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RETHINKING MEANING: AN ECOLOGICAL PERSPECTIVE ON LANGUAGE

In a view of language as part of embodied and situated cognition, reduction of its meaning to individual mental representations ceases to be sufficient. Language relies on and at the same time enables distributed cognition thus the key aspects of meaning are in the interaction of individuals within their world. This special issue is an outcome of a workshop, which gathered representatives of several disciplines in a common effort to find appropriate theoretical concepts for the characterization of those aspects of meaning that lie in the mutual constraining between language and collective practice. The emerging picture is complex, involving multimodal participatory construction of meaning in multiple systems and on multiple timescales. The Authors, however propose also several innovative methods to navigate this complexity. In this short introduction we aim at placing the works contained in this issue on a broader map of ongoing efforts to understand language as a proper part of human ecology.

Key words: language in interaction, meaning, semantics, ecological psychology

This special issue grew out of the workshop organized by the University of Bologna and Polish Academy of Sciences in Bologna in 2012. The aim of the workshop was to gather researchers on language from various disciplines to think about alternatives to structuralist and post-structuralist characterizations of meaning. We wanted to deal first and primarily with “language in the wild”, i.e., in its “natural habitat” of human interaction (Schegloff, 1996). In this context, a conception of meaning as individual grasping of intension or extension, (i.e., the mapping linguistic forms to individually represented concepts or categories)

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seems unnecessarily reductive and other aspects come to the fore. Meaning seems more related to the public use of language in its socio-cultural and situated complexities: language is in important way what language does and linguistic activities are interpersonally distributed and embedded in larger shared activities.

Building the conceptual and methodological tools to tackle language in an ecological perspective is a complex enterprise and requires a truly interdisciplinary discussion, and such was the Bologna meeting. This special issue retains some of this interdisciplinarity including researchers with philosophical, anthropological, linguistic and psychological background. The aim is to contribute to the construction of a **broader framework, which can accommodate theory of language as a tool for coordinating action and cognition in culturally specific ways, without losing sight of its importance at the level of individual cognition.** This program involves understanding language:

- As constraining and being constrained by cognition grounded in action: language is public action in the world,
- As interpersonally distributed: events shaped by language and shaping language happen not only within but – perhaps even more importantly – between and among individuals,
- As temporally distributed: events important for language use and events co-determining its structure happen on many different and interacting timescales – from milliseconds of neuronal events to seconds and minutes of face-to-face interactions, to days months and years of language development, centuries of language’s cultural evolution and millions of years of biological evolution.

This framework is already under construction within many disciplines – the elements of it being present (to mention just a few examples) in the embodied and distributed cognition movement in psychology (Clark, 1998; Gallagher, 2006; Hutchins, 1995), in cognitive anthropological theories of how languages structure everyday social events and preserve social structure (Goodwin, 2000; Ochs, Schegloff, & Thompson, 1996; Zinken & Ogiermann, 2011), in research on the evolution of language, which tries to integrate the time-scales often utilizing computer simulations and showing how certain properties of cognition and interaction may influence the shape of evolved systems (Christiansen & Chater, 2008; Grouchy, D’Eleuterio, Christiansen, & Lipson, 2016; Smith, Brighton, & Kirby, 2003; Steels & Belpaeme, 2005). This special issue focuses on the coordinative role of language in everyday human interactions, and how it may inform us about what is searched for (Sidnell) and accomplished (Trasmundi and Steffenssen) in everyday encounters shaped by language, how the meaning depends on immediate and non-immediate contexts, how the public coordinative language use is reflected in selected language structures (Fowler), and how

we can use experimental methods to elucidate the form-meaning dependencies (Galantucci and Roberts).

For the papers presented in this issue meaning is to be sought in the everyday use of language, as it is a “practical matter of daily life and ordinary talk” (Sidnell, this issue). In his paper, Jack Sidnell uses a seemingly obvious but rarely applied method for the search of meaning: observing how people search for it themselves in everyday conversations. The most informative for this purpose are the situations of misunderstanding and the ensuing clarifications: What is it that people search for? What is not clear when clarifications are needed? Which explanations satisfy the listeners? The analysis of several cases of “troubles with meaning” illustrates that practically all the advanced definitions of meaning in philosophy find their instantiation in everyday language use, depending on the context and purpose of talk. Narrowing “meaning” to a chosen, one definition would thus not make much sense. What is more important, even when clarifying questions clearly pertain, for instance, to the intension of an expression, this intension is created “on the go”, has a form of contextually relevant “glosses” rather than stable sets of features or sets of referents, making the form-meaning mapping metaphor untenable.

In Carol Fowler’s paper language is also conceived as a public social activity and this leads to specific constraints on the linguistic forms: the need to ensure learnability and understandability, to enable interpersonal coordination. The ecological function of language is thus argued a crucial element in shaping linguistic structures over the cultural and developmental time-scale. Indeed, linguistic forms can have iconic aspects already at the phonological level, which facilitate learnability, as now confirmed by multiple studies (Blasi, Wichmann, Hammarström, Stadler, & Christiansen, 2016; Köhler, 1929, 1947; Perniss, Thompson, & Vigliocco, 2010). Linguistic forms present motivated suprasegmental prosodic patterns, and seamless immersion within other multimodal communicative behaviours, which facilitates the interpersonal management of emotions and attention.

As is evident from Sidnell’s and Trasmundi & Steffensen’s paper (see below), studying how language means in its natural ambience is an extremely difficult task. Any contextualized language use involves complex multimodality and is embedded in multiple time-scales. Such complexities might imply that we could never discover simple principles (such as form-meaning mapping) sufficiently characterizing the role of linguistic forms, even in a given, limited, concrete, interaction (Gibbs & Van Orden, 2012). However, this perspective opens new venues of investigation: the search for the general principles of how public social (linguistic) forms become meaningful. The attempt at forging an experimental approach to do just that has been pioneered by Bruno Galantucci, who, together with Gareth Roberts presents it extensively in this issue. The Experimental Semiotics approach allows studying the emergence of communication in the

lab carefully controlling interactive tasks situations and the availability of the forms that can be used. Among the fascinating results informing us how arbitrariness and abstractness of the signs might emerge under various pressures, we also find direct arguments against the simplistic mapping metaphor for the characterization of meaning. Researchers found that people often use different signals for the same referent and that for the same sign (publicly aligned) it is not uncommon to find misalignment in private meaning, and, what is most important, neither of these phenomena interferes with the coordination in a task. In the paper the Experimental Semiotics is taken further, towards the ways of quantifying meaning in interactive tasks.

The last research paper in the issue illustrates the process of meaning creation in a situation of real collaboration in the medical setting. Sarah Bro Trasmundi and Sune Steffensen, applying a similar conversational analytic method as Sidnell in this issue but enriching the data by different modalities, show how devilishly complex is the process of co-creation of meaning in interaction. They demonstrate, using very concrete examples from a linguistic dialogue embedded in rich physical coaction, how the identity and the role of interactants changes, depending if they constitute a part of the interacting system that, as a whole, copes with the world or if they are considered parts of the environment providing mutual affordances for social action. Vivid examples of such switching are analyzed with the *Cognitive Event Analysis* method (also pioneered by one of the authors), and pointed to as crucial moments in co-constituting dialogical meaning in a pair that is involved in complex decision-making. This and the fact that influences not only from different systems but also from different timescales co-determine given movements in interaction also contributes to the view that accepts the complexity of meaning and obviously shuns the mapping metaphor.

Finally the book review encourages us to reconsider the received interpretations of the scholar who is seen as strongly contributing to a “mapping” metaphor for linguistic meaning and to concentration of the entire field for many years on synchronic, structural properties of language. Piotr Litwin’s review of Stawarska’s *“Saussure’s Philosophy of Language as Phenomenology: Undoing the Doctrine of the Course in General Linguistics”* hints at what many of us have been suspecting for a long time: even the father of structuralism had been aware of the complex and multiscale nature of natural language phenomena.

The papers included in this issue testify to the productivity of an ecological perspective to language and showcase methods to deal with the consequent complexity. The development of more nuanced methodological tools and of pervasive interdisciplinarity gives us a chance of forging a new approach to meaning in language, reconciled with its complexity and developing common vocabulary to encompass aspects of it that are the topic of separate disciplines. The process, we hope, is well under way.

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During the preparation of this theme issue, sadly, our collaborator, professor Nicoletta Caramelli, passed away. The conference and the theme issue would not have been possible without Nicoletta's involvement and her generous contributions. Nicoletta was an independent and open-minded thinker, an expert on history of psychology, and researcher in cognitive psychology and psycholinguistics, distinguished for her work on abstract concepts. A collaborator of Gaetano Kanitza, she had deep understanding of Gestalt Psychology and she recognized its good continuation in the contemporary dynamical systems approach to cognition. We would like to dedicate this issue to her.

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