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Introduction

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Abstract:

We introduce this special issue on "Meaning making: Enactive, participatory, interactive, symbolic" by first pointing out where cognitive-semiotic and ecological approaches agree: meaning is to be construed as a dynamic, multiscale phenomenon. We then review the six papers in relation to one another, revealing both overlaps and sites of possible tension. We view these tensions as foci for further development of cognitive semiotics in its aim to be a truly transdisciplinary science of meaning.

Keywords: meaning-dynamism, integration, tensions, transdisciplinarity

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1 Meaning making

Meaning matters. On this simple statement nearly all agree, laymen as well as the "experts" who earn their livings by trying to explain it. Semioticians, of course, would readily agree, since theirs is the "science of meaning," even though they spend much of their time quarrelling over whether this science should be grounded in a Peircian, Saussurean, Husserlian or some other philosophical framework (see Sonesson 1989; Daddesio 1995). Cognitive scientists would agree as well, even though they also have radically different views on meaning, depending on their theoretical persuasion: computational "symbol manipulation," connectionist "spreading activation," enactivist "structural coupling" between organism and environment (see Varela et al. 1991), or ecological psychology's "affordances" (Gibson 1979). Likewise, most linguists (apart from adherents of syntax-centered approaches following in the footsteps of Chomsky) seem to agree that any theory of language should be able to explain what *words* and *sentences* mean and what *we* mean when we use them, reflecting the well-known but constantly controversial distinction between semantics and pragmatics (see Jaszczołt 2012). From these opening lines, we can surmise that there are ample grounds for much disagreement, and even confusion, as to both what meaning is and how it matters.

Cognitive semiotics arose during the past two decades as a field devoted to *the trans-disciplinary study of meaning* (Zlatev et al. 2016), aiming to unite concepts and methods from semiotics, cognitive science, and linguistics. Somewhat paradoxically, by such theoretical and methodological "triangulation," it aims to achieve greater *coherence* in the rather fragmented study of meaning (Zlatev 2009b). As can be expected, it is a rich field with diverse empirical foci, including the development of meaning making in children (Andrén 2010; Zlatev and McCune 2014), the biological and cultural evolution of meaning making (Donald 2001; Sonesson 2010), the interaction between personal experience and social conventions in linguistic meaning making (Oakley 2009; Blomberg & Zlatev 2014) and the polysemiotic meaning making in contexts where speech, gesture, and depiction interact in communication (Green 2014). One core insight has been that, irrespective of empirical, terminological, and theoretical differences, *meaning needs to be understood as a dynamic phenomenon*, stretching across a number of different temporal scales, from the micro-scale of ongoing interaction and experience to the macro-scales of history and evolution. In other words, as reflected in the formulations above, meaning should be studied precisely as *meaning making* rather than as inherent in static structures, as stated by (Zlatev 2015: 1061):

[...] one can make the generalization that cognitive semiotics studies meaning on all levels — from perception to language, along with the various forms of "external", cultural representations (theatre, music, pictures, film, etc.) — primarily as dynamic *processes* rather than static *products*. Though the latter can be a convenient descriptive shorthand (e.g., of the "lexicon" of a language, or the "repertoire" of gestures in a community), [...] researchers have made the point that viewing meaning in purely static, structural terms is insufficient for understanding the essentially relational, subject-relative, and (often) interpretive nature of semiosis. Unsurprisingly, various formulations have been used to capture the dynamic nature

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of meaning: *sense-making* (Thompson 2007), *meaning construction* (Oakley 2009), *linguaging* (Maturana 1988), etc.

A similar insight — that meaning of all kinds is multiscalar and process-based, and that meaning is actively made rather than transmitted, stored, or encoded — has also been at the core of recent work in the ecological cognitive sciences. This includes work in ecolinguistics (e.g., Steffensen and Fill 2014), ecological psychology (e.g., Golonka 2015; Hodges 2014; Van Dijk 2016; Wallot and Van Orden 2011), distributed language (e.g., Cowley 2016; Thibault 2017) and interactivity-based approaches (e.g., Jensen and Pedersen 2016; Uryu et al. 2013), among others. Rather than beginning with the study of experienced meaning or meaningful objects, this work begins with the dynamics of sensorimotor coordination between individuals, and with patterns in this coordination. Its motivating assumption is that cognitively rich behavior and experiences can be accounted for by identifying the forms of coordination on which they depend — that is, by identifying non-accidental correlations in the movement and physiological activity from which actions and interactions are built. For this reason, ecological approaches bring a rather different perspective to questions of meaning and meaningfulness than most work in cognitive semiotics. To approach meaning from this perspective is to approach it from the bottom up, so to speak: meaning per se is not the focus, but rather the dynamics and mechanics of action and agency. The questions here are less about types or varieties of meaning than they are about where and how meaningful experiences can be described from an ecological perspective. Thus, semiosis in general and linguistic meaning in particular are approached as constraints on individuals' behavior and related to the subsequent impact on ecosystems.

As evident from the title of this special issue, meaning making is the common thread to the papers it gathers together. While not all authors may identify with cognitive semiotics, they are all clearly transdisciplinary in their general approaches. And crucially, they all deal with the issue of how to interrelate what appear — at least at face value — to be different kinds of meaning making. But they do so in rather heterogeneous ways, giving rise to differences that provide the context for a productive theoretical debate with the potential to enrich both cognitive semiotics and ecological cognitive sciences.

2 Summaries of the papers

Sune Vork Steffensen & Matthew Isaac Harvey set the stage for the discussion in their paper “Ecological meaning, linguistic meaning and interactivity” by asking a key question: how can linguistic meaning, with all its apparent complexity and richness, be accounted for within an ecological approach that focuses on “coordination dynamics in organism-environment systems”? To answer this question, they first review the proposal of Pattee and Rączaszek-Leonardi (2012) to treat “symbols” as *constraints* on the dynamics of interpersonal communication, rather than as one kind of mental structure or another (as in cognitive semantics) or as mathematical objects (as in formal semantics). But because this leaves many properties of symbols unexplained, including their rich experiential content, Rączaszek-Leonardi et al. (2018) have recently proposed a model of “symbol ungrounding,” which follows the semiotic theory developed by Deacon (1997) based on his reading of Peirce. According to this model, *icons*, *indexes*, and *symbols* form a sort of evolutionary and developmental ladder, with properties such as “displacement” and the (relative) “arbitrariness” of symbolic meaning arising from a “shift from direct iconic and indexical relations of utterances to other multimodal events to using iconic and indexical relations between sign vehicles to disambiguate reference” (Rączaszek-Leonardi et al. 2018: 58).

In the second half of their paper, Steffensen & Harvey present a spirited critique of this model by arguing that Deacon's semiotic apparatus either adds nothing new to an ecological theory of language; or, to the extent that it does, it brings into play properties such as symbolic reference and compositionality which “all correspond to classical representational properties of language as described in philosophical and structuralist accounts of languages as formal symbol systems”. Importantly, however, they conclude with a sort of synthesis and suggest that linguistic meaning making can at least be *experienced* (mostly by reflective and literate speakers) as having some of the properties attributed to it by the authors they criticise. While individual utterances result from “hyper-flexible control and stable population level patterns of vocal behaviour”, they nevertheless have a “felt meaningfulness” that is due precisely to the fact they are constrained by and thus correspond to relatively stable patterns on the level of the speech community. This, they label the “interactivity-based” approach to linguistic meaning.

In the second contribution, “Gestures as image schemas and force gestalts: A dynamic systems approach augmented with motion-capture data analyses,” **Irene Mittelberg** proposes a very different way to link meaning making of an embodied and enactive kind, with the meaning of “diverse semiotic systems and art forms”, including language. She approaches this through the hypothetical dynamic structures of *image schemas* and *force gestalts* like PATH, BALANCE, and CONTAINMENT, proposed by cognitive linguists and some psychologists

(Gibbs 2005; Johnson 1987; Lakoff and Johnson 1999; Mandler 2004). The argument is based on the analysis of *gestures*, a semiotic system that is closely related to language in multimodal face-to-face interaction, and yet a distinct semiotic system. This is essential, as analyses of linguistic semantics in terms of such supposedly pre-linguistic structures have been criticised for circularity if based on purely linguistic evidence (Zlatev 2005). Using original data based on motion-capture technology, Mittelberg proposes that “image schemas and force gestalts may build the structural essence of individual gestures as well as underpin the emergence of gestural patterns across speakers and contexts of use”, but also, following the literature, that they are “inherently meaningful,” as they constitute “simulator[s] of action that [are] based on real-life actions and potential actions that a person may engage in [with] full-bodied experiences that have textures and a felt sense of three-dimensional depth” (Gibbs 2005: 136).

To make this proposal fully credible, the paper proceeds to develop a systematic categorisation of image-schematic gestures, divided into three main kinds (with overlapping membership): (a) *body-inherent/self-oriented* schemas and gestalts such as BALANCE, (b) *environment-oriented* schemas and gestalts such as PUSH-PULL, and (c) *interlocutor-oriented* schemas and gestalts, a category where many of the “pragmatic gestures” discussed under (b) would seem to also belong. It is interesting to note that this division mirrors the three-way directed “Organon” model of the (linguistic) sign of Bühler (1934/2011) with (a) “expression,” (b) “representation,” and (c) “appeal,” which is also consistent with Mittelberg’s observation that the analyzed structures (understood as dynamic patterns) do not fall neatly in one category or another but are rather “multifunctional” (Kendon 2004). In conclusion, we should also here notice here some theoretical tensions with other proposals in this special issue. For example, a similar critique to that directed at “symbol ungrounding” by Steffensen & Harvey could presumably be addressed to gestural analysis in terms of the cognitive-semiotic structures proposed by Mittelberg. Also, it seems an open question whether the notion of (mental) simulation is needed to account for gestural meaning making, especially as its “full-bodied” and “three-dimensional” nature can be directly experienced as part of the social interaction. Popova & Cuffari (see below) are sceptical about such simulation even in the case of highly “displaced” linguistic communication through fiction.

The third paper in the issue by **Eve Danziger**, called “Contrasting attention to mutual knowledge in English and Mopan Mayan conversation: Schooling, orality, and cultural cosmology,” equally builds on an empirical study to make a broad theoretical claim about meaning making. But here, the focus is on language use and the kind of meaning inherent in cultural norms and practices rather than bodily experiences. The argument is that this is essential in order to account for cross-linguistic and cross-cultural differences. The study with speakers of US English and Mopan Maya involved a task of describing the content of a photograph to an addressee in such a way so that the latter could pick it out from a set of similar photographs without being able to see the photograph described.

The target of the Danziger’s criticism, referred to by the author as “the intentionalist philosophy of meaning,” is one of the dominant theories in linguistic pragmatics exemplified by Grice (1957) and Searle (1983). This theory assumes that speakers operate universally with “communicative intentions,” where they attempt to communicate a message in a way that is as clear as possible so that the addressee may recognize this message, given the context. In the cross-cultural experiment, the majority of the (literate and schooled) English speakers’ communicative moves could indeed be accounted for by using such a model. However, this was not the case for the (illiterate and unschooled) Mopan Mayan speakers, who rather performed quite detailed and, from the intentionalist perspective, “inefficient” descriptions. On the other hand, these descriptions correspond well to the fact that in their culture, “everyday speech and action are evaluated with respect to more-than-human moral order, in which what counts is fidelity to ancestral prescriptions rather than to one’s own or others’ momentary mental states”. Thus, Danziger argues, different patterns of conversational reference correspond to “contrasting cultural belief systems about the making of meaning”, where the intentionalist model is simply the one in which highly literate Westerners are schooled, rather than a pragmatic universal.

The fourth paper, “Upright posture and the meaning of meronymy: A synthesis of metaphorical and analytic accounts” by **Jamin Pelkey**, is indeed synthetic in several respects. His approach combines a dimension of meaning that is analogous to that of Mittelberg’s dynamic structures seen as arising from human embodiment and a dimension that is culture-specific (though of a different kind than that studied by Danziger). The domain of empirical study are expressions based on meronymy (i.e., part-whole relations) like “table leg” and “mountain face” in Mesoamerican languages, which are known both for extensive use of such expressions, and for conflicting theoretical accounts. One such account is in terms of global metaphorical mappings using the human body as source domain (Heine 1997). In contrast, Levinson (1994) has argued — for Tzeltal in particular — that such an approach both leads to incorrect predictions and is unnecessary, once a relatively simple “algorithm” for shape and vector analysis is assumed, as explained by Pelkey.

Following a highly informative review of both of the debate and the relevant data, Pelkey proceeds with the synthesis mentioned in the sub-title. In short, he accounts for the data by proposing that they reflect a mapping between objects and the human body image as modelled asymmetrically along three orthogonal axes.

These axes are *sagittal* (left-right), *coronal* (front-back), and most importantly, in accordance with the key role of the human upright posture and bipedalism, *transverse* (upper-lower). Pelkey argues persuasively that this mapping from body image to objects involves diagrammatic iconicity (one of the three kinds of iconicity in Peircean theory). This synthesis extends its explanatory power to a phenomenon that remains absent in both the metaphorical and algorithmic accounts: the opposition between “marked” and “unmarked” values, both within the source domain of the body image and the target domain of part-whole relations within objects. More generally, Pelkey’s proposal combines meaning making on the two levels mentioned at the onset of the previous paragraph. While the level of embodiment realized in “the phenomenology of movement and correlative body memories” serves as the *motivation*, cultural and linguistic conventions select values from this pan-human source: “These patterns are universally available, but will be conceptualized, lexicalized or grammaticalized differently from culture to culture”. Thus, this is one of the two papers in this special issue (along with that of Zlatev) that argues explicitly for distinguishing between different kinds of meaning making, as a prerequisite for their integration.

Yanna Popova & Elena Cuffari’s paper, “Temporality of sense-making in narrative interactions,” has similar integrative ambitions, but instead of juxtaposing two different kinds of meaning making, as done by Pelkey, their argument proceeds by extending the theory of *participatory sense-making* (De Jaegher and Di Paolo 2007) in scope. They do so in at least two consecutive steps, first from non-linguistic interaction to face-to-face dialogue and then to the “interaction” between a story-teller and a reader in fiction. The common dimension across which these extensions take place is that of (human) temporality, our multi-faceted experience of time, which is exemplified by the authors with the help of concepts from philosophy and psychology. Participatory sense-making itself was meant as an extension of the idea of cognition as *enaction*, originally defined as “a history of structural coupling that brings forth a world [...] through a network consisting of multiple levels of interconnected, sensorimotor subnetworks” (Varela et al. 1991: 206), to social interaction. Social enactivism posits that agents must always regulate both their own contributions to an interaction and the emergent dynamics of the dyad or group, harmonizing or integrating two parallel orders of normativity. Given such an approach, language-based sense-making is claimed to allow “more complex and spatially and temporally more distributed forms of social interactions”. These proposals are a preliminary ground for the specific argument of the paper: that literary reading can be construed as a special kind linguistic-participatory sense making.

The argument is that the two (or three) basic “normative orders” in literary sense-making are those of the *author*, mediated by the *story-teller*, understood as “an enacted narratorial consciousness”, and the *reader*. With the help of a number of illustrative examples from fiction, Popova & Cuffari show that the interaction between these “participants” can be construed as a kind of dialogue displaced in space and time, with “the author’s sense making being guided by a future reader”, while the reader in turn has a relative agency, and responsibility, to “participate in and anticipate the text’s unfolding”. The reader’s involvement is theorized in terms of different kinds of temporal flow or *pacing*, either *synchronous*, in which there is relative equilibrium between the experienced agency of the author/story-teller and reader, or *decelerated* or *accelerated*, in either case requiring the reader to do “more work,” leading to “less immersive temporality” but for different reasons. Finally, the authors propose that this analysis in terms of temporality and narrative sense-making, with relative accelerations and decelerations of pacing can account for the phenomenon of reader immersion more adequately than models that operate with the notion of “simulation,” precisely because the latter lack explicit attention to the dimension of temporality.

In the final paper, **Jordan Zlatev** proposes a macro-level integration between his earlier stratified model of meaning called “the Semiotic Hierarchy” (Zlatev 2009a; 2009b) and the phenomenology of Merleau-Ponty. In the process, the paper revises the Semiotic Hierarchy in more dynamic terms in two complementary respects: (a) the relationship between levels of meaning (making) is formulated in terms of the phenomenological notion of *Fundierung*, where higher levels sublate lower ones, and yet remain dependent on them and (b) he adds a dialectics of spontaneity/freedom and sedimentation/normativity — or between meaning making and meaning-potentiating structures — on each level. The levels in the present model are those of *life*, *subjectivity*, *intersubjectivity*, *sign use*, and *language*. If temporality played the role of “common ground” for the various extensions in the paper by Popova & Cuffari, for Zlatev, this role is played by the phenomenological concept of *intentionality*. This is understood in most general terms as “openness to the world,” but with level-specific manifestations as operative, perceptual, shared, signitive, and linguistic intentionality.

The implications for the topics dealt with in this special issue by Zlatev’s model are many. On the one hand, he endorses both the representational and structural aspects of language as essential, in contrast to Steffensen & Harvey. But on the other hand, and in agreement with them, as well as Mittelberg, Pelkey, and Popova & Cuffari, he does not present these features of language as “ontologically distinct” but as continuous with, and dependent on, more basic kinds of meaning making, including corporal experience and temporality. His acceptance of communicative intentions as one aspect of “shared intentionality” may seem to put his position in conflict with that of Danziger, but as he places such intentionality at a pre-linguistic level and grounds it in *bodily mimesis*,

his account allows for cultural and linguistic modulations and differences. Finally, as the new theory regards linguistic normativity as pre-figured by sedimentations of meaning making at lower levels, this does not make normativity into the sort of “gulf” that divides language from non-language as it did in his earlier formulation of the Semiotic Hierarchy. The theory is complex and may be perceived by some as “eclectic,” the negative framing of what others may call “synthetic.” Only further discussions will tell if “this phenomenologically interpreted version of the Semiotic Hierarchy may serve as a useful tool against any kind of meaning reductionism, whether biological, mental, social or linguistic” as proposed.

3 Concluding words

In this short introduction, we have introduced this special issue with the title *Meaning making: Enactive, participatory, interactive, symbolic*, and have attempted to review the papers in relation to one another, revealing both overlaps and sites of possible tension. In the process of editing these contributions, we have had many fruitful discussions on whether this issue represents a step towards integrating various theoretical positions, or if it rather offers different perspectives on meaning making. Probably, the answer to that question is neither-nor: while no full integration is attempted, merely presenting these papers clearly demonstrates an intriguing theoretical dialogue and potentials for moving the field forward by integrating various tenets across the six papers. As “integration” itself is a process and not a state, merely setting the stage for a dialogue is an important first step. As our review of the papers has shown, there are indeed tensions, but such tensions are to be applauded as they may serve as foci for the further development of a field like cognitive semiotics that prides itself to be the transdisciplinary science of meaning (making). We offer these papers to the readership of *Cognitive Semiotics* as contributions to furthering the dialogue that can potentiate such development.

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