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# Oral presentations: abstracts

**ABELIN**

**Sound symbolism in interjections across languages**

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The paper discusses the non-arbitrary relation between semantics and sound structure – including prosody – of interjections in Swedish and 9 other languages. Abelin (1999) found that there is a certain cross-linguistic similarity in production and understanding of sound symbolic words. Sound symbolism has had a revived interest lately cf. e.g. MacWhinney (2005), Namy and Nygaard (2008), Nygaard et al (2009). Ohala's (1994) frequency code has shown a common ground for phonology in e.g. size-sound symbolism and emotional prosody. A special case of sound symbolic words are interjections and a contrastive study of some expressive interjections, commands and greetings will be presented. The relation between expression and meaning in emotional interjections is mainly indexical; the expression is caused by a bodily or mental reaction. Commands and greetings are oriented towards the listener and have an evocative function. Commands to animals are special since the "listener" has only presumed auditory and cognitive abilities. The expressive interjections of Swedish are also discussed in relation to phonaesthemes. The interjections elicitated were grouped into the categories pejorative, positive, surprise, pain, freezing, thoughtfulness, exhaustion, sudden insight, sneeze, good taste, commands to animals, mild warning to children, be quiet and scaring somebody, which can be classified as pejorative, positive, surprise, other bodily or mental feeling, commands, greetings (Abelin, 1999). Typical for the expression of interjections are the special sounds or sound combinations that occur, e.g. click sounds and non-standard phonotactic combinations, CV-structure and reduplicated CV-structure, lengthening of vowels or consonants. Consonant frames with a shift of vowel also occur. Prosody is important and in the case of emotional interjections relate to emotional prosody in general (cf. e.g. Mozziconacci, 2002). Prosody is also interacting with the lexical content of the interjection (cf. Dietrich et al, 2006). Are there semantic and phonological similarities between the interjections of different languages? Expressive interjections, which mirror bodily and mental states, could be similar in different languages. Evocative interjections could be similar because of aspects such as audibility –for a certain type of listener. The Swedish primary interjections, according to Ideforss (1928) were translated into 9 languages with the help of informants. The languages are English, Finnish, Hungarian, Icelandic, Malagasi, Ososo, Polish, Slovenian and Spanish. The semantic and phonological similarities and differences of interjections in the 9 different languages are presented. There are many vowels and consonants which are similar in the languages studied for the categories 'pejorative', 'pain', 'sneeze', 'good taste', 'be quiet', 'thoughtfulness' respectively. Most of the consonants are labial or dental. There are no consonants produced behind the hard palate, except for [h]. The vowels are few and mostly [i], [u], and [a]. There are also different degrees of conventionalization in the language, both depending on speakers and on the situation. Prosodic characteristics of the interjections are discussed.

**References:**

Abelin, Å. (1999) *Studies in sound symbolism*. Göteborg, Göteborg University Dissertations.

Dietrich, S., Szameitat, D., Ackermann, H., & Alter, K. (2006) How to disentangle lexical and prosodic information? Psychoacoustic studies on the processing of vocal interjections. *Progress in Brain Research* 156, 295–302.
Ideforss, H. (1928) *De primära interjektionerna i nysvenskan, 1, primära impulsioner och imperationer*, Carl Bloms boktryckeri. Lund
MacWhinney, B. (2005) A unified model, in N. Ellis & P. R. Robinson (Eds.) *Handbook of cognitive linguistics and second language acquisition*. Lawrence Erlbaum Press.
Mozziconacci, S. (2002) Prosody and emotions, *Proceedings of Speech Prosody 2002,* Aixen-Provence, France
Namy, L., L. & Nygaard, L., C. (2008) Perceptual motor constraints on sound-to-meaning correspondence in language, *Behavioral and brain sciences* 3, 528–529
Nygaard, L., C., Cook, A., E., Namy, L., L., (2009) Sound to meaning correspondences facilitate word learning, *Cognition* 112, 1, 181–186
Ohala, J. J., (1994) The frequency code underlies the sound-symbolic use of voice pitch, in L. Hinton, J. Nichols, J. J. Ohala (eds) *Sound symbolism*, Cambridge University Press, Cambridge, 325–347.

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**ABUGOV & RAVID**

**'ayer', 'ayers' or 'ayalax'?**
**Yiddish noun plurals in the Israeli Ultra-Orthodox community**
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Yiddish is a Germanic Jewish language that contains a large quantity of Hebrew words (Katz, 1987). On the eve of World War II, Yiddish had about 15 million native speakers (Harshav, 2006), most of whom were annihilated in the Holocaust (Weinreich, 1980). Nowadays, Yiddish is spoken as a native tongue only by the Ultra-Orthodox community. Israeli Ultra-Orthodox Hasidic [henceforth: IUOH] Yiddish is fraught with variation. The Yiddish dialect spoken in the IUOH community differs markedly from Standard Yiddish, our major source of knowledge about Yiddish grammar (Kleine, 2003). Moreover, in addition to the constant Hebrew-Yiddish "internal bilingualism" interface (Weinreich, 1975), the UO community is impacted by Israeli Hebrew in an intensive languages-in-contact situation.

The current study investigates the nominal lexicon and the plural system of native Ultra-Orthodox Hasidic adults. Our window on Yiddish variation and change is the system of noun plurals, a basic morphological category that emerges and develops early on in child language. Plural formation in Yiddish is especially interesting, since the system mostly consists of Germanic categories (Example 1), but also contains Hebrew-derived plural markers (2) (Laaha et al, 2006; Ravid & Schiff, 2009; Weinreich, 1977). To the best of our knowledge, this is the first systematic study of variation and change of the plural system in a Yiddish dialect. This map of the core nominal lexicon of this Yiddish dialect served as the basis for the developmental study of plural learning by IUOH children.

We administered a confrontational naming task to 48 IUOH bilingual (Yiddish/Hebrew) men and women. Participants (interviewed orally and individually) were asked to name 95

singular nouns from pictures and provide their singular and plural forms. Analysis of adults' responses revealed great variation (example 3, 4) with standard Yiddish, Classical and Modern Hebrew, as well as English sources. It also indicated an ongoing process of language change showing how profoundly the IUOH Yiddish nominal lexicon interfaces with Israeli Hebrew. Regarding plural forms, we found that the zero plural is now almost extinct in adults (example 5), whereas umlaut plurals (6) are relatively stable; the -s and –n plural markers are now in competition (7), a new composite plural marker –ers has emerged (8), and modern Hebrew nouns predominantly take Hebrew plural markers (9). These results will be discussed in view of models of language variation and change (Slobin, 1977), and in the sociolinguistic context of the IUOH Yiddish-speaking community.

**Examples**
Text: (1) e.g., kind / kind-er 'child / child-ren'; (2) e.g., xaver / xavéyr-im 'friend / s –
cf. Hebrew xaver / xaver-ím.
Nominal lexicon: (3) e.g., SY: maranc 'orange' IUOHY: maranc (SY)/tapuz (Hebrew)/orange (English). (4) e.g., SY: pomidor 'tomato' IUOHY: tomate (loshn koydesh)/ agvaniya (Hebrew)/ tomato (English)
Plural forms: (5) fish / fish-n 'fish / Pl' for Standard fish, Pl; (6) barg / berg 'mountain / s'; (7) keying / keying-s/-n 'king / s'; (8) tishtexers for Standard tishtexer 'table cloths'; (9) maxshev / maxshev-im 'computer / -s'.

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**BARNES**

**The Functional Role of Metacognition in Simulational Mindreading**
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Humans possess a finely tuned capacity for representing the mental states of other people. In the cognitive sciences this capacity is now referred to as “mindreading”. Proponents of simulation theory claim that mindreading is typically carried out with minimal appeal to folk psychological rules. A simulation routine yields a pretend state which is subsequently attributed (as a genuine state) to a target agent. When simulation is successful, the pretend state reproduces the content and character of the target state. Empirical sources of support for simulation theory come from recent work on imitation, autism, empathy, and mirror neuron activity in primates. According to Alvin Goldman, the core concept of simulation is our best bet for understanding the mechanism of mindreading, as well as the foundations of social cognition and behavior. Goldman (2006) further maintains that in “high-level mindreading” the boundary between self and other remains intact, in contrast to the involuntary contagion that characterizes “low-level mindreading”. High-level simulational mindreading relies on a prior capacity for *metacognition*, that is, on the capacity to represent and classify one’s own mental states. Even if cognitive scientists take introspection to be an unreliable research method, says Goldman, it remains most plausible that high-level mindreaders rely on introspection in order to represent a target mental state.

Along separate lines, Peter Carruthers (2009) and Dan Zahavi (2009) argue against Goldman's version of simulation theory. Carruthers defends the model that first person metacognition results from turning our mindreading capacities upon ourselves; mindreading is prior to metacognition, and introspection does not play any role in attributions of propositional attitudes (beliefs, desires, decisions). Zahavi argues that interpersonal understanding is (by default and particularly in face-to-face perceptual encounters) altogether free of both simulation and metacognition. Rather, everyday perception of others is direct and has contextual character.

I advance the above debate by isolating the functional role of metacognition in mindreading, thereby providing counter-arguments to both Carruthers and Zahavi. I claim that the function of metacognition is agent discrimination. Representation of foreign agency is *explicit* when the intentional object of the target state is concealed (for example, in cases where the object of the target agent's visual state is hidden). In those cases, the missing content of the target state is explicitly represented as issuing from a foreign (spatial and perhaps temporal) point of orientation, (i.e. represented *as if* the simulator were in the target agent's spatial/temporal location). This, in turn, is explained on my hypothesis that the content of the simulated state is *indexically "flipped", or inverted* via introspection. Contrary to both Carruthers and Zahavi, mindreaders do indeed rely on metacognition. Discrimination of agency does not occur at the input stage. The output of metacognition is indexically formatted content, a functional requirement in cases when the intentional object of the target state is not directly available to the simulator.

**References**:

Carruthers, P. (2009). How we know our own minds: The relationship between mindreading and metacognition. *Behavioral and Brain Sciences* 32, 121-192.

Goldman, A. (2006). *Simulating Minds: The Philosophy, Psychology, and Neuroscience of Mindreading*. Oxford, England: Oxford University Press.

Zahavi, D. (2009). Simulation, projection and empathy. *Consciousness and Cognition* 17, 514-522.

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**BLOEM**

***On the Origin of Emotions.***
**A Closer Look at the Changing Semantics of the Verbs *émouvoir* and *mouvoir*.**

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According to Geeraerts and Grondelaers (1995: 176), "the medieval physiological-psychological theory of the four humors and the four temperaments has left its traces on our emotional vocabulary". In this study, we would like to go a step further by showing how the changing conceptualisation in the era of Descartes also influenced our emotional lexicon. The XVIIth century can be considered as a key moment in the origin of modern emotive consciousness (see Bloem 2008). For instance, from this period on, the term *émotion* is used more frequently in a rather abstract sense in stead of the "mouvements de l'ame", which was

commonly used till then in order to refer to emotional changes. In our analysis, we confront the semantic and syntactic profile of the verbs *émouvoir* and *mouvoir* in order to study their uses within the XVIIth century. Therefore, the attested occurrences are analysed in a semasiological way, inspired by Geeraerts (1997) prototype semantics. We especially peruse some encyclopaedic treaties like for instance *Le tableau des passions humaines* (1620), *Les charactères des passions* (1640), *De l'usage des passions* (1642) and *Les passions de l'âme* (1649). These works provide us with very important testimonies regarding the changing conceptualisation of emotions. In other words, we examine the evolution of *émouvoir* and *mouvoir* within reflections about the nature of emotions in order to demonstrate the close connection between culture and lexicon (see also Kövesces 2005, Gevaert 2005).

**References:**

Bloem Annelies. 2008. "Et pource dit ausy Ypocras que u prin tans les melancolies se esmoeuvent. *L'évolution sémantico-syntaxique des verbes mouvoir* et *émouvoir*." Dissertation. Katholieke Universiteit Leuven.
Coeffeteau Nicolas. 1620. *Tableau des passions humaines, de leurs causes et de leurs effets*. Paris: S. Cramoisy.
Cureau de la Chambre Marin. 1640-1662. *Les Charactères des passions*. 5 Volumes. Paris: chez Jacques D'Allin.
Geeraerts Dirk & Grondelaers Stefan. 1995. " Looking back at anger. Cultural traditions and metaphorical pattern." Taylor J. & R. E. MacLaury (eds.). *Language and the Cognitive Construal of the World*. Berlin: Mouton de Gruyter. 153-180.
Geeraerts Dirk. 1997. *Diachronic Prototype Semantics: A Contribution to Historical Lexicology*. (*Oxford Studies in Lexicography and Lexicology*). Oxford: Clarendon.
Gevaert Caroline 2005. "The anger is heat question: Detecting cultural influence on the conceptualization of anger through diachronic corpus analysis." Delbecque N., J. van der Auwera & D. Geeraerts (eds.). *Perspectives on Variation. Sociolinguistic, Historical, Comparative*. 195-208. Berlin/New York: Mouton de Gruyter. 195-208.
Kövecses Zoltán. 2005. *Metaphor in Culture: Universality and Variation*. Cambridge: Cambridge: University Press.
Senault Jean-Francois. 1987. *De l'Usage des passions. Corpus des oeuvres de philosophie en langue française*. Paris: Fayard.
Rodis-Lewis Geneviève (éd.) & Descartes René. 1970. *Les passions de l'ame*. Paris: Librairie Philosophique J. Vrin.

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**BORZONE & AMADO**

**Activity systems as cultural, cognitive and linguistic contexts for school practices**

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This study aims to explore the nature of the cultural break between family and school environments in rural communities. To this end, the activity systems that incorporate funds of knowledge (Moll et al, 1992 ) and different rationality drills (Gachè, 2001; Gallegos, 2001) of a rural community of Córdoba, Argentina, were analyzed. The typical activities of that community are: the weave with palm leaves, the rearing of goats and chicken farm, the harvesting of herbs. Data were gathered by observations and audio and video registrations of the activities in the course of its development. Data were analyzed taking Engeström(1987 ) model as a reference. It was articulated with Gallegos' categories: to Engeström's subject category, knowledge about natural environment resources, techniques and purpose of the activity system, as described by Gallegos, were incorporated. The way children learn activity systems on interaction with others through their participation in these activities were also considered. Results showed that differences between home and school environments were neither restricted to differences in the dialectal uses of Spanish nor in having working knowledge of one or other subject: differences were found in knowledge identity. In effect, relevant differences were found in the prevalence of procedural knowledge over declarative one, in the use of an ecological autochthonous perspective to understand phenomena, in the ways to access knowledge, through direct experience, practice and participation in events in which the knowledge is used. Furthermore it was observed that a deep knowledge of an activity system, that is a complex and coherent mental representations of the events, objects and actions which constitute the system, favour children uses of certain discourse strategies. These strategies were not observed when information, far from their socio-cultural environment, was trying to be recovered. Due to the fact that activity systems are mental settings that allow children to recognize objects, purposes, to ply roles, to master practices, they can form a framework socially contextualized to have access to de-contextualized knowledge and to discursive and cognitive more complex operations that may allow children a better phenomena comprehension through language.

**References**:

Engeström, Y. (1987). Learning by expanding: an activity-theoretical approach to development research. Helsinski: Orienta-Konsultit.

Gachè, J. (2001). El reto de una educación indígena amazónica: alcances provisionales. Cultura y Educación, 13, 59-72

Gallegos, C. (2001). El curriculo de primaria basado en actividades como puente entre la cultura local y global: una experiencia educativa en la Amazonía peruana. Cultura y Educación, 13, 73-92.

Moll, L.C., Armanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. Theory into Practice, 31 (2), 132-141.

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**BOTTINI & CASASANTO**

**Implicit Spatial Length Modulates Time Estimates**

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People often talk about time using spatial metaphors (e.g., a long meeting, a short vacation), more than the other way around. According to theories of metaphorical mental representation, this asymmetrical pattern in language reflects conceptual structure: representations of time depend asymmetrically on representations of space. Our previous studies support this hypothesis. In a series of non-linguistic psychophysical experiments, participants saw lines of various spatial lengths appear on the screen for varying durations. They estimated either the duration or the spatial displacement of each line, using mouse clicks. Results showed an asymmetric pattern of crossdimensional interference; participants could ignore temporal information when making judgments space, but they were unable to ignore irrelevant spatial information when making judgments about time (Casasanto & Boroditsky, 2008, *Cognition*).

In these experiments, however, it was impossible for participants to estimate the relevant dimension without perceiving variation in the irrelevant dimension, as well. For example, when participants estimated the duration of a line, they could not avoid perceiving its displacement. Are perceptible spatial cues necessary to modulate representations of time, or might internally generated representations of space be sufficient? In the absence of explicit spatial cues, does the asymmetric relationship between space and time disappear?

To find out, in the present experiment we tested whether implicit spatial and temporal information encoded in nouns can influence estimates of time and space, respectively. Dutch participants saw words presented one at a time and reproduced either the duration for which they remained on the screen or their spatial length, using mouse clicks. In the duration estimation task, the target words named objects of various spatial lengths (e.g., pencil, clothesline, sidewalk). All target words had the same number of letters in Dutch, and therefore the same physical length on the screen. In the distance estimation task the target words named events of various durations (e.g., blink, party, season). Again, target words had the same number of letters, but they were presented with a varying number of spaces between letters (1-9 spaces), for a fixed duration (3 seconds).

Implicit length modulated duration estimates, but not the other way around, consistent with metaphor theory. Words naming shorter objects (e.g., pencil) were estimated to remain on the screen for a shorter time, and words naming longer objects (e.g., clothesline, sidewalk) for a longer time ($r=.75$, $p=.001$). This was true even though the words named concrete objects with no intrinsic duration, and word meanings were irrelevant to the duration estimation task. By contrast, implicit temporal information encoded in event nouns had no effect on spatial estimation ($r=.02$, ns). The effect of implicit length on time estimates was greater than the effect of implicit duration on distance estimates ($p=.05$), thus cross-dimensional interference was asymmetric.

The asymmetric relationship between space and time found in previous experiments was observed here even in the absence of perceptible spatial cues. Explicit, perceptible spatial input is not necessary for space to influence duration estimates; implicit, internally generated representations of space are sufficient to modulate representations of time.

**CAËT & MORGENSTERN**

**The self under construction**

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Before the age of 2;6, different markers are used by French-speaking children as they talk about themselves. They can either use the null form ( ), preverbal vowels or *filler syllables* (Peters & Menn, 1993), third (il/elle), second (tu) and first (je) person pronouns, or their first name. The concept of person and self is therefore independent from the grammatical category of personal pronouns (Pavlovitch, 1920), and the emergence of the first person pronoun "je" (I) can hardly be considered as the first and only marker of self-awareness (Stern & Stern, 1907).

Each of these selfwords fulfills particular functions and refer to different facets of the child's self (Nelson, 1989). On the one hand, "Baby" and the first name refer to the physical self. On the other hand, the first person pronoun "je" (I) refers to the social self in interaction with others. None of these aspects of the self is *a priori* more difficult or more intense than the other. Instead, the use of "je" may rather be related to the complexity of the linguistic system, as the first person pronoun "je" (I) both refers to the grammatical subject of a sentence and the speaker of an utterance in interaction (Jespersen 1922, Sabeau-Jouannet 1975). After 2;6, the use of the first person "je" (I) is stabilized and fulfills both its grammatical and interactional functions.

In this study, we analyze the interdependence between the development of language and the development of the self in the speech of two typically developing French-speaking children, Madeleine and Théophile, from the *Paris Corpus* (Morgenstern & Parisse, 2007) on the CHILDES database (MacWhinney, 2000), between the age of 1;0 and 3;6. Both children are raised in similar conditions by their two parents and come from upper middle-class families, but they have very different courses of language development. The comparison between their uses of selfwords in various contexts therefore gives us insights on the assertion of their subjectivity and its correlation with children's linguistic competences.

Our preliminary results show that although Madeleine uses first person pronouns much earlier than Théophile (at 2;01 for Madeleine and 2;07 for Théophile), both children use selfwords in comparable ways: null subjects, fillers and first person subject pronouns express projects and desires, whereas first names and first person strong pronouns "moi" (me) express contrastive agency. Both children use third person pronouns when referring to themselves in narratives in which they are involved, as they seem to take an adult's perspective on their own acts.

The mastery of the first person pronoun "je" thus comes after a disjunction between the marking of the child as contrastive agent, as source of affects, desires and projects and as speaker. As the acquisition process continues, the child joins those three dimensions in one marker: "je" (I), showing a full appropriation of language and intersubjectivity.

**References**

Jespersen, O. (1922). *Language, its nature, development and origin*, New-York, Norton.
MacWhinney, B. (2000). *The CHILDES project: Tools for analysing talk. Third Edition* Mahwah, NJ: Lawrence Erlbaum Associates.

Morgenstern, A., Parisse, C. (2007). Codage et interprétation du langage spontané d'enfants de 1 à 3 ans. *Corpus n°6 "Interprétation, contextes, codage"*, 55-78.
Nelson, K. (Ed.). (1989). *Narratives from the crib*, Cambridge, Y.U.P.
Pavlovitch, M. (1920) *Le langage enfantin (acquisition du serbe et du français par un enfant serbe)*, Paris, Champion.
Peters, A., Menn, L. (1993). False starts and filler syllables: ways to learn grammatical morphemes. *Language, 69* (4), 742-777.
Sabeau-Jouannet, E. (1975). Les premières acquisitions syntaxiques chez des enfants français unilingues, La linguistique,105-22.
Stern, C., Stern W. (1907). *Die Kindersprache – Eine psychologishe Untersuchung*, Leipzig, Barth (rééed. 1928).

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**CANCILA**

**Identity (de)constructing in Alzheimer's Disease patients: the role for interactional practices of caregivers**

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Within identity studies, many researchers note that identity is formed, maintained, and modified through interaction (Beard 2004) and people are involved in a constant management of their identities. Because self cannot be reduced to cognition, identity remains intact long after the impairment of cognitive functions (Beard 2004). Arguably, if people with dementia continue to experience 'self' through all stages of the illness, then the primary cause of the experienced identity loss may be how those they interact with react to and view them (Sabat & Harrè 1992). According to the literature, such loss can potentially be prevented, then, if people relating to the diagnosed persons refrain from positioning them as lacking.

In the present contribution, we report findings from an ethnographic study conducted, by the author, during home visits with Alzheimer's Disease (AD) patients and those who care for them. It is offer an in-depth examination of: (a) samples of interactions between the researcher, caregivers and AD patients; (b) field notes and (c) samples of narratives of carers. We focus on the notion that (non-)linguistic acts are (multiply) embedded in discourse (Ruhi & Isik-Guler 2007) and consider relational practices that involve face and concepts of self that impinge on face. The questions we address in the study are: (1) How do caregivers deal with face and aspects of the (patient) self-in-interaction? (2) How do patients deal with face and aspects of the self-in-interaction? (3) What implications can be inferred at the clinical level?

In our analysis, some practices reveal what can be called a 'de vivo luctus', a process by which the patient is spoken about as if (s)he was dead. There are, howevere, more complex interactional goals accomplished by caregivers: our analyses imply that relational work in these settings involve tensions between achieving the interactional goals of presenting a preillness face of the patients and attending to the actual feelings of the patients, with a stronger tendency to preserving the pre-illness face. These results find a correlation in Post (1995) notion of 'now' and 'then' selves experienced by AD patients.

Our analysis hypothesizes that relational work may contribute to the split between 'now' and 'then' selves and that this fact is due to conflicting needs of caregivers. While further research is required in other kinds of settings, this finding has significant implications regarding the motivation for split-selves and for (im)politeness practices toward AD patients. Clinical implications can be drawn from these results, such as implementing discoursive and interactional strategies supporting patients self-survival.

**References**

Beard R. L. (2004). In their voices: Identity preservation and experiences of Alzheimer's disease. *Journal of Aging Studies*, 18: 415–428

Post S. G. (1995). "Alzheimer Disease and the "Then" Self." *Kennedy Institute of Ethics Journal*, 5/4: 307-321.

Ruhi S. & H. Isik-Guler (2007). Conceptualizing face and relational work in (im)politeness: Revelations from politeness lexemes and idioms in Turkish. *Journal of Pragmatics*, 39: 681–711.

Sabat S. R. & R. Harrè (1992). "The construction and deconstruction of self in Alzheimer's disease." *Ageing and Society* 12: 443-461.

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**ÇELEBI & BAYINDIR**

**A Contrastive Analysis of English *friend* and Turkish *arkadaş***

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This paper attempted a contrastive study of the concept *friend* in American English and its Turkish counterpart *arkadaş* (friend). As a type of "meaningful relationship" Kovesces (2000) investigated the concept of friendship in American English and analyzed the metaphors entailed. Although Kovesces's study was inspirational on its own for further studies, it was incomplete in itself since it lacked a detailed analysis of semantic fields of *friend* that would in turn supply more information about the mappings of metaphors. Therefore, before using Kovesces' metaphorical analysis of friendship as a framework for the contrastive analysis of *friend* in American English and *arkadaş* in Turkish, this study first explored the semantic fields through dictionary studies and corpus-driven data. Thus, it used translations as in Aijmer and Simon-Venderbergen (2004) for a contrastive study of the concepts English *friend* and Turkish *arkadaş* and *dost* to determine how they relate to each other semantically and pragmatically and how semantic fields in different languages relate to one another. The main aim of such a study was to find out whether these semantic fields correspond to each other or not and if they do not, whether there is any other word in Turkish that would correspond to those meanings lacking in *arkadaş*. It was then the paper explored whether or not Kovesces' metaphors for the English friendship concept correspond to the same metaphors for the Turkish friendship

concept. The possible definitions of the word *friend* in English and the words *arkadaş* and *dost* in Turkish were identified. Based on these definitions, the language samples were collected using the Corpus of Contemporary American English for the English *friend* and METU Turkish Corpus for the Turkish *arkadaş* and *dost*. The samples were confined to the sentences in extended context from one specific genre, "newspaper/haber" and to the dates 1990-2000 as samples from the genre "spoken" were not present in the METU Turkish Corpus and newspaper was the genre closest to spoken samples. 55 sentences for the English *friend*, 25 sentences for the Turkish *arkadaş* and 37 sentences for the Turkish *dost* were collected. The words under study were translated either as single items or as phrases into the target language with a consideration of "the words in context." In response to the first research question of whether the semantic fields of English *friend* and Turkish *arkadaş* overlap, and if not, whether Turkish has another word that corresponds to those meanings lacking in *arkadaş*, the study showed that the core meaning of English *friend* and Turkish *arkadaş* do not exhibit a one-to-one correspondence and the missing elements of English *friend* in Turkish *arkadaş* are captured in the core meaning of Turkish *dost*. With respect to the second research question, whether the metaphors for American English *friend* Kovesces defined correspond to the metaphors in Turkish *arkadaş*,the study showed that excluding the metaphors of machine and plant the Turkish *arkadaş* encompasses the metaphors of American English *friend*, which include sharing objects, distance, warmth, bond, economic exchange, building, implement, journey, and valuable commodity.

**References**

Aijmer, K. & Simon-Vandenbergen, A.M. 2004. A Model and a methodology for the study of pragmatic markers: the semantic field of expectation in Journal of Pragmatics 36, 1781-1805.

Beer, B. 2001. Anthropology of friendship. In N.J. Smelser & P.B. Baltes (eds.) 2001, International encyclopedia of the social and behavioral sciences, Kidlington, England: Elsevier, 5805-5808.

Bersoff, D.M. & Miller, J.G. 1993. Culture, context and the development f moral accountability judgments. Psychological society, 30/31, 15-34.

Keller, M. 2004. A cross-cultural perspective on friendship research. ISBBD Newsletter 46 (2), 10-14.

Krappman, L. 1993.Amicitia, drujba, shin-you, philia,freundschaft, friendship: On the cultural diversity of a human relationship. In W.M. Bukowski, A.F. Newcomb, & W. W. Hartup (eds), The company they keep: Friendship in childhood and adolescence., New York, Cambridge University Press, 19-40.

Kovecses, Z. 2000. Metaphor and Emotion. Cambridge, Cambridge University Press.

Scweder, R.A., Mahapatra, M., & Miller, J.G. 1987. Culture and moral development. In J.Kagan& S.Lamb (eds), The emergence of moral concepts in young children., Chicago, University of Chicago Press, 1-83.

Wierzbicka, A. 1997. Understanding Cultures Through Their Key Words : English, Russian, Polish, German, and Japanese. Cary, NC, USA: Oxford University Press, Incorporated,. p 58. Retrieved January 13, 2009 from http://site.ebrary.com/lib/metu/Doc?id=10087188&ppg=69

**CIENKI**, see Theme Session

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## CRESPO

**Semantic normativity and linguistic interaction**

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The normativity of linguistic meaning in natural language is a topic of present philosophical discussion. The lack of a precise account of the deontic dimension in linguistic use and interpretation has nourished a debate pondering whether linguistic meaning is normative "in any interesting sense".[1] Surprisingly, this debate uncritically assumes that conditions of semantic correctness *should be* the source of this normativity. This presentation proposes an alternative source and argues why it is comparatively more adequate than conditions of semantic correctness.

We will show that the debate assumes that the cornerstone of semantic constraints, felicitous uses, and mistakes *should be* our hypothetical or categorical duty to utter correct application (true or assertible) expressions. For any expression (a word, sentence or discourse) S, speaker A, and any time *t*, the discussion revolves different versions of:

(SC) If S means *f* for A at *t*, then *S* ought to apply S to an object *x* only if *x* is *f* at *t*.[2]

Those who contend that linguistic meaning is normative "in any interesting sense" pose interesting objections and counterexamples to (SC) and thereby reject normativism. [3] The normativist reaction consists in proposing different interpretations of (SC) to explain or dismiss the counterexamples advanced by the anti-normativists.[4]

Then, we will introduce an alternative source to (SC). We propose to study how a certain triangular relation of expectations between a speaker, an interpreter and their common interlocutors can explain the force that semantic norms exert on our linguistic interactions. Very succinctly,

(Interlocutor) A can mean *f* by S at *t* if A can expect at *t* that B and any interlocutor of A and B to act accordingly and if B can expect at *t* that A and any interlocutor of A and B to act accordingly.

This structure is based on the idea that a prescription or permission acquires force on the basis of repetition and reciprocity of expectations in a multi-perspective consideration of a dialogue. This configuration involves not only a speaker and an interpreter, as it also observes the relationship of these participants with a certain potential witness of their conversation, an interlocutor for both.

We will explain examples that (SC) cannot account for in the interlocutor structure. For instance, while (SC) has difficulties in accounting for the semantic normativity of intentionally insincere expressions,[5] (Interlocutor) can give a concrete explanation.

We will also argue why this approach is more adequate than (SC) regarding different aspects of semantic normativity, such as cross-perspective validity of norms, and tolerance for norm change.[6] In many dialogues, we are not able to judge whether our partner speaks the truth, and yet, we can evaluate whether s/he is a competent language speaker. As regards norm change, a diachronic focus shows how examples of meaning narrowing do not seem to go in hand with changes in correctness conditions, and can instead be accommodated by a new triangular configuration of expectations.

**Notes**

1 Like Boghossian (2005), as cited in Whiting (2007)
2 Cf. Whiting (2007).
3 Cf. Glüer & Wikforss (2009a), (2009b), (2009c); Hattiangadi (2006), Wikforss, Å. (2001). Their main motivation is to reject the conclusions against semantic naturalism and dispositionalism that apparently follow from Kripke's (1982), chapter.X.
4 Cf. e.g., Whiting, D. (2007), (2008).
5 Cf. Hattiangadi's (2006) example about Matilda (Who Told Such Dreadful Lies).
6 An extensive evaluation is developed in Crespo (2009).

**References**

Crespo, M.I. (2009): *Normativity and interaction: from ethics to semantics*. MSc in Logic thesis, ILLC, Universiteit van Amsterdam.
Glüer, K. & Wikforss, Å. (2009a): Against content normativity, *Mind* 118, 31-70.
Glüer, K. & Wikforss, Å. (2009b): Against Normativity Again: Reply to Whiting. URL: <http://people.su.se/~kgl/Reply%20to%20Whiting.pdf>
Glüer, K., Wikforss, A. (2009c), The Normativity of Meaning and Content, *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/entries/meaning-normativity/>
Hattiangadi, A. (2006): Is Meaning Normative?, *Mind & Language* 21- 2, pp. 220–240.
Whiting, D. (2007): The normativity of meaning (steadfastly) defended, *Analysis* 67, pp. 133-140
Whiting, D. (2008) The normativity of meaning (steadfastly) defended: reply to Glüer and Wikforss. Unpublished manuscript, 1-9. URL:< http://eprints.soton.ac.uk/58944/>
Wikforss, Å. (2001): Semantic normativity. *Philosophical Studies*, 102, pp. 203–206

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**DU BOIS**, see Theme Session

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**EISENKOLB & BACCINO**

**The balance of the mental lexicon in French-German and French-Italian late bilinguals. An attrition study?**

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Researchers in the fields of second language learning and the loss of language skills (attrition) still argue about the aspects of language that might be affected by either a late acquisition or a non-use. Suppositions concerning cognitive processing and native (L1) and foreign (L2) language representation as well as its organization in late bilinguals remain controversial. Investigating lexical processing necessarily tends to a discussion about cognitive capacity: more low level processes are automated, less they need of cognitive capacity, and a greater number of them will be integrated by high-level processes. Thus, a priming effect seems more likely for bilinguals with a high proficiency level in both languages. The conception of different processing-levels is based on the principle of modularity, stating that the processingsystem consists of a high-level central system having access to the complete information, contained in "modules" specialized in the processing of

low level data. Haven taken into account several informative studies, we created a set of stimuli supposed to bring some light into the obscurity of bilingual cognitive functioning. Thus, we considered reaction times and error rates in a primed bilingual lexical decision task-paradigm (BLDT) with non-cognate translation equivalents. In the related priming condition, the target was the translation equivalent of the prime or a pseudoword created by a negative transfer from the prime languages' phonological or morphological aspects. To test L1 and L2 language storage, we produced an unrelated supraliminal priming condition, where prime and target were semantically non associated in the neighbour language. Our participants were German (French) immigrants to France (Germany) and French (Italian) immigrants to Italy (France) and two additional control groups of native German (French) and French (Italian) speakers without (or with less) notions of the neighbour language. Speed and accuracy of lexical decisions showed that second language proficiency (revealed by C-Tests) is directly related to language processing, and that a high level of proficiency shows equal processing in the BLDT for both languages. Sociolinguistic predictors like age, age of acquisition and length of residence served to predict C-Test scores. There is also evidence for cross-language priming: in contrast to the unrelated condition, in the related condition the preactivation of the concept by the prime reduces decision times significantly; this could be interpreted in favour of a (partly) common store for L1 and L2 language representation. Late bilinguals with a high level of L2 competence seemed to tolerate L2 interferences in L1 rather than L2 pseudowords. Latter observation can be interpreted as a sign of L1 attrition, where the balance of the mental lexicon tends to the L2 side. The results are discussed within the context of conceptual mediation vs. lexical association debate, and in light of the integrated model of neurolinguistic organization.

**Keywords**: lexical access, attrition, bilingualism, interference, mental lexicon, response time, bilingual priming, lexical decision task

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**ENDO**

**Lexical and non-lexical resources for disfluency**

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Actual language use, especially conversation, is full of disfluency. People often fail to smoothly produce syntactically perfect sentences. Features of disfluency such as pauses, sound stretches and tokens like *uh* or *um* are generally discussed under the rubric of repair. Studies in Conversation Analysis have revealed that repairs are not just errors in performance, but are often used by speakers to cope with various kinds of problems that arise during conversation (Schegloff 1979). It has also been discovered that the mechanisms of repair differ in languages with different syntactic features (Fox et al. 1996). However, variations among disfluency features or differences among languages have not yet given enough analysis.

In this study, I focus on a demonstrative-derived filler *neige* 'that thing' and tongueclicking in Mandarin conversation. *Neige* is what Hayashi and Yoon (2006) call a 'placeholder demonstrative'. It typically works as a filler, especially when a speaker is engaging in a wordsearch. Tongue-clicking is not phonemic in Mandarin, but is often heard in natural conversation. Neither *neige* nor tongue-clicking is supposed to occur in a

planned, formal speech. In casual conversation, however, both are fairly frequent and are generally associated with disfluency.

Through the examination of videotaped natural conversations among native speakers of Mandarin Chinese, which amount to approximately 20 hours, I found the following tendencies. *Neige* generally occurs in the middle of a sentence, surrounded by pauses. Speakers, unable to remember a certain word, produce the word *neige* in its place. By the use of *neige*, speakers indicate that mental processing is still in progress. In contrast, tongue-clicking is often observed at the beginning of a sentence: After tongue-clicking, speakers tend to produce a full sentence rather quickly. What has come before is often not a complete sentence. Speakers abandon what they have been producing before a tongue-clicking. By making a tongue-clicking, speakers indicate that they are making a new start.

In Asian languages, placeholder demonstratives like *neige* are widely observed in other languages such as Japanese *are* 'that thing' and Korean *kuke* 'that thing'. The functions of these words have a lot in common. On the other hand, tongue-clicking is much less frequent in Japanese than in Korean and Chinese. This study thus demonstrates the division-of-labor between a lexical and a non-lexical resource for disfluency in Mandarin conversation and touches upon the difference among languages.

**References**

Fox, Barbara A., Makoto Hayashi and Robert Jasperson. 1996. Resources and repair: a crosslinguistic study of syntax and repair. In Ochs, Elinor, Emanuel A. Schegloff and Sandra A. Thompson (eds.), *Interaction and grammar*. pp. 185-237. Cambridge: Cambridge University Press.

Hayashi, Makoto and Kyung-eun Yoon. 2006. A cross-linguistic exploration of demonstratives in interaction: With particular reference to the context of word-formulation trouble. *Studies*
*in Language* 30(3): 485-540.

Schegloff, Emanuel A. 1979. The relevance of repair to syntax-for-conversation. In Talmy Givón (ed.), *Syntax and Semantics 12: Discourse and Syntax*. pp. 261-88. New York: Academic Press.

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**FINCH**

**Literature and the Situation of Utterance: Frames of Reference in Bernard Malamud's "The Letter"**

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I propose that a distinguishing characteristic of literature is that it hides its situation of utterance. Writers from John Lyons to Stéphane Robert have presented deixis as a demonstration of "the pivotal role of situation of utterance in language". As a means of exploring my claim I examine the notion, popularised by Stephen C. Levinson, that frames of reference are necessary in any linguistic or gestural indication of spatiality. My paper is a reflection on the human perception of space rather than an essay in author criticism.

Existing work on literary pragmatics has asked whether literature should be perceived as a type of ordinary or deviant language. It has also encountered difficulty with the fact that literary deictic reference can indicate both within and beyond the boundaries of a particular text.

Hoping to move beyond such cruxes, I look at the frames of spatial reference of a short story, Bernard Malamud's "The Letter" (1973). This immediately raises two points. First, that a work of literature containing dialogue and the point of view of a fictional character positioned at some remove from the narrating voice presents character-based deictics or the spatial frames of reference of characters. Secondly, that implicit assumptions are being made about which particular extra-textual places will be known by readers and how well.

In particular, "The Letter" refers to institutions formerly known as county farms or lunatic asylums and later as psychiatric hospitals, which existed in Suffolk County, New York, in north-eastern Long Island, between the 1880s and the 1990s. Knowing about these and Malamud's relationship to them (his mother and brother were both schizophrenics committed there) enriches but cannot be essential to a reading of the story.

Within this reading, the notion of the situation of utterance of the author being precisely what makes a particular piece of language literary emerges as an answer to the problem of literature as ordinary or deviant language. A key point is that literature is not just language, but also a cultural and mental phenomenon. As J.E. Malpas has written, literature has a peculiar resonance and significance in philosophical discussions of human spatial perception.

Following Levinson's work on linguistic deixis, and recalling the globalised study of prose fiction proposed by Franco Moretti, reflection on frames of reference in "The Letter" suggests a further direction for literary research: comparative study of literary spatial indexicality in texts with differing cultural and linguistic contexts. Seeing literature as concealment, finally, counteracts the widespread opinion that it is a type of revelation. In choosing an artistic literary treatment of his personal experience of – among other things – spatiality in "The Letter", Malamud attempted classically literary tasks such as the transfiguration of experience and its move from a local to a universal human level (so that the story becomes one about masculinity, father-son relations or the meaning of sanity, rather than about 1950s Long Island). This transfiguration is precisely the consequence of the fact that in literature, a speaker hides the position from which he or she speaks.

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**FRANCO et al.**

**Implicit causality revisited: A cross−cultural study of causal biases in interpersonal scenarios from different domains of verbs**

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The implicit causality effect in verbs describing interpersonal scenarios biases participants' attribution of causality in an event (who brought the event about) towards the sentence-subject in action (e.g., *help*) and state-action (e.g., *frighten*) verbs, but to the sentence-object for state verbs (e.g., *hates*) (see Rudolph & Forsterling, 1997, for a review). The present study further extends this research to the effect of semantic domain, language and culture on implicit causality.

In order to assess how generalizable the effect is, verb items were balanced across three semantic domains: emotion, cognition and vision. Within each domain, items were balanced on the basis of verb type (i.e., same number of state- and state-action verbs). If

previously reported findings hold, it would be expected that emotion verbs would present the typical bias pattern with state-verbs such as *hate* showing an object-bias but state-action verbs such as *frighten* showing a subject-bias. However, the prediction is unclear for cognition or vision verbs as such domains were under-represented in previous studies.

Although the implicit causality effect has been found in a number of Western languages investigated in independent studies, the present study utilizes the same set of verbs to investigate possible differences in implicit causality linked to specific aspects of individual languages within the European, Western culture, and between Western *vs*. non-Western cultures including, namely, mainland China, Iran and Turkey.

English, Finnish, Hungarian, Mandarin, Persian, Polish, Serbian and Turkish native speakers (N=250 university students, 50% female) were assessed on a task in which each verb item was presented within S-V-O sentences. Participants were asked to complete a causal inference (Why does S *verb* O?... because……) and responses were categorised as based on 'something about S' or 'something about O'. The results showed consistent implicit causality effects for the emotion domain. Some differences emerged for mental and visual domains, which will be tentatively explained on the basis of varying folk psychological beliefs about the origin of the experiences described by the verbs across cultures.

**References**

Rudolph, U., & Försterling, F. (1997). The psychological causality implicit in verbs: A review. *Psychological Bulletin*, **121**, 192–218.

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**FULTNER**

**Selling Shared Intentionality Short: Tomasello vs. Searle**

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John Searle and Michael Tomasello offer two of the most influential accounts of shared or collective intentionality. I argue that Tomasello's appropriation of Searle hides important differences between their views and that neither paints a satisfactory picture of human sociality.

Tomasello (2008) argues that, while both human and non-human primates engage in social activities and communicate with one another, non-humans have merely individual intentionality ("I intend"). Only humans have *shared intentionality* ("we intend"). This involves joint attentional frames, recursive mind-reading, as well as the ability to use language and conventional gestures more broadly.

In contrast, Searle (1995) holds that many non-human animals have shared intentionality. Hyenas, for example, have collective intentionality and their hunting together constitutes a social fact just as two people going for a walk together is a social fact (Searle 1995: 26). Attributing collective intentionality means attributing the ability to "engage in cooperative behavior" and to "share intentional states such as beliefs, desires, and intentions" (23). Collective intentionality is "a biologically primitive phenomenon" (24) but not distinctively human. What non-human animals lack are institutions and conventions, and these require language (itself, Searle acknowledges, an institution). Thus, institutional facts form a subclass of social facts. What allows humans to have social institutions is that they, unlike other animals, have the capacity not only to follow instrumental rules, but to formulate and follow constitutive rules.

One could argue that the above is merely a semantic difference; after all, Searle and Tomasello both identify language and the ability to institute conventions as the special purview of humans. Yet Searle thinks non-human animals such as wolves are capable of *shared* beliefs and other mental states, whereas Tomasello thinks that even non-human primates lack this ability. So, on the one hand, Tomasello seems to have a higher standard of intersubjectivity than Searle and, on the other hand, Searle, by emphasising institutions, seems to give greater weight to the role of culture. I aim to show that the difference between them illustrate ways in which both their accounts remain inadequately social.

Although Tomasello agrees with Searle that shared intentionality is irreducible, he unwittingly undermines this claim by using Grice to explicate recursive mind-reading (Tomasello 2008: 82). For the Gricean reconstruction of communication in terms of nested intentions tends to reduce intersubjectivity to individual intentions. This threatens the distinctiveness of shared intentionality. A similar critique can be raised against Searle. He relegates to the back of the book what he admits to be a fourth element of social reality (in addition to the assignment of function, collective intentionality, and constitutive rules), namely, the background. By "background," he means a set of capacities (causal structures) that make intentional states possible, but are not themselves intentional. Searle makes no reference in this context to *shared* intentional states or ways in which the Background is shared. As a result, the social remains radically underdeveloped on his account. Hence both Tomasello's and Searle's explanations of human social reality are flawed.

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## GOMILA

### The evolution of language development: beyond a recapitulationist evolutionary psychology

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While the old dictum that "ontogeny recapitulates phylogeny" was rejected in Biology long ago, it looks as if it is held dear in the area of the evolution of cognition, and language in particular. Of course, it is not explicitly asserted and defended, but it is rather usual to find evolutionary proposals that extrapolate phylogenetic scenarios from developmental analysis and viceversa: comparative studies (babies vis a vis apes, for instance) are often taken to apply to hominid ancestors without further ado. It looks as if what is explicitly rejected in general, is implicitly taken for granted, at least in some quarters.

Some examples from language evolution may illustrate what I have in mind. Robert Burling, for instance, has suggested that the clue as to how words appeared in evolution may resemble the way in which infants go from ritualized gestures (also called movements of intention) to conventionalized gestures, and has also looked for examples of ritualized gestures in primates as indication of what was already achivable by hominids ancestor (Burling, 1993, 2000). It has also been proposed that the only guide to the evolution of phonetic structure is infant ontogenesis (Studdert-Kennedy, 2000, and the whole section on phonetic structure which it introduces).

In these cases, the ontogenetic evidence is used as a heuristic to generate phylogenetic hypothesis, and viceversa. The basic problem with this strategy is that it overlooks the bare fact that development itself was part of the phylogenetic process, which, in the human case, has clearly amounted to a process of increasing phenotypic plasticity. However, a highly active approach to the evolution of cognition, mainstream Evolutionary Psychology

(Barlow, Cosmides, Tooby, 1992; Pinker, 2001), seems to be commited to a version of recapitulationism, because of its massive modularist and nativist assumptions: its selectionist view of evolution carries over to a nativist and modularist view of ontogeny. While E.P. has recently been the target of several criticisms, it is its conception of development that I find most problematic. In this paper, I will argue that mainstream Evolutionary Psychology exemplifies the recapitulationist thesis and that such lineal view of the relationship between phylogenetic and ontogenetic evolution is an important reason to reject their programme; I will also focus on the question of the proper relationship between development and evolution, focussing in particular in the case of language.

So, I will first bring into the open the reasons why this kind of reasoning is not guaranteed; why the recapitulation thesis is not a satisfactory guide to the relationship between ontogeny and phylogeny of cognition (and language in particular). Next, I will try to show that mainstream Evolutionary Psychology is commited to a version of the recapitulationist thesis, given the way it conceives of human development. Finally, I will try to clarify the proper way to think of the relationship between ontogeny and phylogeny, and the methodological implications it has for the proper constraining of evolutionary hypotheses.

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**GRANVIK**

Prepositional semantics: contrasting native speakers' opinions with language teachers' and the linguist's

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The aim of my paper is to address the notions of prepositional meaning and semantics from different perspectives. Drawing on an ongoing corpus-based study of the Spanish preposition *de*, I have tested the results of the linguistic analysis with some empirical studies in order to see to what degree the results converge and differ. An important reference is Sandra & Rice's (1995) paper tackling the same question regarding the English spatial prepositions *at*, *on* and *in*, but my study also builds on a series of works by Raukko (1995, 1997, 1999, 2000, 2002), who emphasizes the importance of "non-linguists' intuitions as evidence for significant meaning differences in the polysemy of a word" (Raukko 1997: 164).

The corpus-based analysis lays on a diachronic sample of Spanish literary texts, comprising a total of over 16 000 usages of *de*. The data retrieved from this study has resulted in a schematic characterization of the semantic structure of *de*, consisting of four main senses, as shown in Figure 1.

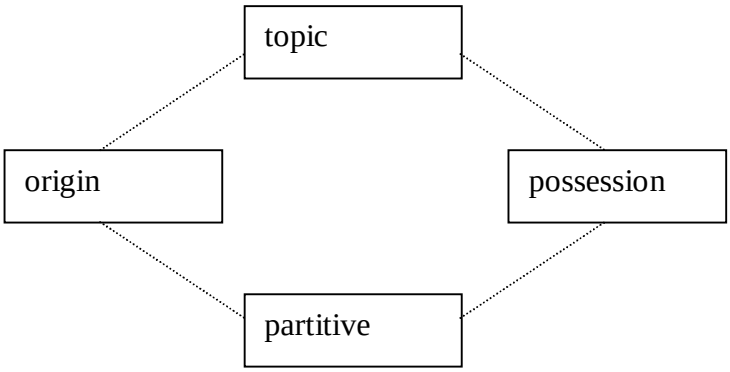


Figure 1. Schematic representation of the four main senses of Spanish *de*.

In the empirical study these findings are tested by the use of questionnaires directed to two different groups of informants. On the one hand, 20 Finnish non-native professional Spanish teachers filled out the questionnaires; on the other hand, the same questionnaires were completed by 20 Spanish native speakers without linguistic education. Two different types of questionnaires were used, providing us with 10 answers per questionnaire from each group.

The questionnaires were built up according to the following lines: The first one has as its starting point the different senses of *de* and the informants were asked to provide "typical" examples of each sense, adding information on the reasons leading to his/her choice. The second one is a sorting task, in which the informants were asked to sort 30 sentences containing the preposition *de* (taken from our own corpus) into groups according to semantic similarity.

In general, the results of the empirical studies corroborate the theoretical findings based on the linguistic material, suggesting that the schematic representation does reflect the most important aspects of the semantics of *de*. However, the empirical inquiries raise further questions in showing that natural extensions such as that between space and time do not seem to be as clearly related in speakers minds. Here an important difference is seen between the non-native professionals and the naïve native speakers. The first clearly see a similarity between the spatial, temporal and, to lesser degree, abstract realization of the idea of origin, separation, while the native speakers do so to a much lower extent. Furthermore, the data retrieved from the questionnaires clearly shows that there are differences in salience between the proposed four main senses, possession and origin being the ones most easily and consequently recognized.

**References**

RAUKKO, Jarno (1995): "The Use of Informants in the Study of Polysemy, with Implications to the Notion of Intersubjectivity in Semantics", XXI Kielitieteen päivät Oulussa 6.-7.5.1995, *Acta Universitas Ouluensis B 19*, 215–224.

—(1997): "The Status of Polysemy in Linguistics: From Discrete Meanings to Default Flexibility", in *SKY 1997: The 1997 Yearbook of the Linguistic Association of Finland*, 145-170.

—(1999): "An "intersubjective" method for cognitive-semantic research on polysemy: the case of *get*", in Hiraga, Masako K, Chris Sinha & Sherman Wilcox (eds.): *Cultural, Psychological and Typological Issues in Cognitive Linguistics*, Amsterdam/Philadelphia: John Benjamins, 87-105.

—(2000): “Semantic variability and experimental methods”, *Pragmatics, Ideology, and Contacts Bulletin*, 5, 6-14.
—(2002): “Pitämisen polysemia: Miten koehenkilöt hahmottavat *pitää*-verbin merkitystyyppejä”, *Virittäjä*, 3/2002, 354–374.
SANDRA, Dominiek & Sally Rice (1995): “Network analyses of prepositional meaning: Mirroring whose mind—the linguist’s or the language user’s?”, *Cognitive Linguistics*, 6–1, 89–130.

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**GREIFENSTEIN et al.**

**Multimodal Metaphors and Expressive Movement in Film**
***Audiovisual aesthetic structures modelling emotions***

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When working on multimodal metaphors in film it turns out that not all their realizations reside on the level of speech and gesture. Rather multimodal metaphors in film are composed as highly *orchestrated audiovisual structures*, which we describe as a specific form of *Expressive Movement* (*Ausdrucksbewegung*) (Kappelhoff 2004, 2008a). We will show that metaphoricity and expressive movements reside on the level of form, i.e. on the level of verbo-gestural *and* audiovisual modalities and the unfolding of the specific composition in time. To illustrate this, we will draw upon examples from Classical Hollywood Cinema: Film noir and films of Alfred Hitchcock.

The method for the analysis of *Expressive Movement* is based on film-analytical concepts of cinematic expressivity (Bellour 2005; Deleuze 1986; Kappelhoff 2004), resting on the assumption that the audiovisual composition models perceptual experience of the spectators specifically (Sobchack 1992; Kappelhoff 2008b). Since audiovisual images are inherently temporarily orchestrated, *Expressive Movement* is realised in the cinematic perception as a particular dynamic pattern of sensation and sentiment. Rather than conceiving of film as a represented world of objects, Kappelhoff’s method (Kappelhoff 2004) reconstructs the dynamic and temporarily organized aesthetic structure. Composing the cinematographic image, this structure is orchestrated by the interplay of film techniques like editing, camera movements, sound design, and so on. For metaphorically motivated units of *Expressive Movement* we draw on microanalysis both on the level of film composition and multimodal metaphors. Linguistic identification and analysis of multimodal metaphors rests upon Müller's cognitive-linguistic dynamic approach of the activation of metaphoricity (Müller 2008; Müller & Cienki 2009; Müller & Tag subm.).

Our interdisciplinary approach reveals mechanisms and techniques of activated metaphoricity that can clearly be determined and described on the level of cinematic

expressivity. In both disciplines research on multimodal metaphors has recently gained weight: examples in linguistics are Forceville & Urios-Aparasi 2009, Rubba 2008, Oakley & Tobin 2009; in media and communication studies: Fahlenbrach 2008. These approaches raise important issues on multimodal metaphors with respect to their meaning, function, underlying concepts, and the narrative. The new perspective we offer is a form-based account of the specific aesthetic structure of audiovisual orchestrations as a time based mode of expressivity, intertwining the *dynamic activation of metaphoricity* and *Expressive Movement*.

The talk therefore will document how a close collaboration between film scholars and cognitive linguists enlightens aspects of multimodal metaphor so far unaccounted for in current takes on this phenomenon.

**References**

Bellour, R. (2005) Das Entfalten der Emotionen. In: M. Brütsch, V. Hediger, U. von Keitz & M. Tröhler (Eds.) Kinogefühle. Emotionalität und Film. Marburg: Schüren, pp. 51-102.

Deleuze, G. (1986) Cinema I: The Movement-Image. Minnesota: University of Minnesota Press.

Fahlenbrach, K. (2008) Audiovisuelle Metaphern. Zur Körper- und Affektästhetik in Film und Fernsehen. Ms., Habilitation, Martin-Luther-Universität Halle-Wittenberg.

Forceville, C. & Urios-Aparisi, E. (Eds.) (2009) Multimodal Metaphor. Berlin/New York: Mouton de Gruyter.

Müller, C. (2008) Metaphors. Dead and alive, sleeping and waking. A cognitive approach to metaphors in language use. Chicago: University of Chicago Press.

Müller, C. & Cienki, A. (2009). When speech and gesture come together. Forms of multimodal metaphor in the use of spoken language. In: C. Forceville & E. Urios-Aparisi (Eds.), Multimodal Metaphor. Amsterdam/Philadelphia: John Benjamins Publishing Company, pp. 299-332.

Müller, C. & Tag, S. (subm.) Attention, Foregrounding, and Embodied Activation. Multimodal Metaphors in Spoken Discourse. In: Cognitive Semiotics.

Kappelhoff, H. (2004) Matrix der Gefühle. Das Kino, das Melodrama und das Theater der Empfindsamkeit. Berlin: Vorwerk 8.

Kappelhoff, H. (2008a) Die Anschaulichkeit des Sozialen und die Utopie Film. Eisensteins Theorie des Bewegungsbildes. In: G. Boehm, B. Mersmann & C. Spies (Eds.), Movens Bild. Zwischen Evidenz und Affekt. München: Wilhelm Fink Verlag, pp. 301-324.

Kappelhoff, H. (2008b) Zuschauergefühl. Die Inszenierung der Empfindung im dunklen Raum des Kinos. In: G. Spiekermann & B. Söntgen (Eds.), Tränen. München: Wilhelm Fink Verlag, pp. 195-206.

Oakley, T. & Tobin, V. (2009). Attention, Blending, and Suspense in Classic and Experimental Film. In: R. Schneider & M. Hartner (Eds.), Blending and the Study of Narrative, Berlin: Mouton de Gruyter, Narratologia Series. Available at SSRN: http://ssrn.com/abstract=1513283.

Rubba, J. (2008). The dream as blend in David Lynch's Mulholland Drive. In: Vyvyan, E. & Pourcel, S. (Eds.), New Directions in Cognitive Linguistics. Amsterdam/Philadelphia: John Benjamins Publishing Company, pp. 465-498.

Sobchack, Vivian (1992) The Address of the Eye. A Phenomenology of Film Experience. Princeton: Princeton University Press.

**GUOWEN**

**Subjective, Intersubjective and Objective Evaluations in Mandarin**

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This paper examines the characteristics and functions of the linguistic evaluations colored by the speaker/writer's overt or covert presence in the cognitive evaluative processes. As the adjectival category constitutes the canonical linguistic realization of evaluations (Martin and White 2005:58), this paper focuses on the evaluations encoded by Mandarin adjectives, though the generalizations can be applied to other evaluative categories as well.

As illustrated in various studies regarding evaluation (or 'stance' and 'appraisal' in different traditions), linguistic evaluation can be distinguished in aspects such as averred or attributed, explicit or implicit, inscribed or invoked, etc.(cf. Hunston, 2000; Martin and White, 2005; Bednarek, 2006, 2009; among others). However, this paper proposes that a dimension of subjective/objective evaluation can, and should be recognized.

Based on the degree of the speaker/writer's self-involvement, a tripartite distinction of objective, intersubjective and subjective evaluations can be recognized. They form an evaluation continuum, with objective evaluation and subjective evaluation at two ends. The evaluation can be carried out on the basis of the evaluator's perceptual or empirical experience, deduction, conceptual knowledge, etc.

This paper holds that emotional adjectives (including physical reaction adjectives) (e.g., *angry*, *sad*, *surprised*, *hungry*, *sore*) are typically realized as subjective evaluations, since the speaker/writer's emotional evaluation is based on his/her experiential feelings (first-person senser), or his/her deductions (other-person senser). For non-emotional adjectives, this paper proposes that objective evaluation is derived from the evaluator's reference to some explicit (or objectively present) standards, whereas subjective evaluation is an outcome of the evaluator's comparison or reference to his/her internalized standards, such as 1) the construed stereotypical value of the evaluated category, or 2) the evaluator's idiosyncratic expectations. Such subjective reference points, though implicit in linguistic expressions, are actually present in the evaluator's macro cognitive domain.

In some occasions, people objectivize their evaluations so that their opinions may seem more generalized and credible to others. In other situations, people deliberately subjectivize their evaluations in order to achieve special pragmatic effects (such as consolation, euphemistic).

**References**

Bednarek, M. (2006). *Evaluation in Media Discourse*. London and New York: Continuum.
Bednarek, M. (2009). Dimensions of evaluation: cognitive and linguistic perspectives. *Pragmatics and Cognition*, 17 (1): 146-175.
Finegan, E. (1995). Subjectivity and subjectivisation: an introduction. In Stein, D. & Wright, S. (Eds.), *Subjectivity and Subjectivisation: Linguistic Perspectives*. Cambridge: Cambridge University Press.
Hunston, S. (2000). Evaluation and the planes of discourse: status and value in persuasive texts. In S. Hunston and G. Thompson (Ed.), *Evaluation in Text: Authorial Stance and the Construction of Discourse*. Oxford/New York: Oxford University Press.
Lyons, J. (1982). Deixis and subjectivity: loquor, ergo sum? In R. Jarvella and W. Klein (Ed.), *Speech, Place and Action: Studies in Deixis and Related Topics* (pp101-124). Chichester, NY: Wiley.

Martin, J. R. and White, P. R. R. (2005). *The Language of Evaluation. Appraisal in English*. Basingstoke: Palgrave/Macmillan.
Nuyts, J. (2001a). Subjectivity as an evidential dimension in epistemic modal expressions. *Journal of Pragmatics*, 33: 383-400.
Nuyts, J. (2001b). *Epistemic Modality, Language and Conceptualization: A Cognitive Pragmatic Perspective*. Amsterdam/Philadelphia: John Benjamins.
Verhagen, A. (2005). *Constructions of Intersubjectivity: Discourse, Syntax, and Cognition*. Oxford: Oxford University Press.
Verhagen, A. (2007). Construal and perspectivization. In D. Geeraerts and H. Cuyckens (Ed.), *The Oxford Handbook of Cognitive Linguistics* (pp48-81). Oxford: Oxford University Press.

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**HEIKKOLA et al.**

**Language Disorders in the Language of MS Patients – A look at Narratives**

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In my PhD study on language disorders in MS, my first objective is to profile language disorders in spontaneous speech of native Finnish speaking MS patients. My second objective is to find out what kind of effect cognitive fatigue has on the language of MS patients. In this paper, I will discuss a narrative-based method I have developed in order to assess cohesion and coherence in narratives told by MS patients.

It is only during the last decades the cognitive aspects of MS have drawn attention (LaRocca & Kalb 2006), even though according to some studies up to 50–66 % of MS patients show cognitive difficulty (Peyser et al. 1990). The research on communicative disorders, on the other hand, has largely concentrated on the motor disorders of speech, and not on language disorders (Murdoch & Theodoros 2000).

For this study, I have interviewed 20 MS patients with definite MS, and 20 healthy controls matched for age, gender and education. Interviews were based on picture material (e.g. Frog Stories). In addition, the participants have been assessed on a neuropsychological test battery.

The starting point for my analysis is an article by Ash et al (2006) about discourse impairments in aphasia and dementia. I have further developed their method as a more precise tool was needed in the analysis of cohesion and coherence in the speech of MS patients. This method has potential of being used as a tool in MS diagnosis in the future.

The results of the analysis show that MS patients concentrate more on details in the stories on the expense of the whole narrative. Results on weakened cohesion and coherence in telling narratives concur with other studies that show MS patients tend to have problems in their executive functions (Murdoch & Theodoros 2000).

**References**

Ash, S., Moore, P., Antani, S., McCawley, G., Work, M. & Grossman, M**.** (2006). Trying to tell a tale: Discourse impairments in progressive aphasia and frontotemporal dementia. *Neurology* 66:1405–1413.

Krupp, L. B. (2004). Fatigue in multiple sclerosis: A guide in diagnosis and management. New York: Demos.
Krupp, L. B. & Elkins, L. E. (2000). Fatigue and declines in cognitive functioning in multiple sclerosis. Neurology 55, 934–939.
LaRocca, N. & Kalb, R. (2006). Multiple sclerosis: Understanding the cognitive challenges. New York: Demos.
Murdoch, Bruce E. & Lehtlean, Jennifer B. (2000). Language disorders in multiple sclerosis. In Murdoch, Bruce & Theodoros, Deborah (eds.). Speech and Language Disorders in Multiple Sclerosis. London and Philadelphia: Whurr Publishers.
Murdoch, Bruce & Theodoros, Deborah (eds.) (2000). Speech and Language Disorders in Multiple Sclerosis. London and Philadelphia: Whurr Publishers.
Peyser, J. M.; Rao, S. M.; LaRocca, N. G. & Kaplan, E. (1990). Guidelines for neuropsychological research in multiple sclerosis. Arch Neurol 47, 94–97.

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**HONKELA & JANASIK**

**Externalization and internalization of linguistic norms**

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Itkonen (2006) and Zlatev (2007) have paid attention to the current situation in cognitive linguistics in which the concept of *norm* or *convention* is undervalued. Zlatev analyses carefully the relationship between between language and concept of embodiment. He concludes that language is fundamentally a sociocultural phonomenon, based on grammatical and semantic conventions, and therefore cannot be reduced to individual minds, and even less so to brains (Zlatev 2007). *Hutchins (2001, 2005) has presented arguments for a similar position showing through ethnographic research the importance of social and cultural level.*

What is then the ontological status of linguistic norms? Itkonen (2006) makes a distinction between the intersubjective or social conventions or norms and the subjective or individualpsychological knowledge of them. He further refers to the subjective and fallible knowledge through which an individual has an 'access' to social norms (ibid, see also Itkonen 1978). Where can these social norms be found and what is the nature of the of process in which an individual accesses the social norms?

These are the central questions discussed in this paper.

Zlatev, Persson and Gärdenfors (2005) represent the concept of *bodily mimesis*as a means to link the concept of embodiment to language. Bodily mimesis is defined as a particular act of cognition or communication which involves crossmodality, volition, representation, and communicative sign function. By representation they refer to a situation in which the body and its motion are differentiated from and understood to correspond either iconically or indexically to some action, object or event (see also Zlatev 2007). Vygotsky investigated child development and how this was guided by the role of culture and interpersonal communication (Vygotsky 1962). Vygotsky observed how higher mental functions developed historically in cultural groups andindividually through social interactions. Through these interactions, a child learns the habits of her/his culture, including speech patterns, written language, and other symbolic knowledge. The specific

knowledge gained by children represents the shared knowledge of a culture including the norms related to language use. This process is known as internalization and the opposite process as externalization. We discuss how linguistic norms emerge, evolve, and disintegrate at a sociocultural level, how the norms are internalized and externalized by individuals, how they are followed or occasionally deliberately not followed, and how they are implicitly represented in linguistic expressions and explicitly represented as externalized rules. We make a careful distinction between generating and creating language. We also discuss the relationship between the subjective element in linguistic rule following and the private language argument (Wittgenstein 1953), and if and when rule following can be considered as a probabilistic or statistical phenomenon.

**References**

E. Hutchins (2001) Distributed cognition. *The International Encyclopedia of the Social and Behavioral Sciences*, 20682072.
E. Hutchins (2005) Material anchors for conceptual blends. *Journal of Pragmatics*, 37: 15551577.
E. Itkonen (1978) *Grammatical theory and metascience*. Amsterdam: Benjamins.
E. Itkonen (2006) Three fallacies that recur in linguistic argumentation. T.Haukioja (ed.): *on Language Theory*. University of Turku: Publications in General Linguistics 10, 2006.
L. Vygotsky (1962) *Thought and Language*. MIT Press. (Original publication in Russian, 1934)
L. Wittgenstein (1953) *Philosophical Investigations.* Oxford: Blackwell.
J. Zlatev (2007) *Embodiment, language and mimesis*. P. Ziemke et al. (eds.): Body, language and mind, Vol. I. Berlin: DeGruyter.
J. Zlatev, T. Persson and P. Gärdenfors (2005) *Bodily mimesis as "the missing link" in human*
*cognitive evolution*. LUCS 121. Lund: Lund University Cognitive Science.

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**HOUGAARD** , see Theme session

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**HROMADA**

**Quantitative intercultural comparison by means of parallel pageranking of diverse national wikipedias**

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The aim of our study was to show that distributions of hyperlinks within wikipedia corpora implicitly contain information about cultural preferences of its authors. We have transformed wikipedia corpora written in 27 different languages into graph structures whose vertices correspond to wikipedia articles and edges to hyperlinks between these articles. No other content information was taken into account. Afterwards we have calculated PageRank vectors for every one of these graphs, thus obtaining so-called "intracultural importance list" for every linguistic community under study. Two datamining experiments were performed with obtained data: "the top country" study showed that labels

of articles concerning countries, related to linguistic community that created these articles are to be found in the top parts of their respective intracultural lists and inversely that the top parts of these lists can be potentially used as a stylometric method of identification of the community which created the corpus (c.f. Table 1). Having thus demonstrated that the culture-specific information is present in the order of the intracultural lists, we have pursued our second study further by comparing intracultural lists among themselves, hence obtaining socalled intercultural lists. We have generated such intercultural lists for many different symbols denoting culture-specific foods, religions or historical events. While majority of the results seem to be intuitively appealing (e.g. the position of wine concept much more higher in french wikipedia than in arabic one; the position of orthodox church much higher in greek corpus than in Spanish etc.. ) we find it somewhat difficult to assess the validity of our method by canonical statistical means. The problem consists in fact that by "calculating an importance of a symbol X within the corpus created by linguistic community A" and by subsequent comparison of importances of X within the scopes of B,C,D,etc. we propose an unprecedent metrics for cultural comparison, i.e. we mathematically measure the objects which were never before measured – cultures.

| Wiki corpus | Top country | L | Wiki corpus | Top country | L | Wiki corpus | Top country | L |
|---|---|---|---|---|---|---|---|---|
| AR | رصم (Egypt | 17 | FR | France (France) | 23 | RO | România (Romania) | 7 |
| BG | България (Bulgarria) | 4 | HE | לארשי (Israel) | 7 | RU | Германия (Germany) | 3 |
| CS | Česko (Czech Republic) | 6 | HR | Hrvatska (Croatia) | 4 | SK | Slovensko (Slovakia) | 9 |
| DA | Danmark (Denmark) | 34 | HU | Magyarország (Hungary) | 18 | SL | Slovenija (Slovenia) | 8 |
| DE | Deutschland (Germany) | 16 | LV | Latvija (Latvia) | 6 | SR | Француска (France) | 28 |
| EL | Ελλάδα (Greece) | 7 | NL | Frankrijk (France) | 11 | SV | USA | 35 |
| ES | España (Spain) | 9 | NO | Norge (Norway) | 6 | TR | Türkiye (Turkey) | 13 |
| ET | Eesti (Estonia) | 5 | PL | Polska (Poland) | 12 | UK | Україна (Ukraine) | 13 |
| FI | Suomi (Finland) | 5 | PT | Brasil (Brazil) | 10 | ZH | 印度尼西亚(Indonesia) | 10 |

*Table 3: country names found at the top of their intracultural lists (i.e. having lowest langrank L )*

**Keywords:** PageRank, Wikipedia, graph theory, comparative culturology, quantitative anthropology, cultural stylometry, world-corpus correlations

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**HUTTUNEN & LEINONEN**

**Developing cognitive abilities are reflected in children's narratives**

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Narrative abilities are an integral part of pragmatic skills, the ability to use language, and they serve as a foundation of discourse abilities and learning at school. To be able to understand and tell a story, a child needs to have *cognitive abilities* (perceptual, memory and reasoning abilities), *something to tell about* (experiences, information and imagination) and *linguistic means* (words, grammatical structures) to express him/herself. To understand and tell stories, a child also has to have *social, emotional and empathic abilities* as he/she needs to grasp the motivation and actions of the characters in the stories and to tell the story in such a way that the receiver is able to access the intended meanings. With the help of developing cognitive abilities, a child begins to organize content (relations between goals,

actions, and outcomes) and structure of a story, both in terms of a coherent whole and local structure of single events. Narratives are valuable tools in research as they provide us a window into a child's mind.

Of pragmatic theories, Relevance Theory (Sperber & Wilson, 1986/1995) provides a cognitive approach to communication and as such brings a way of exploring a child's communicative potential. Relevance Theory enables one to explore processing that underlies language production in context. It enables one to explain how the hearer interprets speaker's meaning on the basis of contextual factors. We used Relevance Theory to explore child's cognitive processing during a story generation task in 73 typically developing Finnish children aged two to 12 years. The children were asked to tell a story on the basis of a 4-picture series. The narratives collected at quiet facilities in the children's homes, day-care centres or an after school club were audio and video-recorded. Altogether 198 narratives were transcribed and analysed using a framework developed on the basis of Relevance Theory; analyses comprised 15 sub-categories representing descriptive expressions, evaluative comments and expressions requiring inferencing.

Children used a number of ideas representing *picture description* in a similar manner across the different age groups. The narratives of the older children were generally much longer than those of the younger age groups. Actions and ideas irrelevant to the story, (i.e., events irrelevant to the story depicted in the pictures), practically vanished after the age of five. From the age of three years onwards, the children referred increasingly to *emotions* and *cognitive states* of the characters in picture series. This finding is in accordance with the general knowledge on how theory of mind skills develop in children. From age seven onwards, many children started to use *hedges*, indicating narrator uncertainty and, thus, showing an ability to see multiple possible interpretations or perspectives of an event. With age there was a growing use of *reference assignment*; personal or demonstrative pronouns referring to characters, objects or places seen in the pictures. Most importantly, the children showed a growing use of inferencing and world knowledge to produce *implicature utterances* with which they expressed something beyond what was seen from the pictures only.

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**HUTTUNEN & PINE & THURNHAM**

**Cultural variation in children's gesture use – British and Finnish children compared**

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Gestures are far more than random hand movements or a hangover from our evolutionary past, even though spoken language has most seemingly evolved from manual gestures. In the pre-school years children are limited in linguistic, metalinguistic and articulatory skills. Yet young children's speech is accompanied by both iconic (representational) and deictic (pointing) gestures, with the prominence of each changing at different stages of development. Gestures serve many functions, both in a linguistic and in a cognitive domain. The Lexical Retrieval Hypothesis states that gestures facilitate access to words in the mental lexicon, and this may explain why they are ubiquitous when young children are acquiring language.

We studied gesture production of British (N = 80) and Finnish (N = 41) typically developing two- to five-year-old children in a video-recorded picture naming task. Our aim

was to examine naming accuracy and cross-cultural differences in gesture use as a function of linguistic development. Additionally, we were interested in whether the frequency of deictic and iconic gestures changes with increasing age and linguistic competence, and if the co-speech gestures appear before the spoken word, thus providing lexical access facilitation in British and Finnish children. We also wanted to know if there is a difference between the numbers of gestures elicited for words with different types of semantic representation, and compared praxic and non-praxic words.

We analysed accuracy of naming, total number of gestures produced, modality of response (speech, speech and gesture, gesture), type of gesture (deictic, iconic), timing of gesture (before, at the same time, after speech), and (in British children only) frequency of gesturing as a function of type of stimulus word (praxic, non-praxic).

The naming responses of both the British and the Finnish 2-year-olds differed from the other three age groups in the following ways: 1) they produced significantly more gestures; 2) gave more bimodal speech and gesture responses and fewer speech only responses; and 3) were more likely to gesture before speech. These differences were more pronounced among the British children because they used more gestures than their Finnish counterparts. Additionally, the British 2-year-olds produced more deictic than iconic gestures than other children, and the British 3- and 5-year-olds gestured significantly more while naming praxic than non-praxic words. One overall difference between the British and Finnish children in all age groups was that the British children gestured more than the Finnish children. However, this difference was statistically significant only for the two-year olds.

Our analyses captured developmental changes in gesture productions seldom studied in this age range and illuminate our understanding of the relationship between gesture and speech in the early years. Possible reasons for cross-cultural differences are discussed.

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**HYÖNÄ**, see Plenary lectures

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**IDSTRÖM**

**Inari Saami metaphors of time**

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Inari Saami is an indigenous, endangered language spoken in northern Finland. During the presentation it is demonstrated by numerous examples that the Inari Saami idioms systematically reflect the conceptual metaphor (Lakoff & Johnson 1980, 1999) TIME IS NATURE. In other words the Inari Saami people frequently refer to certain moments or periods of time by mentioning what happens in the nature at that time. This metaphor systematically recurs throughout the research material specified below. The ubiquitous English metaphor TIME IS MONEY, on the other hand, is claimed to be extremely rare in Inari Saami. This claim is based on the evidence provided by an idiom dictionary compiled by the author with an Inari Saami colleague (Idström & Morottaja 2006), 1,300 pages of dictionary (Itkonen 1986–1989) and a few minor sources (e.g. Koskimies & Itkonen 1917, Itkonen 1992). The cultural background that explains these findings is discussed in the framework of Edward Hall's (1983) theory of time concepts by comparing the language

with features of the Inari Saami material and social culture. The traditional Inari Saami culture was polychronic: the timing of human action was based on observations in the natural environment and spontaneous reactions to these observations rather than on preset schedules. This time concept results from the prerequisites of human adaptation to the harsh natural conditions of Lapland, where fishing, hunting and reindeer husbandry were the main sources of livelihood. The language reflects the culture. It is emphasized that the idioms of endangered, indigenous languages should be urgently and exhaustively documented.

Keywords: Inari Saami, idiom, conceptual metaphor/metonymy, time concept, endangered language

**References**

Hall, Edward Twitchell 1983: *The dance of life. The other dimension of time*. Garden City (New York): Anchor Press/Doubleday.
Idström, Anna and Hans Morottaja 2006: *Inarinsaamen idiomisanakirja* [Inari Saami idiom dictionary]. Inari: Sämitigge [Saami Parliament].
Itkonen, Erkki 1986–1989: *Inarilappisches Wörterbuch*. Vol. I–III. Helsinki: Finno-Ugrian Society. Lexica Societatis Fenno-Ugricae 20.
Itkonen, Erkki 1992: *Inarinsaamelaisia kielennäytteitä, aanaarkiela ájttuzeh* [Inari Saami sample texts]. Helsinki: Finno-Ugrian Society.
Koskimies, A.V. and T. Itkonen 1917: *Inarinlappalaista kansantietoutta* [Inari Saami folk knowledge]. (Mémoires de la Société Finno-Ougrienne 167.) Helsinki: Finno-Ugrian Society.
Lakoff, George and Mark Johnson 1980: *Metaphors we live by*. Chicago: University of Chicago Press.
Lakoff, George and Mark Johnson 1999: *Philosophy in the flesh: the embodied mind and its challenge to Western thought*. New York: Basic Books.

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## INGRAM

### A cross-cultural survey of variation in the content, frequency and normativity of gossip

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Evolutionary theorists (especially Robin Dunbar) argue that the everyday activity of gossip has played an important role in the evolution of human cooperation by spreading information about those who violate social norms, thus helping to maintain systems of indirect reciprocity. But as David Sloan Wilson points out, a distinction needs to be drawn between such group-serving gossip, which spreads useful information, and self-serving gossip, which is used by individuals to damage rivals' reputations and enhance their own. This distinction is reminiscent of the two sides of a debate in the late 1960s between the anthropologists Max Gluckman and Thomas Paine, on whether gossip has a social function, which helped to generate an extensive ethnographic literature on gossip. Hence, there is the potential for analysing the ethnographic literature to look for cross-cultural variations in patterns of gossip, in the hope of shedding light on its evolutionary functions. The current

study describes the use of the Human Relations Area Files (HRAF) to analyse the content and frequency of gossip in various societies, and to investigate whether its use for self-serving ends is always derogated. HRAF is a constantly growing archive of ethnographic texts which is available online (see http://www.yale.edu/hraf/) and contains information about all aspects of life in 165 cultures across the World. Each paragraph in the ethnographies within HRAF is indexed with specific subject codes, making it possible to conduct structured searches for various combinations of topics. A range of searches were conducted for this study, but the one that returned the most hits was the conjunction of *conversation* with *social control*. This search was then conducted across the Probability Sample File (a stratified random sample of 60 cultures within HRAF that meet certain criteria for ethnographic adequacy) and the results for each matching culture investigated in depth. Certain common themes of gossip emerged, including the violation of norms of sharing, gift-giving or reciprocity; illicit sexual behaviour; and witchcraft practices. Although widespread, use of gossip for social control appears more prevalent in certain regions and cultures than others, being heavily represented in European and (native) North American ethnographies, but sparsely represented in African ethnographies. In terms of the normativity of gossip itself, societies are split between those in which any form of negative gossip is proscribed (mostly in Africa and Central America) and those in which gossip is only seen as wrong when practised to excess. A developmental systems model is proposed in which general tendencies to gossip about violations in certain morally ambiguous but affectively stimulating domains (especially reciprocity, sex and witchcraft) are refined by cultural standards concerning the precise content of social norms in these areas and the acceptability of gossip itself. Future work is planned on what might be causing cross-cultural differences in gossip frequency, and on the relationship between gossip and shame: Although gossip sometimes leads to ostracism, it rarely leads to direct punishment, and most cultures seem to rely on people‘s sense of shame at the idea of being gossiped about to punish norm violators.

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## ITKONEN

### Concerning the role of induction in typological linguistics

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In the heyday of generativism, it was customary to claim that linguistic theory must be deductive and not inductive. This was an unfortunate formulation. There can be no linguistic theory that is not inductive at all. What was really meant by “deductive theory” was a (“universal”) theory whose inductive basis was incongruously limited to a single language, i.e. English (cf. Bach 2004). Thus, surprisingly, a weakness (= lack of data) was made to appear as a strength (= high degree of sophistication).

Generativism has increased its data base since then, but it still postulates a set of innate universal (or cross-linguistic) categories which are **independent** of particular languages. As against the generativist view, it has been argued by functionalists like Dryer (1997), Croft (2001), and Haspelmath (2008) that, in conformity with the structuralist *où tout se tient* principle, there are no genuine linguistic categories apart from language-particular (= “descriptive”) ones. On (this variant of) the functionalist view, any cross-linguistic (= “comparative”) categories (or “concepts”) are just **useful fictions** invented by the linguist.

They are claimed to be **totally different** from descriptive categories and, in particular, to possess **no psychological reality**.

A third alternative will be presented here. First, the generativist view is rejected out of hand. Second, it is pointed out that if the functionalist view is accepted, it denies the possibility of genuine **induction** in typological linguistics, which is taken to be a *reductio ad absurdum* of this view.

Let us explain. Any typological theory results from generalizations about particular languages L1, L2, L3, etc. Such generalizations are bound to abstract away any idiosyncratic features of L1, L2,L3 etc, and they are — at least *prima facie* — of inductive nature. Simplistically speaking, particular languages exist in the heads of their respective speakers (but not only in their heads; cf. Zlatev et al. 2008). By contrast, since it is only the linguist who makes the (non-idiosyncratic) generalizations, their results, i.e. the cross-linguistic categories, do **not** exist in the speakers‘ heads, which means that they, as such, are not psychologically real. However, **if** they are indeed conclusions of genuinely inductive inferences about L1, L2, L3 etc, then they must contain something which, while existing separately in L1, L2, L3, etc, is also **common** to L1, L2, L3, etc; and it is this common element that may plausibly be claimed to be psychologically real. To put it differently, cross-linguistic categories (like ‘noun’ and ‘verb’) express **similarities** between L1, L2, L3 etc. which, of course, are not known by speakers of, e.g., L1. But if the similarities are genuine ones, they must have a **basis** in L1, L2, L3 etc, and in each case it is this basis which is psychologically real. Claiming cross-linguistic categories to be fictions amounts to claiming that there are no genuine similarities between the world’s languages, — a conclusion that should give pause to any serious-minded typologist.

When the abstractive/inductive process is spelled out, it turns out to exploit the “hermeneutic circle” in a twofold sense: first, between the categories and constructions (like ‘verb’ and ‘declarative sentence’) of a single language and, second, between particular languages and the cross-linguistic theory. Thus, in an unending “dialectical” movement, one “ascends” from data to theory and then “descends” from theory to data; and so on (cf. Itkonen 2006). Because of the **gradual** or “accretive” nature of the hermeneutic circle, its result (= cross-linguistic categories) could not possibly be “totally different” from its starting point (= descriptive categories), contrary to Haspelmath (2008). Since the hermeneutic circle is a “virtuous” one, the interdefinability of lexical categories and syntactic constructions involves no vicious circularity, contrary to Croft (2001).

This is the ‘third alternativeä presented in outline. In order to convert even the die-hard supporters of the other two alternatives, a few refinements may need to be added:

i) The accumulated inductive knowledge takes the form of a general framework within which each phenomenon is supposed to find its proper place, rather than of a set of universal or statistical implications.

ii) The distinction between genuine and non-genuine similarities (between languages) is really the distinction between good and bad analogies (cf. Itkonen 2005).

iii) Categories may be exemplified to a higher or lower degree by various languages, which agrees with Givón’s (2001) “prototype approach”.

iv) Categories (like ‘subject’ vs. ‘object’) may be non-existent in some languages, which means that they may be psychologically real in many (or most) languages, but not in all languages. Consider the “comparative” definition of adjective proposed by Haspelmath (2008): “An adjective is a lexeme that denotes a descriptive property and can be used to modify a noun.” While this definition does not of course exhaust the import of ‘adjective-in-English’ or ‘adjective-in-Finnish’, it is almost certainly psychologically real in English and Finnish, as far as it goes. On the other hand, many languages have no category of

adjective. Indeed, even psychological reality limited to e.g. 10 (perhaps closely related) languages would still be worthy of its name.

v) As a corollary of what precedes, the "descriptive vs. comparative" dichotomy turns out to result from an antiquated adherence to a discrete (= all-or-none) way of thinking, or from an inability to endorse the continuum metaphysics (in spite of frequent "official" claims to the contrary). Itkonen & Pajunen (2008) note several instances of the same discrete attitude.

vi) The "descriptive vs. comparative" dichotomy is claimed to herald a return to the early structuralist or Boasian view that each language should be described strictly on its own terms. But such an interpretation is not historically accurate: "The occurrence of the most fundamental grammatical concepts in **all** languages must be considered as proof of the unity of fundamental **psychological** processes" (Boas 1964 [1911]: 21; emphasis added).

vii) There still remains the problem of **explaining** the ("non-comparative") cross-linguistic categories (because they in themselves do not of course explain anything.). In principle, it is possible to propose different mechanisms producing, or "pathways" leading to, various categories and constructions. In practice, only such are accepted as can be recapitulated by the typologist making use of his/her own capacity of **empathy** (even if admitting this plain fact goes counter to our Darwinist Zeitgeist; cf. Itkonen 1999, 2004).

viii) We now see that, due to the intrinsic nature of language, results of empathy may have general significance, in spite of the fact that in traditional discussions empathy (= "re-enactment", Einfühlung) was connected with ("ideographic") explanation of single events and contrasted with ("nomothetic") explanation by general laws.

ix) When fully explicated, empathy turns out to be identical with rational explanation, as defined in Itkonen (1983).

**References**


Bach, Emmon. 2004. Linguistic universals and particulars. P. van Sterkenburg (ed.): Linguistics today — facing a greater challenge. Amsterdam: Benjamins.

Boas, Franz. 1964 [1911]. Linguistics and ethnology. D. Hymes (ed.): Language in culture and society. New York: Harper.

Croft, William. 2001. Radical construction grammar. Oxford University Press.

Dryer, Matthew. 1997. Are grammatical relations universal? J. Bybee, J. Haiman, S.A. Thompson (eds.): Essays on language function and language type. Amsterdam: Benjamins.

Givón, T. 2001. Syntax, volumes I–II. Amsterdam: Benjamins.

Haspelmath, Martin. 2008. Comparative concepts and descriptive categories in cross-linguistic studies. Ms.

Itkonen, Esa. 1983. Causality in linguistic theory. London: Croom Helm.

___ 1999. Functionalism yes, biologism no. Zeitschrift für Sprachwissenschaft.

___ 2004. Typological explanation and iconicity. Logos and Language.

___ 2005. Analogy as structure and process: Approaches in linguistics, cognitive psychology and philosophy of science. Amsterdam: Benjamins.

___ 2006. A radical critique of _Radical Construction Grammar'. T. Haukioja (ed.): Papers on language theory. University of Turku: Publications in General Linguistics 10.

___ & Anneli Pajunen. 2008. A few remarks on WALS. E. Itkonen's homepage.

Zlatev, J., T. Racine, C. Sinha & E. Itkonen (eds.). 2008. The shared mind: Perspectives on intersubjectivity. Amsterdam: Benjamins.

**JOHANSSON**

**How language did not evolve**

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Innumerable scenarios exist for the evolution of language, and direct empirical data on language origins are scarce. But the plausibility of many scenarios can still be estimated from general principles and indirect data. Some principles apply to any unique evolutionary transition (cf. Poole & Penny 2006):

- Parsimony implies that the transition likely took place along the stem lineage, between the last common ancestor (LCA) with an outgroup, and the LCA of the crown group.
- Biological processes that demonstrably occur today are preferable to unique causes (cf. Lyell 1830).
- Is the scenario congruent with phylogenetic and fossil data?
- Would the postulated selective pressures actually lead towards the right end result (Johansson et al 2006)?
- The "chimp test": are the postulated selective pressures *absent* in relatives that didn't make the transition (Bickerton 2002, Johansson 2005)?

Some constraints are more language-specific:

- The actual end result of language evolution (modern language) is imperfectly known. Is the postulated end result plausibly evolvable (Kinsella 2009, Johansson 2009)?
- Language evolved in a cultural context – is the scenario congruent with what is known, archeologically and otherwise, of the parallel evolution of culture and mind?
- Language is an evolving cultural entity in its own right – is the coevolution of language and language capacity taken into account (Johansson 2005, 2009)?
- Is the implied organisation of language congruent with neurological data (Kyriacou & Johansson, in press)?
- Is the ontogeny of language and the human mind taken into account?
- Do postulated intermediate steps and stages make linguistic sense (Stade 2009)?
- Can the scenario be simulated? With what results?

This list of points will be used as a reality check for a number of scenarios of language evolution. Among the scenarios to be evaluated are Locke & Bogin (2006), Bickerton (2009), Mithen (2006), and Zlatev et al (2005).

**References**

Bickerton, D. (2002) Foraging versus social intelligence in the evolution of protolanguage. In: *The transition to language*, ed. A. Wray, 207–25. Oxford University Press.
Bickerton, D (2009) *Adam's tongue.* Hill and Wang
Johansson, S (2005) *Origins of language – constraints on hypotheses.* Amsterdam: Benjamins
Johansson, S (2009) *Evolutionary constraints on language and speech.* Presented at *Speech and Brain 2009*, March 2009, Helsinki, Finland.
http://www.helsinki.fi/puhetieteet/tutkimus/fonetiikka/speeb09abs/johansson_abstract.pdf
Johansson, S & Gärdenfors, P & Zlatev, J (2006) Explaining why chimps talk and humans sing like canaries. *Behavioral and Brain Sciences 29(3):287-288.*
Kinsella, A (2009) *Language evolution and syntactic theory*. Cambridge University Press

Kyriacou, A & Johansson, S (in press) *Why language evolution research might help in identifying biologically plausible linguistic processing primitives* Accepted for presentation at *Evolang8*, Utrecht, NL, April 2010
Locke, J & Bogin, B (2006) Language and life history: A new perspective on the development and evolution of human language. *Behavioral and Brain Sciences 29(3):259-280.*
Lyell, C (1830) *Principles of geology. Being an inquiry how far the former changes of the earth's surface are referable to causes now in operation.* London: John Murray
Mithen, S. (2006) *The Singing Neanderthals.* London: Weidenfeld and Nicolson.
Poole, A M & Penny, D (2006) Evaluating hypotheses for the origin of eukaryotes. *BioEssays 29.1:74-84*
Stade, C (2009) *Abrupt versus Gradual Evolution of Language and the Case for Semilanguage.* MSc thesis UCL
Zlatev, J., Persson, T., & Gärdenfors, P. (2005). Bodily mimesis as "the missing link" in human cognitive evolution. *Lund University Cognitive Studies 121*.

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**KANTO**

**Bimodal and bilingual language acquisition and communication in hearing children of deaf parents at the ages of 12 and 18 months**

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Hearing children of deaf parents (CODA) have the possibility to simultaneously acquire two languages that represent two different modalities: sign language based on visual modality and spoken language based on auditory modality. This bimodal and bilingual language acquisition setting provides a unique platform for both child language research and research exploring effective simultaneous use of words, signs and gestures. Namely, CODA children can use gestures, words and signs in a more diverse way than other children, since they acquire linguistic symbols in both manual and vocal modes. The first reports on sign-speech bilingualism were published in the 1970s. However, relatively little is known about bimodal bilingualism, even though this research area is able to reveal interesting aspects of a child's developmental potential, and applications of such research include communication therapy procedures for children with, e.g. a specific language impairment.

The aim of the present study was to find out how hearing children of deaf parents communicate with deaf and hearing interlocutors and how they are ably to modify their language use as a function of their interlocutor's communication mode. Additionally, the aim was to describe the process of early bilingual and bimodal language development.

The language development of six CODA children was studied at the ages of 12 and 18 months. At both data points, three different play sessions using a pre-selected set of books and toys were video recorded at home. The children first interacted with a deaf parent, then together with a deaf parent and a hearing researcher, and in the last session, with a hearing researcher. The communicatively best period of 15 minutes was transcribed from each of the three different play sessions with Elan software. These six children are also participating in a larger semi-longitudinal study that describes the language development of altogether 14 children of deaf parents at the age of one to five years. The parents were

asked to report their child's skills in both spoken language and sign language with the Finnish version of the MacArthur Communicative Development Inventories (MCDI).

The MCDI showed that the six CODA children studied acquired the spoken language variably compared with their acquisition of Finnish Sign Language. Already at the age of 12 months, all the children preferred to use the same communication mode as their given interlocutor. Despite apparent differences in their spoken language skills, none of the children used any signs and all the children showed a clear preference for using the vocal mode when interacting with a hearing person. Concordantly, when communicating with a deaf parent, each child preferred to use the manual mode (signs and gestures) more often than vocal babbling or words. At the age of 18 months this distinction was even clearer.

The results of the present study indicate that already at an early age, children can be very flexible in their communication and sensitive to the language mode their interlocutor uses.

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## KONDERAK

### Between Language and Consciousness: awareness, qualia and cognitive models

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I. **Consciousness and awareness** Assuming that language faculty requires some form of consciousness, I would like to determine their mutual relationship. Consciousness as a mental phenomenon could be understood twofold: either as phenomenal consciousness (consciousness is the subjective quality of experience or qualia); or as psychological consciousness (awareness which is a state wherein we have access to some information and can use that information to control our behavior, e.g. introspection, reportability of mental states, access to self-model, knowledge). [Chalmers 1996]

I claim that explaining language faculty requires taking into consideration psychological consciousness. In fact, most of conscious aspects of language that Zlatev quotes (knowledge of meanings and rules, correctedness judgements, learning, et all.) [Zlatev 2008], are instances of awareness, not (phenomenal) consciousness. According to characteristic of awareness, so as to explain a phenomenon such as language learning, all we have to do is to explain various functional mechanisms giving rise to appriopriate changes in behavior in response to environmental stimulation.

II. **Cognitive modelling of language** To pin down the above claim, I would like to investigate an example of the cognitve model of the language faculty (that I am implementing in the SNePS system) consisting of phonological, syntactic and semantic/conceptual modules and interfaces between them. I would like to analyze stages of natural language processing in such a system and point out hypothesized places and roles for psychological consciousness (such as: judging grammacity, choosing one of competing meanings, acquiring new meanings etc.) and suggest some possible solutions.

My second claim is that although explaining the language faculty requires taking into account only awareness, language is also inseparably connected with qualia. Taking the problem of "linguistic" qualia seriously, we should not ask about their role in language, but we should ask why qualia accompany some (and what) aspects of language (and that's really the hard problem of consciousness [Chalmers 1996]).

III. **From mental to social** I consider language as a mental phenomenon (in the sense presented in e.g. [Jackendoff 2007]). It is at odds with e.g. Zlatev's or Itkonen's claims concerning the primarily social nature of language. Talking about consciousness of external (non-mental) phenomena (e.g. norms), however, could be – at best – regarded as an intellectual shortcut: either I am aware of my mental representations of norms, or I use some different from standard notion of consciousness/awareness. I suggest, that we should begin with the notion of language as mental faculty and treat it as a base for language as a social phenomenon.

**References**

[Chalmers 1996] Chalmers D., The Conscious Mind, New York: OxfordUP.
[Jackendoff 2007] Jackendoff R., Language, Consciousness, Culture, Cambridge: MIT Press.
[Zlatev 2008] Zlatev J., The Dependence of Language on Consciousness, "Journal of Consciousness Studies", 15(6), p.36-62.

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**KORING & DE MULDER**

**The Acquisition of Evidential Markers in Dutch**

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An important trait of the human species is that we can reason about the source of information we have for our beliefs. Languages encode source of information in various ways (Aikhenvald, 2004). Research on the acquisition of evidentiality enables us to find out how the developing conceptual and linguistic representations are related. Recent studies have found that children acquire linguistic evidentiality markers late, although children are able to monitor sources of knowledge much earlier (cf. Papafragou et al., 2007). Moreover, within the class of evidentials, there are differences in *when* the individual markers are acquired. Evidentials that indicate direct evidence are acquired before evidentials that indicate indirect evidence (Papafragou et al., 2007).

This hierarchy in acquisition has been found in languages that encode source of information grammatically. In Dutch, the source of information is expressed lexically. The fact that you have a report about some proposition is expressed by the use of the verb *schijnen* 'seem'. The verb *lijken* 'seem' refers to direct, but unclear evidence. The current study seeks to investigate whether the same hierarchy in the acquisition of evidentials can be found in Dutch. Following the hierarchy, we predict that children acquire *lijken* (direct evidence) prior to *schijnen* (indirect evidence).

To study the acquisition of these two Dutch verbs, ninety-one children in the age range of 5;0- 9;0 were tested on their comprehension of *schijnen* and *lijken*. Half were tested on *schijnen*; the other half on *lijken*. The child was asked to decide whether a sentence orally presented by a hand-puppet matched a picture or not. We compared the percentage of children's (correct) rejections of sentences containing *schijnen* or *lijken* (test-items) in the mismatch condition, (i.e. the condition in which the sentence did not match the picture), to the percentage of rejections of control-items in the mismatch condition. Results show that both verbs are acquired late by children, confirming previous studies. Children up till age seven perform significantly poorer on sentences with *lijken*, than on control-sentences.

Interestingly, children tested on *schijnen* perform significantly poorer on these than on control-sentences even at age eight.

The difference in timeline can be attributed to the difference in semantics between *schijnen* and *lijken*. *Schijnen* creates a bigger mapping problem (Snedeker and Gleitman, 2004) for the child than *lijken*, as *schijnen* refers to *indirect* evidence, being available only inside the speaker's mind. In contrast, *lijken* is easier to map as the *direct* evidence it refers to is objectively available. This difference in the acquisition of the two Dutch lexically expressed evidential markers, thus follows the hierarchy as found for grammatical markers of evidentiality.

**References**

Aikhenvald, A. (2004). Evidentiality. University Press, Oxford.
Papafragou, A., et al. (2007). Evidentiality in language and cognition. Cognition 103, 253-299.
Snedeker, J., & Gleitman, L. (2004). Why it is hard to label our concepts. In G. Hall & S. Waxman (Eds.). *Weaving a lexicon*. Cambridge, MA: MIT Press.

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**KUPERMAN**

**"Defending a Wittgensteinian account of language acquisition"**

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The primary aim of the proposed paper is to defend a Wittgensteinian account of language acquisition. Roughly, this account yields the following: Children are born with the capacities necessary for the acquisition of language, namely; primitive instincts (OC 475, Z 391) and instinctive reactions (CE 420). These innate instincts are manipulable; by their very nature they enable the environment to shape the behaviour of the child. Thus, it is possible for competent language users to shape the behaviour of the child through training so that she or he can become language users (BB, p. 77, RPP I 151, cf. Z 545). The child's language learning process deals not only with direct learning but with indirect learning as well (OC 143). Through indirect learning the child learns "Grammatical hinges" (OC 476), "Grammatical connections" (PI 208, 224) and "Attitude towards the norm" (RFM VII. 61). These three types of indirect learning processes enable the child to learn more complex uses of language (OC 473, 476; Z 300, 410). Moreover, the third type of indirect learning process enables the child's assimilation in a society of language users. This third type means that the child learns standards of correctness. These standards of correctness are the standards of the community; they are agreements that express our common 'form of life' (PI 240-241). Since the child learns these standards of correctness through the guidance of competent language users, these instructors serve as mediators between the child and society.

The defence of the proposed account of language acquisition confronts Fodor's and Chomsky's innate perspectives. Both Fodor and Chomsky believe that language acquisition is possible only if a child is born with capacities that already incorporate (at least crucial aspects of) language (Fodor, 1975, 56, 64; Chomsky, 1988, 28, 60). Both Fodor's 'Language of Thought' and Chomsky's 'Language Faculty' embody innate syntactic structures and rules (transformation rules for Fodor, 'Universal Grammar' for Chomsky)

and innate conceptual scheme. The crux of the problem with these innate perspectives lies in what Fodor refers to as 'narrow content' (1987, 48-53). In the course of this paper I would like to show that: (I) Narrow content is de facto what an "innate concept" is supposed to be when being manifested in one's mind qua innate (i.e., without external intentionality); (II) Chomsky is in part committed to Fodor's notion of 'narrow content'; (III) The notion of 'narrow content' is unintelligible; (IV) The innate perspectives are conceptually incoherent. Having done so, an argument for the preferability of the Wittgensteinian account of language acquisition will be presented.

**References**

Chomsky N. 1988. *Language and Problems of Knowledge: The Managua Lectures*. Cambridge, M.A.: MIT Press.
Fodor, J. A. 1975. *The Language of Thought.* Cambridge, MA: Harvard Press. Fodor, J. 1987. *Psychosemantics*. Cambridge, MA: MIT Press.
Wittgenstein, L. 1968. *Philosophical Investigations*. transl. G. E. M. Anscombe, New York: Macmillan. [PI]
Wittgenstein, L. 1972a. *On Certainty*. transl. D. Paul & G. E. M. Anscombe, New York: Harper & Row. [OC]
Wittgenstein, L. 1972b. *The Blue and Brown Books*. Oxford: Blackwell. [BB]
Wittgenstein, L. 1978. *Remarks on the Foundations of Mathematics*, 3rd ed. G. H. von Wright, R. Rhees & G. E. M. Anscombe (eds.), transl. G. E. M. Anscombe, Oxford: Blackwell. [RFM]
Wittgenstein, L. 1980. *Remarks on the Philosophy of Psychology*. G. E. M. Anscombe & G. H. von Wright (eds.), G. E. M. Anscombe (transl.). Oxford: Blackwell.
[RPP I]
Wittgenstein, L. 1981. *Zettel*, 2nd ed. G. E. M. Anscombe & G. H. von Wright (eds.), transl. G. E. M. Anscombe, Oxford: Blackwell. [Z]
Wittgenstein, L. 1993. "Cause and Effect: Intuitive Awareness". In: J. Klagge & A. Nordmann (eds.), *Philosophical Occasions*, pp. 37-44. [CE]

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**LANGLOTZ**, see Theme session

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**LILIAN**

***Aids is caused by invisible insects sent by sorcerers*: a cognitive perspective to the aids-witchcraft question in Sub-Saharan Africa**.

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Pinker ( 2002) Culture is crucial, but culture could not exist without mental faculties that allow humans to create and learn culture to begin with. In most anthropological literature premised on witchcraft or sorcery in Sub-Saharan Africa cases in point being Evans-Pritchard (1937) study on the Azande speakers in Sudan, Gottieb's (1989) research among the Beng community of Ivory Coast, Pascal Boyer's (2001) analysis of witchcraft beliefs

among the Fang ethnic group in Cameroun, Fiona Bowie's (2004) insights on witchcraft and the evil eye in African societies, undeniably confirm the existence of an African obsession with witchcraft, in accounting for virtually any societal calamity starting from road accidents, illnesses, collapsed business ventures, societal tensions to massive deaths. One recurring fact constantly mentioned in the abovementioned texts is the perplexed reactions of most Westerners whenever they encounter the witchcraft-misfortune counter-intuitive line of argument in the African discourse. Epidemiologists have now been compelled to join anthropologists in trying to comprehend the witchcraft fascination erroneously serving as a reason for the propagation of even scientifically proven ailments such as AIDS and HIV, verbalized in statements such as *AIDS is caused by invisible insects sent by sorcerers* (cf Sabatier, 1988). To demystify this cultural obsession, my paper is premised on two objectives; first and foremost to employ Dan Sperber's culture and modularity thesis in explaining the widespread reflective belief of AIDS IS WITCHCRAFT within African cultures. Secondly, using a metaphorical background, I would like to argue that scholars should not be quick in dismissing the irrationality of AIDS IS WITCHCRAFT metaphor. The reason being under the notion of metarepresentation or interpretive use of language, witchcraft particularly black magic possesses a negative charge that figuratively captures the harsh realities of HIV and AIDS from an African perspective.

**References**

Bowie, F. (2006) *The Anthropology of Religion. An Introduction. 2nd Edition* Oxford. Blackwell Publishers.
Boyer, P. (2001) *Religion Explained. The Evolutionary Origins of Religious Thought*. New York: Basic Book Publishers.
Clyde, J. (1960) Meaning in Misfortune for urban Africans. In Forles, M. and Dieterlen, G. (eds) *African Systems of Thought*. London: International African Institute. p 171-187.
Sabatier, R. (1988) *Blaming Others. Prejudice and race worldwide*. London: The Panos Institute.
Pinker, S. (2002) *The Blank Slate*. London: Penguin Publishing Group.
Pritchard, E. (1937) *Witchcraft, Oracles and Magic among the Azande*. London: OUP.
Sperber, D. (1996) A naturalistic Approach to Culture. London: Blackwell Publishers.
Sperber, D. and Hirschfeld, L. (2007) *Culture and Modularity*. In Carruthers, P., Laurence, S., Stich, S. (eds) *The Innate Mind*: Culture and Cognition. OUP: Oxford Publishers.

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## LOCK

### A post-Darwinian account of symbol system construction

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This paper argues that asking 'how has language evolved?' is better reformulated as 'how have acts of speaking-through-symbols been constructed and elaborated?'[1]. Two central consequences of this reformulation are that 'language', in fact, does not evolve, and even if it did, the Darwinian account of evolution is inadequate to account for its elaboration. A more adequate account of what has been subsumed in the phrase 'language evolution' is available in the conceptual framework of Jacob von Uexküll[2] and its modern reincarnation

in the paradigm of niche construction[3]. These conceptualisations relocate the locus of 'where the action is' away from the organism as the unit of selection to the relation of the organism to its environment, this relationship being instantiated in what von Uexküll termed the organism's Umwelt.

In von Uexküll's framework, organisms do not respond to casual events in the environment, but to perceptual signs or meanings[4]. This point is also there in the approach of Mead[5]. Any sign or meaning logically entails other meanings, and these other meanings constitute an epigenetic pathway that needs to be discovered. This discovery is made possible by symbols. Hence the questions of how symbols and symbol systems are a) established, and b) elaborated in use, come to the fore. There has been a great deal of work put in on the first of these questions, and with the recent discovery of mirror neuron systems in humans, the evolutionary questions with respect to human symbol capability can be broadly settled[6]. The second question has received less attention.

How might this second question be best formulated with respect to phylogeny? A clue is provided from the ontogenetic domain through the amount of mileage developmental psychologists have recently got from Vygotsky's elucidation of the 'zoped' which is interactively worked-in by a more skilled practitioner in their dealings with a less skilled novitiate[7]. To get any traction on phylogenetic questions requires figuring out how zopeds might be constructed *sui generis* in the interactions between two equally unskilled novitiates. This can be done by drawing the ideas of Mead, Vygotsky, Gibson[8], and von Uexküll into a nexus that underwrites the 'how' of the evolutionary elaboration of symbol systems.

The resulting framework for the elaboration of symbol systems is that Umwelts are a) logically pregnant with the possibilities of their future elaboration; b) in-formed, for humans, with a grasp of the intentionality of conspecifics; c) have symbols pre-informing them; and d) the products of past activities inter-generationally conserved in them[9]. The final piece that prods possibility into actualisation is almost certainly the re-organisation of social interaction that was a consequence of changes in the parameters of the spatial dimension of human life: firstly in the relinquishing of sedentary life with the initial migration out of Africa; secondly with the transfer of materials between separate groups; and thirdly in the re-adoption of sedentary life and house-dwelling with the growth of agriculture[10].

**Notes**

1. cf Harris, R. (1980) The language makers. London: Duckworth; Olson, D.R. (1994) The world on paper: the conceptual and cognitive implications of writing and reading. Cambridge: Cambridge University Press.
2. e.g. von Uexküll, J. (1957) A stroll through the world of animals and men: a picture book of invisible worlds. In C.H.Sciller (ed.) Instinctive behavior: the development of a modern concept. New York: International Universities Press. Pp. 5-80.
3. e.g. Laland, K.N., Odling-Smee, F.J., and Feldman, M.W. (2000) Niche construction, biological evolution and cultural change. Behavioral & Brain Sciences, 23:131-146.
4. cf. Bains, P. (2001) Umwelten. Semiotica 134: 137-167
5. Particularly Mead, G.H. (1934) Mind, self and society. Chicago: Chicago University Press; (1938) The philosophy of the act. Chicago: Chicago University Press
6. References superfluous
7. Vygotsky, L.S. (1978) Mind in society: the psychology of higher mental functions. Cambridge, MA: Harvard University Press
8. e.g. Gibson, J.J. (1979) The ecological approach to visual perception. Boston: Houghton-Mifflin.

9. cf. Lock, A. (1999) On the recent origin of symbolically-mediated language and its implication for psychological science. In M.C. Corballis and S.E.G. Lea (eds.) The descent of mind: psychological perspectives on hominid evolution. Oxford: Oxford University Press; (2000) Phylogenetic time and symbol creation: where do zopeds come from? Culture and Psychology6: 105-129; Tomasello, M. (2004) The cultural origins of human cognition. Cambridge, MA: Harvard University Press.
10. e.g. Gamble, C. (1993) Timewalkers: the prehistory of global colonization. Cambridge, MA: Harvard University Press; (1998) Palaeolithic society and the release from proximity: a network approach to initimate relations. World Archaeology 29: 426-449; Wilson, P. (1988) The domestication of the human species. New Haven: Yale University Press.

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**McILWAIN & SUTTON**

**Applying Intelligence to the Reflexes: verbal, visual, and embodied modes of influence in skilled movement**

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Performers in skilled movement domains like sport, yoga, and dance like to entrust grooved actions to the body, to the habitual routines of kinesthetic memory. But they also know that true, open-ended expertise requires thought and action to come together, cooperate instead of competing. How, under what circumstances, can embodied skills remain open to situational awareness and memory? How do we influence ourselves, in practice and in performance? What kind of intelligence is flexible and fine-grained enough to influence habits which have become second nature over years of intensive training? How can instruction ever alter grooved embodied skills? We report experience-near, multi-method case studies of two specific, culturally-embedded domains of expertise: yoga and cricket batting. We examine mechanisms by which experts can redeploy embodied skills by way of diverse 'instructional nudges', from teachers, in collaborative processes, and in self-influence, which sculpt and re-set action sequences over different timescales.

Practitioners claim that yoga enhances sensitivity to bodily experience and signature patterns of tension: we look for cues that most effectively achieve this. Such sensitivity makes habitual movement patterns available for renegotiation and optimal adjustment. We work with the Iyengar and Anusara traditions of yoga, which share a pose repertoire but employ very different teaching styles. Different modes of instruction affect the experience of changed access to kinesthetic cues. We observe and record how teachers facilitate students' acquisition of movement sequences by demonstration, verbal instruction, and manual adjustment. Our talk includes examples of short filmed sequences of poses apt for instruction at different levels of expertise. To investigate the origin of new levels of movement precision and sensitivity to bodily cues, we show these sequences to expert and novice practitioners across the two traditions, with or without accompanying expert verbal instruction. Experts differ from novices not only in their capacity to perform more subtle movements, but also in their perception of bodies in motion: verbal cues, tailored to level of expertise but often specific to a practice tradition, can enhance subtle movement production and its perception.

Secondly, we discuss the roles of common or idiosyncratic verbal tags and maxims in cricket batting, an example of an open skill under severe temporal constraints. Practitioners

are schooled to 'watch the ball', for example, and use such self-administered nudges – either verbal, or in the form of behavioural routines, gesture patterns, or thought/ image sequences – to re-orient their response repertoires. Such thoughts and sayings are not top-down instructions, reprogramming the body to the mind's design: but neither are they wholly epiphenomenal, inevitably disrupting absorbed coping, as suggested in some influential theories of the phenomenology of expertise. By the notion of 'applying intelligence to the reflexes', we mean that apparently automated patterns of action are in skilled performance in fact already open to current contingency and past meanings. Experts somehow open their 'reflexes' up into acquired adaptive patterns, and construct through practice not a set array of clever moves, but dynamic repertoires of potential action sequences to be selectively accessed, redeployed, and transformed.

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**MILLER**, see Plenary lectures

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**MITTELBERG & EVOLA**, see Theme session

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**MORGENSTEIN & CAËT & LEROY**

**Self- and other-repairs in adult-child interactions: insights about children's linguistic, cognitive and discursive development**

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The longitudinal analysis of children's linguistic productions can help us understand the complex process of language acquisition. But studying these productions in their dialogical context facilitates our apprehension of the linguistic, interactional and cognitive paths children follow to use linguistic forms in interaction. Among interactional sequences, repairs (Forrester, 2008; Schegloff et al., 1977) are probably one of the most accessible phenomena in which these dimensions can be captured (Bernicot et al., 2006).

In order to investigate the interdependence between the components at play in the course of children's development, we study the evolution of repairs in mother-child interactions in two longitudinal follow-ups from the *Paris Corpus* (Morgenstern & Parisse, 2007) on the CHILDES database (MacWhinney, 2000). Both children (one boy and one girl) are studied between the age of 1;6 and 2;11, a period during which we observed important differences in their linguistic development. In addition, both children evolve in family environments with different conceptions of childhood. These linguistic and social differences are particularly interesting for the study of the relationship between the development of cognition, language and communication skills in interaction (Ochs 1984). Both other- and self-repairs are analysed, and coded according to their linguistic level (phonological, morphosyntactic, semantic, or pragmatic). We concentrate our analyses on the high correlation between children's cognitive ability to reformulate their own utterances and the linguistic tools in terms of grammatical markers and constructions at their disposal.

Preliminary results from our quantitative and qualitative analyses first show that the total number of repairs suddenly increases at a particular point in time and then decreases as children get older. Other-repairs tend to decrease more importantly than self-repairs. In addition, the nature of self-repairs changes as they become more and more spontaneous and less and less elicited by the interlocutor. Children's uptakes of other-repairs change as well: from simple repetitions of their own utterances to the assimilation of other-repairs. Children change their own productions according to the suggestions directly or indirectly made by their interlocutor.

In addition, the linguistic level of these repairs changes as the children grow up. Repairs on phonology decrease as repairs on morphosyntax and semantics increase. Pragmatic repairs appear at later stages. The comparison between the two children suggests that the author of the repair and the linguistic level targeted evolve according to two main factors: - the children's actual linguistic, cognitive and social skills - the adults' conception of the children's competences. Self repairs and reformulations could be the result of a "grammaticalization" process in children's language through internalization of social rules as well as adult grammar and constructions.

**References**

Bernicot, J., Salazar Orvig, A., Veneziano, E. (2006). Les reprises : dialogue, formes, fonctions et ontogenèse. *La linguistique*, *42*, *2*, 29-50.

Forrester, Michael A. (2008). The Emergence of Self-Repair: A Case Study of One Child During the Early Preschool Years, *Research on Language & Social Interaction*, 41:1, 99 – 128.

McWhinney,B. (2000), *The CHILDES Project: Tools for analyzing talk* (3rd ed.,Vol.2). Mahwah,NJ: Lawrence Erlbaum Associates.

Morgenstern, A., Parisse, C. (2007). Codage et interprétation du langage spontané d'enfants de 1 à 3 ans. Corpus n°6 "Interprétation, contextes, codage", pp. 55-78.

Ochs, E. (1984). Clarification and culture in GURT'84 - Meaning, Form, and Use in Context:

Linguistic Applications, ed. by D. Schiffrin. Washington, D.C.: Georgetown University Press, pp. 325-341.

Schegloff, E., Jefferson, G. et Sacks, H. (1977). The preference for self correction in the organization of repair in conversation. Language, 53, 361-382.

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**DE MULDER**

**Mental Language: Contributions from Theory of Mind and Linguistic Development**

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Three-year-olds generally have a limited understanding of other people's mental states, especially if they are contrary to their own. At around 4,5, however, most children understand that others can believe things that they themselves do not. They have a "Theory of Mind" (ToM). The relationship between language and ToM is debated. Is language pivotal in the development of ToM? Or is ToM a prerequisite for the development of language (cf. Milligan et al. 2007)?

This paper presents research that considers this debate from a different angle. In this work, the developmental relationship between ToM, language and mental language is explored. Mental language refers to those areas of language that involve an understanding of others, as in mental state terms like *definitely* and *maybe* that refer to the level of speaker certainty. Mental language is an interesting area in this respect as it is on the interface of language and ToM. It is related to linguistic ability in that the mental state terms have to be acquired as words, but also to ToM as it requires the understanding of others' minds to truly appreciate the intended meaning. In light of the ToM-language debate described above, it is an interesting question to ask whether ToM or language will contribute most to mental language.

This issue was investigated by giving 110 4-year-old Dutch children various ToM, language and mental language tests. ToM tests consisted of false belief tests (in which the behaviour of a story character with an outdated belief had to be predicted); language tests comprised vocabulary and syntax measures. Mental language was tested by considering children's understanding of the Dutch equivalents of the modal auxiliaries *must be* and *might be* and the modal adjuncts *definitely* and *maybe*.

Hierarchical regression analyses were conducted with ToM and language as independent variables mental language as the dependent variable. The regression model was an adequate fit of the data ($R^2$=18.9%; $R^2$adj= 17.4%; F2,107=12.49, p _.00). Whereas language ability was not a significant predictor of pragmatic ability once ToM was controlled for (t107 = 1.38; p = .17), ToM did significantly predict performance on the mental language tests (t107 = 2.40; p = .02).

These findings suggest that it is not so much a child's linguistic ability that contributes to her capacity to acquire the areas of mental language considered here, but her ability to understand another person's mental states. This then poses a challenge to linguistic determinism accounts that hold that understanding others' mental states is dependent on language. Furthermore, these findings go against a strictly modular view of language acquisition. For the acquisition of at least the areas of language studied here, children seem to rely not so much on their linguistic capacities, but more on abilities from another domain of cognition. This kind of interaction between different cognitive domains thus strongly suggests an interactive architecture of cognitive development.

**References**

Milligan, K. et al. (2007). Language and Theory of Mind: Meta-analysis of the relation between language ability and false-belief understanding. *Child Development, 77*, 622–646.

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**DE MULDER & WATZEMA**

**Modal Auxiliaries in Typically Developing and Autistic Children: A Theory of Mind Account**

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Three-year-olds generally have a limited understanding of other people's mental states, especially if they are contrary to their own. At around 4,5, however, most children understand that others can believe things that they themselves do not. They have a "Theory of Mind" (ToM). Autistic children, on the other hand, are generally found to be impaired in

their ToM development (Baron-Cohen et al., 1985). Given the important role of understanding speaker intentions in language learning (cf. Bloom 2002), it is an interesting question to consider whether autistic children are capable of understanding language that relates to ToM development. This study aims to investigate this by considering autistic children's understanding of the different levels of speaker certainty as conveyed by modal auxiliaries.

Nineteen Dutch-speaking TD children (M=6;5 years) and ten autistic children (M=6;11 years) participated in the study. Children received two ToM tasks in which they had to predict and explain the behaviour of a story character with an outdated belief. To control for differences in general verbal ability, participants also received two language tests assessing vocabulary and syntax. Children were tested on their understanding of the Dutch modal auxiliaries *moet* (must), *zal* (shall) and *kan* (might). The task involved a sticker being hidden in one of two boxes which children had to find by using clues given by two puppets. The puppets used the modal auxiliaries contrastively, e.g. "the sticker might be in the blue box" vs. "the sticker must be in the red box". To find the sticker, the children had to favour *moet* over *zal* and *kan* and *zal* over *kan*.

The results showed that the autistic children did not differ significantly from the TD children on modal auxiliary understanding ($t27=0.63$; $p=.53$). A different result was obtained, however, when the subjects were divided in passing or failing the ToM tasks (with passing defined as answering all questions correctly). One autistic child and 14 TD children passed the ToM tasks, whereas nine autistic children and five TD children did not. Results from this analysis showed that whereas these two groups did not differ significantly in general language ability ($t27=0.03$; $p=.98$) or in age ($t27=0.26$; $p=.80$), the ToM passers performed significantly better on modal auxiliary understanding than the ToM failers ($t27=-3.48$; $p=.002$).

ToM thus seems to be important in acquiring modal auxiliaries. In fact, passing or failing ToM tasks is a better predictor of modal auxiliary understanding than being autistic or TD. These findings thus suggest that having an underdeveloped ToM impairs the child in acquiring modal auxiliaries. If an autistic child is able to figure out the mental states of others, they also seem able to understand the differences in speaker certainty as conveyed by modal auxiliaries. Conversely, if the TD child has not yet developed full ToM, they have problems in understanding modal auxiliaries.

**References**

Baron-Cohen, S. et al. (1985). Does the autistic child have a "theory of mind"? *Cognition, 21*, 37–46.

Bloom, P. (2002). Mindreading, communication and the learning of names for things. *Mind & Language, 17,* 37-54.

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**MÜLLER**, see Plenary lectures

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**OBEN & BRÔNE**, see Theme session

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**PACE & FIELD & CARVER**

**Evidence for Convergence of Event Segmentation and Language Processing**

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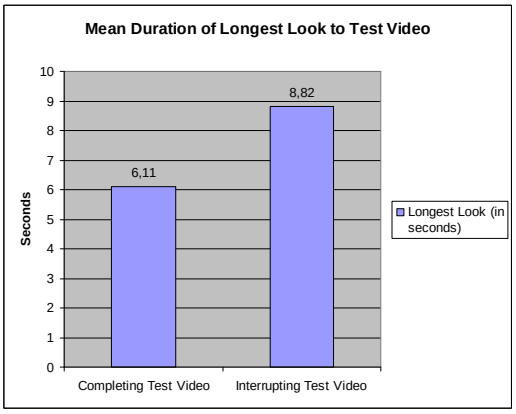
This paper investigates the integration of event segmentation and language processing. There is growing evidence suggesting a convergence in the processes that underlie the extraction of action components from continuous motion and the attribution of meaning to these actions. By 6-8 months, infants discriminate continuous action sequences that contain a familiar pattern from those that do not (Hespos, Saylor, & Grossman, 2009). By 10-12 months, infants are sensitive to segmental structure within familiar human action that coincides with perceptual cues and intentional boundaries (Baldwin, Baird, Saylor & Clark, 2001). Recent ERP evidence (Reid, et al., 2009) indicates that at 9 months, event expectancy violations elicit a late-occurring N400-like component, suggesting that event processing may have a conceptual basis. This leads to interesting questions regarding the relation between perceptual and conceptual processes involved in mapping labels to actions.

In Study 1, 24-month-olds (N=26) were familiarized with a video of a novel, 3-action event. Next, they viewed videos with pauses in the middle of each action (interrupting) or at the completion of each action (completing). There was a preference for the interrupting video measured by the longest sustained look, $t(25) = 4.154$, $p < .05$ and proportion of looking time $t(25) = 3.227$, $p < .05$ (Figure 1). Thus, at 24-months, sensitivity to event structure extends to novel events. A stronger test is whether toddlers can select a single, embedded, action for re-enactment as they have excellent immediate recall for complex events (Bauer, 1999). In Study 2, 24-month-olds (N = 14) viewed the action sequence from Study 1 and were prompted to re-enact a single action. Seventy-nine percent of toddlers re-enacted one and only one action when prompted providing evidence that they recognize disruptions of event structure and also spontaneously segment novel events at action boundaries. In Study 3 (in progress), ERP data are being collected to identify the components associated with action processing and verb learning by comparing responses to named versus unnamed actions. Data are recorded as participants view the completing and interrupting event sequences from Study 1. Preliminary findings for unnamed actions suggest that children respond differentially to interrupting and completing events. Specifically, interrupted events yield an early, perceptual component (N100) and a later-occurring, conceptual component (N400), suggesting that the mechanisms of semantic integration are triggered by nonlinguistic motion events. Contrasting these findings with data from named actions will help to clarify whether language learning amplifies existing conceptual distinctions between actions or whether labeling engenders conceptual processing. Together, these data elucidate the functional connection between action perception, event representation, and semantic processes.

Figure 1.

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**PASAMONIK**

Coherence and persistence of conceptual metaphors in Beaver (Athabascan)
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Figurative language and especially metaphors are exposed to intensive (socio)linguistic investigations, often concerning their cognitive and conceptual properties (Kristiansen et al. 2006). The 'contemporary theory of metaphor' identified a wide range of underlying conceptualizations manifested in non-literal language, especially for abstract content like emotion or time which are claimed to be neither thinkable nor pronounceable without any metaphorical mappings to concrete concepts (Lakoff 1993). The theory is based on English spoken by the author himself, and introspection was employed as an important tool.

The present study tries to apply this theory to a less described language not spoken by the researcher. It aims at exploring language intuition and awareness of native speakers concerning conceptual and linguistic metaphors, as opposed to mere introspection on the researcher's side. Furthermore, the influential status of English as the dominant language and as means of communication for speakers and researchers is investigated against the background of the accessibility of Beaver conceptual metaphors and cultural models (Holland & Quinn 1987).

The study is based on the Beaver (Athabascan) language spoken in Canada. The consultants are bilingual, besides Beaver as their first language they also speak English.

Access to literal meanings of figurative expressions depends on aspects concerning lexicalization and conventionalization, and the degree of transparency of the relationship between literal and metaphorical meanings (Recanati 2004). In metalinguistic discussions speakers uniformly realize the discrepancy between what is said and what is meant or communicated in figurative expressions, like in the Beaver idiom *sadzéé' tyíhsane* "I am lonely (lit. my heart is poor/pitiful)". This form is described as having a figurative meaning departed from the literal meaning, and speakers are able to give explanations of the literal meaning. On the other hand, it seems more problematic to access its relations to the metaphorical meaning, indicating that conscious availability of the systematic embeddedness of source concepts in the lexicon, as well as of the underlying conceptualizations of corresponding mappings, is restricted. Here, careful analysis of the lexicon structures allows for insight into semantic networks relating body parts like HEART to concepts of anger, courage or loneliness. Furthermore, this context enables investigation of cultural models giving rise to culture-specific body part metaphors. Notwithstanding conscious restrictions, these culturally based

correspondences between specific body parts and specific emotions or traits are sustained against differing English mappings, suggesting high significance of the concepts despite their inaccessibility to speakers' awareness.

References

Lakoff, G. 1993. The contemporary theory of metaphor. In: Ortony, A. (ed.) *Metaphor and Thought*. Cambridge: Cambridge University Press.

Holland, D., Quinn, N. (eds.) 1987. *Cultural Models in Language and Thought*. Cambridge: Cambridge University Press.

Kristiansen, G. et al. (eds.) 2006. *Cognitive Linguistics: Current Applications and Future Perspectives.* Berlin: Mouton de Gruyter.

Recanati, F. 2004. *Literal Meaning*. Cambridge: Cambridge University Press.

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**PASCUAL**, see Theme session

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**PAULIN**

**Does language reflect the way the Baka community classifies animals?**

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The Baka are a minority group of hunter-gatherers in North Gabon, totalling less than 500 individuals. They still attest a semi-nomadic lifestyle and find all they need for their survival in the surrounding forest by hunting, fishing and gathering. The way the Baka community classifies animals can be most efficiently expressed through a multi-dimensional, non-treelike representation, with different criteria coexisting at the same level and no hierarchical relationship between the various dimensions. The most crucial issue is that certain categories are not named (i.e. covert categories). The multi-dimensional approach has enabled us to isolate these categories. It is therefore essential to make a clear distinction between "identification" (perception), "naming" (denotation) and "classification".

While performing the task of classifying mammals, the Baka call kémà (which can be roughly rendered by 'monkey') different kinds of monkeys such as ŋgítì *(Miopithecus ogoouensis)*, kàlū (*Colobus guereza occidentalis)*, gbèsúmá (*Cercopithecus pogonias)*, etc. Close to this grouping, they distinguish another category, viz. monkeys without tail (roughly equivalent to our category of apes). The latter, which is composed of primates such as the gorilla and the chimpanzee, for example, is not explicitly named. Bahuchet (1989: 225) corroborates the existence of covert categories in Baka: "The linguistic structure of Aka and Baka plant and animal names does not reflect taxonomy, and therefore the latter is to be brought to light by other means".

Moreover, semantic fields shift over time, and reconstructions, whenever available for a group of languages, cannot easily be used for the study of categorization as the reconstructed meanings often lack precision or may have evolved. E.g. The Baka word "só" is usually translated as 'meat' and/or 'game', but it can also be used to denote the category of all "animals being eaten by man".

Therefore, societies should be studied in a dynamic and situated (i.e. ecological) perspective. Static approaches, which do not take into account context, situation and change yield skewed results. Folk categories often group entities belonging *a priori* to very different semantic fields and therefore may seem surprisingly heterogeneous to anyone unfamiliar with the culture. E.g. Although speaking about animals, Baka may come up with a category composed of the bee [tòŋgìa], honey [ɸókì] and the honey basket [pɛndī]. As all other world views, the Baka cosmogony has created a coherent universe where all bits and pieces are closely linked together, and context related. For this reason, the way Baka classify animals cannot be accounted for by using one unique dimension only.

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**PAXMAN**

**The Epistemic Modalities of Literary Criticism**

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In textworld theory, the term "epistemic modalities" refers to words and phrases that signal degrees and kinds of knowledge claims within a text. Although a study of epistemic modalities offers a reduced version of the epistemology of discourse, it gives salience to the verbal epistemological signals—the absolute, qualified, conditional, and hypothetical claims to knowledge made in a text; it thus has the advantage of being more visible and therefore more openly confirmed or dis-confirmed.

This paper has two purposes, first, to test the usefulness of epistemic modalities as a window into the epistemology of a specialized discourse such as literary criticism, and second, to present a cognitive model of the knowledge claims typical in that discourse, starting with epistemic modalities and building outward to less overt ways of stating knowledge claims. To accomplish these tasks the paper will use as a sample ten recent essays of literary criticism that address different genres and historical eras and are informed by different theoretical commitments. It will argue that while epistemic modalities do not give a full picture of the knowledge claims in literary criticism, they do draw attention to other, less overt, claims that can be accessed through other cognitive processes such as mental models and blending. The paper offers and supports a hypothesis: that much literary criticism is conducted by means of an explicit or implicit hypothetical reasoning: if we assume W, if we define X (be it a genre, a historical concept, an ideology, etc.) in such and such a way, and if Y context holds true, we may conclude Z.

The paper will conclude with a diagram of the main features of knowledge claims in literary criticism incorporating four cognitive processes: categories as defined in cognitive study, epistemic modalities, mental models (to use Johnson-Laird's term), and blending.

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**PERSSON**

**Testing pictorial competence in great apes**

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Pictures are common in the experimental study of animal cognition, and have been successfully used in perceptual as well as conceptual tasks for decades. The principal concern has been whether animals are able to recognize objects in pictures or not. The answer is positive (e.g. Fagot et al. 1999; Bovet & Vauclair, 2000). However, the issue whether animals are able to regard pictures *as pictures* is vastly understudied. This question is relevant in light of the scientific interest in the use of other semiotic resources in great apes, such as language and gesture, which also rest on the ability to read meanings into expressions differentiated from their referents. Can animals view pictures in this way, as *signs*?

I propose that there are at least three ways in which a picture can be successfully used in a discrimination or matching procedure (Persson, 2008). The first way, *surface mode*, is by discriminating only surface features (shapes, colors etc.) of the picture. By responding to invariant features in a set of pictures, successful performance is possible without recognition of a motif. Surface mode thus bypasses an appreciation of categorical similarity between entities. The second way, *reality mode*, is to apprehend a motif but not sufficiently differentiate this from reality. In this mode e.g. sorting, matching and communicating with the help of pictures is possible, but it is not really different from relating real instances of the depicted objects. Reality mode thus bypasses reference. The third alternative, *pictorial mode*, is to see pictures as pictures. True pictorial competence is here defined as the approach to stimuli as being visually similar to, but differentiated from, real-world entities. With such an approach it is possible to decode pictures that deviate (visually or otherwise) from reality to a larger extent than in reality mode, although the latter can be quite stretchable.

In order to study pictorial competence in animals one must therefore control for performance in surface- and reality modes. Animals should ideally be able to perform with novel depictions that are low in realism, or pictures that otherwise violate processing in reality mode. Typical for these types of pictures is that their similarities to referents often need to be "filled in" by the perceiver. They are thus also a promising avenue for studying imagination in animals.

Issues with testing pictorial competence will be presented from work with gorillas at Givskud Zoo, Denmark and language trained bonobos at Great Ape Trust of Iowa, USA. Results suggest that some great apes are able to perform in a pictorial mode.

**References**

Bovet, D. & Vauclair, J. (2000). Picture recognition in animals and humans. *Behavioural Brain Research*, *109(2)*, 143-65

Fagot, J., Martin-Malivel, J., & Depy, D. (1999). What are the evidence for equivalence between objects and pictures in birds and nonhuman primates? *Current Psychology of Cognition*, *5-6*, 923-950

Persson, T. (2008). *Pictorial primates. A search for iconic abilities in great apes.* Lund: Lund University Cognitive Studies.

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**PLEBE**

**How language and biology contribute to mental color representations**

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An important question concerning color perception in humans is how lexical items related to colors interact with the biology of the visual system in building color concepts (Davidoff, 2001; Kowalski & Zimiles, 2006). The domain of color terms has traditionally been a privileged terrain of debate in the universalism/relativism issue, being a conceptually well circumscribed domain, without neat boundaries in it from a physical point of view. In the hope of shedding additional light on this debate, we propose a computational model of the convergence between visual and linguistic processing paths in the cortex, aimed at exploring the emergence of color concepts in the early human development. This model is a system of artificial cortical maps, close enough to the biological organization of the cortex in general, and specifically of the visual system (Miikkulainen, Bednar, Choe, & Sirosh, 2005; Plebe & Domenella, 2006). It consists of two main paths, one for the visual process and another for the auditory channel, which convey to a higher amodal map. All the functional organization in the cortical maps emerge from the known hierarchy of structures, and their exposure to several sets of environmental stimuli. The aim is to trace in brain mechanisms where the genetic endowment for color processing and the functional plasticity resulting from cultural and environmental exposure meet. Three different versions of the model are specialized through exposure to color terms of three different languages, while looking at objects colored accordingly to the heard word. One language is English, the other two are Berinmo, from New Guinea, and Himba, from Namibia, languages with singular properties, as been reported by recent research (Roberson, Davidoff, Davies, & Shapiro, 2005). The pre-linguistic exposure to natural scenes are specialized too, according to the different spectra of the environment of the three investigated societies. While in most modern countries early exposure to colors is too varied and unspecific to trigger stable modifications, environments like New Guinea and Namibia seem enough peculiar in color spectra to affect the early emergence of color processing functions in the brain. This environmental bias will later merge with the categorical effects of the lexical color terms.

**References**

Davidoff, J. (2001). Language and perceptual categories. *Trends in Cognitive Sciences*, *5*, 382–387.

Kowalski, K., & Zimiles, H. (2006). The relation between children's conceptual functioning with color and color term acquisition. *Journal of Experimental Child Psychology*, *94*, 301–321.

Miikkulainen, R., Bednar, J., Choe, Y., & Sirosh, J. (2005). *Computational maps in the visual cortex*. New York: Springer-Science.

Plebe, A., & Domenella, R. G. (2006). Early development of visual recognition. *BioSystems*, *86*, 63–74.

Roberson, D., Davidoff, J., Davies, I. R., & Shapiro, L. R. (2005). Color categories: Evidence for the cultural relativity hypothesis. *Cognitive Psychology*, *50*, 378–411.

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**ROSSI**

UP in Motion: Motion events and the acquisition of complex predicates in English

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Children's preference for spatial terms (Clark, 1973) is well documented (Bowerman, 1996), but such asymmetries as the primary spatial (topological) meaning of prepositions have proved difficult to isolate in longitudinal follow-ups (Zlatev, 2003; Kochan, Morgenstern, Rossi & Sekali, 2007). Adding a functional characterization such as Vandeloise's (2004) of the qualitative, aspectual dimensions of spatial prepositions (Cadiot 2002:10) could ease the explanation of children's preferences (Evans, to appear). The study of motion events (Talmy, 2000) provides another such window into early acquisition (Landau & Zukowski, 2003), but presents researchers with the same difficulties. The aim of this paper is to show that motion also lacks functional characterisation, which is crucial in defining central uses and priority of acquisition.
The single semantic feature of "motion" failed to account for the development (from holophrastic uses to complex predicates) of one of the first prepositions to appear in our data: UP. Indeed, against the expectation that adjacent constructions (1) including most verbs of movement (2), should come first, UP appears in cleft constructions earlier on (3) (Hyams, Schaeffer & Johnson, 1993, Broihier et al 1994):

(1). You finished up all that juice.
(2). Wanna climb up the slide?
(3). You finished all that juice up.

We tracked the development of UP in order to show how qualitative, aspectual notions were involved from the start. All utterances containing UP (including child-directed speech) were coded in two longitudinal sorpora (Demuth, 2006), according to contextualized semantic-pragmatic value, relative prominence of UP, and construction type (where appropriate). The results suggest an impact of frequency of use as well as of factors accounting for prominence (e.g. dislocation) on the acquisition of complex predicates. We propose a construction-based interpretation (Goldberg, 2006) integrated within an embodied view of language.

**References**

Broihier, K., Hyams, N., Johnson, K., Pesetsky, D., Poeppel, D., Schaeffer, J. & Wexler, K. (1994) "The Acquisition of the Germanic Verb Particle Construction", *Paper delivered at the 18th Boston University Conference on Language Development,*
Boston.
Bowerman, M. (1996). Learning how to structure space for language: A cross-linguistic perspective. In P. Bloom, M. Peterson, L. Nadel & M. Garret (Eds.) Language and Space. Cambridge, Mass.: MIT Press.
Cadiot, P. (2002). Schémas et motifs en sémantique prépositionnelle : vers une description renouvelée des prépositions dites « spatiales » *Travaux de Linguistique*, 44.
Clark, H. (1973). Space, Time, Semantics and the Child, In: Moore, Timothy E. (ed). *Cognitive Development and theAcquisition of Language*. N.Y. Academic Press.
Demuth, K., Culbertson, J. & Alter, J. (2006). Word-minimality, epenthesis, and coda licensing in the acquisition of English. *Language & Speech*, 49, 137-174.
Evans, V. (to appear) From the spatial to the non-spatial: The 'state' lexical concepts of in, on and at. To appear in V. Evans & P. Chilton (eds.). *Language, Cognition & Space*. To be published by Equinox.
Goldberg, A. (2006). *Constructions at work: the nature of generalization in language*, Oxford: Oxford University Press.

Hyams, N., Schaeffer, J. & Johnson, K. (1993). *On the Acquisition of Verb Particle Constructions*, UCLA & University of Massachusetts.
Kochan, A., Morgenstern, A., Rossi, C. & Sekali, M. (2007) "Children's early prepositions in English and French: a socialinteractional device", *LingO*, Oxford.
Landau, B. & Zukowski, A. (2003) Objects, Motions, and Paths: Spatial Language in Children With Williams Syndrome, in Developmental neuropsychology, 23(1&2), 105–137.
Talmy, L. (2000) *Toward a Cognitive Semantics*, Vol.2: Typology and Process in Concept Structuring. Cambridge; London: The MIT Press.
Vandeloise, C. (2004). *La dimension en français. De l'espace à la matière*, Hermès.
Zlatev, J. (2003) Beyond cognitive determination: Interactionism in the acquisition of spatial semantics. In *Ecology of Language Acquisition*, J. Leather & J. van Dam (eds.),83-107. Amsterdam: Kluwer Academic Publishers.

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**SAMBRE**

Embodied intersubjectivity: building bridges between cogling and Merleau-Ponty

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This contribution wants to positively restore and reinforce the dialogue between phenomenology, i.e. Merleau-Ponty's enigmatic philosophy of language and some areas of cognitive linguistics where echoes of the French philosopher are only indirect or implicit, and does so pursuing two heuristic objectives.

First, we describe ex negativo the relation between embodiment in Merleau-Ponty versus Lakoff and Johnson's (1999) Philosophy in the Flesh (Lawlor: 231-232), which only implicitly (Brockman 1999) mention his early Phénoménologie de la perception (1945) and provide a critique of poststructuralist versions of Saussurean linguistics. This context we confront with Merleau-Ponty's *Phénoménologie* and later or posthumous work, in which he developed an original philosophy of language where expressivity and meaning dynamics are omnipresent.

Second, we positively explore Merleau-Ponty's reflection on intersubjectivity, an extension of the Husserlian notion, and take further these ideas into recent cognitive work on intersubjectivity (Verhagen 2005, 2007, 2008 and Langacker 2001, 2008), which open constructions and cognitive grammar to dynamic, grounded, intersubjective and interlocutive relations and where connection with other minds is at stake. We show compatibilities between these frameworks and Merleau's endeavor not only in *Phénoménologie de la perception,* but also in *Eloge de la philosophie* (1953), *Signes* (1960) or *La prose du monde* (1969) and possibly *L'œil et l'esprit* (1964) and *Le Visible et l'invisible* (1969), publications which lead to a much broader ontological (Edie 1987: 53-54) and linguistically founded project about language.

This phenomenological work is, not surprisingly, very much in line with cognitive preoccupations (Oakley 2009: 79). Our heuristic exploration of Merleau's legacy, (re)discovers previous directions along which his thinking on embodiment and intersubjectivity was concerned mainly with supra-individual discourse (Geeraerts 1985: 364, Fontaine-De Visscher 1974: 63-79), collaborative cognition in communication (Dror and Harnad 2008: 20) or textuality (Bucher 1991: 192-193) and with the role of culture in the social world (Merleau-

Ponty 1945, 2008: 421). Every act of linguistic creation is then also a dynamic discursive process with the social Other and has a double status. On the one hand, we are aware of other subjects with whom we share common meanings and can therefore communicate in reciprocity (Matthews 2006: 118, Spurling 1977: 52). On the other, in interaction, we transform meaning (Merleau-Ponty 1960 : 131). This paradox of expression between the intersubjective transmission and generation of meaning (Adams 2008: 156) envelops synchrony in diachrony (Merleau-Ponty 1960) and is compatible with another interpretation of (post)structuralism.

As a result, this paper maintains (Harder 2007: 1262) and further explores the implicit (Nerlich and Clarke 2007: 602) and explicit relation between cognitive linguistics and its European phenomenological foundations (Zlatev forthcoming), We re-create some of Merleau-Ponty's thinking and make it public (Eco : 161). Merleau-Ponty, as a matter of fact keeps asking questions to cognitive linguistics and vice versa. Building bridges between cognitive linguistics and Merleau-Ponty illustrates Merleau-Ponty's own adagium: "Si les créations ne sont pas un acquis, ce n'est pas seulement que, comme toutes choses, elles passent, c'est aussi qu'elles ont presque toute leur vie devant elles." (Merleau-Ponty 1964: 92-93).

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**SANDIN**

**Context replacement as a creative act**.

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Creativity, in the sense finding original solutions to life world problems, can be seen as the principal force of communicational as well as cognitive genesis, such as when new language elements occur, or new semiotic resources appear. But what, then, is creativity? Creativity has been thought of as "modifying the rules and constraints [of language] by using and combining the existing means in novel ways, proposing new meanings and structures" (Heine/Kuteva). Put in slightly other terms, more related to the cultivation of human disciplines in general, creativity has been defined as an original act that not only make a radical "revision of the content" of a field of interest (as in art, sport, science, etc.) but also makes a "change of the rules" by which the discipline orients itself (Sahlin). An attention to the rules, or more exactly the modification of tacit or explicit rules, would thus seem to be a necessary feature of creative acts without which we would be confined to a combinatorics of elements that could only indirectly, if at all, be evolutionary, and intersubjective.

However, a focus on the rules has a tendency to confine the problem of creativity to being one about the refinement of the particular culture/community that makes the rules. Art, science, as well as everyday cultural interaction, is communicated and measured against a paradigm, a tradition, or a memory, serving as an historical "filter" when we evaluate originality. This type of historical (or memory-based) judgement, needed as it is for the maintenance of a culture, and for detection of violation against it, also risks forwarding a "proper" – in the sense non-creative – way of cultivation.

In this paper it is discussed to what extent creativity is not only a matter of finding rule-modifying solutions to a problem, but also about expressing unforeseen intentions of a more open-ended character. One way of realising open-endedness appears when ideas or actions are expressed in more than one context, or in other contexts than the one in which

they arose. It is here suggested that creativity emerges in – and as – the act of shifting the basic communicational context. The main suggestion is that the disciplinary *contexts* in which we position, communicate and measure originality are fundamental for how originality, thus also creativity, is defined. It is claimed that it is the representational situation itself that makes an original thought discernible in the first place. By acknowledging the semiotic notion of "auto-communication" as a "creative function of a text" (Lotman) as well as the cultural semiotics where the point-of-view of one culture decides whether other cultures are to be regarded as "text, extra-text, or non-text" (Sonesson), we get the models needed to argue for a shift-of-context as a creative act in itself. These semiotic aspects can then also be discussed in relation to the understanding of contextual shifts in the fashion of attention psychology (Arvidson) where various types of contextual alteration – like enlargement, contraction, elucidation, obscuration, and replacement – are viewed as changing the thematic focus of the phenomenon perceived.

Key words**:** creativity, originality, context

**SHAYAKHMET**

**Language socialization of Kazakh children**

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Kazakhstan is one of the post Soviet Republics where both Kazakh as an official language and Russian as international language function simultaneously. Kazakh children have to learn the social conventions for language use, and as a result we have children growing up bilingually.

We have studied the bilingualism of children who are from 6-7 to 10-11 years old. First of all we made the selection which has allowed us to set the bilingual children apart those who have a Diglossia. We mean, in Kazakhstan there are many children who have acquired spoken Kazakh from their family, but they have not learnt to use the more formal styles requiring specific morphological or lexical forms in Kazakh, whereas in their Russian they are able to use more complex expressions for specific purposes.

After that we divided bilingual children into two groups depending on their dominant language. Then we conducted a whole series of principal experiments in order to clarify the real skills of our children in speaking. The children had to tell us some short stories, retell some ideas, describe the pictures, which were given them, answer some simple questions, solve some easy riddles. Talking to children we did not pay their attention intentionally at what language they had to use. We gave the bilingual children several tasks in Kazakh, and after some period of time – the same or analogous tasks in Russian, or vice versa. Under such conditions some children could implement the given task in the same language: i.e. if we asked them in Kazakh, they answered in Kazakh too; if our question was in Russian, they also used Russian in their answer. Other children used both Kazakh, and Russian, although the question was in only one language. And we have to admit that the number of first group children is much less than the children of second group, i.e. so-called 'co-ordinate' bilinguals are rare, whereas 'compound' bilinguals are typical phenomena of our society, where people often switch between their two languages in their conversation, and very few of them belong to group having balanced bilingualism.

Children's bilingualism is a very complex phenomenon; there are plentiful factors which have an impact on it; among other things we can mention the child's age, family and social situation. In the majority of our cases, Kazakh families use code-switches between and even within sentences, involving phrases and words, and sometimes even parts of words. In our social circumstances such type of speech has become quite stable. As for types of code-switching, we have rather situational code-switching when speakers begin a conversation in Kazakh, after that they switch to Russian, and at the end return to Kazakh.

According to our questionnaires, those children, who could be placed in a category of co-ordinate bilinguals, initially have acquired their native language, so, when they started to acquire the second language they had a high level of linguistic competence in their native language.

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**SHORE**, see Plenary lectures

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**SINHA**

**Meaning and Materiality: How Language Grounds Symbolic Artefacts**

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The comparison between signs (including the signs of language) and tools has often been made. Karl Bühler (1990), influenced by the functionalism of Prague School linguistics, proposed the Organon (Greek=tool or instrument) Model of language. Lev Vygotsky (1978) also viewed signs as instruments, not only enabling communication between individuals, but also transforming intra-individual cognition. Vygotsky regarded the analogy as resting on the fact that both sign and tool support mediated activity; but he also distinguished between their modes of mediation in that, while tools are "outer directed", transforming the material world, signs are "inner directed", transforming and governing mind, self and behaviour (Vygotsky,1978: 54-55).

Tools, of course, are one type of in the wider class of artefacts, but whether language as a symbolic system can be considered as an artefact is disputed. Pinker (1994), in keeping with his nativist modularist view of the language capacity, denies that language is an artefact: he regards language as a part of the natural world, and the capacity for language as a part of human nature.

We can counter Pinker's view, however, by pointing out that many species construct "artefactual" niches (Laland *et al.*, 2000), and language itself may be considered as a universal (transcultural) component of the species-specific human biocultural niche (Sinha, 2006, 2009). Language has a dual nature, as part of human species-being, what it means to be human, and as the foundational social institution in the Durkheimian sense (Durkheim, 1895). Treating language as a biocultural niche yields a new perspective on both the human language capacity (falsely identified with language itself by generative linguistics) and on the evolution of this capacity. It also enables us to understand the significance of language as the symbolic ground of the special subclass of *symbolic artefacts*. This subclass can be defined as comprising those artefacts that support symbolic and conceptual processes in abstract conceptual domains, such as time and number. Examples of symbolic artefacts are

notational systems (including writing and numeric notations), dials, calendars and compasses. Cultural and cognitive schemas organizing at least some relevant conceptual domains may be considered, I shall argue, as *dependent upon*, and not merely *expressed by*, the employment of symbolic artefacts in cultural and cognitive practices.

To qualify as a symbolic artefact, the artefact must have a representational function, in the Bühlerian sense. All artefacts have a *signifying* status, inasmuch as they functionally "count as" instances of the artefact class of which they are a member, to use Searle's expression (Searle, 1995); and their material form signifies their canonical function (Sinha and Rodriguez, 2008; Sinha, 2009). However, to be a *symbolic* artefact, the artefact must also *represent* something outside itself, through a sign function materially embodied in the artefact. All such sign functions are ultimately grounded in language, although they also frequently incorporate iconic relations. The recruitment of objects as signs in interactive contexts is of great importance in cognitive development (Sinha, 2005). Intentionally designed symbolic artefacts, just as much as language, are constitutive parts of the human biocultural niche, and are of fundamental importance in human cultural-cognitive evolution.

**References**

Bühler, K. (1990 [1934]) *Theory of Language: The Representational Function of Language*. Amsterdam: John Benjamins.
Durkheim, E. (1895) *Les Règles de la méthode sociologique*. Paris: Alcan.
Laland, K.N., Odling-Smee J. and Feldman M.W. (2000) Niche construction, biological evolution, and cultural change. *Behavioral and Brain Sciences* 23: 131-175.
Pinker, S. (1994) *The Language Instinct.* London, Penguin.
Searle, J. (1995) The Construction of Social Reality. London, Penguin
Sinha, C. (2009) Language as a biocultural niche and social institution. In Vyvyan Evans and Stéphanie Pourcel (Eds.) *New Directions in Cognitive Linguistics.* Amsterdam: John Benjamins, pp. 289-310.
Sinha, C. (2005). Blending out of the background: Play, props and staging in the material world. *Journal of Pragmatics* 37, 1537–1554.
Sinha, C. (2009) Objects in a storied world: materiality, narrativity and normativity. *Journal of Consciousness Studies,* 167-190.
Sinha, C. and Rodríguez, C. (2008) Language and the signifying object: from convention to imagination. In J. Zlatev, T. Racine, C. Sinha and E. Itkonen (eds.) *The Shared Mind: Perspectives on intersubjectivity.* Amsterdam: John Benjamins, pp. 358-378.
Vygotsky, L.S. (1978) [1930] Mind in Society: The development of higher mental processes. Cambridge, MA: Harvard University Press.

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**SOARES DA SILVA**

**Illness, storm and war: Metaphors of the financial crisis in the Portuguese press and their ideological function**

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The aim of this paper is to analyze the conceptual metaphors that structure the Portuguese press journalistic discourse as regards the financial and economical crisis. The analysis uses corpus-based methodology and relies on a corpus of news and opinion articles extracted

from national and economic newspapers published between September 2008 and March 2009. It follows the framework of Conceptual Metaphor Theory (Lakoff & Johnson 1980, 1999) and other research areas of Cognitive Linguistics (Geeraerts & Cuyckens 2007). The paper investigates the experiential and cultural motivations of the metaphors of crisis as well as their ideological functions.

The corpus-based analysis shows that there are three main conceptual metaphors used in the Portuguese press for crisis:

• CRISIS IS ILLNESS: the crisis is a heart failure, it is a contagious and epidemic disease, it has pathogenic causes and agents such as famous toxic investments and requires various types of therapy and medication

• CRISIS IS STORM/EARTHQUAKE: crisis is an atmospheric turbulence, a storm, a hurricane, a tornado, a cyclone and a geological earthquake, a shake-up or a tsunami

• CRISIS IS ENEMY: to solve the crisis is to fight the enemy through war.

These organic, natural and bellicose metaphors are grounded on *image schemas* (Johnson 1987, Hampe 2005) from bodily experience, like 'in-out' schema (crisis is a force that comes from the outside to the inside of the container and invades a delimited area), 'up-down' schema (crisis is a loss of balance, from which results the collapse of the system) and a number of 'force dynamics' schemas (crisis is an irresistible and destructive external force and reacting to the crisis implies a superior counter-force).

The *embodiment* of crisis metaphors turns them into cognitive models with important ideological functions (Dirven, Frank & Pütz 2003). These metaphors are used in order to say that nobody knows anything about the current world financial crisis, to blame external and uncontrollable causes, to take off responsibility from Western policies, financial and economic systems, to reduce the responsibility of economic and political agents, to focus on the negative aspects of free market economies and hide their benefits, and they also serve to prone economic catharsis or the promise of a radical change.

We will argue that the corpus-based study of metaphor provides empirical evidence about the relevance, hierarchy and typical configurations of metaphorical source domains and about the ideological functions of metaphor in the public discourse too.

**References**

Dirven, René, Roslyn Frank & Martin Pütz (eds.) (2003). *Cognitive Models in Language and Thought: Ideology, Metaphors, and Meanings*. Berlin/New York: Mouton de Gruyter.

Geeraerts, Dirk & Hubert Cuyckens (2007). *The Oxford Handbook of Cognitive Linguistics*. Oxford: Oxford University Press.

Hampe, Beate (ed.) (2005). *From Perception to Meaning. Image Schemas in Cognitive Linguistics*. Berlin/New York: Mouton de Gruyter.

Johnson, Mark (1987). *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: The University of Chicago Press.

Lakoff, George & Mark Johnson (1980). *Metaphors We Live By*. Chicago: The University of Chicago Press.

Lakoff, George & Mark Johnson (1999). *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.

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**SONESSON**

**From mimesis to mime and beyond. Reflections on a general theory of iconicity**.

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Practically all theories of iconicity are denunciations of its subject matter: thus, for instance Goodman, Bierman and the early Eco all maintain that there can be no iconic signs, since all signs are conventional. My own theory of iconicity was developed in order to save a particular kind of iconicity, pictoriality, from such criticism (Sonesson 1989; 2000). Since I did not believe in the simple assertation of similarity as such, I had to distinguish pure iconicity, iconic ground, and iconic sign, on one hand, and primary and secondary iconic signs, on the other hand. Since then, the conceptual tools that I created to explain pictoriality have been shown by others to be relevant to linguistic iconicity (Willems & de Cuypere, eds. 2008). At the time, the issue tended to be conceived outside of time, but since then evolution and development has taken the front stage of scientific preoccupations. Nevertheless, the categories of my theory of iconicity has turned out to be even more relevant in this context. In the evolutionary semiotics of Deacon (1997), iconicity is referred to in such as general way that is seems to be emptied of all content, while in the variety invented by Donald (1991) the term mimesis is used for a particular phase in the evolution of iconic meaning. While I can account for the problems of Deacon's theory, the ambiguous notion of imitation seems to be the clue to the apparent difficulties of Donald's evolutionary scheme. The aim of this paper is to consider to what extent the extension of iconicity theory to new domains, in particular to evolution and development, will necessitate the development of new models.

**References**

Deacon, Terry (1997*) The Symbolic Species: The Co-Evolution of Language and the Brain.* New York: Norton.
Donald, Merlin (1991) *Origins of the Modern Mind. Three Stages in the Evolution of Culture and Cognition*, Cambridge, Mass.: Harvard University Press.
Sonesson, Göran (1989) *Pictorial concepts. Inquiries into the semiotic heritage and its relevance for the analysis of the visual world*. Lund: Aris/Lund University Press.
– (2000) Iconicity in the ecology of semiosis, In Troels Deng Johansson, Martin Skov & Berit Brogaard (eds.), *Iconicity - A Fundamental Problem in Semiotic*, 59-80. Aarhus: NSU Press.
Willems, Klass, & de Cuypere, Ludovic, (eds.) (2008) *Naturalness and iconicity in language.* Amsterdam: Benjamins.

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**STEELE**

**Forget IKEA: Language has the Optimal Storage Solution**

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From a network theory perspective, when accumulated patterns of linguistic form are represented as a word co-occurrence network, an optimal storage solution for word representations is revealed. Two word co-occurrence networks are examined: one

composed of adult utterances, the other of early child utterances (BNC World Edition 2001; Sachs 1983; MacWhinney 2000).

Nodes in these networks represent orthographic words whereas links represent the precedence relations between adjacently co-occurring words in a sentence. The resulting typology of the network is shaped by the optimisation of two constraints: the minimisation of the link length i.e. the storage cost of representing two adjacently cooccurring words and the maximisation of word combinations.

In the network, the cost of storing two adjacently co-occurring words is calculated by attending to the transitional probabilities between the two words. High transitional probabilities induce chunking, and in turn the chunking of two elements lowers the storage cost of their representation. Therefore, a high transitional probability signifies a low storage cost. As such, storage cost is indicative of the cohesion between adjacent word co-occurrences. The other constraint of maximising word combinations supports the idea that speakers do not only want to be expressive with words but sometimes they want to be extravagant (Haspelmath 1999).

The general mathematical model that captures the optimisation process (Mathias & Gopal 2001) exhibits a distinctive characteristic: the manifestation of multiple link lengths in the form of a power law distribution (Kasturirangan 1999; Mathias & Gopal 2001). This significant property has been evidenced in the adult and the child word co-occurrence networks under study, in the form of multiple values of storage cost and thus, multiple cohesions between adjacent words (Steele submitted).

Such cohesions form groupings of linguistic form known as syntactic constituents (see also Bybee 2002). Thus, syntactic constituency is a property derived from the optimal storage of word representations, in that the reduction of storage costs does not overly curtail expressiveness. Furthermore, this optimal storage is not unique to language but specific to a type of network generated by minimising the cost of the wire linking to the nodes whilst maximising the connectivity within the given network (see Mathias & Gopal 2001). Indeed, in actual neural structures, neuronal wiring length is minimised by the economical location of neuronal components (Cherniak 1995).

**References**

*British National Corpus, version 2* (BNC World). (2001). Distributed by Oxford University Computing Services on behalf of the BNC Consortium. URL: http://www.natcorp.ox.ac.uk/

Bybee, J.L. (2002). Sequentiality as the basis of constituent structure. In T. Givón and B. Malle (Eds.), *The Evolution of Language out of Pre-Language*. Amsterdam: John Benjamins, 107-132.

Cherniak, C. (1995). Neural Component Placement. *Trends in Neurosciences*, 18: 522-527.

Haspelmath, M. (1999). Why is grammaticalization irreversible? *Linguistics*, 37(6): 1043–1068.

Kasturirangan, R. (1999). Multiple Scales in Small-World Networks. *Technical Report AIM-1663*, arixiv:cond-mat/9904055; www.lanl.gov.

Mathias, N. and V. Gopal. (2001). Small worlds: How and why. *Physical Review E (Statistical, Nonlinear, and Soft Matter Physics)*, 63(2):021117/1-12.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk*. Third Edition. Mahwah, NJ: Lawrence Erlbaum Associates.

Sachs, J. (1983). Talking about the there and then: The emergence of displaced reference in parent–child discourse. In K.E. Nelson (Ed.), *Children's language, Vol. 4*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1-28.

Steele, J.L. *A hubterranean view of syntax: An analysis of linguistic form through network theory*. PhD Thesis, EMSAH, University of Queensland, Australia. Submitted, October 2009.

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**TAG et. al**

**Analyzing metaphoric expressions in TV reports - an interdisciplinary approach to metaphors in speech, gesture and film**

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Analyzing metaphoric expressions in TV reports reveals that one and the same metaphor may be realized not only on the verbal level but also in other modalities like gesture or intonation as well as through specific film techniques like camera perspective, camera movement or editing. Throughout a whole report, these realizations are describable as a dynamic foregrounding process of metaphoricity (cf. Müller 2008; Müller & Cienki 2009; Müller & Tag subm.) and they establish a complex aesthetic audiovisual composition based on *Expressive Movement* (*Ausdrucksbewegung*) (Kappelhoff 2004, 2008a). In our talk we will put forward the argument that reconstructing multimodal metaphoric expressions in audiovisual images requires an approach which builds on both cognitive-linguistic and film-aesthetic research.

The theoretical and methodological background of our presentation thus is, on the one hand, Müller's cognitive-linguistic *dynamic view on metaphors in language use* (Müller 2008), reconstructing the embodied nature of the activation of metaphoricity in spoken discourse and text-image compositions, and, on the other hand, Kappelhoff's film-analytical approach to *expressive movements as aesthetic structures of audiovisual images* (Kappelhoff 2004, 2008b). Each approach makes an important contribution to current research on multimodal metaphors in the respective discipline, i.e. in cognitive linguistics (cf. Forceville 2009; Forceville & Urios-Aparisi 2009) and in media and communication research (cf. Fahlenbrach 2008). In this talk, we will outline first steps in bringing together Müller's and Kappelhoff's work. By presenting macro- as well as microanalytical takes on a report on the current financial crisis broadcasted in the German political TV programme "Report Mainz", we will illustrate how the cognitive-linguistic *Metaphor Foregrounding Analysis* (Müller & Tag subm.) and the film-analytical method of analyzing aesthetic structures of audiovisual images in terms of *Expressive Movement* (Kappelhoff 2004, 2008a) can be combined and applied to the analysis of TV news. These analyses not only reveal the dynamic and multimodal nature of metaphoric foregrounding and the establishment of a film-aesthetic compositional structure in the process of time but also that within this structure metaphoric expressions may be systematically intertwined and related

to one another. Thus, the combination of a linguistic and a film-analytical take provides a new interdisciplinary approach that enhances the analysis of multimodal metaphors in audiovisual images.

**References**

Fahlenbrach, K. (2008) *Audiovisuelle Metaphern. Zur Körper- und Affektästhetik in Film und Fernsehen*. Ms., Habilitation, Martin-Luther-Universität Halle-Wittenberg.
Forceville, C. (2009) Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research. In: C. Forceville & E. Urios-Aparisi (Eds.), *Multimodal Metaphor*. Berlin/New York: Mouton de Gruyter, pp. 19-42.
Forceville, C. & Urios-Aparisi, E. (Eds.) (2009) Multimodal Metaphor. Berlin/New York: Mouton de Gruyter.
Kappelhoff, H. (2004) Matrix der Gefühle. Das Kino, das Melodrama und das Theater der Empfindsamkeit. Berlin: Vorwerk 8.
Kappelhoff, H. (2008a) Die Anschaulichkeit des Sozialen und die Utopie Film. Eisensteins Theorie des Bewegungsbildes. In: G. Boehm, B. Mersmann & C. Spies (Eds.), Movens Bild. Zwischen Evidenz und Affekt. München: Wilhelm Fink Verlag, pp. 301-324.
Kappelhoff, H. (2008b) Zuschauergefühl. Die Inszenierung der Empfindung im dunklen Raum des Kinos. In: G. Spiekermann & B. Söntgen (Eds.), Tränen. München: Wilhelm Fink Verlag, pp. 195-206.
Müller, C. (2008) Metaphors. Dead and alive, sleeping and waking. A cognitive approach to metaphors in language use. Chicago: University of Chicago Press.
Müller, C. & Cienki, A. (2009) When speech and gesture come together. Forms of multimodal metaphor in the use of spoken language. In: C. Forceville & E. Urios-Aparisi (Eds.), Multimodal Metaphor. Berlin/New York: Mouton de Gruyter, pp. 299-332.
Müller, C. & Tag, S. (subm.) Attention, Foregrounding, and Embodied Activation. Multimodal Metaphors in Spoken Discourse. In: Cognitive Semiotics.

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**TONNER**

**Action, language and material culture, a phenomenologico-archaeological approach**

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Archaeologists, neuroscientists and philosophers all aim to shed light on the holistic and coconstitutive role played by bodies and brains, objects and culture over the course of hominin cognitive evolution. Archaeology can, with an ever increasing precision, tell us where and when *Homo sapiens sapiens* emerged. The ‘where’ is Africa and the ‘when’ is some time between 100 000 and 200 000 years ago yet the archaeological record began some 2.5 million years ago. Gaining insight into human cognitive evolution and the emergence of the modern mind will involve coming to terms with the archaeological record across evolutionary change.

Advances in neuroscience and brain imaging have enabled researchers to explore the foundation for tool using capacity in modern human brains. Stout et al have advanced, on the basis of a recent (FDG-PET) study, a thesis for the coevolution of language and tool manufacture: tantalisingly, the neural circuits that support tool manufacture overlap with those that support language. The implication of this research is that both linguistic

behaviour and tool manufacture are grounded in the more basic, but nevertheless complex, capacities for intentional (goal-directed) activity within an environment of pragmatic concern and it is likely that both language and tool-use evolved in a mutually supporting and co-constituting manner.

My paper will depart from accounts of tools that emphasise material culture as a signifying system and I will qualify such theses in terms that satisfactorily account for both linguistic meaning and the meanings of material things. I will do this by extending and complementing phenomenological discussions of action and agency in and I will show how, for example, the stone tool is constituted as a cutting tool by virtue of the agents' meaningful/purposeful appropriation of it to the task of cutting. I shall argue that such pragmatic and meaningbestowing appropriation is operative throughout hominin evolution; I shall qualify my argument in terms that build upon growing empirical evidence and I will show how such evidence can be conceptualised in terms suggested by phenomenological philosophers. I will argue that material culture (taken as a signifying system wherein meaning is rethought as use) and language can be combined within this perspective that emphasises the 'linguisticality' of hominin engagement with the world. Given the antiquity of tool industries and the overlap between neural circuits that has been identified, linguisticality as a feature of hominin mentality predates the evolution of natural languages. Drawing on thinkers in archaeology and philosophy such as Mithen and Dunbar, Woodruff Smith and Thomasson, Wheeler and Clark, and from classical thinkers such as Wittgenstein and Heidegger, my paper will show how linguisticality provides a unifying analytic device for conceptualizing holistically hominin cognitive evolution.

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**TOYOTA et al**.

**Mental verb from an evolutionary perspective**

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Mental verbs (including both perception and emotion) often exhibit grammatical peculiarities both syntactically and semantically, and these features have troubled theoretical linguists. In this paper, we argue that the evolutionary development of mental verbs differ in timing, but follow a similar pattern to other verbs. In other words, the development of mental verb recapitulates that of other verbs. Therefore, mental verbs can play an important role in understanding some of the earlier stages in our language evolution.

One of the unique features in the mental verbs is the causation. It is common that human or other animate entities are considered as actor and becoming the subject of a clause as a doer or causer of an event. However, human entities are mere recipient of outer sanitation and the amount of causation involved is considerably smaller. What is obvious here is that the direct object as a patient in ordinary verbs and the direct object as an experiencer in mental verbs are more or less the same both semantically and syntactically.

This is why the origin of the grammatical markers for them originates from either the dative or allative case marking, signalling the end point of the energy transfer. This fact also accounts for the dative subject for mental verbs in many languages. Some languages have developed further than the other verbs and turn the dative experiencer into the

nominative, making it syntactically identical to agent, but a number of languages still preserve the older system of the dative experiencer.

Evolutionary, the causation was expressed using a metaphorical extension of spatial sense, from actor to undergoer. In addition, it is most likely that the nouns are divided into active and inactive nouns, meaning that only active nouns could be actor and inactive nouns, undergoer (cf. Algonquian languages). In this environment, mental verbs are not likely to appear, since those entities referred to by animate nouns are experiencer. This is perhaps why mental verbs were not appeared first. When mental verbs appeared, they used the same principle of metaphorical extension of spatial movement, but by this time, earlier spatial markers had been grammaticalised as case markers such as accusative.

The late development of the mental verbs is due to the mixture of various features, but perhaps animacy of experiencer was important, i.e. it was considered by default that human entities are actor in unmarked structure, and this is not suitable for mental verbs. Since there is a parallel pattern in historical development, the development of the mental verbs, which we can still observe with historical data, can be an important indicator of earlier stages of other verbs.

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## VANHASALO

### From embodied experience into situated language

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Mundane life is full of memorable events and experiences that we enjoy sharing with other people as amuzing anecdotes or elaborate stories. In this presentation I will show, how gestures reveal intra- and interpersonal (cognitive) processes of the speaker during one activity type (telling of an anecdote). Here I mean with intrapersonal "what the speaker is doing at a moment" and with interpersonal "how this doing is part of the surrounding social situation". My primary (naturalistic) data is one anecdote and its micro-analysis using the concepts bodily mimesis and dynamicity. To address intrapersonal processes, I will use definition *bodily mimesis* (Zlatev) to show how during recounting the past experience the visuo-spatial aspects of actions and objects, and shifting perspective between protagonists are represented through pantomime and gestures. These mimetic representations reflect the mental imagery of the experience and thus the intrapersonal cognitive processes of the speaker. Furthermore, the same applies analogically for signed languages. Narratives based on real life are executed in Finnish Sign Language in a more complicated manner than those based on fiction only, and the analysis of the signed anecdote in Rissanen is not at all unlike my example of spoken anecdote when it comes to bodily mimesis as reflection of imagery. To address the interpersonal processes, I will apply the approach developed in *the dynamic view of metaphors* (Müller). I will show how speaker shifts from merely recounting the past experience to simultaneously expressing the elevance of the recounting in the given discourse context, and as the speaker‟s focus of attention shifts from intrapersonal to interpersonal he relocates the new gesture distinct from the prior gesture space. These kind of distinct locations of gestures reflect the speaker‟s simultaneous monitoring of the social situation, thus revealing the interpersonal cognitive processes. Other research on location of gesture has established that the location is relevant in deictic and iconic (motion) gestures as part of meaning of the expression and that use of gesture

space is also sensitive to the number and position of the interlocutors. For the time being I want to bring to awareness that occasionally the use of gesture space expresses sensitivity to the social situation in a more abstract, contextual manner. To sum up, when embodied experience gets "translated" into situated language gestures reveal the underlying cognitive processes of the translation, because gestures are manifestations of these underlying cognitive processes.

**References**

Müller, C. (2008): What gestures reveal about the nature of metaphor. Cienki, A. & Müller, C. Metaphor and
Gesture. (eds.) 219–245. Amsterdam: John Benjamins.
Rissanen, T. (1992): Näkökulman vaihtamisesta suomalaisessa viittomakielessä. In Kielitieteen kartoitusta. Itkonen, Pajunen & Haukioja (eds.). Publications of the department of Finnish and General Linguistics of Turku: Turku.
Zlatev, J. (2007): Embodiment, Language, and Mimesis. In Body, Language and Mind. Vol 1. Ziemke, T., Zlatev, J. and R. Frank (eds.), 241–281. Berlin: Mouton.
Data Sg 347. Archives of Finnish Language and Literature, University of Helsinki

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## VOESTE & BOYER

### "Bringing history in": From the sociolinguistic to a historical paradigm of language history writing

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Sociolinguistics have made considerable progress in the last decades with respect to the analysis of correlations between linguistic variants and non-linguistic social and cultural factors; and linguistic variations have been correlated with differences in social determinants like gender, age and social position. More and more of these external factors have been tested as regards their potential influence on the choice of linguistic variants.
Despite all these achievements, there seem to be two principal problems inherent in the sociolinguistic paradigm: a) Sociolinguistics concentrates on *micro-variables*, i.e. the factors which characterize the linguistic profiles of *single* speakers or *smaller groups* of speakers. It tends to ignore the complex framework of "big" political-social-economic-cultural conditions of language and language change at large. b) Above all, sociolinguistics tends to neglect the *concrete*, i.e. *individual-historical* configurations of linguistic variants and non-linguistic determinants in favor of an analysis which places the variables, as it were, beyond historical space and time. But language historians (intensively assisted by „general historians ) should be capable to explain concrete, individual historical processes of language change in their particular historical settings. There may be a „short link between external factors and the linguistic phenomena caused by them. But in most cases, the link is indirect, i.e. mediated by linguistic norms, in the broad range between informal/implicit and politically or administratively produced/explicit: norms which are no *abstracta*, but again generated by concrete historical actors and their interests.
Taking 20th century German language history as an exemplary case, we shall present proposals on how the sociolinguistic paradigm might be extended towards such a genuinely historical paradigm of language history writing. We shall distinguish two different layers.

On the first level, the complex bundle of political-socioeconomic-cultural modernization trends of European history: long lines which are considerably intensified in the 20th century. There is, e.g., a growing differentiation of society which manifests itself in a significant increase in horizontal and vertical social mobility or in the growing complexity of the economy. This trend is reflected in the rising number and complexity of linguistic registers and different types of texts between which a speaker must be able to switch. These general European trends are, on the second level, intensified by the special factors of German history. Here, we are not in the first place interested in the notorious impacts of the "big disruptions" of 1918, 1933, 1945/8 and 1989 on the "political regions" of the German lexicon. Our focus is "creeping", i.e. incremental language change as effectuated by the permanent, mostly unobtrusive influences of historically concrete (political, administrative, educational etc.) individual and institutional actors (including the *Zeitgeist*) producing, implementing and enforcing language norms. We intend to develop a systematic, comprehensive scheme of analysis as regards the complex constellations and interactions in this field, embedding them into the general social and cultural history of Germany, hereby tracing the long lines of development from the *Kaiserreich* to re-unified Germany.

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**WALKER & VAN DER ZEE**

**Directional adposition use in English, Swedish and Finnish**

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Directional adpositions such as *to the left of* describe where a Figure is in relation to a Ground. English and Swedish directional adpositions refer to the location of a Figure in relation to a Ground, whether both are static or in motion. In contrast, the Finnish directional adpositions *edellä* (in front of) and *jäljessä* (behind) solely describe the location of a moving Figure in relation to a moving Ground (Nikanne, 2003).

When using directional adpositions, a frame of reference must be assumed for interpreting the meaning of directional adpositions. For example, the meaning of *to the left of* in English can be based on a relative (speaker or listener based) reference frame or an intrinsic (object based) reference frame (Levinson, 1996). When a Figure and a Ground are both in motion, it is possible for a Figure to be described as being *behind* or *in front of* the Ground, even if neither have intrinsic features. As shown by Walker (in preparation), there are good reasons to assume that in the latter case a motion based reference frame is involved. This means that if Finnish speakers would use *edellä* (in front of) and *jäljessä* (behind) more frequently in situations where both the Figure and Ground are in motion, a difference in reference frame use between Finnish on one hand and English and Swedish on the other could be expected.

We asked native English, Swedish and Finnish speakers' to select adpositions from a language specific list to describe the location of a Figure relative to a Ground when both were shown to be moving on a computer screen. We were interested in any differences between Finnish, English and Swedish speakers.

All languages showed a predominant use of directional spatial adpositions referring to the lexical concepts TO THE LEFT OF, TO THE RIGHT OF, ABOVE and BELOW. There were no differences between the languages in directional adpositions use or reference frame use, including reference frame use based on motion.

We conclude that despite differences in the grammars of the languages involved, and potential differences in reference frame system use, the three languages investigated encode Figure location in relation to Ground location in a similar way when both are in motion.

**References**

Levinson, S. C. (1996). Frames of reference and Molyneux's question: Crosslingiuistic evidence. In P. Bloom, M.A. Peterson, L. Nadel & M.F. Garrett (Eds.) *Language and Space* (pp.109-170). Massachusetts: MIT Press.

Nikanne, U. (2003). How Finnish postpositions see the axis system. In E. van der Zee & J. Slack (Eds.), *Representing direction in language and space*. Oxford, UK: Oxford University Press.

Walker, C. (in preparation). *Motion encoding in language, the use of spatial locatives in a motion context*. Unpublished doctoral dissertation, University of Lincoln, Lincoln. United Kingdom

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**WIERUCKA**

**Empowering the Minority through the Legalization of Its Language – The Kashubian Culture after 2003**

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The cultural diversity of Poland is not widely known yet there are few cultures in the country that stand aside from other people and maintain their centuries old ways of life. The best known for this are Ślązacy and Kaszubi (Kashubian). The latter experienced the very important change in the recognition of their culture in the world: their language, preserved for many years despite of numerous attempts to destroy it, was given the CSB code in year 2003. This fact had the huge influence on the social and legal changes in the lives of Kashubian people - the language is now taught in local schools, may be used in all administrative offices, and may also be learned as a foreign language. It gives the Kashubian people much more possibilities for maintaining their culture but also puts them aside from other local cultures. Centuries old conflicts between Kashubian people and their neighbors (who speak different dialects of Polish that are not considered separate languages) were awaken by the fact that Kashubian language was accepted as a original and completely separate from Polish.

Based on this example my research tries to prove how the legalization of the language influences its culture and how it affects people's everyday life.

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**WYLY**

**Monuments in metonymy: mapping Old Scandinavian communication networks through the evolution of Norse *kenningar***

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The emergence of increasingly rich models of communication facilitates correspondingly enhanced historical reconstructions. Dialogues between Indo-European linguists and both anthropologists and archaeologists have taken the comparative method beyond the algebra of phonemic equations to consider the concepts and customs that cognate lexemes and syntagmata diachronically trace. This paper draws on insights into the social dynamics of language acquisition to build upon the cognitive modelling of Indo-European poiesis formulated by Peabody (1975), Nagy (1990) and Watkins (1995).

Indo-European registers a sweeping backdrop of cultural transformation, since the common parent language reflects the material culture of the so-called Secondary Products Revolution in the Neolithic economy (Mallory & Adams 2006:284). As the social institutions of this population would have been correspondingly constrained, the transition from 'small world' communication networks (Watts & Strogatz 1998) to scale-free networks (Barabási & Albert 1999) of more expansive speech communities should lie squarely within the historical evolution of the Indo-European daughter languages.

Beyond its phonology and grammar, the Indo-European linguistic inheritance included characteristic symbolic stratagems for conceptualizing cognition. This might be considered a common poetics whose historically contingent variations produced the diverse traditions attested among the various cohorts of Indo-European speakers. Along with those from Ireland, the Punjab and the Aegean, the earliest documented traditions for Scandinavia provide valuable evidence for reconstructing the more archaic strata of such poiesis, as corpora of particularly retentive natural language varieties were recorded in these milieux.

In this paper, Ogura and Wang's (2004) theory of a *language game* as producing change spread by cooperation in interaction among individuals will be applied to the analysis of the *kenning* system of Norse scaldic poetics. Their model allows this traditional discursive genre to be analysed as a dynamic and adaptive system, whose most characteristic traits progressively emerge from less salient variants within both proto-Germanic and proto-Indo-European strata of the tradition.

The natural logic underlying the metonymy in Norse *kenningar* is likely universal (v. Lakoff 1987:74): examples like Modern English *dust bunny* or *eye candy* are neither particularly rare nor artificial coinages (cf. Benczes 2006:175-77). Such constructions may be of common Indo-European heritage (Watkins 1995:44f.). What distinguishes Old Norse *kenningar* is the scalds' trend to vary the construction beyond the emulated prototype either through lexical substitution within conceptual categories (hence **lint kitten* or **filth hamster* along the pattern of *dust bunny*) or through syntactic recursion (thus **soul window candy* after the precedent of *eye candy*).

While such metonymic constructions could be developed to express any concept, the scaldic system is as highly skewed in its development (Gurevich 1994). Such skewing can result from the biases in reinforcement generated by certain key nodes within the scale-free networks which progressively took root in Viking-Age Scandinavia. Such key nodes generated the prototypes around which systemic variation became focussed to produce normativity. Thus the potential of Ogura and Wang's model to map socially biased change within a dynamic system can shed light on the historically attested evolution of scaldic metonymy, as well as on that of its prehistoric precursors.

**References**

Barabási, A.-L., & R. Albert. 1999. 'Emergence of scaling in random networks'. *Science*. 286, 509-12.

Benczes, R., 2006. *Creative compounding in English.* Amsterdam: Benjamins.

Gurevich, E., 1994. 'The system of kennings'. *Nordica Bergensia*. 3, 139-56.

Lakoff, G., 1987. *Women, fire and dangerous things.* Chicago: Chicago University Press.

Mallory, J. P., & D. Q. Adams. 2006. *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European world*. Oxford: Oxford University Press.
Nagy, G., 1990. *Pindar's Homer*. Baltimore: Johns Hopkins University Press.
Ogura, M., & W. S.-Y. Wang. 2004. 'Dynamic dialectology and complex adaptive system'. In *Methods and Data in English Historical Dialectology*. Ed. By M. Dossena & R. Lass. Bern: Peter Lang. Pp. 137-70.
Peabody, B., 1975. *The winged word*. Albany: State University of New York Press.
Watkins, C., 1995. *How to kill a dragon*. New York: Oxford.
Watts, J. D., & S. T. Strogatz. 1998. 'Collective dynamics of "small-world" networks'. *Nature*. 393, 440-42.

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**ZAHAVI**, see Plenary lectures

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**ZIMA**, see Theme session

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**ZLATEV et. al**

**Interpreting novel noun-noun compounds: A matter of semantics, pragmatics, or both?**

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The question concerning the boundary between semantics and pragmatics is proverbially difficult. As with many distinctions concerning language that were previously regarded as dichotomous (e.g., lexicon/grammar, langue/parole, and open-class/closed-class items), it is now often stated, without much argumentation, that it is rather a "matter of a continuum". As pointed out by Itkonen (2006), however, this is a case of a typical fallacy in linguistic argumentation: it is a mistake to assume that if there is no sharp distinction between two categories, then there is no boundary at all. In the presentation, we argue on the basis of empirical research on the interpretation of noun-noun compounds (NNCs) for a three part distinction between: (a) semantics – commonly known conventions of meaning; (b) pragmatics – context-specific meaning going beyond conventional meaning; and (c) context-general schemas – structures that serve as biases for interpretations, but which can be, unlike (a), easily overridden.

In a series of experiments, we presented Danish participants with novel NNCs referring to fictive food products both with and without sentential context. Each NNC had the form: [N1: Place-name/Modifier + N2: Food-term/Head] – e.g., *Madras curry*. The results provided evidence against a "pragmatics only" view since most NNCs yielded a preferred interpretation even when presented out of context: Food ORIGINATES IN Place. When this was not the case, as with *Balkan-pizza* or *Bangkok-kotletter* ("Bangkok pork chops"), this was explicable as a result of the semantics (and encyclopedic knowledge) associated

with the constituent nouns. However, when in a second experiment the same NNCs were presented in sentential context that was contextually incongruent with ORIGINATES IN, this interpretation was consistently graded *lower* than alternatives. From previous research, and from our more recent experiments, we know that the meanings of similar conventional NNCs such as *Parma ham* are not so easily affected by context.

The results support the conception, currently expressed in a number of cognitive-functional linguistic frameworks (Langacker, 1987; Croft, 2001; Bybee, 2006), that linguistic constructs and meanings exist at different levels of schematicity. At the same time, our findings imply that the semantic status of such higher-level schemas is not identical to that of particular conventional NNCs. The conclusion is the linguistic knowledge of type (c), taken an intermediary position between (a) and (b).

**References**

Bybee, Joan, 2006. Frequency of Use and the Organization of Language. Oxford University Press, Oxford.

Croft, William, 2001. Radical Construction Grammar: Syntactic Theory in Typological Perspective. Oxford University Press, Oxford.

Itkonen, Esa, 2006. Three falacies that occur in linguistic argumentation. In: T. Haukioja (Ed.) Papers on Linguistic Theory. Publications in General Linguistics # 10. University of Turku.

Langacker, Ronald, 1987. Foundations of Cognitive Grammar, Vol 1. Stanford University Press, Standord.

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**ZUKOW-GOLDRING**

**Helping Hands Cultivate a Shared Understanding: Is Caregiver-Infant Interaction the Birthplace of Gesture?**

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Rizzolatti and Arbib's (1998) proposed that a shared understanding of action grounds the emergence of gesture, leading eventually to language. De Leon's research (2000) supports the view that nonverbal interaction plays a central role in socializing children to engage in communicative acts. Unpacking "nonverbal interaction" has documented that assisting infants to imitate cultivates their use of cultural objects and nurtures a shared understanding of daily life (Zukow-Goldring, 2006). Recent longitudinal studies make the link between action, gesture, and word more explicit. Adeptly engaging in everyday activities not only leads to"content-loaded" gestures in those settings, but eventually to producing words with corresponding meaning (Bavin et al., 2008; Blake et al., 2005; Camaioni et al., 2003; Capirci et al, 2005; Volterra et al, 2005). The present research investigated how caregiver messages during assisted imitation might foster infants' transition from action to gesture.

**Method**. The longitudinal sample consisted of five English-speaking, Euro-American middle-class and six Spanish-speaking, Latino working-class families with infants of 6 months, living in the Western US. The families participated until the infant produced more than one-word at a time, around 21-26 months. We collected all caregiver actions and gestures that directed infants to engage in ongoing activities from twenty-minute monthly videos of naturalistic interaction at home. These messages included embodying the infant

and demonstrating actions, as well as indexical and iconic gestures. The activities varied in complexity: simple bodily movements; action with a single object, with person(s) and object; relations between multiple objects; part/whole relations; tool use.

**Results**. Multivariate frequency analyses examined culture, caregiver message, activity complexity, and infant age. Significant correlations were found between age, complexity of activity, and caregiver message.

**Discussion**. Day-in and day-out, caregivers pick-out actions and gestures for infants to pick-up that may provide the basis for early communication. Overall, caregiver messages within activity types begin with embodying, gradually shifting to demonstrations that invite infants to imitate, then gradually shifting to indexical signs, and finally conveying information with iconic gestures.

While tutoring/*transferring a new skill*, caregivers often *embody* infants as the *two go through the motions* of an activity together. When moving as one, the infant may detect regularities or higher-order, intersensory invariants (propioceptively, kinesthetically, visually, tactilely) in the synchronous onset/offset, rhythm, and tempo of the action that specify a *correspondence* between caregiver and infant movements. Detecting this synchrony may "bind" different sources of perceptual information together (Spence, 2007), making it possible to assess what is relevant from what is "background noise." These findings suggest that *assisted imitation* contributes to a shared understanding of ongoing events, a precursor to communicative development.

Not surprisingly, a significant correlation was found between age and complexity of the activity. The arc over time of caregiver action/gesture messages precedes and predicts the trajectory of action/gesture development in infants reported in prior studies (see above), pointing to caregiver interaction as the birthplace of infant action and gesture. The next steps: to investigate the relation of these caregiver data to the emergence of their infants' action/gesture repertoires as well as their words.

Theme session on

"Cognitive Linguistic Approaches to Interactional Discourse"

Organized and chaired by Elisabeth Zima & Geert Brône

1. Schedule

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| Alan Cienki: Spoken language usage events |
| Andreas Langlotz: Local meaning-negotiation, activity types, and the current-discourse-space model |
| Anders Hougaard: Blending in Ethnomethodology? |
| |
| Esther Pascual: It's like, why fictive interaction? On the multifunctionality of direct speech in the jury room |
| John W. Du Bois: Diagraph: Representing What Speakers Know about Dialogic Resonance |
| Elisabeth Zima: Layered (inter)subjectivity: meaning negotiation and stance taking in parliamentary interaction |
| |
| Irene Mittelberg & Vito Evola: Hand appeal: Gestures beyond personal space |
| Bert Oben & Geert Brône: Bidirectionality in multimodal interaction: evidence from eye movements |
| |
| DISCUSSION chaired by Elisabeth Zima & Geert Brône |

2. Abstracts of theme session

CIENKI

**Spoken language usage events**

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Cognitive Grammar draws on the notion of "usage events" of language as the starting point from which linguistic units are schematized by language users. A usage event is understood as encompassing physical, social, and cognitive factors, including for spoken language "the full phonetic detail of an utterance, as well as any other kinds of signals, such as gestures and body language" (Langacker 2008: 457). It is thus multimodal in nature and has a dynamic contour. However, in practice, this multimodality and dynamicity has yet to be incorporated into analyses in Cognitive Grammar. What kinds of recurrent structures are there in the dynamic multimodality of spoken language usage events which should be taken into account as linguistic units?

First, within the sonic modality itself, intonation can have a grammatical role, which could plausibly be accounted for within Cognitive Grammar as part of the phonological

pole of a complex linguistic symbolic structure. Second, recent work on the motoric/visual modality makes claims about the grammatical function of gestures in certain contexts, such as the expression of negation and the progressive aspect in English (Harrison 2009) or the 'definite indefinite' article *son* in colloquial German (Fricke 2008). This talk will consider the roles played by gestures along the semantic-pragmatic continuum including how far these can be considered entrenched grammatically in different languages based on existing empirical research. We see that some classes of grammatical categories take advantage of motoric-visual resources for expression more than others, meaning that grammar is multimodal in a variable fashion, with multimodality being exploited differentially.

The nature of usage events of spoken language results not only in different kinds of grammatical structures in spoken versus written language (e.g., Croft 1995; Du Bois 2003), but also in the expression of different kinds of semantic content in the two forms of language use (Author 2008). With this in mind, it becomes problematic to speak of a 'semantics' in Cognitive Linguistics in general which is unspecified as to the mode of linguistic production/reception. In addition, Langacker (2008) notes that in any usage event, "Part of an expression's contextual import is ... an assessment by each interlocutor of what the other knows and is currently attending to" (p. 220), echoing the importance of interactional factors that are already considered fundamental in fields such as Conversation Analysis. In conclusion, taking the notion of 'usage event' seriously involves giving greater credence to the fundamental differences between language as spoken versus as written, a claim also supported by research on languages in cultures without a written tradition versus in those with one (e.g., Güldemann & von Roncador 2002).

**References**

Author. 2008. (previous conference presentation)
Croft. 1995. Intonation units and grammatical structure.
Du Bois. 2003. Discourse and grammar.
Fricke. 2008. Grundlagen einer multimodalen Grammatik des Deutschen. Habilitations-schrift.
Güldemann & von Roncador. 2002. *Reported discourse.*
Harrison. 2009. Grammar, gesture, and cognition. PhD dissertation.
Kendon. 2004. *Gesture: Visible action as utterance.*
Langacker. 2008. *Cognitive grammar: A basic introduction.*

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## LANGLOTZ

**Local meaning-negotiation, activity types, and the current-discourse-space model**

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Any approach to interaction is faced with a fundamental dilemma: How can the empirical fact that meaning is locally and interactionally managed (cf. Sacks, Schegloff, and Jefferson 1974) be reconciled with the empirical fact that conversations are subject to genres or activity-types which impose overarching expectations of allowable contributions and corresponding inferences (cf. Levinson 1992, Clark 1996: 30; Verschueren 1999: 49-50)? This theoretical paper is an attempt to overcome this theoretical and analytical dilemma from the cognitive-linguistic perspective of Langacker's (2001) *current-discourse-space (CDS) model* and Barsalou's dynamic model of *situated categorization* (2003, 2005). To

substantiate and illustrate its theoretical considerations, the paper draws on a corpus of 100 spoken tourist-information transactions that were recorded in Switzerland.

The paper argues that the usage-based conception of language advocated by cognitive linguists, Langacker's CDS model in particular, offers an epistemological escape route from the discourse-analytical dilemma. Based on the assumption that conventional linguistic knowledge (including discursive expectations) is derived from actual language use, the CDS model can account for both context-specific conceptualization practices and the more conventional conceptual states that are associated with a given speech-activity type.

Barsalou's model of situated and dynamic categorization claims that any form of knowledge is stored in terms of simulators. Simulators consist of perceptual symbols (Barsalou 1999), the mental distillates of rich and multi-modal experiences. By combining this view of mental representation with the CDS-model, we can claim that genres are mentally represented in the form of genre-simulators; i.e. abstract mental representations of discursive conventions that have been digested from concrete instances of language use. More specifically, genre-simulators consist of the discursive correlates of perceptual symbols, i.e. complex arrangements of discursive cues such as lexical choices, turn design, turn-taking (adjacency pairs), and the sequential order of turns (see Heritage 2005). By evoking (some of) these cues in a given conversation, the interactional partners can detect the 'interactional fingerprint' (Heritage 2005) of the activity that they are currently performing. Thus by orienting to these signals, they can activate genre-simulators in order to mutually simulate a specific speech-activity, e.g. *booking*, *giving directions*, or *selling-buying*.

Through the strategic manipulation of the symbolic environment that is evoked via the discursive cues, speakers can also depart from a given speech-activity simulation. By evoking cues that deviate from the expected state of the CDS, speakers can provoke their communicative partners to simulate a discourse space that runs counter to the conventional speech-activity simulation. In doing so, they can invite their partners to engage with a different speech activity, e.g. *humour*, *teasing*, etc. Thus, by locally managing the state of the CDS via discursive signals, the interactors can influence their speech-activity simulations in order to negotiate the process of meaning-generation (as advocated by CA). However, this local negotiation of meaning is only possible against the background of the interactors' assumption of the speech-activity that they are currently performing. These assumptions can only be formed relative to the stable knowledge of discursive conventions (as advocated by genre analysis) that are stored in the genre-simulators.

**References**

Barsalou, L. W. (1999). Perceptual symbol systems. *Behavioral and Brain Sciences, 22*, 577-609.

Barsalou, L. W. (2003). Situated simulation in the human conceptual system. *Language and Cognitive Processes, 5*(6), 513-562.

Barsalou, L. W. (2005). Situated conceptualization. In Cohen & Lefebvre (Eds.), *Handbook of Categorization in Cognitive Science* (619-650). Amsterdam: Elsevier.

Clark, H. H. (1996). *Using Language*. Cambridge: Cambridge University Press.

Heritage, J. (2005). Conversation analysis and institutional talk. In Fitch & Sanders (Eds.), *Handbook of Language and Social Interaction* (103-147). Mahwah, NJ: Lawrence Erlbaum.

Langacker, R. W. (2001). Discourse in cognitive grammar. *Cognitive Linguistics, 12*(2), 143-188.

Levinson, S. C. (1992). Activity types and language. In Drew & Heritage (Eds.), *Talk at Work: Interaction in Institutional Settings* (66-100). Cambridge: Cambridge University Press.
Sacks, H., Schegloff, E.A. and Jefferson, G. (1974). A simplest systematics for the organisation of turn-taking for conversation. *Language 50*, 696-735.
Verschueren, J. (1999). *Understanding Pragmatics*. London: Arnold.

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## HOUGAARD

### Blending in Ethnomethodology?

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In this paper I reanalyse three "classic" examples of what Fauconnier and Turner call "conceptual blends" (aka "blending"), "the regatta", "Death the Grim Reaper" and "the bypass", all of which will be quite familiar to those who know the work of Fauconnier and Turner. All of them appear recurrently in the talks, books and papers by the fathers of blending analysis and stand out as some of the central data in the establishment of this framework of analysis. The reanalyses are carried out within the sociological framework of ethnomethodology. The purpose of this effort is to provide a concrete and shared basis for a direct comparison of an ethnomethodological and the blending approach to sense making. Of particular interest to this comparison will be if and how the notion of blending may have a place in an ethnomethodological approach to sense making and if and how procedures and concerns of ethnomethodological analysis may appropriate blending as a resource of analysis. It will be argued that both may be the case given a respecification of blending as a device, procedure and resource of ordinary people's handling and making sense of their social world.

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## PASCUAL

### It's like, why fictive interaction? On the multifunctionality of direct speech in the jury room

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This presentation deals with fictive interaction (Pascual 2002, 2006), a cognitive phenomenon that reflects the interactional structure of conversation, and is manifested in language structure and use (e.g. "an attitude that says '*what's in it for me?*'", "a '*what's in it for me?*' attitude"). The focus is the conceptualization and use of embedded fictive interaction in a real-life jury deliberation in a murder trial broadcasted by an American television station. Examples are instances following a preposition (e.g. "the first part about *yes I did it, this is how I did it*), used as a noun (e.g. "this *just say no to drugs*") or as a compound specifier of a noun head (e.g. "the whole *he used to go to church* thing"). In this data, a vast number of direct speech constituents are used metonymically in order to mentally access (possible) thoughts, decisions, emotions, attitudes, intentions and actions of a fictive enunciator. I argue that such functional versatility is mainly motivated by a (perhaps universal) understanding of talk-in-interaction

as indicative of the utterer's mental, emotional and behavioral world. This is claimed to be motivated by our cultural model of speaking as entailing what one believes and also was is objectively true (Sweetser, 1987). In this light, the direct speech construction appears as a fuzzy category within a continuum of various ways of enacting dialogue.

I suggest that the very existence of fictive interaction disproves the assumption that direct speech can refer only to communicative acts (Banfield 1973). Furthermore, *fictive interaction* can serve as an umbrella term that satisfactorily covers under-studied and un-studied phenomena, as well as a wide range of well-known −but formerly unrelated− phenomena. The term *fictive interaction* is also more accurate than Tannen's (1986) 'constructed dialogue', since genuine quotations and common phrases can be also used fictively (e.g. "an *but I didn't inhale* excuse", "the *'shop 'til you drop'* ethos"). A cognitive fictive interaction account is also more explanatory than Clark & Gerrig's (1990) 'quotations as demonstrations', which is based on iconicity rather than interaction, and does not distinguish between genuine and fictive uses.

**References**

**B**akhtin, M.M. [1975] 1981. *The Dialogic Imagination.* Austin: University of Texas Press.
Banfield, A. 1973. Narrative style and the grammar of direct and indirect speech. *Foundations of Language* 10(1): 1-39.
Clark, H.H. & R.J. Gerrig 1990. Quotation as demonstration. *Language* 66, 784-805.
Pascual, E. 2002. *Imaginary Trialogues: Conceptual Blending and Fictive Interaction in Criminal Courts.* Utrecht: LOT.
Pascual, E. 2006. Fictive interaction within the sentence: A communicative type of fictivity in grammar. *Cognitive Linguistics* 17(2): 245-267.
Sweetser, E. 1987. The definition of *lie*: An examination of the folk theories underlying a semantic prototype. In Holland, D. & N. Quinn (eds.). *Cultural Models in Language and Thought.* Chicago: University of Chicago Press.
Tannen, D. 1986. Introducing constructed dialogue in Greek and American conversational and literary narratives. In F. Coulmas (ed.). *Direct and Indirect Speech*. Berlin: Mouton.

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**DU BOIS**

Diagraph:
**Representing What Speakers Know about Dialogic Resonance**
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When speakers communicate verbally with one another, one of the first tasks they must undertake is to connect. Participants strive to create engagement with their partners in discourse, not only by coordinating with them regarding the subject matter they mutually manifest an interest in, but also by attending to and shaping key aspects of the form of the language being produced. Effective support of co-participants' communicative, cognitive, and collaborative needs draws heavily on the capacity to manage in precise ways certain details of linguistic form and meaning, as participants mobilize, in the very moment of dialogic interaction, appropriate words and structures to achieve engagement in real time.

The complexity of conversational co-participants' achievement is addressed in a new theory, currently under development by the present author and his associates, known as

*dialogic syntax*. As a phenomenon, the most visible reflex of dialogic syntax occurs when one speaker reuses linguistic elements, structures, and functions recently invoked by a prior speaker. As a theory, dialogic syntax seeks to describe and explain this phenomenon in terms of how linguistic structures, semiotic practices, and sociocognitive resources are organized to make possible the achievement of structured engagement in discourse.

This paper addresses two of the foundational concepts of the theory of dialogic syntax, working to develop a secure methodological and theoretical framework for analyzing what speakers know—and do—about framing the linguistic structures that support communicative engagement, yielding the sociocognitive achievement of intersubjectivity in interaction. The first concept is *resonance*, defined as the activation of affinities across utterances. Resonance is always a property of the *relation* between two elements, and can never be attributed to any element considered in isolation. For example, if one speaker says to another, *It's kind of like you Ken*, and the second responds, *That's not at all like me, Joanne*, we can observe a number of resonances, embodied in the analogic mappings *it:that, -'s:-'s, like:like, you:me, Ken:Joanne*, and even *kind of : not at all*. As this example shows, resonance may be derived from a diverse array of linguistic principles at almost any level, including relations of morphological identity, semantic synonymy or antonymy, paradigmatic equivalence, and so on. The second concept is the *diagraph*, intended to provide a summary representation of the overall structure, as perceived by participants, of the total array of resonance relations between two (or more) utterances. A basic diagraph for the above exchange is:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| JOANNE: | it | 's | kind of | like | you | Ken | . |
| KEN: | that | 's | not at all | like | me | Joanne | . |

The paper presents numerous examples of diagraphs, both simple and complex, drawn from naturally occurring conversations, in order to argue for various methodological principles for constructing these putative representations of speaker knowledge about the structure of resonance relations. Finally, the paper considers some of the pragmatic, cognitive, and interactional consequences for participants of choosing to use of resonance and dialogic syntax.

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**ZIMA**

## Layered (inter)subjectivity: meaning negotiation and stance taking in parliamentary interaction

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Any encompassing model of interactional discourse has to be able to account for the role and mutual dynamics of two fundamental principles of interactional language use: intersubjectivity and the fact that conversation is always embedded in a social context and serves interpersonal goals.

Following Verhagen (2005, 2008) dialogue production and understanding involves a process of intersubjective cognitive coordination: when speakers (co-)construct discourse, they take into account other minds, their relation to themselves and to the object of conceptualization. In previous studies (Zima, forthcoming), we made the case for an analysis of cross-turn parallelism in terms of *interactional intersubjectivity*, drawing on Verhagen's Cognitive Grammar model of the intersubjective construal configuration and Langacker's

Current Discourse Space-model (Langacker 2001, 2008). In this contribution, we expand on the issue of interactional intersubjectivity by shedding light on how speakers in adversarial parliamentary interaction take *stance,* i.e. frame their own perspective, by paralleling their interlocutors 'discourse contributions and conveyed perspectives. Recent studies on stance and structural parallelism in interaction (Kärkkäinen 2003, 2006 on the stance marker *I think*, Haddington 2007 on *I guess*, Du Bois 2007) have revealed that the meaning of stance emerges as the result of interlocutors ' joint evaluative, i.e. intersubjective, activity rather than being solely a matter of subsequent speakers expressing their subjective viewpoints.

In line with these recent trends in interactional stance research and drawing from a corpus of 700 dialogic sequences from Austrian parliamentary debates (interruptive comments and reactions from plenary speakers and/or MPs from the floor), I illustrate that opportunistically employed cross-turn parallelism may involve a particularly pervasive form of stance taking. I further argue that if speakers reuse structure while twisting semantic-pragmatic meanings they evoke the addressee as part of the Ground (subjectification; Langacker 1987) and negotiate the intersubjective relation between speaker and addressee.

Accordingly, I propose to frame dialogic parallelism as *intersubjective constructions* (Brône et al., in preparation) involving intersubjectivity at the level of construal and stance. Following Du Bois '(2007) stance triangle, stance resides in a complex activity whereby speakers evaluate objects, position subjects, and at the same time align with other subjects. In the case of *adversarial* parallelism, i.e. echoing while twisting meanings, as ubiquitous in parliamentary debates, I argue that speakers align at the linguistic level to express disalignment at the meta-communicative, interpersonal level of stance taking. Speakers hence express their perspective and position themselves in the socio-interactional context by echoing the perspectives of their interlocutors and contrasting them to their own.

I further examine how this socio-cognitive dimension of stance taking ties in with Cognitive Grammar accounts of intersubjectivity (Verhagen 2005, 2008) on the one hand, and models of discourse dynamics (Langacker 2001, 2008), on the other hand.

References


BRÔNE, GEERT, ZIMA, ELISABETH & OBEN, BERT. in preparation. Towards a dialogic construction grammar. A corpus-based approach to ad hoc routines and resonance activation. In: J. Du Bois & R. Giora (eds). Special Issue. *Dialogic Resonance. Activating Affnities Across Utterances*.

CLARK, HERBERT H. 1996. *Using language.* Cambridge: Cambridge University Press.

DU BOIS, JOHN W. 2001, revised Aug. 2009. *Towards a Dialogic Synatx*. Draft article. University of Santa Barbara

DU BOIS, JOHN W. 2007. The stance triangle. In: Englebretson, Robert (ed). *Stancetaking in discourse: Subjectivity, evaluation, interaction*. Amsterdam: Benjamins.

KÄRKKÄINEN, ELISE. 2003. *Epestimic stance in English conversation.* Amsterdam: Benjamins.

KÄRKKÄINEN, ELISE. 2006. *Stance-taking in conversation: from subjectivity to intersubjectivity.* Text & Talk 26-6. 699-731 .

HADDINGTON, PENTTI. 2007. Positioning and alignment as activities of stancetaking in news interviews. In: Englebretson, Robert (ed). *Stancetaking in discourse: Subjectivity, evaluation, interaction*. Amsterdam: Benjamins.

LANGACKER, RONALD W. 2001. Discourse in Cognitive Grammar. *Cognitive Linguistics* 12(2). 143-188.

LANGACKER, RONALD W. 2008. *Cognitive Grammar. A Basic Introduction.* New York: Oxford University Press.

VERHAGEN, ARIE. 2005. *Constructions of Intersubjectivity. Discourse, Syntax and Cognition.* Oxford: Oxford University Press.

VERHAGEN, ARIE. 2008. Intersubjectivity and the architecture of the language system. In: Zlatev, Jordan., Racine, Timothy P., Sinha, Chris & Itkonen, Esa. (eds). 2008. *The Shared Mind: Perspectives on Intersubjectivity*. Amsterdam: Benjamins. 307-331.
ZIMA, ELISABETH. forthcoming. Online semantic creativity in parliamentary debates. In: K. Feyaerts, T. Veale & Ch. Forceville. *Creativity in Discourse and Arts.*

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## MITTELBERG & EVOLA

**Hand appeal: Gestures reaching beyond personal space**

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The amount of space shared in social interactions has been the subject of study for various human and social researchers (e.g. Goodwin 1981; Hall 1966; Kendon 1990; Levinson 2003). Speakers often reach beyond their personal gesturing space, producing pointing, reaching and grasping gestures which occupy a shared interpersonal space (Sweetser & Sizemore 2008). Drawing from cognitive linguistics, semiotics and linguistic anthropology, we aim to distinguish and analyze speakers' and interlocutors' use of personal and interpersonal gestural spaces in social interactions. In particular, this paper stresses the fact that in situations of speaker co-presence, gestures produced beyond the personal space not only have a discourse-regulating/content-expressive function, but they also have a deeper socio-communicative function which recalls Clark's notion of "common ground" (1996): speakers jointly establish a space to metaphorically create a bridge between themselves and their interlocutors, thus reinforcing relations.

Bühler (1934) identifies three functions in human communication acts: *representation* (referencing the communicative content), *expression* (evidencing the speaker's psychological or moral attitude), and *appeal* (indicating the interlocutor's interest). What we dub "reaching-out gestures" during social interaction can be described as exhibiting a comparably strong function of appeal. Gesture research has been primarily concerned with the representational function of gestures (e.g. iconic and metaphoric, cf. McNeill 1992; Müller 1998). However, very little work has brought into relief the appellative function of gestures, which indeed focus the communicative function on the interlocutor (versus content): we suggest that predominantly appellative gestures tend to be more indexical and less iconic or metaphoric. This study further intends to identify interpersonally instantiated image schemas (Johnson 1987; cf. Cienki 2005; Mittelberg in press) where the speaker-gesturer is the *Origo* (Bühler 1934) of the communicative act and the starting point of image-schematic structures extending through space towards the addressee.

Gesture researchers have not yet found a uniform and sufficient way of measuring and describing gestural spaces (e.g. McNeill 1992; Fricke 2007), mainly due to inadequate, two-dimensional technologies used in recording data, but also to the complexities inherent to individuals' differences in use of the space around them depending on gender (Little 1965), culture (Efron 1941; Watson & Graves 1966), as well as their personality and the communicative act in which they are engaging. To fill this methodological gap, this study analyzes data from a sample of speaker-gesturers collected by means of a motion capture system, as well as observational methods of gesture analysis, providing quantitative results with respect to the distance between speakers and their own gestures on the one hand and the space between the different speakers on the other.

After a formal analysis focusing primarily on the production of addressee-directed gestures, we consider functional criteria and examine their semiotic nature with respect to the context, distinguishing between different types of contiguity relations (cf. Furuyama 2000; Kita 2003; Özyurek 2000). We place these "reaching-out" gestures and their possible anthropological and cognitive-communicative functions of establishing a social bond by "giving" and "receiving" in the broader context of social interaction (Mauss 1924; Müller 2004). Finally, this study intends to introduce a novel combination of qualitative and quantitative methods of gesture analysis, thus contributing to a fuller understanding of the multimodal, embodied nature of social interaction during communication.

**Selected references**


Bühler, K. (1934/1965). *Sprachtheorie. Zur Darstellungsfunktion der Sprache*. 2nd ed. Stuttgart: Fischer.

Cienki, A. (2005). Image schemas and gesture. In B. Hampe (ed.) in cooperation with J. Grady, *From Perception to Meaning: Image Schemas in Cognitive Linguistics* (421—442), Berlin/New York: Mouton de Gruyter.

Clark, H.H. (1996). *Using Language*. Cambridge: Cambridge University Press.

Efron, D. (1941). *Gesture and Environment*. New York: King's Crown Press.

Fricke, E. (2007). *Origo, Geste und Raum – Lokaldeixis im Deutschen*. Berlin/New York: Mouton de Gruyter.

Furuyama, N. (2000). Gestural interaction between the instructor and the learner in origami instruction. In D. McNeill (ed.), *Language and Gesture*. (99–117). Cambridge, UK: Cambridge University Press.

Goodwin, C. (1981). *Conversational Organization: Interactions between Speakers and Hearers*. New York: Academic Press.

Hall, E.T. *The Hidden Dimension*. Garden City, New York: Doubleday.

Johnson, M. (1987). The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason. Chicago: University of Chicago Press.

Kendon, A. (1990). Conducting Interaction: Patterns of Behavior in Focused Encounters. Cambridge: Cambridge University Press.

Kita, S. (ed.) (2003). *Pointing: Where Language, Culture, and Cognition Meet*. Mahwah, NJ: Lawrence Erlbaum.

Levinson, J. (2003). *Space in Language and Cognition: Explorations in Cognitive Diversity*. Cambridge: Cambridge University Press.

Little, K. (1965). Personal Space, *Journal of Experimental Social Psychology*, 1 (1965): 237-247.

Mauss, M. (1923-1924). Essai sur le don. Forme et raison de l'échange dans les sociétés primitives. *L'Année Sociologiques.*

McNeill, D. (1992). *Hand and Mind: What Gestures Reveal about Thought.* Chicago: Chicago University Press.

Mittelberg, I. (in press). Geometric and image-schematic patterns in gesture space. In V. Evans & P. Chilton (Eds.), *Language, Cognition, and Space: The State of the Art and New Directions.* London: Equinox.

Müller, C. (1998). *Redebegleitende Gesten. Kulturgeschichte - Theorie - Sprachvergleich.* Berlin: Berlin Verlag A. Spitz.

Müller, C. (2004). Forms and uses of the Palm Up Open Hand: A case of a gesture family? In C. Müller & R. Posner (Eds.), *The semantics and pragmatics of everyday gestures. The Berlin conference* (233–256). Berlin: Weidler Verlag.

Özyurek, A. (2000). The influence of addressee location on spatial language and representational gestures of direction. In D. McNeill (ed.) *Language and Gesture* (64–83). Cambridge, UK: Cambridge University Press.

Sweetser, E.E. & M. Sizemore (2008). Personal and interpersonal gesture spaces: Functional contrasts in language and gesture. In *Language in the Context of Use: Discourse and Cognitive Approaches to Language* (25–52), A. Tyler, Y. Kim and M. Takada (Eds). Berlin, New York (Mouton de Gruyter).
Watson, O.M. & T.D. Graves (1966). Quantitative Research in Proxemic Behavior. *American Anthropologist*, 68/4: 971-985.

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**OBEN & BRÔNE**

Bidirectionality in multimodal interaction: evidence from eye movements

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Face-to-face interaction requires speakers and their utterances to be geared to one another in multiple ways so as to facilitate fluent conversation. This interactive coordination process requires alignment between the speakers in the different modalities of interaction, from the linguistic level to bodily semiotics, including gesture and posture. Recent work in (psycho)linguistics and gesture research has started to explicitly incorporate dialogicity - from a multimodal perspective - in cognitive discourse models (Pickering & Garrod 2004; Du Bois 2007, Kimbara 2006). In embracing *shared cognition*, these models aim to bridge the traditional gap between cognitively oriented accounts of language and interactional approaches.

In order to allow for a fine-grained view on the multimodal and multifocal aspects of language use, discourse models need to resort to new multimodal methods. In this paper, we introduce one such method that tracks speakers ' perspectives and behaviour using head-mounted eye trackers. By recording two interlocutors 'perspectives and eye movements during online face-to-face interaction, we obtain a 3-D landscape of the conversation, including production (scene camera, sound) and processing (eye movements) information.

In two experiments, we applied the bidirectional method to inquire into the multimodal aspects of interactive alignment. In a first experiment, the co-participants jointly described animations depicting spatial scenarios running along image schematic lines. In the second experiment, participants were asked to jointly construe a narrative on the basis of a single image depicting a real-life scene. The experiments reveal a gradual process of interactive routine building during the description and narrative tasks, both at the level of linguistic choice and gestures. The eye-tracking data of the individual participants offer a window on which behavioural features are processed and picked up in the alignment process on the one hand, and which eye-movement patterns emerge when producing a co-ordinated utterance.

Since conversation can be regarded as a joint action (Clark, 1996) rather than a linear series of utterances, it would only seem obvious to maximally embrace the interlocutors 'perspectives in an empirical study of conversation. The two conducted experiments serve to illustrate that the bidirectional approach yields a fine-grained view of the interactive co-ordination of different modalities in face-to-face interaction.