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LANGUAGE AS A PART OF ACTION:  
MULTIDIMENSIONAL TIME-SCALE INTEGRATION  
OF LANGUAGE AND COGNITION

This Special Issue is devoted to one of the topics present at the 3rd Conference of the International Society for Interactivity Language and Cognition. The title of the CILC3 conference was "Tactility in Thinking and Talking" and the focus was on "the transactional weaving of people, things, and words that reflects a coordination at different time scales and from which language and cognition emerge". In contrast (or rather: in addition) to traditional approaches to cognition as information processing in the individual's minds, we invited participants to consider the ecosystems of thinking and communication. Researchers from fields such as psychology, philosophy, cognitive archaeology, anthropology, semiotics, applied and theoretical linguistics, communication, business and education presented papers concerned with the interactive, dialogical co-creative processes and the role the physical environments and physical aspects of movements, artifacts and words play in enabling cognition as a dialogical and distributed process.

The conference attracted over 50 researchers from Europe, Asia and North America. Along with oral presentations, keynote addresses and poster presentations, the conference offered workshops on temporality, Gibsonian information, translanguaging, the genesis of graphic skills, distributed intelligence analysis, organizational cognition, and interactivity (from computers to cultures). These presentations and workshops offered concepts and methods to

help researchers in the cognitive and language sciences to break deeply-ingrained habits of framing cognitive behaviour in individualist and internalist terms. A better characterization of cognition and language should proceed through a detailed analysis of the dynamic, interactive and multi-scalar forces that configure an ecosystem within which an individual is embedded.

Not surprisingly, one of the most visible topics during the conference, was how to conceptualize the role of language as co-constitutive for the ecosystem of cognition and as providing an integrative link between the distributed and individual cognitive processes. Being physically present in interactions, as utterances in dialogues, language is a part of co-action from the earliest moments. Specific enactments of events around an infant help her or him to tune-in to language use as very special human acts. The effect of such tuning is that utterances afford quite specific interactive behaviors. Importantly, perhaps in a stronger way than other acts, which also control interaction (such as gaze, smiles or gestures), language is able to bring into co-actions particular dimensions of control that are not immediately evident in on-line events, but rather have been selected as important on slower time-scales and might pertain to events from those scales. Thus the integrative role of language comes to the fore: every use of language collapses into the “here and now” the evolutionary process of functional control selection with developmental experience and current coordinative demands.

Language is thus able to add layers (or lamination, as Goodwin puts it) to an interaction: more than any communicative act it makes it obvious that in any single moment, even in solving a simplest cognitive puzzle multiple goals and multiple values are realized, not all of them easy to define when just looking at a task structure. Although such a view brings in a great complexity to every situation, on the other hand, studying language in action provides a window onto those layered interactive structure (Goodwin, 2013; van Orden, Holden, & Turvey, 2003). A slight change in wording or prosody can be indicative of situational control that needs to reflect concerns from multiple systems and timescales: just take the ways in which we can say ‘hello’ to one another, reflecting matters from mutual status relation, to our history of interactions with a given person, to our mood and willingness to engage or not in a further chat.

Such action-oriented, dynamical framework, allows viewing language as an interaction and co-action control device, which, necessarily also shapes individual cognition, but does so “the Vygotskian way”, foregrounding the collective functions. This complex picture also makes us acutely aware of the multiple reciprocal causality loops in action, interaction, language and cognition and thus helps identify the crucial processes. Language adapts to our cognitive capabilities (Deacon, 1997) and to the interactive needs (Bruner, 1983; Galantucci, 2005) and, in turn, formats our interactions and thus perception both in development and in on-line co-actions

(Rączaszek-Leonardi & Cowley, 2012; Worgan & Moore, 2010; Rączaszek-Leonardi, 2016), reflecting not only the immediate demands of a task but also ways of coordinating on slower time-scales in larger systems.

Obviously other aspects of behaviours, or rather acts in a situation, will also reflect this multiscale complexity, but none will do it so comprehensively and having so many modes at its disposal: utterances have their paradigmatic variance, but also the variability of timing, and of the prosodic contour, which can be meaningfully employed for interaction control. Most importantly, however, language is a heavily historical and heavily systemic affair: each use of words in utterances activates a history of the use of elements and their particular structuring within a specific dyad, within a specific social group, within community and population.

The picture of language as a part of social control of co-actions is thus a complex one and the conference, also due to its focus on physical presence and tactility, highlighted only some of its aspects and particular time-scales. Many of the researchers present at the conference devote their efforts to study human interaction in its natural environments, often adopting anthropological and ethnographic methods, combined with conversation analysis and microanalysis of action. This focused the contributions mostly on the “here and now” and the questions asked were: How does language control attention? How does it select dimensions of co-action? How can it do it by bringing something more than physical signalling? How does the conventionality (which selects particular wording, structures and uses) bring in different time-scales of human interaction? The answers were sought both at the philosophical and theoretical level, where clarifications of concepts and claims as well as the relations to extant approaches were pursued, but also at the empirical level, mostly via natural observations in concrete interactive situations, where it was demonstrated that asking the questions in this way brings forward novel observables and novel analytical methods, which can be useful in the applied settings.

One of the most acute problems that has to be tackled if language is considered predominantly in terms of action and co-action control rather than as a description of the observed world, is how utterances link to actions. The traditional “mapping” metaphor is of no use here, because mapping requires two domains of definite entities which can be mapped, while in the approach where language is considered a controlling device the effects of uttering a word cannot ever be fully predicted (Rączaszek-Leonardi & Pattee, 2012). In the first paper in this issue *Attentional actions - an ecological-enactive account of utterances of concrete words*, van den Herik takes on this problem in the domain of concrete words, “names for things” which are often treated as a paradigm example of “mapping” a word onto its reference. However when taking a richer perspective of co-action, one must realize that uttering a name is always an action in an interaction.

Van den Herik calls them “attentional actions”, which are “repeatable form(s) of behaviour performed by a person to indicate (i.e., point out) a particular aspect of the current situation to someone in order to achieve something”. No impassive mapping thus obtains: every such indication is immersed in a pragmatic context of co-action. This perspective affords van den Herik a more powerful perspective on the issue of linguistic relativity and he applies it to the concrete example of colour perception.

A similar concern of how language can guide attention for concrete actions is addressed by Borchmann in his paper *Utterances as tool-mediated specifications of affordances - ecological pragmatics*, where he presents analyses of language use in airplane navigation. Rather than treating utterances as expressions of pieces of knowledge in the form of the predicates, which only subsequently are decoded and interpreted for the particular situation, Borchmann never leaves the pragmatic ground: he treats utterances as selecting states from an array of variability, which – due to the history of interaction and longer time-scale history of professional education – can be assumed to be in the common ground of the interactants. This is an attempt to link language use directly to the Gibsonian view of action-perception cycle.

The third and fourth contributions are more applied in nature. In his paper titled *Dialogue and language as factors contributing to transformative learning in academic tutoring*, Grzegorzczuk invites us to consider how learning is an outcome scaffolded through interactivity and languaging. From this perspective, tutor-tutee “communication is understood as a collaborative dialogical practice”. Grzegorzczuk provides a detailed analysis of different tutor-tutee interactions that showcase the transformative impact of these interactions. Maare in her paper *Playing cards: Spatial arrangements for observational learning* uses the game Set to explore how children engage in epistemic actions and how they exploit the resulting spatial arrangements to learn and play the game. She examines how observers can capitalize on the dynamic nature of these external re-arrangements as cognitive and communicative resources to learn the game and support others to learn and play the game.

Language consists in physical cooccurrences of utterances within co-actions, and this physicality can be played in many registers, as the Trasmundi and Harvey study shows. Their paper titled *A blended quantitative-ethnographic method for describing vocal sonification in dance coaching* shows how fragments of words, or detached vocalizations and syllables can become sonifications for important dimensions in the process of choreography teaching (dance apprenticeship). Importantly, they demonstrate that the sonification changes with, for example, each instance of a specific move, reflecting the change in the didactic subgoals and values within different stages of coaching. Thus the micro level reflects a mezzo level changes in educational strategy.

Strong theoretical aspects of the two subsequent contributions position this special issue more clearly with respect to extant approaches. In his paper titled *Humor as interactional affordances*, Jensen examines humor in terms of affordances for interaction, within the fast flow of conversational dynamics. This perspective underscores the “written language bias” that handicaps most accounts of humor and leads to “rethinking of Wallace Chafe’s notion of nonseriousness (Chafe, 2007) (...) in terms of interactional affordances and values realizing”. The theoretical perspective is supported with the analysis of two short case studies of an interaction that results in humor, each best understood as a relational phenomenon that emerges from shared attention processes in social interaction, guided and constrained by the realization of values.

The issue closes with a paper by Shipp, Vallée-Tourangeau, and Anthony titled *Concepts and action: Where does the embodiment debate leave us?* The paper offers reflections on embodied concepts and the degree to which abstraction is necessary to support 'off-line' thinking. Following a thorough and critical review of the empirical research and theoretical claims on the topic, the authors argue that the way in which competing theories may be judged (e.g., how well they can account for the evidence) is not especially helpful in this case as little of the evidence of sensorimotor activity during conceptual processing is disputed. However, the evidence is open to interpretation, supporting a variety of positions. These positions can be differentiated and systematized through a careful analysis of action in terms of realized goals and values. The aim of this paper is not to offer a resolution, but rather to suggest that adopting broad principles of the embodiment of concepts, while being agnostic about the format of representations, can generate novel and useful questions for researchers interested in the role of action in conceptual processing.

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