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Gesture and Language Development: towards a unified theoretical framework

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Children communicate their needs through bodily behavior and begin to gesture way before talking. Together with expressions of emotions, gestures, such as pointing or waving goodbye, constitute the principal means of interacting with others before the emergence of the first words. Children continue to gesture during their second year as they start talking and gesturing in bimodal language production. Older children carry on using speech associated gestures through to adulthood as their language repertoire fulfills new social-interactional needs and incorporates new discourse genres. Thus, as a number of studies have demonstrated over the past twenty years, verbal language does not replace gestures as children grow up. Rather, language is to be considered as a compound of audio-linguistic signs and visual-kinesic signs whose use and forms evolve together in the course of age.

To present an overview of early and later gesture and language acquisition is too big a scope for this presentation, considering today's vast literature on the subject. In this presentation, I will rather present a set of a priori unrelated observations and results on early emblems and representational gestures, gestures of the abstract, changes in gesture production and in the relation between speech and gesture during childhood, gesture variation in situational and discourse context, as well as teacher's gestures during language and maths class. I will then discuss these results within a unified theoretical framework that builds on "mimesis theory" as introduced by Marcel Jousse in his "Anthropologie du geste" (Calbris, 2011), René Girard's mimetic theory and Jordan Zlatev and collaborators's work on mimesis (Zlatev, 2002; Zlatev et al., 2008). Language acquisition is then to be seen as an embodied process fully embedded into sensory and motoric experience of both the physical and the social world, and gesture as a shared representation mechanism that both grounds and extends linguistic means for communication among human beings.

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Grammar, deixis, and multimodality between code-manifestation and code-integration or why Kendon's Continuum should be transformed into a gestural circle

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Until recently, the idea that a multimodal approach to grammar is necessary was by no means evident. Most grammarians so far focused their grammatical analyses on written and spoken language without considering co-speech gestures. Yet the progress in gesture studies offers a new perspective on the grammatical capacity of gestures accompanying speech (Fricke 2008, 2012, 2013, 2014a, b, c; Harrison 2008,

2009; Ladewig 2011; Bressem 2012). Not only is human speech composed of articulations of the mouth, primarily perceived by ear, but also of visible articulations of other body parts affecting the eye (e.g., Kendon 2004; Müller 1998, McNeill 1992, 2005, for an overview see Müller, Cienki, Fricke et al. 2013 and 2014). In this regard, the movements of the hands play a special role: the sign languages of the deaf show that movements of the hand alone can function as articulators of fully established languages (Wundt [1900] 1904). If it is the case that movements of the hand inherently have the potential for establishing a grammar, what are the grammatical implications of all those hand movements that accompany the speech of hearing people?

Are single languages like French, English, or German partially multimodal? How far is the faculty of language bound to a particular mode of manifestation? If we conceive multimodality as a global dimension of linguistic and semiotic analysis which is generally applicable to language and other systems of signs then we have to broaden our perspective by also including grammars of single languages and the human faculty of language. With respect to linguistics and by focusing on the example of noun phrases, I will show that this extension of perspective on multimodality reveals two basic principles: Firstly, multimodal code-integration of gestures within grammars of single languages on the level of the language system; secondly, processes of multimodal code-manifestation of certain structural and typological aspects on the verbal and gestural level provided by the codes of single languages as well as the general human faculty of language.

With regard to gesture studies, evidence of multimodal grammatical structures and functions (e.g., multimodal modication in noun phrases or constituency and recursion in syntax (Fricke 2012, 2013)) could challenge the current view of Kendon's Continuum (McNeill 1992) as a straight line from left to right. If spoken langages are conceived of as being basically multimodal, then it is necessary to take into consideration speech and co-speech gestures as a unified whole when comparing them to sign languages. In the light of these findings, we propose transforming the straight line that joins them in Kendon's Continuum into a gestural circle, which may more adequately represent their close relation.

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On the pragmatics of multi-modal face-to-face communication: Gesture, speech and gaze in the coordination of mental states and social interaction

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Coordination is at the heart of human conversation. In order to interact with one another through talk, we must coordinate at many levels, first and foremost at the level of our mental states, intentions and conversational contributions. In this talk, I will present findings on the pragmatics of multi-modal communication from both production and comprehension studies. In terms of production, I will throw light on (1) how co-speech gestures are used in the coordination of meaning to allow interactants to arrive at a shared understanding of the things we talk about, as well as on (2) how gesture and gaze are employed in the coordination of speaking turns in spontaneous conversation, with special reference to the psycholinguistic and cognitive challenges that turn-taking poses. In terms of comprehension, I will focus on communicative intentions and the interplay of ostensive and semantic multi-modal signals in triadic communication contexts. My talk will bring these different findings together to make the argument for richer research paradigms that capture more of the complexities and sociality of face-to-face conversational interaction. Advancing the field of multi-modal communication in this way will allow us to more fully understand the psycholinguistic processes that underlie human language use and language comprehension.