶. However, third party dispute settlement raises a number of serious problems that contribute to its comparatively low relevance in the international system.

First of all, norms must be transformed into international law. A court or arbitration commission is an agent that discharges the function of norm-rational decision-making for a community of actors. This agent must be aware which norms the community considers as relevant for its operation. It cannot immediately refer to 'normative expectations' of community members because these expectations are an inter-subjective phenomenon of the actors concerned. It requires 'objective' standards of behaviour and criteria for their identification. These criteria may be 'rules of recognition'²⁷, or a doctrine of the 'sources of law'²⁸.

22 On arbitration, see *Schlochauer*, Arbitration.

23 See the self-description of the function of the International Court of Justice. It held that «it is a court of law... Law exists, it is said, to serve a social need; but precisely for that reason it can do so only through and within the limits of its own discipline. Otherwise it is not a legal service that would be rendered»; *South West Africa Cases*; ICJ-Reports 1966, p. 34.

24 *Habermas*, Faktizität und Geltung, pp. 219, emphasizes that judicial decision-making produces a high degree of discursive rationality. See also *Alexy*, Theorie der juristischen Argumentation.

25 See Vienna Convention, article 11; under the provisions of this Convention arbitration shall be «in accordance with international law, as well as the provisions of this Convention and any protocols concerned», article 5 of the Arbitration Procedure, see UNEP/OzL.Conv. 1/5, Annex II.

26 See above, Chapter 5, pp. 215-216.

27 See *Hart*, The Concept of Law, pp. 97-107.

28 On the relevance of a sources of law doctrine for court decision-making, see *Luhmann*, Die juristische Rechtsquellenlehre.

Positive international law provides these criteria²⁹. It disposes of a doctrine of law³⁰ that recognizes in particular international treaties, international custom, and general principles of international law³¹. If they are to become relevant for third party decision-making, the norms of an international regime must be related to one of the sources of international law, in practice usually to that of international treaty law.

The generation of positive legal norms does not extinguish the inter-subjective normative expectations shared within a community of actors. It merely redoubles them. However, not all collective decisions and not all normative expectations generated by the actors concerned may simply be transferred into formal international law. There may be good reasons to refrain from formalizing obligations³². Within the international regime for the protection of the ozone layer, for example, a multi-million dollar fund was established without a clear formal legal basis. And yet, this decision formed part of a comprehensive package that included agreement by important developing countries to accept (formal) membership of the regime³³.

Moreover, normative expectations of actors may be highly flexible, while formal rules of international treaties are comparatively static. Over time, the former may develop and depart from the latter. For example, the members of the ozone regime initially agreed on a high threshold for the adoption of control measures, while later on they preferred a more flexible approach. Therefore, the requirements for the entry into force of the London Amendment to the Montreal Protocol are not any more covered by the treaty language of the Vienna Convention³⁴. And vice versa, courts or arbitration commissions do not exclusively apply the norms of a given international regime. They rely on international law in general and may particularly refer to established principles of the international law of treaties and other general rules that have not been subject to deliberation within the norm-moulding process of the international regime.

Accordingly, the members of an international regime may generate normative expectations that are not, or not fully, reflected in formal international law. These norms may be difficult to invoke in a third party dispute settlement procedure although they form part of a cooperative arrangement. Instead, other norms that do not form part of this arrangement may be invoked and will be applied. Hence, the transformation of the norms of an international regime into formal international law sacrifices the nature of the regime as an independent sectoral normative system and may influence the content of applicable norms.

29 Positive international law is attractive to international lawyers precisely because it favours the appraisal of behaviour of (state-) actors from the judge's perspective; see in this regard *Simma*, *Völkerrechtswissenschaft und Lehre von den internationalen Beziehungen*.

30 See *Kratochwil*, *Rules, Norms and Decisions*, p. 192.

31 See Statute of the International Court of Justice, Article 38. The Court recognizes, however, also some less well defined sources, such as unilateral declarations made 'with the intention of being bound' see *Nuclear Test Cases*, ICJ-Report 1974, pp. 267 and 472.

32 See the discussion on the merits of formalization of international obligations, above Chapter 11, pp. 423-426.

33 See above, Chapter 7, pp. 296-302, and *Gehring*, *International Environmental Regimes*, p. 50.

34 Compare Article 9 of the Convention and Article 2 of the London Amendment. See also *Gehring*, *International Environmental Regimes*, p. 48, and *Ori*, *The New Montreal Protocol*, p. 202.

An even more serious problem of third party decision-making is related to the choice involved in the application of general rules to a specific case. Frequently, norms, particularly formalized rules, are normatively ambiguous. Where existing norms are clear, actors do not need third party settlement. Where they are indeterminate or ambiguous, it is doubtful whether the correct decision of a case may be derived exclusively from the application of 'the law' to a specific case. It has been observed above³⁵ that valid norms frequently define only an interval inside which they allow more than one solution. While the limits of this interval may be determined by norm-rational reasoning, the determination of the exact outcome may not. Rather, room exists for other mechanisms of social choice, e.g. bargaining. The interval of free choice does not disappear by submission of a dispute to third party decision-making. However, the criteria for decision-making change. It is now the court or arbitration commission that chooses one out of a number of possible options. And it does so by its own criteria, e.g. by reference to norms of a higher order (principles).

Therefore, adjudication may amount to an extension of the norm-rational discourse to areas that are not (fully) determined by existing norms. In these areas skillful adjudication must bridge gaps of normative ambiguity or indeterminacy³⁶. Since there is no single correct solution, different outcomes may be justified norm-rationally. Moreover, different third party agents may render different decisions; the outcome will not least depend on the specific agent chosen³⁷. Nevertheless, a judicial decision authoritatively selects the *valid* interpretation of relevant norms in a given context. The agent of the community of (state-) actors determines 'the law' in the specific context³⁸. It implicitly introduces a degree of supranationalism into the international system³⁹.

The supranationalism implicit in court decision-making may be unfortunate for the disputing actors⁴⁰, but it produces even worse effects for the community at large⁴¹. Admittedly, a decision is primarily directed at the disputing actors. The Statute of the ICJ emphasizes this direction and expressly recognizes that 'the decision of the Court has no binding force except between the parties and in respect of that particular case'⁴². However, a third party agent that bridges lacunae in the law and

35 See above, Chapter 13, pp. 456-457.

36 The inclusion of the somewhat dubious source of 'general principles of international law' was intended precisely to avoid gaps for adjudication; see *Carty*, *The Decay of International Law*, p. 14.

37 An important reason for submitting conflicts to ad hoc chambers of the International Court of Justice or to arbitration commissions is the ability of actors to select the judges and arbitrators personally; see *Meyer*, *The Ad Hoc Chambers*, pp. 421-428.

38 See the comments by *Oellers-Frahm*, *Gulf of Maine Case*; and *Oellers-Frahm*, *Continental Shelf Case*, on the wide margin of interpretation enjoyed by the International Court of Justice regarding the delimitation of maritime boundaries.

39 This implicit supranationalism explains the reluctance of states to submit disputes to impartial third party settlement; see *Mosler*, *Eine allgemeine, umfassende, obligatorische, internationale Schiedsgerichtsbarkeit*, pp. 613-617.

40 On the individual side of disputes, see *Bilder*, *An Overview of International Dispute Settlement*.

41 On the two dimensions of an international conflict, see above, Chapter 9, p. 366, and *Sand*, *New Approaches to Transnational Environmental Disputes*.

42 See Statute of the International Court of Justice, article 59.

renders authoritative decisions inevitably influences the normative system at large. Implicitly, it instigates normative development that will affect all members of the relevant community of actors. Hence, a court settling a contentious issue by authoritative interpretation of an international treaty that forms part of an international regime necessarily influences the future interpretation of this treaty. The interpretation will have an impact on the precise content of a given cooperative arrangement. It will thus affect the interests of all members of the regime⁴³.

Another problem ensues immediately. The authority of a judicial decision and the power of norm-rational arguments accompanying this decision are limited to the system of positive international law. Normative development takes place within this system in the form of dogmatic evolution. Upon the decision of a court the relevant community of regime members is faced with an interpretation of formal legal norms, but it is not at all clear whether these actors will follow the legal development and adjust their shared normative expectations accordingly. The community members may adopt the view of the court and accept it as guideline for their own decision-making, but they may well choose to ignore it. To have an impact on the decisions of actors, modified formal norms must be re-transformed into shared normative expectations.

This observation reveals the peculiar nature of positive international law. It is a legal system that is at the same time open and closed⁴⁴. It operates entirely according to its own criteria. It applies its own criteria for the distinction of international legal norms from other norms. It determines according to its own criteria whether an invocation of legal norms is apt to trigger the process of adjudication. And it selects according to its own criteria information and arguments that may influence the outcome of this process. Judgements must meet its internal standards. The members of an international regime cannot change these standards, they may merely choose whether they want to meet them.

Despite its operative closedness, the system of positive international law is responsive to intervention from outside. Communities of negotiating actors decide about the policies prescribed by valid norms. They decide collectively to conclude a formal international treaty and introduce its norms into the system of positive international law. Actors may invoke valid norms and transform substantive disputes into normative ones. Neither of these interventions takes place without the activity of actors, either collectively or unilaterally. And yet, the relevance of all interventions is judged according to the internal standards of the legal system.

The cycle of norm-application by third party decisions (Figure 13.2.) illustrates this phenomenon. As usually, the application of regime norms starts with *Prescription by Negotiation*. At this stage shared normative expectations develop among the members of a community. To become operative for third party dispute settlement, these inter-subjective normative expectations must be formalized. Therefore, at the

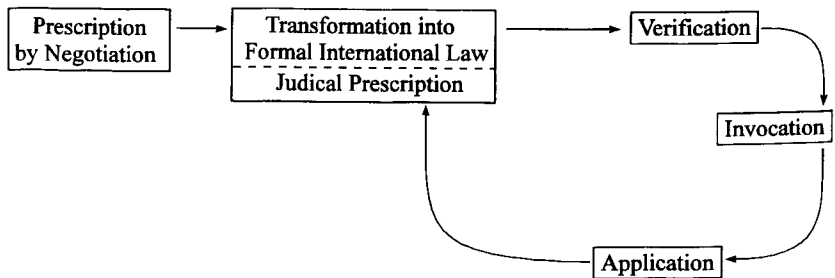
43 On these difficulties arising within the system of positive international law, see Kennedy, *International Legal Structures*; Koskenniemi, *From Apology to Utopia*; and Koskenniemi, *The Politics of International Law*.

44 On the operative closure of positive legal systems, see Luhmann, *Das Recht der Gesellschaft*, pp. 38-123.

stage of *Transformation* norms are introduced into the system of formal international law.

As in all other types of norm application actors observe the behaviour of their co-actors. At the stage of *Verification* actors compare the action of their co-actors with formally valid norms. An incident of non-compliance cannot become subject to any type of application unless co-actors become aware of it. Cognitive awareness is the pre-condition for the *Invocation* of norms, i.e. the characterization of action in terms of its conformity (or non-conformity) with existing norms. Claims for social choice may well contradict each other. In so far *Invocation* is similar to *Promotion* in the norm-moulding process⁴⁵. However, claims are now deliberately related to existing norms. A normative dispute emerges on the basis of a substantive conflict and opens the opportunity for a norm-rational discourse and for third party dispute settlement.

Figure 13.2: Application of Norms by Third Parties



In the stage of *Application* a third party authoritatively decides a substantive dispute on the basis of valid norms. While the stages of *Verification* and *Invocation* are largely subject to unilateral activity, *Application* is performed by an agent empowered by the relevant community of actors. This stage is necessarily based on a hierarchical arrangement between the deciding third party and the actors immediately participating in the conflict. Judicial decisions do not only settle disputes. They also affect the content of norms by reproducing, stabilizing and developing them. They establish, beside negotiation among actors, a second source of norm-moulding by communication. *Judicial Prescription* addresses the normative dimension of a conflict and reflects the dogmatic development of the system of formal international law. Like the stage of *Application* it rests on a hierarchy with the deciding third party (acting as an agent of the community) at the top and the single regime members at the bottom.

The model of the application cycle illustrates that norm application in the system of positive international law *operates* independently of the (state-) actors concerned,

⁴⁵ On the process of norm-moulding during regime formation, see above, Chapter 11, pp. 427-429.

although it is responsive to their interventions. From the perspective of the actors, individually and collectively, judgements are mere recommendations. Disputing actors may accept a decision rendered in the stage of Application, but they may also reject it and refuse implementation. Likewise, the members of an international regime may accept a normative development emerging from Judicial Prescription and adjust their normative expectations accordingly, but they may also refuse to do so. In contrast to interaction in the sphere of action, the outcomes of third party decision-making are not immediately related to the actors of the international system. The contribution of third party decision-making to the stabilization of international regimes depends entirely on the voluntary acceptance of decisions by these actors.

This contribution may now be assessed according to the three types of conflicts outlined above. In the case of normative ambiguity, two parties may agree to submit a substantive conflict to an international court or arbitration commission rather than endeavour to settle it by negotiation or direct interaction. These actors voluntarily frame their substantive conflict in normative terms. They use adjudication for dispute settlement and conceive it as a suitable procedure to overcome disagreement. Adjudication serves the interests of these actors, although it involves choice of the court and amounts to a 'quasi-pure procedural settlement'⁴⁶.

In fact, the joint submission of a dispute to third party settlement reflects a limited incident of cooperation among the actors concerned. It includes the preparedness of the participating actors to implement the decision. The conflict will remain unsolved, unless the actors accept the decision and *act* accordingly. The interest of the actors concerned to settle their conflict and their common acceptance of adjudication as the proper procedure raise the probability of voluntary implementation of the judicial decision. The actors concerned establish a firm link between the legal system and the sphere of action. Likewise, normative developments triggered by the court are not mere dogmatic constructs. They become relevant in the sphere of action if the actors addressed by a decision immediately act accordingly. Hence, a decision of this type may contribute to stabilizing norms in the international system.

The situation differs fundamentally as soon as an actor intends to take a free ride. If jurisdiction is compulsory, another actor may instigate court proceedings without the agreement of his counterpart⁴⁷. He may unilaterally transform the substantive conflict into a normative one. His counterpart is forced to accept judicial proceedings, including the outcome, or must defect openly. There is a slight prospect that the very fact of judicial proceedings motivates an actor to comply with valid norms, even though he did not intend to do so initially.

However, as soon as the actor continues to trespass against these norms, the problem ceases to be one of the interpretation of norms and becomes one of their enforcement. Here the influence of norm-rational decision-making terminates. The

46 On 'quasi-pure procedural settlements', see Rawls, *A Theory of Justice*, p. 362, and above, Chapter 11, p. 411-412.

47 Note that the identification of parties injured by the breach of a multilateral norm is not always evident; see *Sachariew, State Responsibility for Multilateral Treaty Violations*, pp. 276-281.

community of regime members is now faced with a clear incident of non-compliance that cannot easily be neglected⁴⁸ because the court has eliminated normative uncertainty. More than before the incident threatens to undermine cooperation. The response action of community members may link the judicial decision to the sphere of action. The real addressee of the decision changes accordingly. It is not the non-compliant actor any more but the observing co-members of the community who might sanction the trespasser and enforce compliance with valid norms⁴⁹. However, no state-actor will do so automatically, i.e. without taking into account his own interests.

Accordingly, this type of court decision involves high risks. It may harden the dispute between the trespassing actor and the remainder of the community and enhance the level of conflict in the issue-area. It may also reveal that the community is not in a position, or unwilling, to respond effectively to non-compliant behaviour and thus contribute to the destabilization of existing norms. A judicial decision of this type is relevant in the sphere of action but it may have a highly negative impact on the stability of regime governance.

Lastly, non-compliant behaviour may indicate a growing pressure for normative change. Changing circumstances may have deligitimized outdated but still (formally) valid norms. Courts may, to some degree, remedy the situation by creative normative development through judicial prescription. However, the general separation of norm-moulding (by negotiations among the actors concerned) and norm-application (by an agent acting on behalf of the community) limits the flexibility of the legal system. Over time formal international legal norms will increasingly reflect *outdated* expectations. Their application will either become irrelevant in the sphere of action, or it will cause irritations within the community of actors and may even create new conflicts.

To sum up, third party dispute settlement is an ambiguous device for the stabilization of international regimes. It relies on the discursive exchange of reasonable arguments and thus promises to render largely community-oriented decisions on the basis of agreed norms. However, legal decision-making in the highly specialized form of norm-rational communication does not ensure that decisions are implemented in the sphere of action. The successful stabilization of international regimes based on judicial decision-making in the system of positive international law always rests on the ex post acceptance of judgements by the actors concerned⁵⁰. The decision of an international court or arbitration commission threatens to create an unfortunate distinction between normative expectations generated and accepted by the members of an international regime and dogmatically founded norms derived by

48 On neglect as a strategy norm stabilization, see *Luhmann, Rechtssoziologie*, pp. 60-63. See also above, Chapter 9, p. 368.

49 See *Reisman, The Enforcement of International Judgements*.

50 As soon as a community of actors is sufficiently integrated, a well-operating legal system will be accompanied by other functional sub-systems, e.g. for the making of norms. The combination of several functional sub-systems increases the relevance of the legal system dramatically. This is true not only for modern domestic

legal reasoning⁵¹. In some instances third party dispute settlement may reinforce norm-governance, but in other cases it will have adverse effects or be, at best, irrelevant in the sphere of action.

2.3. *Stabilizing Regime Governance by Negotiations*

In dynamic international regimes the stabilization of regime governance may be integrated in the on-going process of regime-specific communication. In this case, part of the norm-governing process does not have to be referred to institutions beyond the regime's confines, such as courts or arbitration commissions, nor to direct interaction and unilateral decision-making. Rather, a community of actors having established a dynamic international regime may itself respond to incidents of non-compliance threatening to destabilize common norms and undermining mutually beneficial cooperation because it retains the ability to adopt decisions collectively.

International governance by dynamic international regimes may thus avoid the awkward choice of stabilizing regime norms either in the interaction modes of game or in that of debate⁵². It allows a combination of these pure modes of interaction in the hybrid form of negotiations. Decisions may be realistic and take into account the interests of the actors concerned without threatening to reproduce, sooner or later, the original sub-optimal outcomes. They may also be based on an exchange of reasonable arguments without being too idealistic to be implemented by the actors concerned. In negotiations actors may bargain *and* argue. They may balance their interests and convince each other (thus influencing their perception of problems and their views of options for action). They may jointly promote their common interest of overcoming sub-optimal outcomes and individually pursue their interest as to the distribution of joint gains.

The stabilization of regime norms within the comprehensive communication process of dynamic international regimes overcomes the separation of norm-moulding and norm-application. It reproduces in the sphere of communication the integrated interaction process that was observed for simple normative systems in the sphere of action⁵³. The norms of a dynamic international regime are moulded in the same interaction process in which they are reproduced and eventually replaced. The relevant community of actors related to a dynamic international regime establishes its own criteria for the application of its norms. Its overall selection criterion is consensus. As long as the original consensus as to appropriate behaviour in a given

societies, but also for the European Community, see Gehring, *Internationale Kooperation und Europäische Gemeinschaft*.

51 In practice, there is little prospect that states will use options for third-party dispute settlement in the field of international environmental affairs; see Sand, *Lessons Learned in Global Environmental Governance*, pp. 21-22. On the limited role of international adjudication, see also Bilder, *International Third Party Dispute Settlement*.

52 On the merits of these 'pure' interaction modes, see above, Chapter 11, pp. 403-406.

53 See above, Chapter 9, pp. 366-369.

situation remains stable, established norms will be reinforced by collective decisions. Incidents of non-compliance may be responded to by coordinated action of the community members. As soon as consensus develops, both norms and their application will change. In dynamic international regimes the subject of stabilization is not a particular regime norm, rather it is regime governance⁵⁴.

However, there is a slight difference between norm-moulding in the regime formation phase and the reproduction and development of norms in later phases. Now, negotiations and collective decision-making take place in the shadow of valid norms and established cooperation. The members of the relevant community *have* already agreed on common norms that prescribe behaviour promising improved outcomes. An actor refusing to comply with these norms undermines mutually beneficial cooperation. Therefore, in the typical conflict situation a single regime member (or a small number of regime members) refusing compliance with regime norms will have to face the remainder of the community.

An actor accused of disregarding common norms and defecting from cooperation will be forced to explain his behaviour⁵⁵, if he desires to remain a member of the relevant community. Generally, he may accept established norms as valid standards for the appraisal of behaviour, or he may refuse to do so. In the first case, the actor will have to justify his behaviour on the basis of these norms. An exchange of arguments between him and his co-actors as to their appropriate interpretation may settle existing ambiguities. The communication may thus include a norm-rational discourse on the basis of established expectations of the community about appropriate behaviour in a given context⁵⁶. In the latter case, the accused actor challenges the appropriateness and justification of established norms that are invoked against him. Now these norms do not provide agreed criteria for community decisions any more. Instead, they become themselves subject to an exchange of arguments. It is not questioned any more whether a particular action is in conformity with common norms, it is now questioned whether existing norms are (still) acceptable in the light of changing circumstances. This dispute leaves the limits of a norm-rational discourse and requires a new round of norm-moulding⁵⁷.

Hence, a regime member accused of acting not in conformity with regime norms may generally choose the criteria for the ensuing communication, but he must accept judgement of his own behaviour by the relevant community founded on these criteria. If he accepts established norms as the appropriate standards, he will have to explain his behaviour in their terms⁵⁸. If he rejects these standards, he will have

54 See also *Young*, *The Effectiveness of International Institutions*, pp. 178-182.

55 See *Schachter*, *The Uses of Law in International Political Organs*.

56 On the particularities of the normative discourse, see *Kratochwil*, *Rules, Norms and Decisions*, pp. 212-248. On the distinction between a 'legal' and a 'political' process, see *Higgins*, *Policy Considerations and the International Judicial Process*.

57 If actors are enabled to challenge the appropriateness of norms, observers cannot any more determine their validity 'objectively', see *Habermas*, *Theorie des kommunikativen Handelns* I, pp. 173-176.

58 *Fisher*, *Improving Compliance with International Law*, pp. 29-33, draws attention to the fact that critical incidents of non-compliance with norms usually occur in the form of disputes over their content. What matters

to explain his implicit assumption that the foundations of regime governance have changed and that *there are good reasons* to modify and renegotiate norms.

The integration of norm-moulding and norm-application into a comprehensive communicative process provides the necessary institutional apparatus for the choice of criteria. It enlarges the options of a community of regime members to respond to behaviour that threatens to destabilize regime governance and cooperation. It thus increases the prospect for effective international governance. At least six different degrees of escalation of conflict about norms may be distinguished according to the motives underlying non-compliant behaviour.

First, two members of an international regime may be in dispute over a given action and desire an impartial third party settlement. They struggle over substantive advantages in the shadow of commonly accepted norms. This is the typical situation for successful third party dispute settlement. What is needed is an authoritative interpretation of relevant norms. It may be rendered by a collective decision of the relevant community of actors on the basis of a norm-rational discourse among regime members.

Second, an actor may wish to continue participation in an international regime and nevertheless fail to comply with its norms. This classic free rider does not intend to challenge the regime, nor a particular norm. The interest of the free rider in continued regime participation provides the community with sanctioning power. The community may decide about its response. Enforcement action may be coordinated, thus establishing 'second order cooperation'. If enforcement costs are high, the community may also (implicitly) choose not to recognize minor incidents of free riding and simultaneously reconfirm the remaining community members of the continued validity of regime norms.

Third, an actor may find himself unable to comply with obligations which he has committed himself to and ask permission for temporary non-compliance. This involuntary free rider does not challenge the normative system, nor a particular norm. His quest for a limited exception must be supported by convincing argument, but it will also be accompanied by the implicit threat to take a free ride. The community must appraise the reasons provided by the applying actor for his inability to comply and choose between granting and rejecting an exemption from common obligations. It may also adopt measures to reinforce the capacity of the actor concerned to implement his obligations.

Fourth, an actor may act according to his own extensive interpretation of a norm that is considered by some co-actors as amounting to non-compliance. This actor does not challenge the normative system, nor even a particular norm, but a common interpretation and an established mode of application. While the very fact of deviation is disputed, action nevertheless comprises a claim for modification of normative expectations. Community decisions may remove the grey zone of excessive

is, therefore, second-order compliance with authoritative decisions rather than first-order compliance with norms. With reference to the example of GATT, see also *Kratochwil*, Norms versus Numbers.

unilateral interpretation between clear free riding and clear compliance and develop (or reconfirm) the original normative expectations of regime members.

Fifth, an actor may reinforce his claim for the modification of a norm by openly refusing compliance. This actor does not challenge the normative system and the communicative process on which it is based but a particular norm. The purpose of non-compliance reaches beyond the desire to take a free ride. It is directed at norm-moulding. Although this actor remains interested in the international regime, his action is not covered by its norms. To be successful, the claim for a change of the norm in question must be convincingly re-introduced into the process. It must be explained and accompanied by reasons.

Finally, an actor may not comply with his obligations and reject the constraints of the communicative process. This actor does not only challenge a particular norm but regime governance altogether. He chooses exit. Here communication terminates and interaction between him and his co-actors resorts to the sphere of action. However, within the community of remaining regime members possible reactions may still be coordinated by communication thus coping with the danger of second order free riding by establishing 'second order cooperation', i.e. cooperation of the community members to sanction their prior co-member⁵⁹.

Within a dynamic international regime a community of actors may respond flexibly to different types of conflict about norms. It may apply norms strictly and invest them with new authority, if possible. It may also grant exceptions, adopt far-reaching interpretations or replace outdated norms by new ones, if considered appropriate. Moreover, it may collectively determine coordinated responses to free riders. In all of these situations communication among regime members and collective decision-making matter.

The unfortunate dichotomy of compliance and non-compliance prevailing in the sphere of action diminishes. Regime members are not forced any more to determine their response to non-compliant behaviour exclusively on the basis of observed action (and their own interests). They may take into account the *motives* of this behaviour. Different situations may be addressed differently, although all of them involve non-compliant behaviour.

International third party dispute settlement can only successfully address the first of these cases. Disputes resembling situations (3) to (5) escape norm-rational decision-making because they challenge the validity of established norms. Their settlement must combine the application and possible modification of norms, while a strictly norm-rational application of existing norms might force single regime members to openly refuse to comply or even leave the regime. The attempt to stabilize regime norms in these situations by court decision-making threatens to destabilize regime governance altogether. Any attempt by an international court to increase its flexi-

⁵⁹ On the role of collective decision-making for international sanctioning, see *Klein*, *Sanctions by International Organizations*, pp. 101-113; and *Heilbronner*, *Sanctions and Third Parties and the Concept of International Public Order*, pp. 10-11.

bility would necessarily lead to judicial activism and enhance the implicit supranationalism of judicial decisions. Situations (2) and (6) also escape norm-rational decision-making. In the former case, an actor chooses to ignore valid norms although he does not challenge their validity, in the latter case he ceases to recognize his obligations. These situations require responses of community members that cannot be decided upon by an independent third party.

The integration of norm-moulding and norm-application into a comprehensive negotiation process promises therefore more enduring international governance than any other mechanism discussed in the present chapter⁶⁰. Considering that the legitimacy of a cooperative arrangement relies on two elements, namely the general conviction of its appropriateness and a careful balance of interests⁶¹, it is not surprising that decisions on the application of its norms may successfully rely on the same elements. In fact, any contentious issue regarding a collective decision arising within an issue-area governed by a dynamic international regime may best be settled by another collective decision of the relevant community⁶².

However, the capacity of a community of actors to settle disputes by communication and consensus decision-making will be limited. The regime process may be over-burdened if all issues must be treated alike. An overload of minor issues may threaten to prevent the actors from addressing more far-reaching questions of regime development and active policy-making. Not all disputes challenge valid norms. Within a dynamic international regime specific procedures may, therefore, be established to prepare decisions. As in the case of norm-moulding⁶³, certain issues may be addressed separately from the main body of negotiations. Issues regarding the interpretation of norms may be prepared by expert groups on the basis of a norm-rational discourse. Solutions responding to difficult situations faced by individual members may be founded on an exchange of reasonable arguments accompanying claims for limited exemptions. The integration of norm-moulding and norm-application does not at all exclude differentiated decision-making in specialized fora⁶⁴. What matters is that the community of actors remains master of the process and retains the ability to adopt the final decision if agreement cannot be reached in the specialized fora.

Norm-application does not therefore necessarily coincide with norm-moulding. The norm-application cycle of dynamic international regimes (Figure 13.3.) illustrates

60 Stein, *The Settlement of Environmental Disputes*, pp. 296-297, emphasizes the relevance of 'tailored solutions'. Sceptical as to the regional and functional decentralization of international dispute settlement is Sohn, *The Future of Dispute Settlement*, p. 1132.

61 See above, Chapter 11, pp. 421-422.

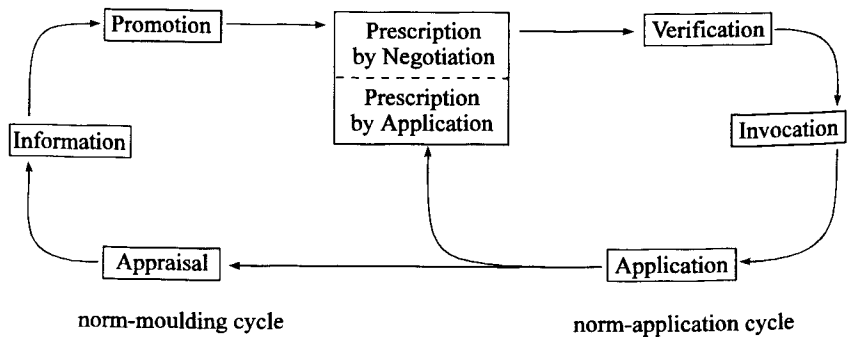
62 In respect of GATT, the apparent contradiction of stabilizing cooperation by the continuous adaptation of regime norms to changing circumstances is referred to in the diplomatic 'bicycle theory': 'unless the Gatt sustains momentum in the fight to maintain a liberal trade régime, this régime will collapse as nations take unilateral actions to protect their producers from foreign competition'; Winham, *The Prenegotiation Phase of the Uruguay Round*, p. 46.

63 See above, Chapter 11, pp. 413-417.

64 By deciding about complaints, the regime-specific mechanism will discharge the law-declaring function for the sectoral normative system otherwise fulfilled by courts; on this function see Bilder, *International Dispute Settlement*, p. 150, and Meyer, *The Ad hoc Chambers: Perspectives of the Parties and the Court*, pp. 436-437.

the relationship of the two processes. As in all other forms of norm-application it starts with *Prescription by Negotiation*, the final stage of the norm-moulding process. However, unlike application by direct interaction and by third party dispute settlement it does not require transformation because norms are both made and applied by the members of the relevant community collectively. The regime members will compare the behaviour of their co-actors with their common normative expectations (*Verification*). They may characterize action in terms of its conformity (or non-conformity) with these norms and create a normative conflict (*Invocation*). The stages of Verification and Invocation will usually be performed by single regime members. However, a community that is apt to act collectively may establish collective verification mechanisms. Actors may, for example, be obliged to report their implementation activities, and secretariats may check this information as to its plausibility. This mechanism may also extend to the collective invocation of common norms independently of discrete decisions by individual community members⁶⁵.

Figure 13.3: Stabilizing International Governance within Dynamic International Regimes



In the stage of *Application* the community of actors settles the normative conflict by collective decision. The community of actors may adhere to established norms and determine possible reactions to non-compliance. Application may thus amount to a norm-rational interpretation of established norms. In this case the outcome of Application will confirm and/or interpret negotiated regime norms and lead to *Prescription by Application* that reproduces and possibly develops initially established normative expectations. Prescriptions by Application are very similar to prescriptions by Negotiations. The only difference is that the former are the result of case-by-case decisions while the latter emerge from more general negotiations.

⁶⁵ The institutional design of dynamic international regimes may address and institutionalize all stages of the decision process, see *Gehring*, Institutional Design for a Dynamic International Environmental Regime on Global Climate Change.

However, Application may also reveal that existing norms are not any more appropriate or acceptable. It may thus instigate more general negotiations and a new round of norm-moulding. Hence, the norm-application cycle is not entirely closed but provides a direct outlet to norm-moulding.

Dynamic international regimes offer the opportunity to incorporate the stabilization of regime norms and issue-area specific governance into the comprehensive communication process of international regimes. Like norm-moulding, the application of norms may be based upon negotiations and collective decisions of the relevant community. Application does not rely on unilateral decision-making as in the sphere of action, or on independent agents that may render unacceptable decisions even if they perform their function perfectly well. Collective decisions are by definition acceptable if the actors participate seriously in the negotiations. And they may be taken with a view to reinforcing mutually beneficial cooperation. The decision-makers are aware of the relevance of their decisions for the support of cooperation, and they may collectively organize 'second order cooperation' to establish a (limited) sanctioning force. Hence, dynamic international regimes allow the stabilization of regime governance and for this purpose occasionally sacrifice the persistence of originally agreed norms.

The precondition for this type of regime stabilization is the establishment of a comparatively sophisticated institutional apparatus that includes continued, and for that reason costly, negotiations. Despite the institutional advantages of dynamic international regimes, their costs will be unacceptable regarding issue-areas that are comparatively small and unimportant or in which normative development and the prospect of non-compliance are negligible. Dynamic international regimes will be most suited for important and rapidly developing issue-areas in which a community of actors actively engages in policy-making.

3. The Stabilization of Regime Governance in Practice

The high rate of compliance with the main obligations of the two international environmental regimes explored in the present study may not least be attributed to the successful combination of realistic norm-moulding and the continued reproduction and development of shared normative expectations within a permanent process of organized communication among regime members. Broad unilateral interpretations and possible adverse long-term developments are thus kept under collective control and may be responded to already in an early stage by the community of actors⁶⁶.

The Meeting of the Parties to the Montreal Protocol, i.e. the principal policy-making organ of the international regime for the protection of the ozone layer,

⁶⁶ See the comment by *Schachter*, *The Nature and Process of Legal Development*, p. 782: «It may be noted that the treaty-régimes, taken as a group, are characterized by a relatively high degree of compliance. This is attributable in part to the fact that they provide for institutional decisions by a representative organ or an executive body. Such institutional decisions tend to limit the sphere of auto-interpretation by the states of their obligations».

settles numerous issues regarding the interpretation and appropriate implementation of the regime and its norms during its annual conferences. The Executive Body of the international regime on long-range transboundary air pollution generally discharges a similar function.

The closing of loopholes is a major aspect of day-to-day decision-making within the two regimes. For example, under the Montreal Protocol developing countries with a low consumption of ozone depleting substances enjoy preferential treatment. They are entitled to receive grants from the Multilateral Fund that is financed by the remainder of regime members and their control measures are subject to a ten-year grace period. Hence, it matters whether a country enjoys these preferences or not. However, the Protocol does not define the group of 'developing countries', nor is the membership of this group clearly determined within the United Nations. Some countries, e.g. Turkey, struggled tirelessly for preferential status. The Meeting of the Parties settled the dispute authoritatively⁶⁷ and later determined the group of developing countries which exceeded the consumption limits and excluded them from preferential treatment⁶⁸. The Meeting of the Parties to the Montreal Protocol also adopted a number of definitions and clarifications of terms⁶⁹ that have an impact on the amount of ozone depleting substances controlled.

In a similar way the Executive Body of the Geneva Convention remedied a normative gap within the SO₂-Protocol. The instrument provides for emission reductions of at least 30% by 1993 but it does not address the period after 1993. The Executive Body, noted a common understanding among the Parties⁷⁰ to conceive of the Protocol as also committing the parties to the limit after 1993. Hence, in a number of cases an agreed interpretation removed a grey zone of normative uncertainty that might have been interpreted excessively by single countries.

In other cases the regime members had to respond to incidents of non-compliance short of classic free riding that nevertheless might have undermined a cooperative arrangement. For example, several EC member countries refused for a number of years to report their production figures for ozone depleting substances to the Secretariat of the regime. This behaviour clearly violated their obligations because under the Montreal Protocol of 1987 the European Community was not assessed as a single unit in respect of the production of controlled substances. The reason was that single members of the Community should not exploit the margin originating from over-implementation by other members. Yet, the separate assessment of production contradicted the Community concept of an internal market that includes the free movement of goods and the free allocation of production capacity.

Generally, reporting obligations provide the basis for the verification of compliance. In combination with other available information production figures may

67 See Decision I/12E, UNEP/OzL.Pro.1/5 of 1989. Turkey was recognized only in 1991, see Decision III/5, UNEP/OzL.Pro.3/11. See also above, Chapter 7, pp. 264-265 and 272.

68 Decision III/3, UNEP/OzL.Pro.3/11, identifies four developing countries that do not operate under Article 5.

69 See Decisions I/11 and I/12A-F, UNEP/OzL.Pro.1/5.

70 Report of the seventh session of the Executive Body, ECE/EB.AIR/20, para. 22.

become subject to some professional plausibility control. They are of considerable relevance for the operation of the regime because other institutionalized mechanisms for the verification of the performance of regime members, e.g. the gathering of independent information, have not been established⁷¹. Hence, the open refusal of several major regime members to comply with their reporting obligations might have had the long-term effect of eroding the inclination of other parties to report sincerely. The matter was formally settled in favour of the EC by a modification of the existing norms in the framework of the first major revision of the Protocol⁷².

Another incident of non-compliance was far more serious because it touched on a central element of the regime for the protection of the ozone layer. A number of East European states obliged to contribute to the Multilateral Fund ceased to pay their contributions. In 1992 some of them formally requested relief from contributions in hard currency. The difficult economic situation of these countries was widely recognized, and the community of regime members did not attribute their non-complying behaviour to their intention to cheat. Yet, *de facto* non-compliance affected the interests of other regime members adversely. It reduced the size of the Multilateral Fund and endangered the careful balance of interests between industrialized and developing countries. The unilateral reduction of the size of the Fund by the group of contributing countries, however justified, was apt to undermine the preparedness of developing countries to comply with their obligations. Hence, this type of non-compliant behaviour threatened to unravel a central part of cooperation within the issue-area. The Meeting of the Parties endeavoured to keep control of the situation and established a new balance of interests acceptable to the three groups involved, namely the beneficiaries of the Fund, the would-be donor countries, and the remainder of the contributors⁷³.

The permanent communication process of the regime provided the means to keep control of situations of this type. The community of regime members coped with entirely new situations determined by new constellations of interests and characterized by the relevance of new arguments, e.g. regarding the soundness of the relief-claim and its consequences for the Fund. In fact, limited norm-moulding processes were instigated and new cooperative arrangements hammered out.

Over time, complexity within the international regime for the protection of the ozone layer grew enormously⁷⁴. An implementation mechanism was established not least for this reason. A ten-member Implementation Committee now reviews compliance of the regime members with their reporting obligations and compares reported figures on production and emission of ozone depleting substances with

71 Strict verification mechanisms have developed within the framework of security regimes, see *Fischer, The Verification of International Conventions*, pp. 4-7.

72 See Montreal Protocol, new Article 7.4.

73 See Decision IV/21, UNEP/OzL.Pro.4/15, and above, Chapter 7, pp. 304-305.

74 The increasing normative complexity of the international regime for the protection of the ozone layer led to the preparation of a handbook reflecting the Protocol in its relevant versions and the decisions of the Parties that relate to its interpretation as well as other material relevant to its operation; see Decision II/7, UNEP/OzL.Pro.2/3.

amounts allowed under the Protocol. The Implementation Committee discharges thus a permanent function.

However, at least as important is a mechanism to overcome suspicions by a regime member regarding the performance of another. For this purpose the regime for the protection of the ozone layer comprises a specific 'Non-compliance Procedure'⁷⁵ that may be triggered by any regime member having reservations regarding another party's implementation. Since it does not require the consent of the accused party, it amounts to compulsory dispute settlement. The Procedure may also be triggered by the Secretariat of the regime. While states may be reluctant to instigate proceedings fearing reciprocal invocations by their co-members, the Secretariat acts as an agent of the community at large. It may exploit information submitted by non-state actors, e.g. environmental NGOs. An active Secretariat may thus become a fairly independent 'guardian of the regime'. Lastly, the procedure may be triggered by a member finding itself unable to comply with its obligations. This dimension of the mechanism is directed at avoiding *unilateral* defection and gives priority to the collective control of contentious situations.

Proceedings under the Non-compliance Procedure take place before the Implementation Committee, i.e. a largely non-political body. The Committee scrutinizes the behaviour of actors in terms of its conformity with regime norms⁷⁶ and may, for this purpose, engage in fact-finding. It operates under norm-rational criteria and discharges the norm-rational part of the application process. However, unlike a court that renders a judgement it has the task of reporting to the Meeting of the Parties and of recommending action. Recommendations may range from assistance to measures that raise the costs of defection significantly⁷⁷. The final decision is made by the Meeting of the Parties⁷⁸. Although at the time of writing no complaint has been submitted and processed according to the Procedure, it may be anticipated that the Meeting of the Parties will largely adopt the findings of the Implementation Committee, if a conflict is limited to the application of valid norms. It will have to decide itself, if the validity of existing norms is successfully challenged. In any case, however, the principal policy-making organ of the regime remains master of the decision.

75 See Decision IV/5 and Annex IV, UNEP/OzL.Pro.4/15; reprinted in *Environmental Policy & Law* 23 (1993), pp. 50-51. See also above, Chapter 7, pp. 314-319.

76 Except for its recommendations of sanctions, it is not bound to formal international law and may, therefore ignore certain rules of international law, if it does not consider their application desirable with respect to the particular circumstances. This may be the case, for example, with the rules on state responsibility and liability for possible damage due to non-compliance; on this dimension of international environmental disputes, see *Gehring/Jachtenfuchs, Haftung für grenzüberschreitende Umweltschäden*.

77 See the indicative list of 'measures that might be taken by a Meeting of the Parties in respect of non-compliance with the Protocol', UNEP/OzL.Pro.4/15, Annex V; reprinted in *Environmental Policy & Law* 23 (1993), p. 51.

78 This procedure closely resembles the dispute-settlement mechanism of GATT, except that in GATT ad hoc committees are established for a particular case and members function in a personal capacity. On the GATT mechanism, see *Plank, An Unofficial Description of how a GATT Panel Works and Does not*. See also *van Bael, The GATT Dispute Settlement System*; and *Meng, Streitbeilegung im Gatt*.

While a comprehensive implementation mechanism has been established within the regime for the protection of the ozone layer, there is a growing desire to establish an similar mechanism within the international regime on long-range transboundary air pollution. The signatories to the VOC-Protocol, adopted in 1991, envisaged that complaints regarding the compliance of its members may be submitted to the Executive Body of the regime, which will consider them at its following meeting⁷⁹. The second protocol on SO₂ emissions, to be adopted in 1994, may comprise provisions for the establishment of an implementation committee following the precedent of the ozone regime⁸⁰. Moreover, during 1994 it will become clear whether the members of the original SO₂-Protocol did in fact fulfil their obligation to reduce SO₂ emissions by 30 %. Accordingly, the Executive Body may determine reactions to possible non-compliant members at its 1994 session.

To summarize, the integration of the making and application of common norms under the control of the members of the two international regimes explored in the present study did not prevent the establishment of specialized procedures and arenas for the regular assessment of compliance and for the settlement of disputes between regime members. These procedures and specialized arenas supplement political decisions of the relevant community of actors by expert deliberations. However, they are relevant only as offsprings of the comprehensive communication processes of the respective international regimes and only to the degree to which the regime members consider them as legitimate.

4. Conclusion

A successfully established international regime is not primarily endangered by the classic type of free riding in which a regime member supports cooperation but defects unilaterally to gain extra benefits. Successfully established cooperation implies that a sufficiently high number of participating actors adapt their behaviour according to regime norms and, for one reason or another, refrain from deliberate cheating. Apparently, these actors are satisfied with cooperation. However, over time their incentive to defect may increase, and a growing number of regime members may switch from cooperation to defection.

If the primary source of instability of *established* cooperation is not classic free riding, two other sources become important that are related to development. Over time conflicts about regime norms may arise from their application even in fairly stable issue-areas. Although regime norms should guide the behaviour of actors for a more or less extensive period of time, they were negotiated under specific circumstances. Future developments were not known and situations to which regime norms would apply were not always anticipated. Moreover, the two basic foundations of any international regime, namely an existing constellation of interests

79 See VOC-Protocol, article 3(3); and above, Chapter 4, p. 180.

80 See above, Chapter 4, p. 192.

within the issue-area as the basis of a careful balance of interests and the conviction of regime members that regime norms are reasonable, may themselves modify and increase the incentive of actors not to comply any more with existing norms. The task of stabilizing long-term cooperation is thus not limited to coping with classic free riding. It must (also) address destabilizing effects from sources related to dynamic change within a given issue-area.

A conflict about norms reflected in an incident of non-compliance may be caused by any of these factors. It may indicate modifications of the structural foundations of a normative system, it also may stem from normative ambiguity of regime norms in a given context or from classic free riding not intended to challenge the validity of norms. Stabilization of cooperation over time requires therefore an integrated mechanism combining a norm-moulding dimension (responding to structural development) and a norm-application dimension (removing normative ambiguity) that is closely related to sources of power in the sphere of action (reacting to free riding).

Direct interaction establishes an integrated mechanism in the sphere of action that fulfils these conditions. It produces, reproduces and eventually replaces realistic normative expectations that effectively guide decisions of actors. However, this mechanism will frequently not suffice to reproduce and develop cooperation which is reflected in the *negotiated* norms of an international regime. After all, cooperation was established by organized communication precisely to improve sub-optimal outcomes produced by direct interaction. In contrast, third party dispute settlement is not part of an integrated mechanism. It violently separates a centralized and highly sophisticated mechanism for the application of regime norms from the preceding process of norm-moulding and from the subsequent process of the implementation and enforcement of decisions.

Permanent negotiations constitute another integrated mechanism for the moulding, reproduction and replacement of norms. Negotiations combine the interaction mode of game that prevails in the sphere of action and the mode of debate that reflects the rational discourse. In the shadow of existing norms, they allow the combination of a norm-rational discourse that uses valid norms as standards for the appraisal of actors' behaviour, a norm-moulding discourse on the appropriateness and further acceptability of these standards, and the balancing of interests. In addition, they enable a community of actors to decide collectively on response action to non-compliant behaviour of its members.

It may be surprising that negotiated norms are best stabilized by further negotiations although the problem of non-compliance appears in the sphere of action. However, the norms of international regimes must always be implemented voluntarily. Their influence on the sphere of action relies on their acceptance by actors and on the ability of the community to respond to non-compliant behaviour. The acceptance of norms may be raised by the reconfirmation of past decisions or by their adaptation to new circumstances. The capacity of the community to respond to non-compliant behaviour may be increased by coordination of response action among regime members. Implementation of community decisions necessarily remains a matter of

individual choice, but the probability of successful implementation may be enhanced.

Processing and deciding all types of conflicts within negotiations may rapidly overburden the capacity of a community of actors. The international regime for the protection of the ozone layer demonstrates that regimes of the dynamic type may develop procedures that discharge specific functions within the communicative process, including the preparation of decisions according to norm-rational criteria. The same phenomenon has been observed in Chapter 11 for the process of norm-moulding. It emphasizes that complexity may be coped with by functional differentiation. However, in contrast to international third party adjudication these procedures do not exist in isolation. They are fully integrated in the comprehensive communication process of a dynamic international regime and are relevant only within this context.

Conclusion

International Governance and Dynamic International Regimes

International governance is a notoriously intricate issue. The horizontally organized international system lacks an authority that is able to determine the community interest and enforce adequate behaviour of the individual actors. States as the main actors of the international system may determine their behaviour unilaterally and they are able to pursue primarily, if not exclusively, their own interests. The international system may, therefore, appear as 'anarchical', i.e. as regulated merely by constraints external to the actors, and not by man-made norms.

However, international institutions of various types emerge in an ever growing number from this 'anarchy'. States do not merely act independently of each other. They also pursue their interests within commonly established international organizations and at international conferences. And they establish international regimes, such as the regimes on the protection of the ozone layer and on long-range trans-boundary air pollution explored in the present study. Apparently, the actors in the international system may coordinate their behaviour and they may act according to commonly agreed standards. 'Anarchy' may serve as a suitable model of the international system at large, but this model does not tell the whole story. Most importantly, it does not account for international 'governance', if governance is understood as the purposeful generation of influence on the behaviour of actors to collectively improve sub-optimal outcomes. Yet, it remains a puzzling question how international governance, in particular governance by international regimes, takes place.

The concept of the 'anarchical' international system is derived from the model of the perfect market. In this model, decision-making is entirely decentralized. Actors do not communicate besides action, and they do not take decisions collectively. Outcomes emerge automatically as aggregate results of unilateral decisions. International regimes hardly rely on this market mechanism related to spontaneous coordination. Rather, they are institutions to *overcome* the market mechanism. They are established precisely in areas in which this mechanism leads to socially problematic situations and yields collectively and individually sub-optimal outcomes.

Market failure and collectively sub-optimal outcomes may principally be overcome by hierarchical coordination. However, as soon as behaviour believed to achieve collective optima is determined and prescribed independently of the parochial interests of the actors concerned, adequate action will have to be enforced if the actors are conceived as rational utility maximizers. Although the establishment of an international regime may, to some degree, change the relevant constellation of interests, the governance of an issue-area does not primarily rely on the emergence of an enforcement mechanism. Throughout, regime members retain the exit option. They

may be forced only by action of their co-members while the institution does not usually dispose of power resources. Even if it comprises mechanisms for the distribution of resources, e.g. the Multilateral Fund in the regime for the protection of the ozone layer, the enforcement power of the institution is severely limited. Obviously, the essence of regime governance is not the transformation of a sector of the international system from horizontal to hierarchical coordination.

Market failure may also be overcome if actors sacrifice their property as rational utility maximizers. They may behave altruistically or assign priority to the pursuit of community goals over their parochial interests. However, the actors in the international system can hardly be assumed to widely determine their action on this basis. If regime governance had to be based primarily on the inclination of actors to behave altruistically, it would be weak and fragile, if not entirely meaningless. It is a central insight of almost all approaches to international regimes that actors may cooperate and establish international regimes *without* having to sacrifice the pursuit of their own interests. Even regime-specific mechanisms for the unidirectional transfer of resources, e.g. the Multilateral Fund of the ozone regime, are not necessarily based on solidarity. They may perfectly well constitute a part of a comprehensive package deal, that is, of interest-based cooperation.

Hence, governance by international regimes does not rely on the spontaneous coordination of the market, but it also does not rely on the comparatively demanding mechanism of hierarchical coordination and enforcement, nor on solidarity and community-oriented or altruistic behaviour. Coordination in international regimes is more community-oriented than the market, but the regime-specific capability of influencing action depends in the first place on the voluntary implementation of obligations. Despite the ability of a group of actors to decide collectively, the members of this group must therefore be (also) able to pursue their individual interests.

The present study argues that the development of common normative expectations in negotiations, that is, a specific form of communication among actors, is the coordination mechanism that fulfils these conditions. By negotiation the self-interested actors of the international system evaluate their common interests and by negotiation they accommodate and balance their individual interests. If a negotiated cooperative arrangement is based on commonly developed views about the appropriateness of a solution *and* on a careful balance of interests, the regime members will be convinced that it reflects the best possible outcome that could be achieved under given circumstances *and* that it does not contradict their own interests. Under these conditions they tend to cooperate and comply with regime norms because cooperation promises to be individually, and not only collectively, advantageous. They do not abandon the pursuit of their interests, but they avoid free riding that would eventually lead to the original sub-optimal outcome.

The rational choice based mainstream of regime theory elaborates on the structural opportunities and constraints of international governance. It argues that community-oriented policies may be realized in the international system only if they do not contradict the interests of individual actors. It defines the situations in which coop-

eration is meaningful and promising because decentralized decision-making and market-like spontaneous coordination fail. In these situations it is beneficial for all actors alike to coordinate their behaviour. On the basis of these insights, regime-based international governance may be conceived as purposeful coordination of behaviour among actors to overcome sub-optimal outcomes.

The mainstream approach thus outlines the interval in which an *opportunity* for meaningful cooperation among egoistic and rational actors exists. The power of spontaneous, market-like coordination defines the lower limit of this interval. As long as decentralized decision-making does not fail to produce optimum outcomes, cooperation is not necessary. The Pareto-optimum determines the upper limit. As soon as the pursuit of community policies requires behaviour contrary to the interests of individual actors, these actors will not cooperate unless far-reaching additional assumptions, e.g. altruism, are introduced. Hence, opportunities for cooperation exist inside the interval, while cooperation is unnecessary or impossible beyond its limits. Rational actors will use their exit option and abandon the governing institution or disregard its prescriptions unless regime-based international governance observes the structurally determined limits of the interval of cooperation.

The assessment of the opportunities for cooperation among egoistic and rational actors and its limits is important because it establishes the realistic dimension of international governance. However, the existence of opportunities for cooperation does not ensure that joint gains are realized. The evaluation of the structural constraints is a necessary but not a sufficient condition to understand cooperation. Developments within these constraints matter. They are not only indispensable for the realization of cooperation, they may also affect the existing structural limits and exert influence on the size and location of the interval.

Decision situations are frequently highly complex. Problems such as the sources and impact of the depletion of the ozone layer may be perceived differently. The actors engaged in an issue-area may not be fully aware of the perceptions of their co-actors. Frequently, they will not always be entirely sure of their own interests and are forced to act under conditions of 'bounded' rationality. They must bridge uncertainty by a more or less arbitrary choice, if more than one option appears to be rational. And the arbitrary choice of one actor involved in a decision situation increases the uncertainty for his co-actors.

From this perspective, the development of a common perception of a given problem and its appropriate solution are essential aspects of regime formation. During negotiations the actors gradually develop similar interpretations of recognized facts. Their appraisal of the desirability of certain options for action converges, and coincident expectations of appropriate behaviour emerge on this basis. Common interpretations, views and expectations are the result of a communication process during which understanding is reached. This result is collectively accepted by the actors involved and has already passed the coordination mechanism of the regime. Only incidentally may it coincide with the original interpretations, views and expectations of individual regime members. The gradual development of collectively agreed

views of a social problem and its appropriate solution transforms a group of participating actors into a community. Common views and expectations are now valid within this community but not necessarily outside it. Different communities may favour different solutions for similar problems.

The development of common perceptions of problems and their solutions is fully compatible with the assumption of egoistic and rational actors. It is trivial for omniscient actors but highly relevant for actors deciding under 'bounded' rationality. The regime-specific communication process forces these actors to permanently reconsider their own views and positions in the light of arguments and proposals put forward by their co-actors. Moreover, the common desire to reach agreement tends to separate participants into a growing majority and a decreasing minority. This regrouping of previously scattered views exerts pressure on minorities to adapt their positions to majority views. The regime-specific communication process becomes an independent source of influence on the interests of the single actors and has, consequently, an impact on the structural constraints of the decision situation. This repercussion of negotiations on their own structural limits may explain why outcomes of negotiations are frequently superior to the original lowest common denominator.

However, agreement may not leave the structural constraints valid at any given moment. Overly ambitious arrangements risk failure. The communication process of international regimes must take into account the parochial interests of the participating actors. Therefore, it cannot rely on the exchange of reasonable arguments alone but must include bargaining. The necessity to respect the structural limits of cooperation may explain why a community may adopt a modest arrangement despite widely shared views on the thorough solution of an underlying problem.

A cooperative arrangement resulting from seriously conducted negotiations in the shadow of the exit option will be beneficial for the participating actors compared to the non-cooperative situation. Otherwise actors would choose exit. It is also the best agreement that could have been achieved under the prevailing circumstances. Otherwise the negotiations would not have been concluded. An agreement of this type does not leave the interval within which the actors may pursue their own interests by cooperation. Also, the procedure of determining the distribution of joint gains is convincing and a significant change of this distribution cannot be expected within the given situation. In short, the agreed cooperative arrangement is acceptable and legitimate. It envisages a convincing solution that promises to overcome the original situation which yielded sub-optimal outcomes. Under these circumstances, it will usually be 'rational' even for egoistic utility maximizers to sacrifice the option to take a free ride because the collectively agreed arrangement will fall apart unless it is supported by most regime members. However, high legitimacy and acceptability of a cooperative arrangement do not guarantee that all regime members will follow its norms at any one time. It is therefore important that the development of common views *also* raises the costs of defection because an attempt to take a free ride will automatically offend all other community members.

All international regimes rely on this stabilization mechanism, but dynamic international regimes that comprise permanent negotiation processes, like the two international regimes on the protection of the ozone layer and on long-range transboundary air pollution, reinforce this mechanism considerably. They employ the coordination mechanism of negotiations to raise the costs of defective behaviour even more because the community of regime members acquires the ability to reach understanding on appropriate reactions to free riding. In this case, 'first order cooperation' intended to overcome a sub-optimal outcome may be supplemented by 'second order cooperation' coordinating reactions to free riding. It is again the coordination of otherwise scattered views by negotiations that strengthens regime governance while response *action* remains to be exercised by the regime members individually.

Still, the coordination of responses to incidents of non-compliance merely constitutes an *additional* mechanism for the stabilization of cooperation. Voluntary compliance with negotiated outcomes remains the predominant mechanism of international governance by regimes. It is therefore even more important that dynamic international regimes enable a community of actors to reconfirm the original understanding among the regime members at any time. Simultaneously, international institutions of this type establish the necessary institutional apparatus for the modification, development or replacement of an existing cooperative arrangement once the original understanding is seriously undermined and cannot be reproduced any more.

Dynamic international regimes do not only stabilize international governance. They may also contribute to enlarging the room for cooperation. The establishment of cooperation within a given issue-area may start on a limited basis and develop step-by-step. Agreed issues may enter an early cooperative arrangement while contentious ones are postponed. Early arrangements requiring limited adaptation of behaviour may influence the interests of the participating actors and, over time, expand the limits of cooperation. International governance may thus not only exploit existing opportunities for cooperation, it may also be directed at removing structural constraints.

However, even in these dynamic cases international governance is not primarily based on hierarchy (enforcement), nor on solidarity (altruism). The participating actors may still pursue their individual interests, and cooperation is still based on their conviction that they may do so most effectively by coordinating their behaviour.

Bibliography

- Abbott, Kenneth: Modern International Relations Theory: A Prospectus for International Lawyers; *Yale Journal of International Law* 14 (1989), pp. 335-413.
- Abbott, Kenneth: The Trading Nation's Dilemma: The Functions of the Law of International Trade; *Harvard Journal of International Law* 16 (1985), pp. 501-532.
- Aggarwal, Vinod K.: The Unraveling of the Multi-Fibre Arrangement, 1981. An Examination of International Regime Change; *International Organization* 37 (1983), pp. 617-645.
- Aggarwal, Vinod K.: Hanging by a Thread/ International Regime Change in the Textile/Apparel System, 1950-1979, PH.D. Stanford 1981.
- Ago, Roberto: La codification du droit international et les problèmes de sa réalisation; *Recueil d'études de droit international en Hommage à Paul Guggenheim*, Genève (La Tribune de Genève) 1968, pp. 93-131.
- Ago, Roberto: Nouvelles réflexions sur la codification du droit international; *Revue Générale du Droit International Public* 92 (1988), pp. 539-576.
- Alcamo, Joseph and Eliodoro Runca: Some Technical Dimensions of Transboundary Air Pollution; in: Cees Flinterman/ Barbara Kwiatkowska/ Johan G. Lammers (eds.): *Transboundary Air Pollution. International Legal Aspects of the Co-operation of States*, Dordrecht (Martinus Nijhoff) 1986, pp. 1-17.
- Alcamo, Joseph et al.: Acidification in Europe: A Simulation Model for Evaluating Control Strategies; *Ambio* 16 (1987), pp. 232-245.
- Alcamo, Joseph, Roderick Shaw and Leen Hordijk: The RAINS Model of Acidification. Science and Strategies in Europe, Dordrecht (Kluwer) 1990.
- Alexy, Robert: *Theorie der juristischen Argumentation*, Frankfurt/M (Suhrkamp) 1978.
- Alting van Geusau, Frans A.M.: The Nine and Détente, in: Nils Andrén and Karl E. Birnbaum (eds.): *Belgrade and Beyond. The CSCE Process in Perspective*, Alphen aan den Rijn (Sijthoff & Noordhoff) 1980, pp. 17-25.
- Andrén, Nils and Karl E. Birnbaum (eds.): *Belgrade and Beyond. The CSCE Process in Perspective*, Alphen aan den Rijn (Sijthoff & Noordhoff) 1980.
- Aust, Anthony: The Theory and Practice of Informal International Instruments; *International and Comparative Law Quarterly* 35 (1986), pp. 787-812.
- Axelrod, Robert and Robert O. Keohane: Achieving Cooperation under Anarchy; *World Politics* 38 (1985/86), pp. 226-254.
- Axelrod, Robert: The Emergence of Cooperation among Egoists; *American Political Science Review* 75 (1981), pp. 306-318.
- Axelrod, Robert: *The Evolution of Cooperation*, New York (Basic Books) 1984.
- Bael, Ivo van: The GATT Dispute Settlement Procedure; *Journal of World Trade* 22 (1988), No. 4, pp. 67-77.
- Bailey, Paul and Ilka Bailey-Wiebecke: All-European Co-operation. The CSCE's Basket Two and the ECE; *International Journal* 22 (1976/77), pp. 386-407.
- Bailey-Wiebecke, Ilka and Evgeny Chossudovsky: Folgewirkungen der KSZE im multilateralen Bereich: Die Wirtschaftskommission der Vereinten Nationen für Europa; in: Jost Delbrück/ Norbert Ropers/ Gerda Zellenthin (eds.): *Grünbuch zu den Folgewirkungen der KSZE*, Köln (Wissenschaft und Politik) 1977, pp. 313-340.
- Bailey-Wiebecke, Ilka and Paul Bailey: ECE und die KSZE-Folgekonferenz in Belgrad; *Außenpolitik* 28 (1977), pp. 256-272.

- Bailey-Wiebecke, Ilka: Die Europäische Gemeinschaft und der Rat für Gegenseitige Wirtschaftshilfe, Bern/Frankfurt (Lang) 1989.
- Bailey-Wiebecke, Ilka: Die UN-Wirtschaftskommission für Europa (ECE) vor dem KSZE-Treffen in Madrid. Spannungsfortschritte im multilateralen Bereich? (Berichte des Bundesinstituts für ostwissenschaftliche und internationale Studien 25-1980), Bonn 1980.
- Bailey-Wiebecke, Ilka: Gesamteuropäische Zusammenarbeit im Rahmen der ECE unter besonderer Berücksichtigung des Umweltbereichs; Jahrbuch der Deutschen Gesellschaft für Friedens- und Konfliktforschung 1 (1979/80), pp. 597-608.
- Barry, Brian: Sociologists, Economists and Democracy, Chicago/London (Chicago University Press) 1978.
- Beek, Drake van: ECE Continues Preparations for High-level Meeting; Environmental Policy & Law 5 (1979), pp. 2-3.
- Benedick, Richard Elliot: Ozone Diplomacy. New Directions in Saving the Planet, Cambridge Mass. (Harvard University Press) 1991.
- Berger, Peter L. and Thomas Luckmann: Die gesellschaftliche Konstruktion der Wirklichkeit. Eine Theorie der Wissenssoziologie, Frankfurt/M (S. Fischer) 1977.
- Bilder, Richard B.: An Overview of International Dispute Settlement; Emory Journal of International Dispute Resolution, 1 (1986/87), pp. 1-32.
- Bilder, Richard B.: International Dispute Settlement and the Role of International Adjudication; Emory Journal of International Dispute Resolution 1 (1986/87), pp. 131-173.
- Bilder, Richard B.: International Third Party Dispute Settlement; Denver Journal of International Law and Policy 17 (1988/89), pp. 471-503.
- Bingemer, Annette: Die KSZE aus sowjetischer Sicht. Die Auseinandersetzung um das Konferenzprojekt 1966-1973 und ihre Bedeutung im außenpolitischen Konzept der Sowjetunion, Ph.D., Frankfurt/M 1988.
- Birnbaum, Karl E.: East-West Diplomacy in the Era of Multilateral Negotiations: The Case of the Conference on Security and Co-operation in Europe (CSCE); in: Nils Andén and Karl E. Birnbaum (eds.): Beyond Détente: Prospects for East-West Co-operation and Security in Europe, Leyden (Sijthoff) 1976, pp. 139-157.
- Bishop, Amasa S. and Robert D. Mundro: The UN Regional Economic Commissions and Environmental Problems; in David A. Kay and Eugene B. Skolnikoff (eds.): World Eco-Crisis. International Organizations in Response, Madison Wisc. (University of Wisconsin Press) 1972, pp. 183-205.
- Biswas, Asit K. (ed.): The Ozone Layer: Proceedings of the Meeting of Experts Designated by Governments, Intergovernmental and Nongovernmental Organizations on the Ozone Layer Organized by the United Nations Environment Programme in Washington D.C. 1-9 March 1977, Elmsford N.J. (Pergamon) 1979.
- Blech, Klaus: Die KSZE als Schritt im Entspannungsprozeß. Bemerkungen zu allgemeinen Aspekten der Konferenz; Europa Archiv 30 (1975), pp. 681-692.
- Blegen, Bryce: International Cooperation in Protection of Atmospheric Ozone: The Montreal Protocol on Substances that Deplete the Ozone Layer; Denver Journal of International Law and Politics 16 (1988), pp. 413-428.
- Blenk-Knocke, Edda: Zu den soziologischen Bedingungen völkerrechtlicher Normbefolgung. Die Kommunikation von Normen, Ebelsbach (Greiner) 1979.
- Bora, Alfons and Rainer Döbert: Konkurrierende Rationalitäten. Politischer und wissenschaftlicher Diskurs im Rahmen einer Technikfolgenabschätzung von genetisch erzeugter Herbizidresistenz in Kulturpflanzen; Soziale Welt 44 (1993), pp. 75-97.

- Bosselmann, Klaus: Die Festsetzung und Bindungswirkung internationaler technischer Regeln und Standards zum Schutz der Umwelt; Umwelt- und Planungsrecht 8 (1985), pp. 272-283.
- Boszek, Boleslaw A.: International Protection of the Baltic Sea Environment; American Journal of International Law 78 (1978), pp. 782-814.
- Bowett, Derek W.: International Incidents: New Genre or New Delusion; Yale Journal of International Law 12 (1987), pp. 386-395.
- Breitmeier, Helmut: Ozonschicht und Klima auf der globalen Agenda (Tübinger Arbeitspapiere zur Internationalen Politik und Friedensforschung No 17), Tübingen 1992.
- Brennan, Geoffrey and James M. Buchanan: The Reason of Rules: Constitutional Political Economy, Cambridge (Cambridge University Press) 1985.
- Brezhnev, Leonid I.: Auf dem Wege Lenins. Reden und Aufsätze, Vol. 5, Berlin (Dietz) 1977.
- Brunnée, Jutta: Acid Rain and Ozone Layer Depletion: International Law and Regulation, Dobbs Ferry (Transnational) 1988.
- Bueno de Mesquita, Bruce: The War Trap, New Haven (Yale University Press) 1981.
- Bungarten, Harald: Umweltpolitik in Westeuropa, Bonn (Europa Union) 1978.
- Buzan, Barry: Negotiating by Consensus: Developments in Technique at the United Nations Conference on the Law of the Sea; American Journal of International Law 75 (1981), pp. 324-347.
- Caldwell, Lynton Keith: International Environmental Policy, Durham N.C. (Duke University Press) 1984.
- Caporaso, James A.: International Relations Theory and Multilateralism: The Search for Foundations; International Organization 46 (1992), pp. 599-632.
- Capretta, Annette M.: The Future's so Bright, I Gotta Wear Shades: Future Impacts of the Montreal Protocol on Substances that Deplete the Ozone Layer; Virginia Journal of International Law 29 (1988/89), pp. 211-248.
- Carroll, John E.: Environmental Diplomacy. An Examination and a Prospective of Canadian - U.S. Transboundary Environmental Relations, Ann Arbor (University of Michigan Press) 1983.
- Carty, Anthony: The Decay of International Law. A Reappraisal of the Limits of Legal Imagination in International Affairs, Manchester (Manchester University Press) 1986.
- Casper, Gerhard: Juristischer Realismus und politische Theorie im amerikanischen Rechtsdenken, Berlin (Duncker & Humblot) 1967.
- Chayes, Abram and Antonia Handler Chayes: On Compliance; International Organization 47 (1993), pp. 175-205.
- Chen, Lung-chu: An Introduction to Contemporary International Law. A Policy-Oriented Perspective, New Haven/London (Yale University Press) 1989.
- Chossudovsky, Evgeny and Jean Siotis: Organized all-European Co-operation: The Role of Existing Institutions, in: Nils Andrén and Karl E. Birnbaum (eds.): Beyond Détente: Prospects for East-West Co-operation and Security in Europe, Leyden (Sijthoff) 1976, pp. 159-184.
- Chossudovsky, Evgeny: 'East-West' Diplomacy for Environment in the United Nations: The High-level Meeting within the Framework of the ECE on the Protection of the Environment, Geneva (UNITAR) 1988.
- Chossudovsky, Evgeny: Die Rolle internationaler Institutionen in der gesamteuropäischen 'außer-politischen' Zusammenarbeit: ECE und KSZE; in: Annemarie Grosse-Jütte and Rüdiger Jütte (eds.): Frieden ohne Entspannung. Versäumnisse europäischer Politik, Frankfurt/M (Fischer) 1977, pp. 173-182.

- Christol, Carl Q.: *The Modern International Law of Outer Space*, New York (Pergamon) 1984.
- Cogalizer, E. William: *Scientific Uncertainties, Public Policy, and Global Warming: How Sure is Sure Enough ?*; in: David. L. Feldman and Dean Mann (eds.): *Global Climate Problems and Public Policy*, *Policy Studies Journal* 2 (1991), pp. 61-72.
- Coleman, James S.: *Foundations of Social Theory*, Cambridge (Belknap) 1990.
- Connelly, Robert and Claude Ducret: *Fifth Session of Senior Advisers to ECE Governments: Environmental Policy & Law* 3 (1977), pp. 6-8.
- Contini, Paolo and Peter H. Sand: *Methods to Expedite Environmental Protection: International Ecostandards*; *American Journal of International Law* 66 (1972), pp. 37-59.
- Conybeare, John A.: *Trade Wars: A Comparative Study of Anglo-Hanse, Franco-Italian, and Hawley-Smoot Conflicts*; *World Politics* 38 (1985/86), pp. 147-172.
- Conybeare, John A.C.: *Public Goods, Prisoners' Dilemmas and the International Political Economy*; *International Studies Quarterly* 28 (1984), pp. 5-22.
- Cooper, Richard N.: *International Cooperation in Public Health*; in: Richard N. Cooper/ Barry Eichengreen/ C. Randall Henning/ Gerald Holtham/ Robert A. Putnam (eds.): *Can Nations Agree ? Issues in International Economic Cooperation*, Washington D.C. (Brookings) 1989, pp. 178-254.
- Cowhey, Peter F. and Edward Long: *Testing Theories of Regime Change*; *International Organization* 37 (1983), pp. 157-188.
- Crawford, Mark: *Ozone Plan Splits Administration*; *Science* 236 (1987), pp. 1052-1053.
- Crawford, Mark: *United States Floats Proposal to Help Prevent Ozone Depletion*; *Science* 234 (1986), pp. 927-29.
- Czempel, Ernst-Otto: *Die Organisation der Sicherheit in und für Europa*; in: Beate Kohler-Koch (ed.): *Staat und Demokratie in Europa*, Opladen (Leske & Budrich) 1992, pp. 195-211.
- Czempel, Ernst-Otto: *Friedenstrategien*, Paderborn (Schöningh) 1986.
- Daele, Wolfgang van den: *Regeldurchsetzung und Normbildung bei der Kontrolle biomedizinischer Forschung. Zur Funktion von Ethikkommissionen in der Bundesrepublik Deutschland*; *Kölner Zeitschrift für Soziologie* 42 (1990), pp. 428-451.
- Daele, Wolfgang van den: *Zum Forschungsprogramm der Abteilung 'Normbildung und Umwelt'*; (Wissenschaftszentrum Berlin, Discussion Paper FS II 91-301), Berlin 1991.
- Davy, Richard: *The United States*, in: Nils Andén and Karl E. Birnbaum (eds.): *Belgrade and Beyond. The CSCE Process in Perspective*, Alphen aan den Rijn (Sijthoff & Noordhoff) 1980, pp. 3-15.
- Dehousse, Renaud and Joseph H.H. Weiler: *The Legal Dimension*; in: William Wallace (ed.): *The Dynamics of European Integration*, London (Pinter) 1990, pp. 242-260.
- Delbrück, Jost: *Die völkerrechtliche Bedeutung der Schlußakte der Konferenz über Sicherheit und Zusammenarbeit in Europa*; in: Rudolf Bernhard/Ingo von Münch/Walter Rudolf (eds.): *Drittes deutsch-polnisches Juristen-Kolloquium, Baden-Baden (Nomos) 1977*, pp. 31-50.
- Delbrück, Jost: *Völkerrecht und Friedensforschung*; in: Dieter Grimm (ed.): *Rechtswissenschaft und Nachbarwissenschaften*, Vol. II, München (Beck) 1976, pp. 179-191.
- Deutsch, Karl W.: *Power and Communication in International Society*; in: Anthony de Reuck and Julie Knight (eds.): *Conflict in Society*, London (Churchill) 1966, pp. 300-316.
- Dijk, Peter van: *Normative Force and Effectiveness of International Norms*; *German Yearbook of International Law* 30 (1987), pp. 9-35.

- Dijk, Peter van: The Final Act of Helsinki - Basis for a Pan-European System ?; *Netherlands Yearbook of International Law* 11 (1980), pp. 97-124.
- Döbert, Rainer: *Verfahrensrationalität*, Typescript, Berlin 1993.
- Doeker, Günther and Thomas Gehring: Private or International Liability for Transnational Environmental Damage - The Precedent of Conventional Liability Regimes; *Journal of Environmental Law* 2 (1990), pp. 1-16.
- Doeker, Günther: Internationale Beziehungen und Völkerrecht als Gegenstand der Forschung und Lehre; *Archiv des Völkerrechts* 19 (1980/81), pp. 401-418.
- Doniger, David D.: Politics of the Ozone Layer, *Issues in Science & Technology* 4 (1988), pp. 86-91.
- Donnelly, Jack: Global Policy Studies: A Sceptical View; *Journal of Peace Research* 27 (1990), pp. 221-230.
- Donnelly, Jack: International Human Rights: A Regime Analysis; *International Organization* 40 (1986), pp. 599-642.
- Dupuy, Pierre-Marie: Soft Law and International Law of the Environment; *Michigan Journal of International Law* 12 (1991), pp. 420-435.
- Dworkin, Ronald: *Taking Rights Seriously*, London (Duckworth) 1977.
- Eder, Klaus: Die Autorität des Rechts. Eine soziale Kritik prozeduraler Rationalität; *Zeitschrift für Rechtssoziologie* 8 (1987), pp. 193-230.
- Eder, Klaus: Prozedurale Rationalität. Moderne Rechtsentwicklung jenseits formaler Rationalität; *Zeitschrift für Rechtssoziologie* 7 (1986), pp. 1-30.
- Efinger, Manfred and Michael Zürn: Umweltschutz und Ost-West Konfliktformation. Zur Bedeutung problem- und situationsstruktureller Faktoren für die Entstehung internationaler Regime; in: Bernhard Moltmann and Eva Senghaas-Knobloch (eds.): *Konflikte in der Weltgesellschaft und Friedenstrategien*, Baden-Baden (Nomos) 1989.
- Efinger, Manfred, Volker Rittberger and Michael Zürn: Internationale Regime in den Ost-West Beziehungen, Frankfurt/M (Haag und Herchen) 1988.
- Efinger, Manfred, Volker Rittberger, Klaus Dieter Wolf and Michael Zürn: Internationale Regime und internationale Politik; in: Volker Rittberger (ed.): *Theorien der internationalen Beziehungen*, Politische Vierteljahresschrift, Sonderheft 21, Opladen (Westdeutscher Verlag) 1990, pp. 263-285.
- Elrifi, Ivor: Protection of the Ozone Layer: a Comment on the Montreal Protocol; *McGill Law Journal* 35 (1989/90), pp. 387-423.
- Elster, Jon: *Arguing and Bargaining*, Typescript 1991.
- Elster, Jon: *The Cement of Society. A Study of Social Order*, Cambridge (Cambridge University Press) 1989.
- Elster, Jon: The Market and the Forum: Three Varieties of Political Theory; in: Jon Elster and Aanund Hylland (eds.): *Foundations of Social Theory*, Cambridge (Cambridge University Press) 1986, pp. 103-132.
- Engelmann, R.J.: A Look at some Issues before an Ozone Convention; *Environmental Policy & Law* 8 (1982), pp. 49-56.
- Enquete-Kommission des Deutschen Bundestages 'Vorsorge zum Schutz der Erdatmosphäre': *Schutz der Erde: Eine internationale Herausforderung*, Zwischenbericht, Bonn (Deutscher Bundestag) 1988.
- Eustis, Robert D.: Procedures and Techniques of Multilateral Negotiation: The LOS III Model; *Virginia Journal of International Law* 17 (1976/77), pp. 217-256.

- Falk, Richard: *The Status of Law in International Society*, Princeton (Princeton University Press) 1970.
- Falk, Richard: *The Validity of the Incidents Genre*; *Yale Journal of International Law* 12 (1987), pp. 376-385.
- Farman, J.C., B.G. Gardener and J.D. Shanklin: *Large Losses of Total Ozone in Antarctica Reveal Seasonal ClO_x/NO_x Interaction*; *Nature* 315 (1985), pp. 207-210.
- Fauteux, Paul: *Percentage Reductions Versus Critical Loads in the International Legal Battle Against Air Pollution: A Canadian Perspective*, Paper presented at the Symposium on Environmental Protection and International Law, Vienna 11 - 12 October 1990.
- Ferraris, Luigi Vittorio (ed.): *Report on a Negotiation*, Alphen aan den Rijn (Sijthoff & Noordhoff) 1979.
- Fischer, Wolfgang: *The Verification of International Conventions on Protection of the Environment and Common Resources*, (Berichte des Forschungszentrums Jülich, Jül-2495), Jülich 1991.
- Fisher, Roger and William Uri: *Getting to Yes. Negotiating Agreement without Giving in*, Boston (Houghton Mifflin) 1981.
- Fisher, Roger: *Improving Compliance with International Law*, Charlottesville (University Press of Virginia) 1981.
- Fraenkel, Amy: *The Convention on Long-range Transboundary Air Pollution*; *Harvard International Law Journal* 30 (1989), pp. 447-476.
- Franck, Thomas M.: *The Power of Legitimacy*, New York/Oxford (Oxford University Press) 1990.
- Franck, Thomas M.: *The Structure of Impartiality. Examining the Riddle of one Law in a Fragmented World*, New York (Macmillan) 1968.
- Frank, Lawrence P.: *The First Oil Regime*; *World Politics* 37 (1984/85), pp. 586-598.
- Frank, Paul: *Zielsetzungen der Bundesrepublik Deutschland im Rahmen europäischer Sicherheitsverhandlungen*; *Europa Archiv* 27 (1972), pp. 153-160.
- Fukatsu, Eiichi: *Coercion and the Theory of Sanctions in International Law*; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 1187-1205.
- Füllenbach, Josef: *Umweltschutz zwischen Ost und West. Umweltpolitik in Osteuropa und gesamteuropäische Zusammenarbeit*, Bonn (Europa Union) 1977.
- Galtung, Johan: *Expectation and Interaction Processes*; *Inquiry* 2 (1959), pp. 213-234.
- Gasteyger, Curt: *The Soviet Union and Belgrade*, in: Nils Andrén and Karl E. Birnbaum (eds.): *Belgrade and Beyond. The CSCE Process in Perspective*, Alphen aan den Rijn (Sijthoff & Noordhoff) 1980, pp. 27-37.
- Gehring, Thomas and Markus Jachtenfuchs: *Haftung für grenzüberschreitende Umweltschäden: Allgemeine Regelung des internationalen Umwelthaftungsrechts*; *Zeitschrift für Umweltpolitik und Umweltrecht* 13 (1990), pp. 233-254.
- Gehring, Thomas and Markus Jachtenfuchs: *Haftung und Umwelt. Interessenkonflikte im internationalen Weltraum-, Atom- und Seerecht*, Frankfurt/M (Lang) 1988.
- Gehring, Thomas and Sebastian Oberthür: *Montreal Protocol: The Copenhagen Meeting*; *Environmental Policy and Law* 23 (1993), pp. 6-12.
- Gehring, Thomas: *Das internationale Regime zum Schutz der Ozonschicht*; *Europa-Archiv* 45 (1990), 703-712.

- Gehring, Thomas: Haftung für Umweltschäden infolge des Seetransports von Öl. Ein Fall transnationaler Verrechtlichung; in: Klaus Dieter Wolf (ed.): Internationale Verrechtlichung, Jahresschrift für Rechtspolitikologie, Pfaffenweiler (Centauros) 1993, pp. 227-247.
- Gehring, Thomas: Institutional Design for a Dynamic International Environmental Regime on Global Climate Change; Paper presented at the Conference on International Arrangements for Reaching Global Environmental Goals, Glasgow, 10 - 12 September 1991.
- Gehring, Thomas: International Action to Protect the Ozone Layer; in: Martin Jänicke and Helmut Weidner (eds.): An International Comparison of Achievements in Environmental Protection, Berlin 1994, in print.
- Gehring, Thomas: International Environmental Regimes - Dynamic Sectoral Legal Systems; Yearbook of International Environmental Law 1 (1990), pp. 35-56.
- Gehring, Thomas: Internationale Kooperation und Europäische Gemeinschaft. Der Einfluß institutioneller Verflechtung auf zwischenstaatliche Zusammenarbeit; paper submitted to the conference on 'Legitimation und Handlungsfähigkeit der EG nach Maastricht', November 26 - 27 in Mannheim.
- Gilpin, Robert: The Political Economy of International Relations, Princeton (Princeton University Press) 1987.
- Gilpin, Robert: War and Change in World Politics, Cambridge/London (Cambridge University Press) 1981.
- Göhler, Gerhard: Einleitung; in Gerhard Göhler (ed.): Grundfragen der Theorie politischer Institutionen, Opladen (Westdeutscher Verlag) 1987, pp. 7-14.
- Göhler, Gerhard: Institutionenlehre und Institutionentheorie in der deutschen Politikwissenschaft nach 1945; in Gerhard Göhler (ed.): Grundfragen der Theorie politischer Institutionen, Opladen (Westdeutscher Verlag) 1987, pp. 15-47.
- Göhler, Gerhard: Soziale Institutionen - Politische Institutionen. Die Probleme der Institutionentheorie in der neueren deutschen Politikwissenschaft. Beiträge zur Theorie und zum Wandel politischer und sozialer Institutionen; in: Wolfgang Luthardt and Arno Waschkuhn (eds.): Politik und Repräsentation, Marburg (Schüren) 1988, pp. 12-28.
- Goldie, L.F.E.: International Principles of Responsibility for Pollution; Columbia Journal of Transnational Law 9 (1970), pp. 283-330.
- Gottlieb, Gidon: The Nature of International Law: Toward a Second Concept of Law; in: Richard Falk and Cyril E. Black (eds.): The Future of the International Legal Order, Vol. 4: The Structure of the International Environment, Princeton (Princeton University Press) 1972, pp. 331-383.
- Gourevitch, Peter A.: The Second Image Reversed; International Organization 32 (1978), pp. 881-912.
- Gowa, Joanne: Anarchy, Egoism and Third Images: The Evolution of Cooperation and International Relations; International Organization 40 (1986), pp. 167-186.
- Grieco, Joseph M.: Cooperation among Nations. Europe, America, and Non-Tariff Barriers to Trade, Ithaca/London (Cornell University Press) 1990.
- Groll, Götz von and Bernd Wiskemann: Umweltpolitik in den Ost-West-Beziehungen, in: Hansjürgen van Kries (ed.): Friede durch Zusammenarbeit in Europa, Berlin (Berlin-Verlag) 1980, pp. 272-284.
- Groom, A.J.R.: No Compromise: Problem-solving in a Theoretical Perspective; International Social Science Journal 127 (1991), pp. 77-86.

- Gross Stein, Janice: Getting to the Table: The Triggers, Stages, Functions, and Consequences of Prenegotiation; in: Janice Gross Stein (ed.): Getting to the Table: The Processes of International Prenegotiation, Baltimore (Johns Hopkins University Press) 1989, pp. 239-268.
- Gündling, Lothar: Multilateral Co-operation of States under the ECE Convention on Long-range Transboundary Air Pollution; in: Cees Flinterman/ Barbara Kwiatkowska/ Johan G. Lammers (eds.): Transboundary Air Pollution. International Legal Aspects of the Co-operation of States, Dordrecht (Martinus Nijhoff) 1986, pp. 19-31.
- Haas, Ernst B., Mary Pat Williams and Don Babei: Scientists and World Order. The Uses of Technical Knowledge in International Organizations, Berkeley (University of California Press) 1977.
- Haas, Ernst B.: Is there a Hole in the Whole ? Knowledge, Technology, Interdependence, and the Construction of International Regimes; International Organization 29 (1975), pp. 827-875.
- Haas, Ernst B.: On Systems and International Regimes; World Politics 27 (1974/75), pp. 147-174.
- Haas, Ernst B.: When Knowledge is Power. Three Models of Change in International Organizations, Berkeley Cal. (University of California Press) 1990.
- Haas, Ernst B.: Why Collaborate ? Issue Linkage and International Regimes; World Politics 32 (1979/80), pp. 357-405.
- Haas, Ernst B.: Words Can Hurt You; or Who Said What to Whom about Regimes; International Organization 36 (1982), pp. 207-243.
- Haas, Peter M.: Banning Chlorofluorocarbons: Epistemic Community Efforts to Protect Stratospheric Ozone; International Organization 46 (1992), pp. 187-224.
- Haas, Peter M.: Do Regimes Matter ? Epistemic Communities and Mediterranean Pollution Control; International Organization 43 (1989), pp. 377-403.
- Haas, Peter M.: Introduction: Epistemic Communities and International Policy Coordination; International Organization 46 (1992), pp. 1-35.
- Haas, Peter M.: Obtaining International Environmental Protection through Epistemic Consensus; Millennium 19 (1990/91), pp. 347-363.
- Haas, Peter M.: Saving the Mediterranean. The Politics of International Environmental Cooperation, New York (Columbia University Press) 1990.
- Habermas, Jürgen: Entgegnung, in: Axel Honneth and Hans Joas (eds.): Kommunikatives Handeln. Beiträge zu Jürgen Habermas' Theorie des kommunikativen Handelns, Frankfurt/M (Suhrkamp) 1986, pp. 327-405.
- Habermas, Jürgen: Faktizität und Geltung. Beiträge zur Diskurstheorie des Rechts und des demokratischen Rechtsstaates, Frankfurt/M (Suhrkamp) 1992.
- Habermas, Jürgen: Theorie des kommunikativen Handelns, Vol. I: Handlungsrationalität und gesellschaftliche Rationalisierung, Frankfurt/M (Suhrkamp) 21982.
- Habermas, Jürgen: Wahrheitstheorien; in: H. Fahrenbach (ed.): Wirklichkeit und Reflexion, Festschrift für Walter Schulz, Pfullingen (Neske) 1973, pp. 211-265.
- Haggard, Stephen and Beth A. Simmons: Theories of International Regimes; International Organization 41 (1987), pp. 491-517.
- Hardin, Garrett: The Tragedy of the Commons; Science 162 (1968), pp. 1243-1248.
- Hardin, Russell: Collective Action, Baltimore/London (Johns Hopkins University Press) 1982.
- Harmel, Pierre: Auf der Suche nach neuen Formen europäischer Sicherheit; Europa Archiv 26 (1971), pp. 151-158.

- Hart, Herbert Lionel A.: *The Concept of Law*, Oxford (Clarendon) 1961.
- Heilbronner, Kay: Sanctions and Third Parties and the Concept of International Public Order; *Archiv des Völkerrechts* 30 (1992), pp. 2-15.
- Heimsoeth, H.: The Protection of the Ozone Layer; *Environmental Policy and Law* 10 (1983), pp. 34-36.
- Helmbold, Martin: Internationaler Entspannungsprozeß und Lösung globaler Umweltprobleme; *Berichte des Instituts für internationale Politik und Wirtschaft (IPW-Berichte)* 1976 (10), pp. 13-20.
- Henkin, Louis: *How Nations Behave*, New York (Columbia University Press) 21979.
- Héritier, Adrienne: Policy-Analyse. Elemente der Kritik und Perspektiven der Neuorientierung; in: Adrienne Héritier (ed.): *Policy-Analyse. Kritik und Neuorientierung*, Politische Vierteljahresschrift, Sonderheft 24, Opladen (Westdeutscher Verlag) 1993, pp. 9-36.
- Herz, Bernhard and Joachim Starbatty: Zur Frage internationaler Dominanzbeziehungen. Eine Analyse der Machtverteilung auf Weltwirtschaftsgipfeln; *Kyklos* 44 (1991), pp. 35-55.
- Higgins, Rosalyn: Integration of Authority and Control: Trends in the Literature of International Law and International Relations; in: W. Michael Reisman and Burns H. Weston (eds.): *Towards World Order and Human Dignity*, New York (Free Press) 1976.
- Higgins, Rosalyn: Policy Considerations and the International Judicial Process; *International and Comparative Law Quarterly* 17 (1968), pp. 58-84.
- Hirschman, Albert O.: *Exit, Voice, and Loyalty - Responses to Decline in Firms, Organizations, and States*, Cambridge Mass. (Harvard University Press) 1970.
- Höhn, Jan: *Außenpolitik der EG-Staaten im Fall der KSZE*, München (Tuduv) 1978.
- Honneth, Axel: *Kritik der Macht. Reflexionsstufen einer kritischen Gesellschaftstheorie*, Frankfurt/M (Suhrkamp) 1985.
- Hüttig, Christoph: Regime in den internationalen Beziehungen. Zur Fruchtbarkeit des Regime-Ansatzes in der Analyse internationaler Politik; in: Hans-Herrmann Hartwich (ed.): *Macht und Ohnmacht politischer Institutionen*, Opladen (Westdeutscher Verlag) 1989, pp. 405-409.
- Jachtenfuchs, Markus: *International Policy-making as a Learning Process. The European Community and the Greenhouse Effect*, Ph.D., Firenze 1994.
- Jachtenfuchs, Markus: The European Community and the Protection of the Ozone Layer; *Journal of Common Market Studies* 28 (1990), pp. 261-277.
- Jackson, C. Ian: *The ECE Convention on Long-range Transboundary Air Pollution: A Tenth Anniversary Review*; Typescript 1989.
- Jacobsen, Hans-Adolf, Wolfgang Mallmann and Christian Meier (eds.): *Sicherheit und Zusammenarbeit in Europa. Analyse und Dokumentation, Vol. I: 1966-1973*, Köln (Wissenschaft und Politik) 1973.
- Jacobsen, Hans-Adolf, Wolfgang Mallmann and Christian Meier (eds.): *Sicherheit und Zusammenarbeit in Europa. Analyse und Dokumentation, Vol. II: 1973-1978*, Köln (Wissenschaft und Politik) 1978.
- Jacobson, Harold K.: *Networks of Interdependence. International Organizations and the Global Political System*, New York (Knopf) 21984.
- Jaenicke, Günther: Die Dritte Seerechtskonferenz der Vereinten Nationen; *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 38 (1978), pp. 438-511.
- Jänicke, Martin and Harald Mönch: Ökologischer und wirtschaftlicher Wandel im Industrieländervergleich; in: Manfred G. Schmidt (ed.): *Staatstätigkeit, Politische Vierteljahresschrift, Sonderheft 19*, Opladen (Westdeutscher Verlag) 1988, pp. 389-405.

- Jenks, Wilfred C.: Unanimity, the Veto, Weighted Voting, Special and Simple Majorities and Consensus as Modes of Decision in International Organizations; in: *Cambridge Essays in International Law: Essays in Honour of Lord McNair*, London (Stevens & Sons) 1965, pp. 48-63.
- Jervis, Robert: Cooperation under the Security Dilemma; *World Politics* 30 (1977/78), pp. 167-214.
- Jervis, Robert: Realism, Game Theory, and Cooperation; *World Politics* 40 (1987/88), pp. 317-350.
- Jervis, Robert: Security Regimes; *International Organization* 36 (1982), pp. 357-378.
- Jessup, Philip C.: *Parliamentary Diplomacy. An Examination of the Quality of the Rules of Procedure of the Organs of the United Nations*; *Recueil des Cours* 89 (1956-I), pp. 181-320.
- Junne, Gerd: *Spieltheorie in der internationalen Politik. Die beschränkte Rationalität strategischen Handelns*, Düsseldorf (Bertelsmann Universitätsverlag) 1972.
- Kaiser, Karl: *Transnationale Politik: Zur Theorie der multi-nationalen Politik*; *Politische Vierteljahresschrift* 10 (1969), pp. 80-109.
- Kavass, Igor I, Jaqueline Paquin Granier and Mary Frances Dominick (eds.): *Human Rights, European Politics, and the Helsinki Accord: The Documentary Evolution of the Conference on Security and Co-operation in Europe 1973-1976*, Vols. I - VI, Buffalo N.Y. (Hein & Co) 1981.
- Keck, Otto: Der neue Institutionalismus in der Theorie der internationalen Politik; *Politische Vierteljahresschrift* 31 (1991), pp. 635-653.
- Kelsen, Hans: *General Theory of Law and State*, Cambridge (Harvard University Press) 1949.
- Kelsen, Hans: *Principles of International Law*, New York (Holt, Rinehard & Company) 1952.
- Kennedy, David: *International Legal Structures*, Baden-Baden (Nomos) 1987.
- Keohane, Robert O. and Joseph Nye: *Power and Interdependence*, World Politics in Transition, Boston/Toronto (Little Brown Company) 1977.
- Keohane, Robert O. and Joseph S. Nye: *Power and Interdependence Revisited*; *International Organization* 41 (1987), pp. 725-753.
- Keohane, Robert O. and Joseph S. Nye: *Transgovernmental Relations and International Organizations*; *World Politics* 27 (1974/75), pp. 39-62.
- Keohane, Robert O., Peter M. Haas and Marc A. Levy: *The Effectiveness of International Environmental Protection*; in: Peter M. Haas/Robert O. Keohane/Marc A. Levy (eds.): *Institutions for the Earth. Sources of Effective International Environmental Protection*, Cambridge, Mass. (MIT Press) 1993, pp. 3-24.
- Keohane, Robert O.: *After Hegemony: Cooperation and Discord in the World Political Economy*, Princeton (Princeton University Press) 1984.
- Keohane, Robert O.: *International Institutions: Two Approaches*; *International Studies Quarterly* 32 (1988), pp. 379-396.
- Keohane, Robert O.: *Multilateralism: An Agenda for Research*; *International Journal* 45 (1989/90), pp. 731-765.
- Keohane, Robert O.: *Neoliberal Institutionalism: A Perspective on World Politics*; in: Robert O. Keohane: *International Institutions and State Power. Essays in International Relations Theory*, Boulder Coll. (Westview Press) 1989, pp. 1-20.
- Keohane, Robert O.: *Reciprocity in International Relations*; *International Organization* 40 (1986), pp. 1-27.

- Keohane, Robert O.: The Analysis of International Regimes: Towards a European-American Research Programme; in Volker Rittberger (ed.): *Regime Theory and International Relations*, Oxford (Clarendon) 1993, pp. 23-45.
- Keohane, Robert O.: The Demand for International Regimes; *International Organization* 36 (1982), pp. 325-355.
- Keohane, Robert O.: The Theory of Hegemonic Stability and Changes in International Economic Regimes, 1967-1977; in: Ole R. Holsti/ Randolph R. Siverson/ Alexander L. George (eds.): *Change in the International System*, Boulder Coll. (Westview) 1980, pp. 131-162.
- Keohane, Robert O.: Theory of World Politics: Structural Realism and Beyond; in: Keohane (ed.): *Neorealism and its Critics*, New York (Columbia University Press) 1986, pp. 158-203.
- Kilian, Michael: *Umweltschutz durch internationale Organisationen. Die Antwort des Völkerrechts auf die Krise der Umwelt ?*, Berlin (Duncker & Humblot) 1987.
- Kimminich, Otto: *Einführung in das Völkerrecht*, München (Saur) 1987.
- Kimminich, Otto: *Völkerrecht und internationale Beziehungen*; *Archiv des Völkerrechts* 16 (1973-75), pp. 129-149.
- Kindleberger, Charles P.: International Public Goods without International Government; *American Economic Review* 76 (1986), pp. 1-13.
- Kindleberger, Charles: *The World in Depression, 1929-1939*, Berkeley Cal. (University of California Press) 1974.
- Kindt, John Warren and Samuel Pyatt Menefee: The Vexing Problem of Ozone Depletion in International Environmental Law and Policy; *Texas International Law Journal* 24 (1989), pp. 261-293.
- Kiss, Alexandre Charles and Jean-Didier Sicault: La Conférence des Nations Unies sur l'Environnement (Stockholm 5 - 16 juin 1972); 18 *Annuaire Français du Droit International* 1972, pp. 603-628.
- Kiss, Alexandre Charles: Du nouveau dans l'air: des 'pluies acides' à la couche d'ozone; 31 *Annuaire Français de Droit International* 1985, pp. 812-822.
- Kiss, Alexandre Charles: The International Protection of the Environment; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 1069-1093.
- Klein, Eckart: Sanctions by International Organizations and Economic Communities; *Archiv des Völkerrechts* 30 (1992), pp. 101-113.
- Koehler, Jamison and Scott A. Hajost: The Montreal Protocol: A Dynamic Agreement for Protecting the Ozone Layer; *Ambio* 19 (1990), pp. 82-86.
- Koester, Veit: The Montreal Protocol: A Dynamic Agreement for the Protection of the Ozone Layer; *Ambio* 19 (1990), pp. 14-19.
- Kohler-Koch, Beate (ed.): *Regime in den internationalen Beziehungen*, Baden-Baden (Nomos) 1989.
- Kohler-Koch, Beate: Die Welt regieren ohne Weltregierung; in: Carl Böhret und Götrik Wewer (eds.): *Regieren im 21. Jahrhundert - Zwischen Globalisierung und Regionalisierung*, Opladen (Leske & Budrich) 1993, pp. 109-141.
- Kohler-Koch, Beate: Interdependenz; in: Volker Rittberger (ed.): *Theorien der internationalen Beziehungen*, Sonderheft 21, Opladen (Westdeutscher Verlag) 1990, pp. 110-129.
- Kohler-Koch, Beate: Zur Empirie und Theorie internationaler Regime; in: Beate Kohler-Koch (ed.): *Regime in den internationalen Beziehungen*, Baden-Baden (Nomos) 1989, pp. 17-85.

- Koskenniemi, Martti: *From Apology to Utopia. The Structure of International Legal Argument*, Helsinki (Lakimiesliiton Kustannus) 1989.
- Koskenniemi, Martti: *The Politics of International Law*; *European Journal of International Law* 1 (1990), pp. 4-32.
- Krakau, Knud: *Missionsbewußtsein und Völkerrechtsdoktrin in den Vereinigten Staaten von Amerika*, Frankfurt/M (Metzner) 1967.
- Krasner, Stephen: *Global Communications and National Power*; *World Politics* 43 (1990/91), pp. 336-366.
- Krasner, Stephen: *Regimes and the Limits of Realism: Regimes as Autonomous Variables*; *International Organization* 36 (1982), pp. 497-510.
- Krasner, Stephen: *Structural Causes and Regime Consequences*; *International Organization* 36 (1982), pp. 185-205.
- Kratochwil, Friedrich and John G. Ruggie: *International Organization: A State of the Art on an Art of the State*; *International Organization* 40 (1986), pp. 753-775.
- Kratochwil, Friedrich: *Contract and Regimes. Do Issue Specificity and Variations of Formality Matter ?*; in Volker Rittberger (ed.): *Regime Theory and International Relations*, Oxford (Clarendon) 1993, pp. 73-93.
- Kratochwil, Friedrich: *Is International Law 'Proper' Law ?*; *Archiv für Rechts- und Sozialphilosophie* 69 (1983), pp. 13-46.
- Kratochwil, Friedrich: *Norms versus Numbers: Multilateralism and the Rationalist and Reflexivist Approaches to Institutions - a Unilateral Plea for Communicative Rationality*; in: John G. Ruggie (ed.): *Multilateralism Matters: The Theory and Praxis of an Institutional Form*, New York (Columbia University Press) 1993, pp. 443-474.
- Kratochwil, Friedrich: *Rules, Norms and Decisions. On the Conditions of Practical and Legal Reasoning in International Relations and Domestic Affairs*, Cambridge/New York (Cambridge University Press) 1989.
- Kratochwil, Friedrich: *Rules, Norms, Values and the Limits of 'Rationality'*; *Archiv für Rechts- und Sozialphilosophie* 73 (1987), pp. 301-329.
- Kratochwil, Friedrich: *The Force of Prescriptions*; *International Organization* 38 (1984), pp. 685-708.
- Kydd, Andrew and Duncan Snidal: *Progress in Game-Theoretical Analysis of International Regimes*; in Volker Rittberger (ed.): *Regime Theory and International Relations*, Oxford (Clarendon) 1993, pp. 112-135.
- Lammers, Johan G.: *Efforts to Develop a Protocol on Chlorofluorocarbons to the Vienna Convention on the Protection of the Ozone Layer*; *Hague Yearbook of International Law* 1 (1988), pp. 225-269.
- Lang, Winfried: *Die Verrechtlichung des internationalen Umweltschutzes*; *Archiv des Völkerrechts* 22 (1984), pp. 283-305.
- Lang, Winfried: *Diplomatie zwischen Ökonomie und Ökologie. Das Beispiel des Ozonvertrages von Montreal*; *Europa-Archiv* 43 (1988), pp. 105-110.
- Lang, Winfried: *International Environmental Agreements and the GATT*; *Wirtschaftspolitische Blätter* 40 (1993), pp. 364-372.
- Lang, Winfried: *Internationaler Umweltschutz. Völkerrecht und Außenpolitik zwischen Ökonomie und Ökologie*, Wien (Orac) 1989.
- Lang, Winfried: *Is the Ozone Depletion Regime a Model for an Emerging Regime on Global Warming ?*; *UCLA Journal of Environmental Law and Policy*, forthcoming.

- Lang, Winfried: Luft und Ozon - Schutzobjekte des Völkerrechts; *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 46 (1986), pp. 261-285.
- Lang, Winfried: Negotiations on the Environment; in: Victor Kremenyuk (ed.): *International Negotiation. Analysis, Approaches, Issues*, San Francisco (Jossey-Bass) 1991, pp. 343-356.
- Lang, Winfried: The Role of International Law in Preventing Military Misuse of the Biosciences and Biotechnology; *Politics and the Life Sciences* 8 (1990). pp. 37-45.
- Lasswell, Harold D.: Politics: Who Gets What, When, How; in: Harold D. Lasswell: *The Political Writings*, Glencoe Ill. (Free Press) 1951, pp. 295-461.
- Lau, Ephrem Else: *Interaktion und Institution*, Berlin (Duncker & Humblot) 1978.
- Lax, David A. and James K. Sebenius: Negotiating through an Agent; *Journal of Conflict Resolution* 35 (1991), pp. 474-493.
- Levin, Aida Luisa: *Protecting the Human Environment. Procedures and Principles for Preventing and Resolving Environmental Controversies*, New York (UNITAR) 1977.
- Levy, Marc A., Robert O. Keohane and Peter M. Haas: Improving the Effectiveness of International Environmental Institutions; in: Peter M. Haas/Robert O. Keohane/Marc A. Levy (eds.): *Institutions for the Earth. Sources of Effective International Environmental Protection*, Cambridge, Mass. (MIT Press) 1993, pp. 397-426.
- Levy, Marc A.: European Acid Rain: The Power of Tote-Board Diplomacy; in: Peter M. Haas, Robert O. Keohane, Marc A. Levy (eds.): *Institutions for the Earth. Sources of Effective International Environmental Protection*, Cambridge, Mass. (MIT Press) 1993, pp. 75-132.
- Lipson, Charles: Bankers' Dilemmas: Private Cooperation in Rescheduling Sovereign Debts; *World Politics* 38 (1985/86), pp. 200-225.
- Lipson, Charles: Why are some International Agreements Informal ?; *International Organization* 45 (1991), pp. 495-538.
- List, Martin: Cleaning up the Baltic: A Case Study in East-West Environmental Cooperation; in: Volker Rittberger (ed.): *International Regimes in East-West Politics*, London (Pinter) 1990, pp. 90-116.
- List, Martin: *Umweltschutz zwischen zwei Meeren. Vergleich der internationalen Zusammenarbeit zum Schutz der Meeresumwelt in Nord- und Ostsee*, München (Tuduv) 1991.
- Lobos, Melissa S.: Thinning Air, Better Beware; *Dickinson Journal of International Law* 6 (1987), pp. 87-117.
- Luchins, David: *The United Nation Conference on the Human Environment. A Case Study on Emerging Political Alignments*; Ph.D., Ann Arbor 1979.
- Luhmann, Niklas: *Das Recht der Gesellschaft*, Frankfurt/M (Suhrkamp) 1993.
- Luhmann, Niklas: Die juristische Rechtsquellenlehre aus soziologischer Sicht; in Niklas Luhmann: *Die Ausdifferenzierung des Rechts. Beiträge zur Rechtssoziologie und Rechtstheorie*, Frankfurt/M (Suhrkamp) 1981, pp. 308-325.
- Luhmann, Niklas: Institutionalisierung - Funktion und Mechanismus im sozialen System der Gesellschaft; in: Helmut Schelsky (ed.): *Zur Theorie der Institution*, Düsseldorf (Bertelsmann Universitäts-Verlag) 1970, pp. 27-41.
- Luhmann, Niklas: *Legitimation durch Verfahren*, Darmstadt (Luchterhand) ³1978.
- Luhmann, Niklas: *Macht*, Stuttgart (Enke) 1975.
- Luhmann, Niklas: *Ökologische Kommunikation*, Opladen (Westdeutscher Verlag) 1986.
- Luhmann, Niklas: *Rechtssoziologie*, Opladen (Westdeutscher Verlag) ²1980.

- Luhmann, Niklas: Soziale Systeme. Grundriß einer allgemeinen Theorie, Frankfurt/M (Suhrkamp) 21987.
- Luhmann, Niklas: The Unity of the Legal System; in: Gunther Teubner (ed.): Autopoietic Law: A New Approach to Law and Society, Berlin (de Gruyter) 1988, pp. 12-35.
- Mancini, Federico: The Making of a Constitution for Europe; in: Robert O. Keohane and Stanley Hoffmann (eds.): The European Community. Decisionmaking and Institutional Change, Boulder (Westview) 1991, pp. 177-194.
- Mansbach, Richard W. and John A. Vasquez: In Search of Theory. A New Paradigm for Global Politics, New York (Columbia University Press) 1981.
- Martin, Lisa: Interests, Power, and Multilateralism; *International Organization* 46 (1992), pp. 765-792.
- Mayntz, Renate: Policy-Netzwerke und die Logik von Verhandlungssystemen; in: Adrienne Héritier (ed.): Policy-Analyse. Kritik und Neuorientierung, Politische Vierteljahresschrift, Sonderheft 24, Opladen (Westdeutscher Verlag) 1993, pp. 39-56.
- McDougal, Myres S. and Harold D. Lasswell: The Identification and Appraisal of Diverse Systems of Public Order; *53 American Journal of International Law* 1959, pp. 1-29.
- McDougal, Myres S. and W. Michael Reisman: International Law in Policy-Oriented Perspective; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory, The Hague (Martinus Nijhoff) 1983, pp. 103-129.
- McDougal, Myres S. and W. Michael Reisman: The Prescribing Function in the World Constitutive Process: How International Law is Made; in: Myres S. McDougal and W. Michael Reisman (eds.): International Law Essays. A Supplement to International Law in Contemporary Perspective, Mineola/New York (Foundation Press) 1981, pp. 355-380.
- McDougal, Myres S., Harold D. Lasswell and W. Michael Reisman: The World Constitutive Process of Authoritative Decision; in: Richard Falk and Cyril E. Black (eds.): The Future of the International Legal Order, Vol. I: Trends and Patterns, Princeton (Princeton University Press) 1969, pp. 73-154.
- McDougal, Myres S.: International Law, Power and Policy: A Contemporary Conception; *Recueils des Cours de l'Académie de Droit International*, 82 (1953-I), pp. 137-259.
- McDougal, Myres S.: Law and Power; *American Journal of International Law* 46 (1952), pp. 102-114.
- McDougal, Myres S.: Law as a Process of Decision: A Policy-Oriented Approach to Legal Study; *Natural Law Forum* 1 (1956), pp. 53-72.
- Meng, Werner: Streitbeilegung im Gatt; *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 41 (1981), pp. 69-102.
- Meyer, Lukas H.: The Ad hoc Chambers: Perspectives of the Parties and the Court; *Archiv des Völkerrechts* 27 (1989), pp. 413-441.
- Miehlsler, Herbert: Zur Autorität von Beschlüssen internationaler Organisationen; in: Christoph Schreuer (ed.): Autorität und internationale Ordnung, Berlin (Duncker & Humblot) 1979, pp. 35-62.
- Molina, Mario J. and F. Sherwood Rowland: Stratospheric Sink for Chlorofluoromethanes: Chlorine Atomic Catalysed Destruction of Ozone; *Nature* 249 (1974), pp. 810-812.
- Moore, Curtis A.: Industry Responses to the Montreal Protocol; *Ambio* 19 (1990), pp. 320-323.
- Moore, John Norton: Prolegomenon to the Jurisprudence of Myres McDougal and Harold Lasswell; in: John Norton Moore: Law and the Indo-China War, Princeton N.J. (Princeton University Press) 1972, pp. 47-76.

- Morrisette, Peter M.: *The Evolution of Policy Responses to Stratospheric Ozone Depletion*; *Natural Resources Journal* 29 (1989), pp. 793-820.
- Mosler, Hermann: 'Eine allgemeine, umfassende, obligatorische, internationale Schiedsgerichtsbarkeit': Das Programm des Grundgesetzes und die internationale Realität; in: Kay Heilbronner/ Georg Ress/ Torsten Stein (eds.): *Staat und Völkerrechtsordnung. Festschrift für Karl Doehring*, Berlin (Springer) 1989, pp. 607-624.
- Mott, Richard: *An Acid Rain Summons from Europe*; *The Environment Forum, International Law Institute* 5 (1988) No.1, pp. 32-33.
- Müller, Friedemann, Sicherheitspolitische Aspekte der Ost-West Wirtschaftsbeziehungen; in: Jost Delbrück/ Norbert Ropers/ Gerda Zellenthin (eds.): *Grünbuch zu den Folgewirkungen der KSZE*, Köln (Wissenschaft und Politik) 1977, pp. 273-283.
- Müller, Harald: *Die Chance der Kooperation. Regime in den internationalen Beziehungen*, Darmstadt (Wissenschaftliche Buchgesellschaft) 1993.
- Müller, Harald: Regimeanalyse und Sicherheitspolitik; in: Beate Kohler-Koch (ed.): *Regime in den internationalen Beziehungen*, Baden-Baden (Nomos) 1989, pp. 277-313.
- Müller, Harald: Selbsthilfe oder Kooperation ? Die Rolle von Regimen in der Sicherheitspolitik; Paper presented at the Workshop on International Regimes of the Section on International Relations of the DVPW, Darmstadt 1988.
- Müller, Marion: *Das internationale Regime zum Schutz der Ozonschicht*; *Gegenwartskunde* 39 (1990), pp. 423-436.
- Nerlich, Uwe: Der Wandel des 'europäischen Systems' und die Idee einer geamteuropäischen Konferenz; *Europa Archiv* 25 (1970), pp. 415-423.
- Neuhold, Hanspeter: Die neutralen Staaten Europas und die Konferenz über Sicherheit und Zusammenarbeit in Europa; *Europa Archiv* 28 (1973), pp. 445-451.
- Neumann, John von and Oscar Morgenstern: *Theory of Games and Economic Behaviour*, Princeton (Princeton University Press) 1953.
- Noble-Allgire, Alice: *The Ozone Agreements: A Modern Approach to Building Cooperation and Resolving International Environmental Issues*; *Southern Illinois University Law Journal* 14 (1989/90), pp. 265-318.
- Nye, Joseph S.: *Nuclear Learning and U.S.-Soviet Security Regimes*; *International Organization* 41 (1987), pp. 371-402.
- Nye, Joseph: *Neorealism and Neoliberalism*; *World Politics* 40 (1987/88), pp. 235-251.
- O'Meara, Richard L.: *Regimes and their Implications for International Theory*; *Millennium* 13 (1984), pp. 245-264.
- Oberthür, Sebastian: *Die Zerstörung der stratosphärischen Ozonschicht als internationales Problem. Interessenkonstellationen und internationaler politischer Prozeß*; *Zeitschrift für Umweltpolitik und Umweltrecht* 15 (1992), pp. 155-185.
- Oberthür, Sebastian: *Politik im Treibhaus. Die Entstehung des internationalen Klimaschutzregimes*, Berlin (Edition Sigma) 1993.
- OECD: *Legal Aspects of Transfrontier Pollution*, Paris (OECD) 1977.
- OECD: *OECD and the Environment*, Paris (OECD) 1979.
- OECD: *Problems of Transfrontier Pollution*, Paris (OECD) 1974.
- Oellers-Frahm, Karin: *Continental Shelf Case (Libyan Arab Jamahiriya/Malta)*; in: Rudolf Bernhardt (ed.): *Encyclopedia of Public International Law, Instalment 11*, Amsterdam (North Holland) 1989, pp. 91-94.

- Oellers-Frahm, Karin: Gulf of Maine Case; in: Rudolf Bernhardt (ed.): *Encyclopedia of Public International Law*, Instalment 11, Amsterdam (North Holland) 1989, pp. 131-134.
- Olson, Mancur: *The Logic of Collective Action. Public Goods and the Theory of Groups*, Cambridge (Harvard University Press) 1965.
- Ott, Hermann: *The New Montreal Protocol: A Small Step for the Protection of the Ozone Layer, a Big Step for International Law and Relations*; *Verfassung und Recht in Übersee* 24 (1991), pp. 188-208.
- Oye, Kenneth: Explaining Cooperation under Anarchy; *World Politics* 38 (1985/86), pp. 1-24.
- Pallemaerts, Marc: *International Legal Aspects of Long-range Transboundary Air Pollution*; *Hague Yearbook of International Law* 1 (1988), pp. 189-224.
- Parson, Edward A.: *Protecting the Ozone Layer*; in: Peter M. Haas/Robert O. Keohane/Marc A. Levy (eds.): *Institutions for the Earth. Sources of Effective International Environmental Protection*, Cambridge, Mass. (MIT Press) 1993, pp. 27-73.
- Parsons, Talcott: *The Social System*, Glencoe/Ill. (Free Press) 1953.
- Pinto, M.W.: *Modern Conference Techniques: Insights from Social Psychology and Anthropology*; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 305-339.
- Plank, Rosine: *An Unofficial Description of How a GATT Panel Works and Does not*; *Journal of International Arbitration* 4 (1987) No. 4, pp. 53-102.
- Prittwitz, Volker von: *Das Katastrophen-Paradox. Elemente einer Theorie der Umweltpolitik*, Opladen (Leske & Budrich) 1990.
- Prittwitz, Volker von: *Europäische Zusammenarbeit in der Luftreinhaltung ?*; *Zeitschrift für Umweltpolitik* 2 (1983), pp. 117-132.
- Prittwitz, Volker von: *Internationale Umweltregime - ein Fallvergleich*; in: Beate Kohler-Koch (ed.): *Regime in den internationalen Beziehungen*, Baden-Baden (Nomos) 1989, pp. 225-245.
- Prittwitz, Volker von: *Umweltaußenpolitik: Grenzüberschreitende Luftverschmutzung in Europa*, Frankfurt/M (Campus) 1984.
- Puchala, Donald J. and Raymond F. Hopkins: *International Regimes: Lessons from Inductive Analysis*; *International Organization* 36 (1982), pp. 245-275.
- Putnam, Robert D. and C. Randall Henning: *The Bonn Summit of 1978: A Case Study in Coordination*; in: Richard N. Cooper/ Barry Eichengreen/ C. Randall Henning/ Gerald Holtham/ Robert D. Putnam (eds.): *Can Nations Agree ? Issues in International Economic Cooperation*, Washington D.C. (Brookings) 1989, pp. 12-140.
- Putnam, Robert D.: *Diplomacy and Domestic Politics: The Logic of Two-Level Games*; *International Organization* 42 (1988), pp. 427-460.
- Rapoport, Anatol: *Fights, Games, and Debates*, Ann Arbor (University of Michigan Press) 1960.
- Rasmussen, Hjalte: *On Law and Policy in the European Court of Justice. A Comparative Study in Judicial Policy Making*, Dordrecht (Martinus Nijhoff) 1986.
- Rawls, John: *A Theory of Justice*, Oxford (Clarendon) 1972.
- Read, John E.: *The Trail Smelter Dispute*; *Canadian Yearbook of International Law* 1 (1963), pp. 213-229.
- Reisman, Michael R.: *The Enforcement of International Judgements*; *American Journal of International Law* 63 (1969), pp. 1-27.

- Reisman, Michael W. and Eizuke Suzuki: Recognition and Social Change in International Law: A Prologue for Decision-making; in: Michael W. Reisman and Burns H. Weston (eds.): *Toward World Order and Human Dignity*, New York (Free Press) 1976, pp. 403-470.
- Reisman, Michael W.: International Incidents. Introduction to a New Genre in the Study of International Law; *Yale Journal of International Law* 10 (1984/85), pp. 1-20.
- Reisman, Michael W.: International Lawmaking: A Process of Communication; *American Society of International Law, Proceedings* 1981, pp. 101-120.
- Reisman, Michael W.: Law from the Policy Perspective; in: Myres McDougal and W. Michael Reisman (eds.): *International Law Essays. A Supplement to International Law in Contemporary Perspective*, Mineola/New York (Foundation Press) 1981, pp. 1-14.
- Reisman, W. Michael: Sanctions and Enforcement; in: Myres McDougal and W. Michael Reisman (eds.): *International Law Essays. A Supplement to International Law in Contemporary Perspective*, Mineola/New York (Foundation Press) 1981, pp. 381-436.
- Rittberger, Volker (ed.): *International Regimes in East-West Politics*, London 1990.
- Rittberger, Volker and Klaus-Dieter Wolf: Policy-Forschung und internationale Beziehungen; in: Hans-Hermann Hartwich (ed.): *Policy-Forschung in der Bundesrepublik Deutschland*, Opladen (Westdeutscher Verlag) 1985, pp. 204-211.
- Rittberger, Volker and Klaus-Dieter Wolf: Problemfelder internationaler Beziehungen aus politologischer Sicht (Tübinger Arbeitspapiere zur Internationalen Politik und Friedensforschung No. 5), Tübingen 1987.
- Rittberger, Volker and Michael Zürn: Towards Regulated Anarchy in East-West Relations: Causes and Consequences of East-West Regimes; in: Volker Rittberger (ed.): *International Regimes in East-West Relations*, London (Pinter) 1990, pp. 9-63.
- Rittberger, Volker and Michael Zürn: Transformation der Konflikte in den Ost-West Beziehungen; *Politische Vierteljahresschrift* 32 (1991), pp. 399-424.
- Rittberger, Volker, Manfred Efinger and Martin Mender: Toward an East-West Security Regime: The Case of Confidence- and Security Building Measures; *Journal of Peace Research* 27 (1990), pp. 55-74.
- Rittberger, Volker: 'Peace Structures' through International Organizations and Regimes (Tübinger Arbeitspapiere zur Internationalen Politik und Friedensforschung No. 4), Tübingen 1986.
- Rittberger, Volker: Editor's Introduction; in: Volker Rittberger (ed.): *International Regimes in East-West Relations*, London (Pinter) 1990, pp. 1-8.
- Rittberger, Volker: Frieden durch Assoziation und Integration? Anmerkungen zum Stand der Forschung über internationale Organisationen und Regime; in: Bernhard Moltmann and Eva Senghaas-Knobloch (eds.): *Konflikte in der Weltgesellschaft und Friedensstrategien*, Baden-Baden (Nomos) 1989, pp. 183-205.
- Rittberger, Volker: International Regimes and Peaceful Conflict Resolution; in: Peter Wallensteen (ed.): *Peace Research. Achievements and Challenges*, London (Westview) 1988, pp. 144-165.
- Rittberger, Volker: International Regimes in the CSCE-Region. From Anarchy to Governance and Stable Peace; *Österreichische Zeitschrift für Politikwissenschaft* 19 (1990), pp. 349-364.
- Rittberger, Volker: Konflikttransformation durch internationale Regime im Ost-West-Verhältnis. Grundfragen einer Entwicklungsperspektive der friedlichen Ko-Evolution; in: Hans-Herrmann Hartwich (ed.): *Macht und Ohnmacht politischer Institutionen*, Opladen (Westdeutscher Verlag) 1989, pp. 322-346..

- Rittberger, Volker: Research on International Regimes in Germany: The Adaptive Internalization of an American Social Science Concept; in Volker Rittberger (ed.): *Regime Theory and International Relations*, Oxford (Clarendon) 1993, pp. 3-22.
- Roan Sharon: *Ozone Crisis. The 15 Year Evolution of a Sudden Global Emergency*, New York (Wiley & Sons) 1989.
- Rochester, Martin J.: Global Policy and the Future of the United Nations; *Journal of Peace Research* 27 (1990), pp. 141-154.
- Rochester, Martin J.: The Rise and Fall of International Organization as a Field of Study; *International Organization* 40 (1986), pp. 777-813.
- Rosenau, James N.: Before Cooperation: Hegemons, Regimes and Habit-Driven Actors in World Politics; *International Organization* 40 (1986), pp. 849-894.
- Rosenau, James N.: Governance, Order and Change in World Politics; in: James N. Rosenau and Ernst-Otto Czempiel (eds.): *Governance without Government: Order and Change in World Politics*, Cambridge (Cambridge University Press) 1992, pp. 1-29.
- Ross, Alf: *Directives and Norms*, London (Routledge & Paul) 1968.
- Rothstein, Robert L.: Regime-Creation by a Coalition of the Weak: Lessons from the NIEO and the Integrated Program for Commodities; *International Studies Quarterly* 28 (1984), pp. 307-328.
- Rowlands, Ian H.: The Fourth Meeting of the Parties to the Montreal Protocol: Report and Reflection; *Environment* 35 (1993) No 6, pp. 25-34.
- Royal Institute of International Affairs: Pledge and Review Processes: Possible Components of a Climate Convention, Report of a Workshop 2 August 1991, London 1991.
- Rudolf, Walter: Technological Development and Codification of International Law; in: *Le droit international à l'heure de sa codification. Etudes à l'honneur de Roberto Ago*, Vol. I, Milano (Guiffrè) 1987, pp. 433-453.
- Ruggie, John G.: Continuity and Transformation in World Politics: Toward a Neorealist Synthesis; in: Robert O. Keohane (ed.): *Neorealism and its Critics*, New York (Columbia University Press) 1986, pp. 131-157.
- Ruggie, John G.: International Regimes, Transactions and Change: Embedded Liberalism in the Postwar Economic Order; *International Organization* 36 (1982), pp. 379-415.
- Ruggie, John G.: International Responses to Technology: Concepts and Trends; *International Organization* 29 (1975), pp. 557-583.
- Ruggie, John Gerard: Multilateralism: The Anatomy of an Institution; *International Organization* 46 (1992), pp. 561-598.
- Rummel-Bulska, Iwona: Recent Developments Relating to the Vienna Convention for the Protection of the Ozone Layer; *Yearbook of the Association of Attenders and Alumni of the Hague Academy of International Law* 54-56 (1986), pp. 115-125.
- Rummel-Bulska, Iwona: The Protection of the Ozone Layer under the Global Framework Convention; Cees Flinterman/ Barbara Kwiatkowska/ Johan G. Lammers (eds.): *Transboundary Air Pollution*, Dordrecht (Martinus Nijhoff) 1986, pp. 281-297.
- Rüster, Bernd, Bruno Simma and Michael Bock (eds.): *International Protection of the Environment. Treaties and Related Documents*, Vols. I-XXX, Dobbs Ferry N.Y (Oceana) 1975-1982.
- Sachariew, K.: State Responsibility for Multilateral Treaty Violations; Identifying the 'Injured State' and his Legal Status; *Netherlands International Law Review* 25 (1988), pp. 273-289.
- Sand, Peter H.: *Lessons Learned in Global Environmental Governance*, Washington (World Resources Institute) 1990.

- Sand, Peter H.: New Approaches to Transnational Environmental Disputes, Typescript, 1990.
- Sand, Peter H.: Protecting the Ozone Layer - The Vienna Convention is Adopted; *Environment* 27 (1985) No 5, pp. 19-20 and 40-43.
- Sand, Peter H.: Regional Approaches to Transboundary Air Pollution; in: John L. Helm (ed.): *Energy: Production, Consumption, and Consequences*, Washington (National Academy Press) 1989, pp. 246-263.
- Schachter, Oscar: *International Law in Theory and Practice*; *Recueil des Cours* 178 (1982-V), pp. 9-396.
- Schachter, Oscar: The Nature and Process of Legal Development in International Society; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 745-808.
- Schachter, Oscar: The Twilight Existence of Non-binding International Agreements; *American Journal of International Law* 77 (1977), pp. 296-304.
- Schachter, Oscar: The Uses of Law in International Political Organs; *Studi in Onore di Gaetano Morelli*, Milano 1975, pp. 791-802.
- Schachter, Oscar: Towards a Theory of International Obligation; in: Stephen M. Schwelbel (ed.): *The Effectiveness of International Decisions*, Leyden (Sijthoff) 1971, pp. 9-31.
- Schachter, Oskar, Mahomed Nawaz and John Fried: *Toward wider Acceptance of UN-Treaties*, New York (Arno, UNITAR) 1971.
- Scharpf, Fritz W.: Die Handlungsfähigkeit des Staates am Ende des zwanzigsten Jahrhunderts; *Politische Vierteljahresschrift* 31 (1991), pp. 621-634.
- Scharpf, Fritz W.: Einführung: Zur Theorie von Verhandlungssystemen; in: Arthur Benz/Fritz W. Scharpf/Reinhard Zintl: *Horizontale Politikverflechtung. Zur Theorie von Verhandlungssystemen*, Frankfurt/M (Campus) 1992, pp. 11-27.
- Scharpf, Fritz W.: *Intergovernmental Policy Studies. Issues, Concepts and Perspectives* (Wissenschaftszentrum Berlin, Discussion Paper dp/77-90), Berlin 1977.
- Scharpf, Fritz W.: Komplexitätsschranken der politischen Planung; in: *Gesellschaftlicher Wandel und politische Innovation*; *Politische Vierteljahresschrift, Sonderheft 4*, Opladen (Westdeutscher Verlag) 1972, pp. 168-192.
- Scharpf, Fritz W.: Koordination durch Verhandlungssysteme: Analytische Konzepte und institutionelle Lösungen; in: Arthur Benz/Fritz W. Scharpf/Reinhard Zintl: *Horizontale Politikverflechtung. Zur Theorie von Verhandlungssystemen*, Frankfurt/M (Campus) 1992, pp. 51-96.
- Scharpf, Fritz W.: Positive und negative Koordination in Verhandlungssystemen; in: Adrienne Héritier (ed.): *Policy-Analyse. Kritik und Neuorientierung*, *Politische Vierteljahresschrift, Sonderheft 24*, Opladen (Westdeutscher Verlag) 1993, pp. 57-83.
- Scharpf, Fritz W.: Verhandlungssysteme: Verteilungskonflikte und Pathologien der politischen Steuerung; in: Manfred G. Schmidt (ed.): *Staatstätigkeit. Internationale und historisch vergleichende Studien*, *Politische Vierteljahresschrift Sonderheft 19*, Opladen (Westdeutscher Verlag) 1988, pp. 61-87.
- Schelling, Thomas C.: *Micromotives and Macrobehaviour*, New York (Norton) 1979.
- Schimank, Uwe: Erwartungssicherheit und Zielverfolgung. Sozialität zwischen Prisoner's Dilemma und Battle of the Sexes; *Soziale Welt* 43 (1992), pp. 182-200.
- Schitkov, A.P.: Einleitung; in: *Europäische Sicherheit und Zusammenarbeit. Voraussetzungen, Probleme, Perspektiven*, Berlin (Staatsverlag der DDR) 1978, pp. 5-25.

- Schlochauer, Hans-Jürgen: Arbitration; in: Rudolf Bernhardt (ed.): *Encyclopedia of Public International Law*, Instalment 1, Amsterdam (North Holland) 1981, pp. 13-28.
- Schlochauer, Hans-Jürgen: Rezension von: Myres McDougal and Associates, *Studies in World Public Order*; *Archiv des Völkerrechts* 12 (1964/65), pp. 465-469.
- Schmans, Malte: *Einstimmigkeitsprinzip, Mehrheitsprinzip und Konsensverfahren auf Vertragskonferenzen zur universellen völkerrechtlichen Rechtsetzung*, Ph.D., Göttingen 1984.
- Schotter, Andrew: *The Economic Theory of Social Institutions*, Cambridge (Cambridge University Press) 1981.
- Schreuer, Christoph: *New Haven Approach und Völkerrecht*; in: Christoph Schreuer (ed.): *Autorität und internationale Ordnung*, Berlin (Duncker & Humblot) 1979, pp. 63-85.
- Schröder, Dieter: *Die Dritte Welt und das Völkerrecht*, Frankfurt/M (Metzner) 1970.
- Schubert, Klaus: *Politikfeldanalyse*, Opladen (Leske & Budrich) 1991.
- Schwarzer, Gudrun: *Weiträumige grenzüberschreitende Luftverschmutzung. Konfliktanalyse eines internationalen Umweltproblems* (Tübinger Arbeitspapiere zur internationalen Politik und Friedensforschung No. 15), Tübingen 1990.
- Schwerin, Otto Graf: *Die Solidarität der EG-Staaten in der KSZE*; *Europa Archiv* 30 (1975), pp. 483-492.
- Sebenius, James K.: *Negotiation Arithmetics: Adding and Subtracting Issues and Parties*; *International Organization* 37 (1983), pp. 281-316.
- Sebenius, James K.: *Challenging Conventional Explanations of International Cooperation: Negotiation Analysis and the Case of Epistemic Communities*; *International Organization* 46 (1992), pp. 323-365.
- Sebenius, James K.: *Designing Negotiations Toward a New Regime: The Case of Global Warming*; *International Security* 15 (1991), pp. 110-148.
- Sebenius, James K.: *Negotiating the Law of the Sea*, Cambridge Mass. (Harvard University Press) 1984.
- Sen, Amartya: *Choice, Orderings and Morality*; in: Stephan Körner (ed.): *Practical Reason*, New Haven (Yale University Press) 1974, pp. 54-67.
- Sepúlveda, César: *Methods and Processes for the Creation of Legal Norms in the International System of States: An Inquiry into the Progressive Development of International Law in the Present Era*; *German Yearbook of International Law* 33 (1990), pp. 432-460.
- Shulman, Marshall D.: *Sowjetische Vorschläge für eine Sicherheitskonferenz (1966-1969)*; *Europa Archiv* 24 (1969), pp. 671-684.
- Simma, Bruno: *Das Reziprozitätselement im Zustandekommen völkerrechtlicher Verträge. Gedanken zu einem Bauprinzip der internationalen Beziehungen*, Berlin (Duncker & Humblot) 1972.
- Simma, Bruno: *Völkerrechtswissenschaft und Lehre von den internationalen Beziehungen*; *Österreichische Zeitschrift für öffentliches Recht* 23 (1972), pp. 293-324.
- Simon, Herbert A.: *From Substantive to Procedural Rationality*; in: S.J. Latsis (ed.): *Method and Appraisal in Economics*, Cambridge (Cambridge University Press) 1976, pp. 129-148; reprinted in: *Simon: Models of Bounded Rationality*, Vol. 2, Cambridge (Massachusetts Institute of Technology) 1982.
- Simon, Herbert A.: *Rational Decision Making in Business Organizations*; 69 *American Economic Review* 1979, pp. 493-513; reprinted in: *Simon: Models of Bounded Rationality*, Vol. 2, Cambridge (Massachusetts Institute of Technology) 1982.

- Simon, Herbert A.: Theories of Bounded Rationality; in: C.D. Radner and R. Radner (eds.): *Decision and Organization*, Amsterdam (North Holland) 1972, pp. 161-176; reprinted in: Simon: *Models of Bounded Rationality*, Vol. 2, Cambridge (Massachusetts Institute of Technology) 1982.
- Sion, Ion Grigore: Regional Approach to Environmental Protection and the UN/ECE Convention on Long-range Transboundary Air Pollution; 15 *Revue Roumaine d'Etudes Internationales* 1981, pp. 386-400.
- Siotis, Jean: *Die ECE und Gesamteuropa*, Köln (Europa Union) 1969.
- Siotis, Jean: The United Nations Economic Commission for Europe in the Perspective of the Conference on Security and Co-operation in Europe; *Studia Diplomatica* 27 (1974), pp. 791-816.
- Sizoo, Jan und Rudolf Th. Jurrjens: CSCE Decision-making: The Madrid Experience, The Hague (Martinus Nijhoff) 1984.
- Smith, Roger K.: Explaining the Non-Proliferation Regime: Anomalies for Contemporary International Relations Theory; 41 *International Organization* 1987, pp. 253-281.
- Snidal, Duncan: Coordination versus Prisoners' Dilemma: Implications for International Cooperation and Regimes; *American Political Science Review* 79 (1985), pp. 923-942.
- Snidal, Duncan: The Game Theory of International Politics; *World Politics* 38 (1985/86), pp. 25-57.
- Snidal, Duncan: The Limits of Hegemonic Stability Theory; *International Organization* 39 (1985), pp. 579-614.
- Snyder, Glen H.: Prisoners' Dilemma, and Chicken Models in International Politics; *International Studies Quarterly* 15 (1971), pp. 66-103.
- Sohn, Louis B.: Procedures Developed by International Organizations for Checking Compliance; in: Stephen M. Schwelbel (ed.): *The Effectiveness of International Decisions*, Leyden (Sijthoff) 1971, pp. 51-56.
- Sohn, Louis B.: The Effectiveness of International Law; in: M.K. Nawaz (ed.): *Essays on International Law. In Honor of Krishna Rao*, Leyden (Sijthoff) 1976, pp. 58-67.
- Sohn, Louis B.: The Future of Dispute Settlement; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 1121-1146.
- Sohn, Louis B.: The Stockholm Declaration on the Human Environment; *Harvard International Law Journal* 14 (1973), pp. 423-515.
- Sohn, Louis B.: Voting Procedures in United Nations Conferences for the Codification of International Law; *American Journal of International Law* 69 (1975), pp. 310-353.
- Somers, Margaret E.: An Attempt to Stop the Sky from Falling: The Montreal Protocol to Protect against Atmospheric Ozone Reduction; *Syracuse Journal of International Law* 15 (1988/89), pp. 391-429.
- Sorensen, Christian H.: International Agreements: Montreal Protocol on Substances that Deplete the Ozone Layer; *Harvard International Law Journal* 29 (1989), pp. 185-191.
- Soroos, Marvin S.: A Theoretical Framework for Global Policy Studies; *International Political Science Review* 11 (1990), pp. 309-322.
- Soroos, Marvin S.: *Beyond Sovereignty. The Challenge of Global Policy*, Columbia S.C. (University of South Carolina Press) 1986.
- Soroos, Marvin S.: The Evolution of Global Regulations of Atmospheric Pollution; in: David L. Feldman and Dean Mann (eds.): *Global Climate Problems and Public Policy*, Policy Studies Journal 2 (1991), pp. 115-125.

- Sprinz, Detlef and Tapani Vaahoranta: The Interest-Based Explanation for International Air Pollution Control: Determinants of Support for the Protection of the Ozone Layer and the Abatement of Acid Rain in Europe; in: Arild Underdal (ed.): The International Politics of Environmental Management, Dordrecht (Kluwer), in press.
- Sprinz, Detlef: The Domestic Sources of International Environmental Regulations; in: Arild Underdal (ed.): The International Politics of Environmental Management, Dordrecht (Kluwer), in press.
- Stein, Arthur A.: Coordination and Collaboration: Regimes in an Anarchic World; *International Organization* 36 (1982), pp. 299-324.
- Stein, Arthur A.: When Misperceptions Matter; *World Politics* 34 (1981/82), pp. 505-526.
- Stein, Robert E.: The Potential of Regional Organizations in Managing Man's Environment, in: John Lawrence Hargrove (ed.): Law, Institutions and the Global Environment, Dobbs Ferry N.Y. (Oceana) 197, pp. 253-293.
- Stein, Robert E.: The Settlement of Environmental Disputes: Toward a System of Flexible Dispute Settlement; *Syracuse Journal of International Law and Commerce* 12 (1985), pp. 283-298.
- Stolarski, Richard S. and Ralph J. Cicerone, Stratospheric Chlorine: A Possible Sink for Ozone; *Canadian Journal of Chemistry* 52 (1974), pp. 1610-1615.
- Storm, Peter Christoph: Das UNEP-Umweltrechtsprogramm von Montevideo; *Zeitschrift für Umweltpolitik* 3 (1982), pp. 267-279.
- Strange, Susan: Cave! Hic Dragones: a Critique of Regime Analysis; *International Organization* 36 (1982), pp. 479-496.
- Streek, Wolfgang and Phillipe C. Schmitter: Gemeinschaft, Markt und Staat - und die Verbände ? Der mögliche Beitrag von Interessenregierungen zur sozialen Ordnung; *Journal für Sozialforschung* 25 (1985); pp. 133-157.
- Strübel, Michael: Umweltregime in Europa; in: Beate Kohler-Koch (ed.): Regime in den internationalen Beziehungen, Baden-Baden (Nomos) 1989, pp. 247-273.
- Sverdrup, Harald: Methods for Determining and Mapping Critical Loads for Acidity; in: Critical Loads for Air Pollution, Report of the Third International NGO Strategy Seminar on Air Pollution, Göteborg, Sweden, April 10-12, 1992, pp. 13-17.
- Swedish Ministry of Agriculture: Acidification Today and Tomorrow. Proceedings of the 1982 Stockholm Conference on the Acidification of the Environment, Stockholm 1982.
- Szell, Patrick: Negotiations on Ozone Layer Depletion; Typescript.
- Szell, Patrick: The Vienna Convention for the Protection of the Ozone Layer; *International Digest of Health Legislation* 36 (1985), pp. 839-842.
- Taubes, Garry and Allan Chen: Made in the Shade ? No Way; *Discover*, August 1987, pp. 62-71.
- Temple Lang, John: The Ozone Layer Convention: A New Solution to the Question of Community Participation in 'Mixed' International Agreements; *Common Market Law Review* 23 (1986), pp. 157-176.
- Teubner, Günther: Recht als autopoietisches System, Frankfurt/M (Suhrkamp) 1989.
- Thode, Reinhold: International Law Commission: Entstehungsgeschichte, Organisation, Arbeitsweise und Tätigkeit, Ph.D., Kiel 1972.
- Tollison, Robert D. and Thomas D. Willett: An Economic Theory of Mutually Advantageous Issue Linkages in International Negotiations; *International Organization* 33 (1979), pp. 425-449.

- Tomuschat, Christian: Der Verfassungsstaat im Geflecht der internationalen Beziehungen; 36 Veröffentlichungen der Vereinigung der deutschen Staatsrechtslehrer 1977, pp. 7-63.
- Tourangeau, Paul R.: The Montreal Protocol on Substances that Deplete the Ozone Layer: Can it Keep us all from Needing Hats, Sunglasses and Suntan Lotion; Hastings International and Comparative Law Review 11 (1987/88), pp. 509-541.
- Trimble, Phillip R.: International Law, World Order, and Critical Legal Studies; Stanford Law Review 42 (1989/90), pp. 811-845.
- Tripp, James T.B.: The UNEP Montreal Protocol: Industrialized and Developing Countries Sharing the Responsibility for Protecting the Stratospheric Ozone Layer; New York Journal of International Law and Policy 20 (1987/88), pp. 733-752.
- Ullmann-Margalit, Edna: The Emergence of Norms, Oxford (Oxford University Press) 1977.
- Umweltbundesamt: Responsibility Means Doing Without - How to Rescue the Ozone Layer, Berlin 1989.
- Valsalice, Luigi: The CSCE Follow-up Process: An Assessment, in: Nils Andén and Karl E. Birnbaum (eds.): Belgrade and Beyond. The CSCE Process in Perspective, Alphen aan den Rijn (Sijthoff & Noordhoff) 1980, pp. 75-87.
- Vasquez, John A. and Richard W. Mansbach: The Issue Cycle: Conceptualizing Long-term Global Political Change; International Organization 37 (1983), pp. 257-279.
- Verdross, Alfred and Bruno Simma: Universelles Völkerrecht, Berlin (Duncker & Humblot) 1984.
- Vitzthum, Wolfgang Graf: Die Bemühungen um ein Régime des Tiefseebodens; das Schicksal einer Idee; Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 38 (1978), pp. 745-800.
- Vitzthum, Wolfgang Graf: Friedlicher Wandel durch völkerrechtliche Rechtsetzung - Zur Problematik des Verfahrens und der inhaltlichen Konsensbildung internationaler Kodifikationskonferenzen, dargestellt am Beispiel der 3. UN-Seerechtskonferenz; in: Jost Delbrück (ed.): Völkerrecht und Kriegsverhütung. Zur Entwicklung des Völkerrechts als Recht friedenssichernden Wandels, Berlin (Duncker & Humblot) 1979, pp. 123-177.
- Vitzthum, Wolfgang Graf: Materielle Gerechtigkeitsaspekte der Seerechtsentwicklung; in: Wolfgang Graf Vitzthum (ed.): Aspekte der Seerechtsentwicklung, München (Hochschule der Bundeswehr) 1980, pp. 355-392.
- Vitzthum, Wolfgang Graf: Verfahrensgerechtigkeit im Völkerrecht. Zu den Erfolgsbedingungen internationaler Rechtsschöpfungskongressen; in: Ingo von Münch (ed.): Staatsrecht - Völkerrecht - Europarecht; Festschrift für Hans-Jürgen Schlochauer, Berlin (de Gruyter) 1981, pp. 739-758.
- Voss, Thomas: Rationale Akteure und soziale Institution. Beitrag zu einer endogenen Theorie des sozialen Tauschs, München (Oldenbourg) 1985.
- Vygen, Hendrik: Air Pollution Control - Success of East/West Co-operation; Environmental Policy & Law 15 (1985), pp. 6-8.
- Vygen, Hendrik: Urging for a Firm Clean-Air Policy Across National Borders; Environmental Policy & Law 11 (1983), pp. 34-36.
- Wagner, Wolfgang: Die sozialistischen Staaten: Die Konferenz als Suggestivformel der Europa-Politik; in: Hans-Peter Schwarz and Helga Haftendorn (eds.): Europäische Sicherheitskonferenz, Opladen (Leske) 1970, pp. 11-25.
- Waltz, Kenneth N.: Man, the State, and War, New York (Columbia University Press) 1959.
- Waltz, Kenneth: Theory of International Politics, Reading (Addison-Wesley) 1979.

- Weber, Max: *Wirtschaft und Gesellschaft. Grundriß der verstehenden Soziologie*, Tübingen (Mohr) ⁵1972.
- Weede, Erich: *Der ökonomische Erklärungsansatz in der internationalen Politik*; *Politische Vierteljahresschrift* 30 (1989), pp. 254-272.
- Weidner, Helmut: *A Survey of Clean Air Policy in Europe* (Wissenschaftszentrum Berlin, Discussion Paper FS II 89-301), Berlin 1989.
- Weiler, Joseph H.H.: *The Transformation of Europe*; *Yale Law Journal* 100 (1990/91), pp. 2403-2483.
- Wetstone, Gregory and Armin Rosencranz: *Transboundary Air Pollution: The Search for an International Response*; *Harvard Environmental Law Review* 8 (1984), pp. 89-138.
- Wetstone, Gregory S. and Armin Rosencranz: *Acid Rain in Europe and North America. National Responses to an International Problem*, Washington (Environmental Law Institute) 1983.
- Wetstone, Gregory: *Acid Rain: The International Perspective: Environmental Policy & Law* 11 (1983), pp. 31-33.
- Wettig, Gerhard: *Die Einschätzung der KSZE-Folgewirkungen durch die Führungen der UdSSR, der DDR und anderer Warschauer-Pakt-Staaten*; in: Jost Delbrück/ Norbert Ropers/ Gerda Zellenthin (eds.): *Grünbuch zu den Folgewirkungen der KSZE*, Köln (Wissenschaft und Politik) 1977, pp. 105-118.
- Wettig, Gerhard: *Vom 'Korb III' zu den Menschenrechten. Zum Verlauf des Belgrader KSZE-Folgetreffens; Internationales Recht und Diplomatie 1977-1980*, pp. 39-59.
- Wijkman, Per Magnus: *Managing the Global Commons*; *International Organization* 36 (1982), pp. 511-537.
- Williams, Maureen: *A Historical Background on the Chlorofluorocarbon Ozone Depletion Theory and its Legal Implications*; Cees Flinterman/ Barbara Kwiatkowska/ Johan G. Lammers (eds.): *Transboundary Air Pollution*, Dordrecht (Martinus Nijhoff) 1986, pp. 267-280.
- Williams, Maureen: *Legal Problems Arising from the Protection of the Ozone Layer*; *Yearbook of the Association of Attenders and Alumni of the Hague Academy of International Law* 54-56 (1986), pp. 126-138.
- Winham, Gilbert R.: *The Prenegotiation Phase of the Uruguay Round*; in: Janice Gross Stein (ed.): *Getting to the Table: The Processes of International Prenegotiation*, Baltimore (Johns Hopkins University Press) 1989, pp. 44-67.
- Wolf, Klaus Dieter and Michael Zürn: *Macht Recht einen Unterschied ? Implikationen und Bedingungen internationaler Verrechtlichung im Gegensatz zu weniger bindenden Formen internationaler Verregelung*; in: Klaus Dieter Wolf (ed.): *Internationale Verrechtlichung, Jahresschrift für Rechtspolitikologie*, Pfaffenweiler (Centaureus) 1993, pp. 11-28.
- Wolf, Klaus Dieter: *'Gerechter Frieden' durch internationale Regime ?*; in: Bernhard Moltmann and Eva Senghaas-Knobloch (eds.): *Konflikte in der Weltgesellschaft und Friedensstrategien*, Baden-Baden (Nomos) 1989, pp. 206-223.
- Wolf, Klaus Dieter: *Das antarktische Regime für die Nutzung mineralischer Rohstoffe. Die Struktur von internationalen Regimen als Problem der Regimeanalyse*; in: Beate Kohler-Koch (ed.): *Regime in den internationalen Beziehungen*, Baden-Baden (Nomos) 1989, pp. 151-178.
- Wolf, Klaus Dieter: *Internationale Regime zur Verteilung globaler Ressourcen*, Baden-Baden (Nomos) 1991.
- Wolf, Klaus-Dieter and Michael Zürn: *'International Regimes' und Theorien der Internationalen Politik*; *Politische Vierteljahresschrift* 27 (1986), pp. 201-221

- Wolfrum, Rüdiger: *Die Internationalisierung staatsfreier Räume*, Berlin (Springer) 1984.
- Young, Oran R. and Gail Osherenko: *Testing Theories of Regime Formation: Findings from a Large Collaborative Research Project*; in: Volker Rittberger (ed.): *Regime Theory and International Relations*, Oxford (Clarendon) 1993, pp. 223-251.
- Young, Oran R.: *Anarchy and Social Choice: Reflections on the International Polity*; *World Politics* 30 (1977/78), pp. 241-263.
- Young, Oran R.: *Compliance and Public Authority*, Baltimore (Johns Hopkins University Press) 1979.
- Young, Oran R.: *International Cooperation: Building Regimes for Natural Resources and the Environment*, Ithaca/London (Cornell University Press) 1989.
- Young, Oran R.: *International Law and Social Science: The Contributions of Myres McDougal*; *American Journal of International Law* 66 (1972), pp. 60-76.
- Young, Oran R.: *International Regimes: Problems of Concept Formation*; *World Politics* 32 (1979/80), pp. 331-356.
- Young, Oran R.: *International Regimes: Toward a New Theory of Institutions*; *World Politics* 39 (1986/87), pp. 104-122.
- Young, Oran R.: *Political Leadership and Regime Formation: On the Development of Institutions in International Society*; *International Organization* 45 (1991), pp. 281-308.
- Young, Oran R.: *Regime Dynamics: The Rise and Fall of International Regimes*; *International Organization* 36 (1982), pp. 277-297.
- Young, Oran R.: *Resource Regimes. Natural Resources and Social Institutions*, Berkeley (University of California Press) 1982.
- Young, Oran R.: *The Effectiveness of International Institutions: Hard Cases and Critical Variables*; in: James N. Rosenau/ Ernst-Otto Czempiel (eds.): *Governance without Government: Order and Change in World Politics*, Cambridge (Cambridge University Press) 1992, pp. 160-194.
- Young, Oran R.: *The Politics of International Regime Formation: Managing Natural Resources and the Environment*; *International Organization* 43 (1989), pp. 349-375.
- Zacher, Mark: *Trade Gaps, Analytical Gaps: Regime Analysis and International Commodity Trade Regulation*; *International Organization* 41 (1987), pp. 173-202.
- Zartman, W.I.: *Common Elements in the Analysis of the Negotiation Process*; *Negotiation Journal* 4 (1988), pp. 31-43.
- Zartman, William I.: *Prenegotiation: Phases and Functions*; in: Janice Gross Stein (ed.): *Getting to the Table: The Processes of International Prenegotiation*, Baltimore (Johns Hopkins University Press) 1989, pp. 1-17.
- Zellenthin, Gerda: *Zur Rolle der Konferenzdiplomatie in den Ost-West-Beziehungen*; in: Jost Delbrück/ Norbert Ropers/ Gerda Zellenthin (eds.): *Grünbuch zu den Folgewirkungen der KSZE*, Köln (Wissenschaft und Politik) 1977, pp. 13-26.
- Zemanek, Karl: *Autriche*, in: *L'Etat face à l'organisation mondiale*; *Actes du 2^e colloque* 1972, Université de Genève, Faculté de Droit, Genève 1973, pp. 47-82.
- Zemanek, Karl: *Codification of International Law: Salvation or Dead End*; in: *Le droit international à l'heure de sa codification. Etudes à l'Honneur de Roberto Ago*, Milano (Guiffrè) 1987, Vol. I, pp. 581-601.
- Zemanek, Karl: *Majority Rule and Consensus Technique in Law-Making Diplomacy*; in: R.St.J. MacDonald and Douglas M. Johnston (eds.): *The Structure and Process of International Law: Essays in Legal Philosophy, Doctrine and Theory*, The Hague (Martinus Nijhoff) 1983, pp. 857-887.

- Zürn, Michael, Klaus Dieter Wolf and Manfred Efinger: Problemfelder und Situationsstrukturen in der Analyse internationaler Politik. Eine Brücke zwischen den Polen ?; in: Volker Rittberger (ed.): Theorien der internationalen Beziehungen, Politische Vierteljahresschrift, Sonderheft 21, Opladen (Westdeutscher Verlag) 1990, pp. 151-174.
- Zürn, Michael: Bringing the Second Image (Back) In. About Domestic Sources of Regime Formation; in Volker Rittberger (ed.): Regime Theory and International Relations, Oxford (Clarendon) 1993, pp. 282-311.
- Zürn, Michael: Gerechte internationale Regime, Frankfurt/M (Haag und Herchen) 1987.
- Zürn, Michael: Interessen und Institutionen in der internationalen Politik. Grundlegung und Anwendungen des situationstrukturellen Ansatzes, Opladen (Leske & Budrich) 1992.