

Gestures: A comparison of signed and spoken languages

Abstracts

**Jana Bressemer & Silva Ladewig** (VW-Project "Towards a Grammar of Gesture" European University Viadrina, Germany)

Discovering structures in gestures on the basis of the four parameters of Sign Language

In this talk we will argue that a description of coverbal gestures based on the four parameters "hand shape", "orientation", "movement" and "position in gesture space" first introduced for the notation of Sign Language (Battison 1972; Stokoe 1960, 1972) can be fruitful for characterizing the physical appearance of gestures. Combined with a description of coverbal gestures irrespective of speech, the method argued for in this presentation allows for a systematic description of co-verbal gestures and offers a flexible analytical procedure. The goal is to show that an analysis of gestures based on this description procedure can a) uncover new and unknown structures of the medium "gesture" and b) refine and specify already-known phenomena.

This will be shown by means of two studies which are based on (altogether) eight hours of video-recorded German conversations in naturalistic settings. Using the methodological framework proposed, it was possible to show that "a) German speakers dispose of standardized gestural forms which they use recurrently" (Bressemer subm.) and b) "that speakers seem to dispose of clusters which depend on particular hand shapes and their co-occurrence with other specific gestural forms" (Bressemer subm.). Furthermore it could be shown that one parameter which is often neglected in the depiction of gestures, the position in gesture space, differentiates variants of a recurrent gesture (Ladewig subm.; see also Müller 2004). According to that, variation of form comes with variation of meaning.

The method argued for in this presentation, namely to describe the four parameters independent of speech, cannot only be applied for a systematic description of co-verbal gestures (Becker 2004, Webb 1996) but also as a procedure of discovery. Furthermore, the inclusion of all four parameters provides for the opportunity to uncover clusters of form features and a systematic variation of form and meaning.

References

- Bressemer, Jana (submitted). Characterizing gestural form features – Suggestions for a form based notational system of coverbal gestures.
- Battison, Robin (1974). Phonological deletion in American Sign Language. *Sign language studies* 5, 1-19.

- Becker, Karin (2004). Zur Morphologie redebegleitender Gesten. Unpublished MA thesis, Freie Universität Berlin.
- Calbris, Genevieve (1990). The semiotics of French gesture. Bloomington: Indiana University Press.
- Ladewig, Silva (submitted). The crank gesture – systematic variation of form and context.
- Kendon, Adam (2004). Gesture: Visible Action as Utterance. Amsterdam: Benjamins.
- Müller, Cornelia (1998). Redebegleitende Gesten: Kulturgeschichte – Theorie – Sprachvergleich. Arno Spitz Verlag.
- Müller, Cornelia (2004). Forms and uses of the Palm Up Open Hand: A case of gesture family? In: Müller, Cornelia & Roland Posner (eds.) The semantics and pragmatics of everyday gestures (pp. 233-356). Berlin: Weidler Verlag.
- Stokoe, William C. (1960). Sign Language Structure. Buffalo, NY: Buffalo Univ. Press.
- Stokoe, William C. (1972). Semiotics and human sign languages. The Hague: Mouton.
- Teßendorf, Sedinha (2005). Pragmatische Funktionen spanischer Gesten am Beispiel des “Gestos de Barrer”. Unpublished MA thesis, Freie Universität Berlin.
- Webb, Rebecca (1996). Linguistic Features of Metaphoric Gestures. Unpublished Doctoral Dissertation, University of Rochester.

**Dorothea Cogill-Koez** (Language and Cognition Research Centre University of New England, Australia)

Reanalysing gesture in terms of channel, representational principle, and structural level: A common ground beneath signed and spoken communication systems?

Gesture, defined as communication in the manual channel, subsumes a surprising diversity of representational behaviours even within speech-based communication systems. Yet in such systems gesture appears to some degree a natural class. When the term is extended to signed languages, ‘gesture’ in these largely manual-channel systems threatens to broaden to the point of losing a contrastive identity, and with it a useful theoretical role. How best, then, to productively analyse gesture across signed and spoken languages?

This paper seeks the answer in potential unifying parameters present in both signed and speech-based systems. Turning to signed languages, it considers three known subsystems; the regular lexicon, the classifier predicate system, and the deictic system. These reasonably distinct ‘ways of gesturing’ may be usefully analysed as contrasting sets of realisations of three parameters; channel (the physical mode in which a subsystem’s representations are embodied), principle of representation (the cognitive strategy by which a communicative act is associated, in online use, with its referent), and structure (degree of discrete and discrete-combinatorial forms). Each of these three parameters possesses a range of possible realisations; each such realisation possesses its own limiting and enabling features; these in turn can be seen to significantly shape the individual signed subsystems into which they enter.

The same parameter analysis is equally applicable to speech-based systems, including the gesture of speaker/hearers. While also able to model much of its diversity, the approach reveals many unifying, apparently natural features of speakers’ gesture to be the surprisingly contingent developmental products of a communication system that exploits both oral-aural and manual channels. Thus, by identifying a range of common factors in the shared parameters entering into many individual subsystems across both signing and speech-based systems, the approach apparently enables multiple potentially-informative comparisons and contrasts both within and between signed and speech-based communication systems.

**Franz Dotter, Marlene Hilzensauer, Elisabeth Bergmeister, Silke Bornholdt, Christian Hausch, Klaudia Krammer Anita Pirker, Andrea Skant, Natalie Unterberger** (Research centre for sign language and deaf communication Klagenfurt University, Austria)

Comparison of the use of spatial gestures during speaking or signing

Research question

There are elements with spatial significance in all languages (in the status of signs or of accompanying elements). Assuming that cognitive maps exist, it is very likely that gestures which represent 'natural' directions or spatial relations in some way also show a relatively direct connection to these cognitive maps (iconicity). Taking these facts into account, there arises the question whether groups of people with widely differing signing skills, i.e. hearing people without any exposure to sign language, people with good signing skills and hearing people with exposure to sign language will react differently when asked to give directions or to describe spatial relations.

Main hypothesis

At least directional gestures will be used also by hearing people when giving directions in a natural situation. We assume that the directional and relational gestures used by the hearing test persons will show some similarity to the respective signs of Austrian Sign Language (at least the correct direction). It is possible that the same element may be used either as a gesture which accompanies spoken language or as a sign. It will have to be checked whether gestures - which have usually a supporting function - will actually attain element status within the spoken language, thereby replacing a word.

Expected results

We expect that hearing people will use more gestures with deaf people than with other hearing people (with the hearing, they will use gestures mostly unconsciously), while deaf people will probably simplify their gestures when communicating with hearing people who do not know any sign language at all (or just a little bit), also using a kind of "foreigner speech".

**Konrad Ehlich** (München/ Berlin, Germany)

Nonverbal – international? Oder von der vermeintlichen Universalität der Gestik und ihren universal-theoretischen Gründen

Zu den „Dauerbrennern“ bei der interpretativen Arbeit mit gesprochener Kommunikation wie in der interkulturellen common-sense-Welt gehört die Auffassung, wo Worte fehlen, stelle sich eine Geste allemal verständnisfördernd, wenn nicht gar verständnissichernd kulturübergreifend ein.

Diese Auffassung wird durch unterschiedliche universalistische Theoriebildungen mit einem scheinbar verlässlichen Fundament versehen. Sie gehen einerseits auf eine gattungsfundierte Theorie des Ausdrucksgeschehens mittels menschlicher Körper zurück, andererseits auf deren anthropologisch-biologistische Reinterpretation und Akkomodierung durch Darwin und weiter zumindest auf einen gewissen naiven Universalismus vor allem us-amerikanischer Provenienz, der große Teile der neueren Theoriebildung zur NVK bestimmt und in den angeschlossenen Wissenschaftsräumen einzelsprachlich exemplifiziert wird.

Das Papier hat das Ziel, diese Konzeptualisierungslinien näher zu untersuchen, ihren kognitiven und präkognitiven Hintergründen nachzugehen und so einen Beitrag zur Grundlegung einer pragmatischen Theorie der NVK zu leisten.

**Gisela Fehrmann** (University of Cologne, Germany)

Shifters: The gestural dimension of symbolic reference in German Sign language

Communication always oscillates between the gestural and the linguistic use of signs; and the content of linguistic signs is supported by the simultaneous use of gestures. Like linguistic signs, gestures can be performed in different media (Kendon 2004) and may be symbolic, iconic and indexical, respectively. Although the subdivision of signs into icons, indexes and symbols is frequently mistaken as an exclusive categorization, semiotic qualities overlap and symbols often are to some extent iconic and to some extent indexical (Peirce EP 2). Jakobson (1971) has shown that for deictic signs in spoken languages. Indexical symbols, which he calls “Shifters”, integrate symbolic meaning and indexical dimensions (e.g. pointing) within one hybrid sign. Referring to the directional aspect of some classes of signs, Liddell (2003) offers a similar hybrid and states that sign languages “allow the gestural component to combine with the linguistically specified features of some classes of signs“.

Following this line of argumentation three suggestions are made: Firstly, it is assumed that certain signs grammaticalize a gestural gap that has to be filled contextually. Secondly, when pointing gestures combine with linguistic signs indexicals still identify an object by indicating direction but diminish their attention-directing function. Finally, indexical symbols are often iconic in sign languages because topographical locations and relational aspects are mapped isomorphically onto linguistic signs.

References

- Jakobson, Roman (1971). Shifters, Verbal Categories, and the Russian Verb. In: Selected Writings 2, Mouton, 130-147.
- Kendon, Adam (2004). Gesture: Visible Action as Utterance. Cambridge University Press.
- Liddell, Scott K. (2003). Blended Spaces and Deixis in Sign Language. In: David McNeill (ed.): Language and Gesture. Cambridge University Press, 331-354.
- Peirce, Charles S. (1998). The Essential Peirce, Vol. 2. Indiana University Press.

**Renate Fischer/ Simon Kollien** (University of Hamburg, Germany)

Sound symbolism in GSL?

As for mouth gestures in sign languages, one form has been characterized by several authors as sound symbolism. In GSL, for instance, the slamming of a door can be verbalized by accompanying the manual articulator (in the form of a classifier construction) by a mouth-gestural "pam". Additionally, constructed action (CA) which is said to have the body as articulator, is another option to combine with mouth gesture. In our work on CA in GSL we have discovered that mouth gesture can be part of one particular subtype of CA we called "parallelized" and which is particularly complex.

Within a project seminar we developed filmed stimuli and applied them to elicit data both in German and GSL. We would like to present our results and discuss attempts to interpret this type of mouth gesture in relation to non-lexical referring and predication.

**Ellen Fricke** (VW-Project "Towards a Grammar of Gesture", European University Viadrina, Germany)

Origo allocating acts – what gestures reveal about deixis and displacement

For understanding between communicating partners in face-to-face interaction to be successful, both the speaker and the addressee need to simultaneously be engaged in cognitive processes within which they must be similarly oriented. Deixis assumes a special function in the coordination of mental representations: it can be understood as a communicative procedure in which the speaker focuses the attention of the addressee by means of verbal expression and gesture. According to Bühler (1934), deictics are origo-related expressions. Analyses of deixis in spoken language and signed language show that Bühler's concept of one single origo for the personal, temporal, and local dimension of deixis is not sufficient. What do we understand by "origo"? How are origos created? How are they structured? In my paper, I will suggest a hierarchical structure beginning with a primary origo connected to the role of the speaker (Fricke 2002 and 2007). Within the framework of turn-taking, the primary origo is attained and with it the possibility of intentionally creating secondary origos by means of origo allocation. These secondary origos can be instantiated by perceptible and imaginary entities which can be interpreted as signs or non-signs (Fricke 2007). The considerations in this paper aim to outline a plausible deixis-theoretical concept of origo which can be applied to spoken languages and signed languages as well. This is to be achieved, on the one hand, by means of conceptual reflection and, on the other hand, by including concrete observational data, primarily of route descriptions at the Potsdamer Platz [Potsdam Square] in Berlin.

References

- Bühler, Karl (1934/1982). Sprachtheorie. Die Darstellungsfunktion der Sprache. Stuttgart, New York: Fischer.
- Fricke, Ellen (2002). Origo, pointing, and speech. The impact of co-speech gestures on linguistic deixis theory. *Gesture* 2:2, 207–226.
- Fricke, Ellen (2007). Origo, Geste und Raum: Lokaldeixis im Deutschen. Berlin, New York: de Gruyter.

**Adam Kendon** (Philadelphia, Neapel, USA/ Italy)

Some reflections on 'gesture' and 'sign'

Discussions of the relationship between 'gesture' and 'sign' often presuppose their opposition. The historical and ideological reasons for this opposition are briefly explored and the uses of the terms 'gesture' and 'sign' in current discussions are examined. It is argued that many features of so-called 'gesture' as used by speaker hearers have much in common with features of kinesic expression commonly referred to as 'sign' in signers and, likewise, there are also features of so-called 'sign' that are found widely in the gesturing of speakers. 'Gesture' and 'sign', thus, manifest shared features, differing from one another in how these are emphasized or elaborated. Freed from the ideological burdens of the recent past, which both disparaged and misunderstood the nature of 'gesture', we may arrive at a unified view in which the multimodal character of expression both in signed and spoken languages are seen as variant manifestations of the process of utterance or 'linguaging action', as it is undertaken in the context of co-present interaction.

**Paula Marentette, Elena Nicoladis** (University of Alberta, Canada)

Iconicity and simultaneity in the gesture-language link: A comparison of ASL signers and English speakers

This paper intends to explore the significance of simultaneity and the role of iconicity in gesture production. This study will compare the gestures produced during a narrative re-telling across four groups of participants: Deaf native ASL signers, Deaf childhood learners of ASL, hearing ASL/English bilinguals, and monolingual English speakers. We will then present a comparative analysis of gestures produced by each language group to express four scenes. This analysis focuses on two signs (SWIM, PADDLE) that are mimetic representations of action and two signs (RUN, SLEEP) that are not.

We predict that differences in the form of gesture and its configuration with language (simultaneous or sequential) will be associated with differences in narrative function. We predict two differences. First, speakers will use shorter and less embodied gestures than signers. This results from the gesture needing to remain in synchrony with the accompanying speech, a pressure that does not occur for sequentially produced gestures accompanying sign. Second, iconically-based signs will have a much more gradient presentation than non-iconic signs.

Early results support the predicted difference. The gestures of speakers are clearly less embodied than those of signers. Signs based on a mimetic representation of an action are often difficult to distinguish from gesture, they are produced at many points along a continuum from lexical to gestural. Signs that are not based on a mimetic representation are lexical in production but may be accompanied by iconic sequential gestures.

These data suggest that the modality of language has an important influence on the form and function of gesture. The simultaneity of co-speech gesture limits the iconicity of the gesture itself. In contrast, the independence of gesture produced by signers permits highly iconic and even mimetic productions. How these gestures are coordinated with signs depends upon the iconicity of the lexical sign itself.

**Gaurav Mathur** (Gallaudet University Washington D.C., USA)

Does gesture have phonology? Insights from signed languages

The general assumption is that language displays duality of patterning in syntax and phonology, while gesture lacks both (McNeill 2000). The presence of duality in signed languages seems to be challenged by Aronoff's (2006) claim that Abu-Shara Sign Language (ABSL) does not have a phonological system, while the absence of duality in gesture is challenged by Goldin-Meadow's (2000) claim that homesign has language-like properties. This paper maintains the general assumption by taking into account the type of gesture (representational gesture, emblem) and the way it occurs in speech and sign. With regard to representational gestures, although their handshape and movement are identifiable, they do not constitute phonological content on the grounds that they do not appear independently and consistently in other gestures. Co-sign representational gestures differ from co-speech representational gestures only in that their interaction with a certain set of signs is conventionalized, specifically pronouns, verbs that show agreement and classifier constructions (Rathmann and Mathur 2004). With regard to emblems, while they are conventionalized to a greater degree than representational gestures, they still do not involve phonological content, since they are not divisible into meaningless parts that appear in other emblems nor undergo morphological processes that apply to the phonological form of the word. The distinction between representational gestures and emblems on the one hand and lexical items on the other hand is supported by the fact that representational gestures and emblems express conceptual structure while lexical items carry a language-specific meaning. Aronoff's claim can be reconciled with the general assumption by assimilating signs in ABSL to emblems that have not been lexicalized. Likewise, Goldin-Meadow's claim can be reconciled by assimilating homesign to lexicalized signs, including those that combine with representational gesture. The discussion here serves to illustrate the complexity of the language-gesture boundary, if one exists.

**Irene Mittelberg** (Vrije Universiteit Amsterdam, The Netherlands)

Contiguity relationships within and across semiotic modes: A Jakobsonian perspective on metonymy in co-verbal gestures

Previous gesture research has shown that metonymy may motivate not only the formation of gestural signs (Bouvet 2001; Gibbs 1994; Müller 1998), but also crossmodal principles of indirect reference and contextualization (Mittelberg 2006; Mittelberg & Waugh *fc.*). Combining cognitivist approaches (Langacker 1993; Panther & Thornburg 2004; Radden 2000; P. Wilcox 2004) and traditional semiotic frameworks (Jakobson 1956, 1963; Peirce 1960), this paper suggests that metonymy underlies the diagrammatic, composite structure of language, as well as its reflections in metaphoric gestures accompanying meta-linguistic discourse. Here, Jakobson's distinction between internal metonymy (synecdoche) and external metonymy (adjacency, contact, contexture; Jakobson & Pomorska 1983) will be central, as well as his article "Parts and wholes in language" (1963), in which he stresses metonymy as one of the contiguity relationships holding between linguistic units of lesser and greater complexity. Based on videotaped linguistics lectures by American college professors, the paper presents a set of metonymic modes that assume distinct functions in gestural representations of language and grammar.

**Cornelia Müller** (European University Viadrina, Germany)

Creating gestures and signs: gestural modes of representation and classifiers in sign-languages

Hands only occasionally turn into gesturing hands and in order to become gestures, they undergo a transformation from practical to symbolic action (Müller & Haferland 1997). The talk spells out the techniques underlying gesture creation, termed gestural modes of representation (GMR) (Müller 1998a,b). We distinguish four basic modes of representation: *the hand acts*, *the hand models*, *the hand draws*, *the hand embodies*. It will be argued that speakers use their hands in a specific way when they model transient 'sculptures' of objects such as a picture frame, or a bowl, or when they draw oval or square shapes of objects. It makes a big difference whether the hands refer to an object via its shape only (modeling, drawing) or through shape, motion, orientation, position in space (embodying). Embodying gestures can represent far more complex information than modeling and drawing gestures: we can outline or model the shape of a window, but when we embody it, we can show features of its shape *and* of its position and orientation in space, *and* of its manner and path movement. An example is a window falling down from the 5th floor which is gesturally embodied with a flat, vertically oriented hand, positioned high up in the gesture space, slowly moving down and changing orientation from vertical to horizontal.

We will relate these modes of representations to classifier constructions (cf. also Kendon 2004) in Sign Languages (Allan 1977, Emmorey 2002, Liddell 1980, Taub 2001). More specifically we will connect them with the four classifiers proposed by Emmorey (2002): *Whole Entity*, *Handling Instrument*, *Limb*, *Extension and Surface* classifiers. It will be concluded that while classifiers are based on the same set of techniques – , it seems that they do underly certain restrictions – a tendency to 'lexicalization', which we do not find in co-verbal gestures.

**Pamela Perniss, Asli Özyürek** (MPI for Psycholinguistics and Radboud University Nijmegen, The Netherlands)

A cross-linguistic comparison of co-speech gesture and sign: Constraints on the visual-spatial modality in representations of motion events

Recently, sign language researchers have argued that certain sign language forms contain both linguistic and gestural elements (e.g. Liddell 2003; Schembri 2002). However, the co-existence of linguistic and gestural elements in signed language, that is, in a rule-governed language system as a whole, is not well understood. There has been very little systematic comparison of signed language and co-speech gesture, and thus we know little about the similarities and differences between them (cf. Senghas and Littmann 2004; Senghas et al. 2004). Here, we extend the comparison cross-linguistically to two different sign languages and the co-speech gestures accompanying speech in two typologically different spoken languages. This extended level of comparison is important to understanding the role of gesture in sign language because research has shown that co-speech gestures differ depending on the linguistic structure of the accompanying spoken language (Kita and Özyürek 2003).

The paper looks at the representation of referent location, motion, and action. The focus of analysis is on the use of classifier predicates to encode two different event components: manner of handling and path. On the basis of data collected from short cartoon stimulus films, we compare the representation of manner of handling and path in motion events between German Sign Language (*Deutsche Gebärdensprache*, DGS) and Turkish Sign Language (*Türk İşaret Dili*, TID), as well as the co-speech gestures of German and Turkish event narratives. We find that the sign languages pattern similarly, systematically segmenting the manner and path components, while the manual co-speech gesture representations reflect both imagistic and linguistic structure of the accompanying spoken language. Differences between the signed and gestural representations are discussed in terms of possible linguistic and iconicity constraints in the two sign languages.

**David Quinto-Pozos** (University of Illinois at Urbana-Champaign, USA), **Fey Parrill**  
(Case Western Reserve University, USA)

Enactment as a communicative strategy: A comparison between English co-speech gesture  
and American Sign Language

There are some commonalities in communicative behavior across speech and sign. One example is the use of the hands and body to represent events by *enacting* a character's behavior (sometimes called *character viewpoint* in gesture and *constructed action* in sign). An assessment of enactment (a cover term employed here for character viewpoint and constructed action) in speakers and signers can reveal shared communicative strategies across these linguistic systems – providing insight into shared cognitive mechanisms for representation. However, because the manual modality has a very different grammatical status in signed and spoken languages, it is also fruitful to examine the ways in which enactment is constrained by the language system within which it operates.

In these studies, English speakers and ASL signers described a series of video stimuli varying in degree of animacy (inanimate objects, anthropomorphic objects, animals, humans). English speakers produced descriptions in two conditions: normal language use or gesture alone. ASL signers also produced two kinds of description: one with no restrictions, and a second where signers were asked to eliminate a key communicative device employed in the initial description.

Results of the normal condition show that both groups were more likely to produce enactment for human-like entities than for inanimate entities. The modalities have this in common. For the second condition, preliminary results show that hearing non-signers produced significantly more enactment when denied the use of speech, which was not the case with the signers. We suggest that this pattern arises because the manual modality has a different status in the two language systems. For English speakers there are no grammatical constraints on how the hands and body may be used, thus making enactment available for depictions of inanimate objects. For ASL signers, however, the robust classifier system for object depiction may inhibit the use of enactment.

**Jennie Pyers** (Wellesley College, Boston, USA), **Pamela Perniss** (MPI for Psycholinguistics and Radboud University Nijmegen, The Netherlands), **Karen Emmorey** (San Diego State University, San Diego, USA)

Viewpoint in the visual-spatial modality

In both signed and spoken languages, communication about spatial relationships – whether it be giving directions to the train station or describing the layout of a room – depends crucially on the viewpoint or perspective from which the description is given (Emmorey and Falgier 1999; Emmorey, Tversky, and Taylor 2000; Levelt 1996; Taylor and Tversky 1996). In the visual-spatial modality of signed language, the fact that spatial relationships are encoded spatially affords the issue of viewpoint a particularly unique status. For example, an addressee, facing the signer, observes on the left side of sign space what has been articulated on the right side, and vice versa. This means that the addressee must effectively rotate the spatial representation in sign space in order to correctly understand the description (Emmorey 1996).

In this study, we use a spatial description task to investigate viewpoint strategies in the visual-spatial modality through a comparison of deaf signers using sign language and hearing non-signers using gestures *without* speech. We ask first whether sign languages share a common strategy for the representation and interpretation of left-right spatial relationships in sign space. Data was collected from signer-addressee pairs in a total of 9 different sign languages. Signers described simple spatial scenes depicting a man and a tree to addressees seated across from them. For each description, addressees were asked to select, from a set of pictures, the picture that matched the description. Across the sign languages, we found that signers have a strong preference for giving spatial descriptions from their own viewpoint, and that addressees predominantly interpret the spatial information they see in space from the signer's point of view (i.e., rotating the locations of the director's signs).

We then asked whether the convention of presenting a spatial description from the signer's own viewpoint derives from gesture, as an iconically-driven property of using space to describe space. Hearing non-signers performed the same task without speech, using pre-designed gestures for the man and the tree. In addition, we investigated the hearing addressees' interpretation behavior. We found that while the gesturers similarly preferred giving descriptions from their own viewpoint, they differed markedly from the signers in interpretation. Hearing addressees interpreted the spatial information they perceived in space from their own point of view, and did not perform a mental rotation of the space as the signers did.

The contrast between the two groups reveals a clear difference between linguistic and non-linguistic spatial representation in the visual-spatial modality. In particular, the results show that correct comprehension of spatial relationships is dependent on the conventionalization of viewpoint within the linguistic system of a sign language. In general, the findings provide important insight into linguistic and non-linguistic spatial representation in the visual-spatial modality.

**Christian Rathmann** (University of Bristol, England)

Iconicity, Lexicalization and Grammaticization: Implications for Sign vs. Gesture

Defining the boundary between ‘sign’ and ‘gesture’ is complex. There are three cases in which the answer to defining the boundary is different. First, the sign always has a gestural quality, such that there is no boundary between signs and gestures. Second, the sign becomes disassociated from gesture and gets conventionalized in the process, so that there is a clear boundary between signs and gestures. Third, the sign emerges independently of the corresponding gesture in the speech community, so there is no relationship between signs and gestures in spite of sharing iconic qualities. In light of the complex picture that emerges, Kendon’s continuum as introduced by McNeill (2000) will be revisited.

From the perspective of iconicity, the question is whether iconic roots lead to gestures which in turn lead to signs, or do iconic roots lead to gesture and signs independently. I raise three points that bear on this issue. First, neologisms of signs are relatively productive and rapid compared to neologisms of emblems. Second, the mapping between iconic elements and grammatical elements in signed languages is linguistically motivated. Such mapping in spoken languages is not common (e.g. a rolling gesture that co-occurs with the utterance “and the cat went down the pipe”). In these cases, the gesture rather mediates the speaker's conceptual coherence and organization. Third, signs in emerging sign languages tend to be ego-oriented.

From the perspective of lexicalization and grammaticization, signs become conventionalized from emblematic gestures, e.g. CAN or FINISH, (Wilcox 2004). Signs become fully disassociated from gestures or can emerge independently of gestures. In addition, there are cases where there is “semi-disassociation” between gesture and sign. Some plain verbs become verbs that take on the ability to show agreement by combining with a deictic gesture and they continue to do so in their synchronic form.

**Susanne Tag** (VW-Project "Towards a Grammar of Gesture", European University Viadrina, Germany)

Simultaneity in Co-speech Gestures

From the beginning of its study, signed language has always been characterized as a manual means of communication exploiting simultaneity within a single sign. More recently, the simultaneous production of different signs has come into focus (Vermeerbergen et al. 2007). Furthermore, modern gesture research has pointed out that the manual modality is an integrated part of spoken language, too (cf. Müller 1998), and from this point of view, the concept of simultaneity also plays a crucial role in the description of concurrent speech and gesture. However, no extensive research has been done on simultaneous constructions in co-speech gestures themselves.

The qualitative study presented in my talk aims to take a step into this direction. Like signers, speakers can use both hands independently of each other to convey different manual information at the same time. Based on a detailed micro-analysis of a video-recorded everyday narrative of a German speaker (Tag 2006) three formal patterns of simultaneity between co-speech gestures will be reconstructed. In addition, examples will be presented that illustrate usage functions of simultaneous constructions with respect to complex visual representations of objects or facts, perspectives and coherencies in the narrated story.

These findings may add a new contribution to the nascent discussion about simultaneity as a means of expression in signed and spoken language. More specifically, they may help to pave the way for a further exploration of possible parallels and differences between simultaneous constructions in signed language and in co-speech gestures.

References

- Müller, C. (1998). Redebegleitende Gesten. Kulturgeschichte – Theorie – Sprachvergleich. Berlin: Berlin Verlag.
- Tag, S. (2006). Formen und Funktionen von Gestenkomplexen – Lineare und simultane Verknüpfungen redebegleitender Gesten. Unpublished Master Thesis, Free University Berlin.
- Vermeerbergen, M., L. Leeson, O. Crasborn (Eds.) (2007). Simultaneity in Signed Languages: Form and Function. Amsterdam, Philadelphia: John Benjamins.

**Myriam Vermeerbergen** (Fund for Scientific Research-Flanders/ Universiteit van Amsterdam/ University of the Free State, Belgium/ The Netherlands), **Eline Demey** (Ghent University, Belgium)

Sign + Gesture = Speech + Gesture? Comparing Aspects of Simultaneity in Flemish Sign Language to Instances of Concurrent Speech and Gesture

This presentation explores the possible parallels between different forms of manual simultaneous constructions in sign languages and concurrent speech and gesture in spoken languages. One example is the use of pointing signs/gestures: a signer producing a pointing sign with one hand while the other hand articulates a series of other signs as compared to a speaker using co-speech pointing gestures.

From the gesture research it becomes clear that gestures are an integral part of linguistic communication. Apparently, speakers must gesture when they speak and they primarily use the manual channel to do so. In sign languages, 'speech' moves from the mouth to the hands. In theory four possibilities arise from this: (1) gesture disappears, (2) gesture and 'speech' trade places, resulting in the manual articulators producing the linguistic component and the mouth producing the gestural component of a message, (3) gesture and sign become integrated, (4) gesture and sign co-exist in the manual modality.

Both in the gesture literature and the sign linguistics literature, the general idea seems to be that in sign languages, gesture either moves away from the manual channel and/or (partly) loses its true gestural character and becomes part of or integrated in the linguistic system. Both options are discussed in this presentation. However, we also explore the possible presence of ('non-integrated') gesture in the manual production of signers. This issue is approached by a comparison of (1) simultaneous constructions in signed languages, as exemplified by Flemish Sign Language, with (2) various, possibly comparable, types of speech combined with gesture. This comparison reveals many more similarities than we had expected, both in form and function, and invites to re-examine gesture in sign languages.

**Ronnie B. Wilbur, Evguenia Malaia** (Purdue University, Sign Language Linguistics Research Laboratory, USA)

From Encyclopedic Semantics to Grammatical Aspects: Converging Evidence From ASL and Co-Speech Gestures

This paper discusses the hand movements in gestures and American Sign Language signs with respect to two types of verb aspect. Duncan (*Gesture* 2002) demonstrated that co-speech gestures produced by speakers of English and Mandarin Chinese varied in duration and complexity according to the imperfective-perfective aspect in the spoken expressions. Duncan suggested that gestures “may derive from an abstract level of representation, perhaps linked to aspectual view itself.”

From our perspective, the type of (im-)perfect aspect investigated by Duncan is ‘higher’ or ‘outside’ the event itself, whereas the *Aktionsart* aspect is ‘lower’ or ‘inside’ the event itself. Specifically, following event theorists (Ramchand 2004; Pustejovsky 2000; Vendler 1957), we suggest that telic events (Transitions: Achievements and Accomplishments) contain a lowest Resultant State, whereas atelic events (States and Processes/Activities) do not. The present experiment tests Wilbur’s (*CLS* 39) Event Visibility Hypothesis: “the semantics of event structure is visible in the phonological form of predicate signs.” If true, we should see more rapid deceleration to a stop in telics than in atelics, reflecting the marking of the telic end-state.

We provide empirical support from motion-capture equipment to show that the semantic telic-atelic distinction is visible in ASL verb signs. In our experiment, 29 telic and 21 atelic signs were presented randomly to a native ASL signer, who re-produced them while wearing a motion capture suit and datagloves. The slope from the peak velocity to the first trough after the peak (deceleration to a stop) was measured.

Analysis of variance indicates that in isolation telic event signs have steeper descending slopes of 1.46 times that of atelic event signs ( $p < .05$ ). In a carrier phrase, the difference increases to a telic/atelic ratio of 1.97. These measures support the hypothesis that there is a production difference reflecting the semantic distinction.

**Phylliss Wilcox** (University of New Mexico, USA)

Substantiation of Metonymy in American Sign Language

This paper focuses on metonymic (and metaphorical) extension in American Sign Language (ASL) by analyzing specific gestural verbs as they shift semantically from literal to cognitive experience. Iconic motivations and their complex interrelationships in ASL are often initially instantiated by an inchoate form of synecdoche. This propensity will be documented in metonymic forms, such as GRASP and TAP-SHOULDER. However, iconic mental blends also motivate contiguity and association, cognitive processes that are found in signs such as REMEMBER and ARM-movements (reference points). The conceptual schematization of *attention*, as found in a sign such as REMIND, loses the meaning of a literal tap on the shoulder and extends to abstraction. The conceptual mapping extends from the literal hand with its metonymic source connection to the metaphorical extension of drawing attention or ‘reminding’ someone. Chafe’s (1994) ‘focus of consciousness’ and Langacker’s ‘schematic specification’ drive the theoretical assumptions underlying this analysis. In addition, signed predicate verb stems provide the pattern of shared systematicity that Searle (1986) found to be vital to the comprehension and communicability of metaphors. The metonymic pliability and physical maneuverability of an object represented in ASL in a constrained manner demonstrates the strengthening of the demarcation between metonymy and metaphor. Instantiations gathered from semi-ethnographic interviews with native signers include IDEAS ARE OBJECTS TO BE MANIPULATED OR PLACED, IDEAS ARE OBJECTS TO BE GRASPED, IDEAS ARE OBJECTS TO BE CAREFULLY DISCRIMINATED. The interacting metonymic and metaphorical entailments found in these signed examples lead us to a deeper understanding of human cognition.

References

- Chafe, W. 1994. Discourse, consciousness, and time: The flow and displacement of conscious experience in speaking and writing. Chicago–London: The University of Chicago Press.
- Langacker, R. 1987. Foundations of cognitive grammar: Theoretical prerequisites. Vol. 1. Stanford, CA: Stanford University Press.
- Searle, John R. 1986. Minds, Brains and Science. Cambridge, MA: Harvard University Press.

**Sherman Wilcox** (University of New Mexico, USA)

Two Routes from Gesture to Language

In this presentation I will explore the role of gesture in the development of signed languages. Using data from American Sign Language, Catalan Sign Language, French Sign Language, and Italian Sign Language, as well as historical sources describing gesture in the Mediterranean region, I demonstrate that gesture enters the linguistic system via two distinct routes. In the first (Type I) route, manual gestures serve as a source of lexical morphemes in signed languages. Grammaticalization transforms these lexical morphemes into grammatical forms. For example, a gesture in common use in the Mediterranean region meaning ‘to depart’ appears to be the source gesture for a set of lexical words in signed languages in that region meaning ‘to depart’. This lexical form is the source for the more grammaticalized future marker. In the second (Type II) route, certain gestural elements such as manner of articulatory motion and facial expressions enter the linguistic system through prosody and intonation, bypassing the lexical stage entirely and developing directly into grammatical forms. For example, producing a (Type I) manual gesture with a (Type II) forceful motion intensifies the gesture’s meaning: a gesture meaning ‘no’, made with a forceful movement, means ‘definitely not!’. This forceful articulation may then grammaticalize, eventually signalling distinctions such as that between deontic and epistemic modals and different aspectual verb forms. Facial expressions which commonly signal a speaker’s attitude or emotional state, such as curiosity or surprise, transform into intonational elements of signed languages, which may eventually signal grammatical distinctions such as marking interrogatives.