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Abstract

We advocate a move away from the received notion of embodiment that operates in much of cognitive science and cognitive linguistics and a corresponding move towards the notion of inter-bodily co-enacting, which affords salient features and phenomena for the study of language in social interaction. Human bodies come in a wide variety of forms; bodies are different in both how they sense and in how they are sensible to others. We review the paradoxes and limitations of embodiment when “the human body” or “all human bodies” are characterized in simultaneously universal, individual, and minimal (sub-personal) terms. The implicit logic of this use of “embodiment” holds that cognition is the activity of isolated individual minds (even if they are indeed “embodied” minds), and that only by guaranteeing the sameness in structure will we reach sameness in meaning and thereby secure communicative success. To offer an alternative to this view, we draw on distributed

and enactive cognition and interaction studies to demonstrate how specific sense-making bodies-in-interaction participate in the coordination dynamics that afford meaning, understood as consequences in experience.

1. Introduction

In this piece we argue that much of the current broad usage of the term “embodiment” in cognitive science and cognitive linguistics rests on an implicit, under-thematized notion of “the body”. This body consists of basic structures, organization, processes, and parameters for sense, movement, and orientation. Everyone’s having the same body that does the same sorts of things and reacts in the same sorts of ways to similar environmental stimuli is taken to ground meaning, specifically linguistic meaning construction, as developed for example in conceptual metaphor theory. However, in order to capture the features relevant to collaborative meaning-construction in linguistic interaction, we will need to look at the particularities and differences between living bodies as well. Other aspects of embodiment, such as a body’s unique physical appearance, personal history of pain and pleasure experiences, and restrictions or enhancements of bodily being in the world are highly salient and constitutive to the meaning co-created in conversations, and therefore must not be left out in inquiry into the embodiment of linguistic sense-making (understood as whole-body sense-making).

These days the academic landscape is changing as a result of a double movement consisting on the one hand of a biologization (naturalization) of the humanities and social sciences and on the other hand a sociologization (culturalization) within the natural sciences, as noted by the German sociologist Werner Vogd (2010). We can and indeed should bring sociological, cultural-political, and cognitive approaches together, once we realize that experience, perspective, and value are the collective engine of sense-making. In doing this cross-disciplinary work, we build on the enactive approach to cognitive science, which develops this notion of interactive embodied sense-making, and the distributed approach to cognition and language, which studies the dynamic unfolding of sense in particular ecologies that span individual bodies and multiple timescales.

2. The standard view of embodiment: Universal, minimal, individual

The meaning of the notion of “embodiment” in cognitive science and cognitive linguistics is notably multiple. It has been characterized in terms of three constituent levels or aspects (Gibbs 2006; Johnson 1999; Lakoff and Johnson 1999); it has been mined for six premises (Wilson 2002; Ziemke 2003); in scanning the web of related disciplines in which it features as a core notion, Tim Rohrer comes up with twelve distinct usages (2007: 28–29). Rohrer generalizes these twelve into two broad senses of embodiment that pertain to cognition and language: “embodiment as broadly experiential” and “embodiment as the bodily substrate” (2007: 31), noting that the latter is increasingly in focus, while interaction between these two senses remains systematically understudied (2007: 44). This polysemy points to the richness of a multi-level phenomenon, but also flags dangers of abstraction and overgeneralization.

For several reasons we discuss here, this once-revolutionary and yet still underdetermined term may be too blunt an instrument for researching everyday, meaningful in-

teractions. Face-to-face conversations involve multiple and whole living bodies co-enacting meaning. Meaning emerges via engagement with a particular environment and with particular others. Meaning enacting draws on specific complexes of shared discourses and common grounds, and it unfolds across multiple timescales. Meaning, by which we mean consequences in experience, is an on-going process of co-achievement via various interactions with shared symbols and emergent interactive dynamics. Yet the notion of embodiment, even if it were to put on all of its many colorful hats and fascinators, is fundamentally structured so as to tell us about one body: a general, universal, and yet paradoxically, individual and isolated, body. To make our point clear: We are not denying that human bodies in general share physical processes and features of a universal character. Instead, we are arguing that when academics theorize about embodiment they tend to use an idealization, a standard – an implicit mental image or representation, if you will – of “the human body,” rather than real bodies. In this way the notion of embodiment is often undetermined and can wind up being reductive, even if unintentionally so.

Robin Zebrowski (2009: 5) aptly observes that in cognitive science and conceptual metaphor theory (as well as in other fields, such as biology and bio-ethics), there operates an unquestioned myth of a “standard” body. Following the work of George Lakoff (1987), she argues instead for a radial category structure for describing human bodies (Zebrowski 2009: 266). Understanding human embodiment as varied by design may offer a more nuanced perspective than what is sometimes found in cognitive linguistics. For example, Zoltan Kövecses, whose work on cross-cultural conceptual metaphors of emotion is field-defining, employs a notion of differential experiential focus which brings into view the perspective in which “the body”, taken as the seat of conceptualization and meaning, is at once individual and universal: “Embodiment leads to universality. All human bodies are the same.” (Kövecses 2013: 1) All hearts beat, all temperatures elevate, and all palms sweat, while “differences in cultural knowledge and pragmatic discourse functions” explain the global diversity of emotion concepts and metaphorical expressions (Kövecses 2003: 183). Zebrowski’s comment on universality in conceptual metaphor theory is useful here:

While the theories of conceptual metaphor seem empirically correct, we must examine what it means to have ‘the kinds of bodies we have,’ since it seems to us as though in the multitude of metaphors given, there is an assumption that physical bodies are standard across individuals, and it is only culture and language that differ in their interpretations of these bodily universals. (Zebrowski 2009: 15)

Moreover, we question whether these basic physiological features that bodies have in common can account for all of the relevant features of co-enactments of meaning in language use (see section 3).

In addition to the logic of the universal body, work in cognitive science and cognitive linguistics that trades on the notion of embodiment may employ a minimal notion of embodiment: the brain-as-body (Gallagher 2013). Zebrowski details a long history of understanding the brain as a static machine that performs the same functions in the same way in each body-container in which it is found (2009: 90–94). Lakoff and Feldman’s Neural Theory of Language Project at The University of California, Berkeley (e.g., Feldman and Narayanan 2004) and simulation-based explanations of language

understanding (Barsalou 1999; Bergen, Narayan, and Feldman 2003) ground the notion of embodied language and meaning on events, structures, and processes in the brain. For example, Feldman (2010: 1) writes: “One major scientific advance in recent decades has been Embodiment – the realization that scientific understanding of mind and language entails detailed modeling of the human brain and how it evolved to control a physical body in a social community.”

Thus we can see that the notion of embodiment that is taken to ground linguistic meaning and human cognition seems to require subscription to an abstraction of “the body”. The universal, standard body is minimal or largely sub-personal, consisting of a brain and nervous system, other physiological structures, spatial orientation and a sensory-motor system, for example. (Note that it does not, for the purposes typically considered relevant to language studies, consist of skin color, hair texture, genitalia, weight, age, ability, or other features that contribute to the meaning experienced and generated by living human bodies in social interaction.) This ideal commonality is very tempting because it shortcuts an ever-looming philosophical issue: We have to explain how all the individual brains locked away in the individual bodies share meaning and understand each other. If we make the case that body structure, physiology, orientation, sensorimotor systems, anatomically afforded movements, etc. are indeed in common, and if the (common) body is the ground of meaning, then this sharing is secured.

There is another compelling reason to redraw the terms of ‘embodiment’: The unreflective ways in which the term operates in theories of cognition and language maintain an impassable rift between the individual and the social. Mainstream cognitive science and philosophy of mind generally take biology as first and foremost an individual phenomenon, while sociality is understood as something purely collective and public. Correspondingly, cognition is construed as an individual, internal, and private process (e.g., the result of deep hidden structures), while communication conversely is conceived as purely social, public, and outer (e.g., an external manifestation of inner thought). These general notions are indeed established and important figures of thought that have helped us to make distinctions about the world. But an unfortunate implication of these distinctions is that they often come off as mutually exclusive. On a dichotomous reading, what is social is understood as that which by definition does not belong to nature or biology and the other way round. Likewise the cognitive is defined in virtue of its not being something “out there” in the world of communication.

Furthermore, these dichotomies share the underlying premise that it is the skin that constitutes the principal boundary between the inner and the outer, and consequently the demarcation between what can be described and understood in biological or in sociological terms respectively. (For critiques of this idea of the skin, or in terms of cognition, the skull, as the principal boundary limiting the arena of cognition, see Clark 2010; Cowley and Vallée-Tourangeau 2013; Steffensen and Cowley 2010; Stewart, Gapenne, and Di Paolo 2010). Moreover the outer social world of communication and cultural practices is typically captured as belonging to the context of human actions. The context then is often, metaphorically speaking, understood as a kind of “social container” that surrounds and encapsulates the doings of the individual bodies, which are apprehended as separate entities constraining the limits of biological and cognitive functions. While the notion of embodiment that characterizes “the second generation of cognitive science” (Lakoff and Johnson 1999: 77–78) ties together cognition and body, it often leaves unchallenged the dichotomy between the outer social world and the inner world of thought and (embodied) cognition.

The main project of cognitive linguistics has been to ground thought and language in embodied experience, and rightly so. Yet when “embodied experience” is undertheorized and left to its own conceptual devices, implicit folk ideas about what a body is take hold. Moreover, excitement about incorporating empirical and specifically neuroscientific approaches into the humanities has led to a shift away from developing the notion of experiential embodiment to focusing on the causal powers of the bodily substrate, as Rohrer observes (2007: 37). Then, as exemplified in Kövecses’ work, the attempt to explain how embodied cognitive structures are influenced by socio-cultural facets discriminates the two parties as distinct entities: embodied cognition on the one hand and context and culture on the other. Actual living bodies, with their idiosyncrasies, in their historical, geographical, social-cultural performances, communicating and communing, are lost; only mysteries about intentions and others minds remain.

In analyzing and explaining language, communication, and cognition, how can we recover a rich sense of bodies as they show up meaningfully and shape the meaning of our everyday lives? Our body-selves show up for others according to different, shifting perspectives and purposes: as a body with breasts (large, small, or missing), with dark or light skin, with missing or robotic appendages; bodies to invade, bodies to embrace, bodies to ignore, bodies to aspire to. We should not miss these dimensions of inter-bodily being and acting together when we investigate communication and other forms of collective human sense-making.

As stated above, language activity in conversational interaction (at least) takes place as a social, multi-party, ecologically embedded practice (as observed by many in the dialogic tradition, e.g., Linell 2009: 49). If we begin with the interaction itself or with the dialogical system (Steffensen 2012) as the target of analysis, rather than a neatly divisible dyad of speaker-listener, then the pressing need to cross the solipsistic abyss that separates one’s mind from the mind of the other is lessened if not obliterated (De Jaegher and Di Paolo 2007). Two developing paradigms in cognitive science – distributed cognition and enactive cognition – begin from this new starting place, thus offering avenues to re-thinking the role of “embodiment” in language, communication, thinking, and meaning.

3. From *embodiment* to *inter-bodily co-enacting*

The emerging paradigms of enactive and distributed cognition strike out on a middle-way, attempting to dissolve the dichotomies of biological/cultural, individual/social, inner/outer, standard/non-standard as “merely abstractions from the interactive (enactive) process that is experience” (Johnson and Rohrer 2007: 47). What notion of body can we find in these approaches?

First of all, there is a shift in perspective from embodiment as an encapsulated feature of individual cognition to a broader focus on a wider cognitive ecology, that is, the co-actions of bodies participating in an environment. In the words of Evan Thompson, “[t]he roots of mental life lie not simply in the brain, but ramify through the body and the environment. Our mental lives involve our body and the world beyond the surface membrane of our organism” (Thompson 2007: ix). This suggests that the unit of analysis in cognitive science may shift from the body, and its embodied cognition, as a well-defined isolated phenomenon, to the inter-relation between bodies and environmental structures that make up an extended ecology (Steffensen 2011). Here it is crucial to bear

in mind that the notion of ecology does not correspond directly to the more familiar concept of context. The ecology is not an outer frame that just surrounds or contains the individual agents, and it cannot be captured in the simple outer-inner dichotomy. Rather, the ecology emerges from the active sense-making of agents employing the physical materials and socio-cultural resources of the environment, and furthermore “the ecology is embodied to the extent that it allows us to be sensitive to the sensitivity of others” (Steffensen and Cowley 2010: 333). In other words, the human body does not exist in isolation; instead we co-evolve with the environment. Therefore embodiment cannot be reduced to an isolated individual body.

Furthermore, given the non-isolation of human bodies, any body’s smell, appearance, proximity, and style of movement, for example, directly impinge upon, perturb, or have meaning for the bodies around it. In other words, the idiosyncratic differences of bodies in interaction make a difference to sense-making. Put yet another way, a fuller concept of bodies in interaction should refer not only to organismic existence in its characteristic modes of motility, sensing, and perspective, but also to living bodies’ uniquely sensible presences that carry significance for other bodies and that contribute to a gestalt “felt sense” of a situation (Johnson 2007). While there are compelling reasons and cases in which it is useful or appropriate to think of our body as the container of our organs and physiological processes, it does not follow from this that the skin constitutes the limit of our experiential world. Instead it is the body’s

semi-permeable nature, its breach, which provides us with the possibility of experience in the first place. [...] Embodiment may be a nomological condition for agency but it is ‘embodiment’ broadly conceived, for it is the agent’s capacity to transgress its boundaries, to spill over into the bodily experience of others, which establishes the community of felt co-engagement. (Stuart 2010: 307–308)

The growing and overlapping fields of interaction studies, gesture studies, dynamical systems approaches to cognition, and multimodal metaphor research collectively suggest that the shifting and concatenating rhythms of the in-between, while indeed difficult to parse for the purposes of quantitative analysis, must be included when we undertake to explain meaning construction. One extant route is found in video-based gesture studies (e.g., Kappelhoff and Müller 2011; Kendon 2004; Streeck 2009), which “suggest breaking away from the idea that communication consists of distinctive channels for the verbal and the non-verbal, to demonstrate the ways in which social action and interaction involve the interplay of talk, visible and material conduct” (Heath, Hindmarsh, and Luff 2010: 9). While this could be the topic of another entry (or book, or series), we maintain that the meaning of interaction is found in the consequences in experience that are afforded to and modulated by participants, that is, by living bodies and body-selves. Interaction is continually re-organized via coordination processes in which people participate but over which they do not exercise full control (De Jaegher and Di Paolo 2007). These processes may be measured in terms of metaphoricity or other identifiable moments of change or breakdown (Jensen and Cuffari in preparation).

The enactivist paradigm in cognitive science also offers resources for rethinking embodiment in the way that is here recommended. On the enactivist view (Froese and Di Paolo 2009; Maturana and Varela 1980; Varela, Thompson, and Rosch 1991), cognition is the active sense-making of an autonomous living being as it navigates, creatively ex-

plores, and evaluates its world in movement, perception, and response. This sense-making is always co-authored by the environment and by others in it, as captured by the notion of structural coupling (Varela, Thompson, and Rosch 1991). In an organism-environment interaction, the coupled domains are reciprocally co-constituting; sensory inputs guide organism actions, and organism actions modulate the environment and thus modify the sensory returns. On this view,

[...] what the world 'is' for the organism amounts to neither more nor less than the consequence of its actions for its sensory inputs; this in turn clearly depends on the repertoire of possible actions. This is the heart of the concept of enaction: every living organism enacts, or as Maturana (1987) liked to say brings forth the world in which it exists. (Stewart 2010: 3)

Thus in enactivism we find that cognition is a feature of living bodies, which by definition exist in interactions; furthermore, reality itself is a product of life's dynamically unfolding couplings and interactions. For present purposes, the pivotal consequences of this view are threefold. First, bodies exist in relation, and are social (Johnson and Rohrer 2007: 43). Second, the phenomenal or experiential world is a function of acting, living, social bodies (Thompson 2007: 237). Third, each living body uniquely enacts its own precarious perspective, or "needful freedom" (Jonas 1966: 80) via its on-going cognizing or sense-making.

Note that the enactivist's core tenets of autopoiesis (Maturana and Varela 1980) and adaptivity (Di Paolo 2006) put the focus on life as it occurs in so many unique and precarious perspectives. In enactivism, specificity and idiosyncrasy are "built-in". Ongoing work in enactivism now approaches "pathologies" such as autism (De Jaegher 2013), schizophrenia and other kinds of mental illness (e.g., Fuchs 2009), and locked-in syndrome (Kyselo 2012) from the perspective of how specific living bodies inter-enact worlds of significance.

Ultimately, then, the move to ground language and sense-making in the interactions, experiences, and in-betweens of living bodies, rather than in an abstract notion of universal-individual embodiment, will engender confrontations with the fundamental under-determinations that haunt everyday co-enacted meaning and communication. While preserving this possibility of radical difference, we can also follow a pragmatist lead in noting that "mind arises through communication by a conversation of gestures in a social process or context of experience" (Mead 1934: 50). Solipsism is a worry structurally related to the premise that minds are fundamentally individual, and hence should not linger here. When we begin with the social act as "primitive" for the emergence of cognition, consciousness, and self-hood, shared meaning is not precluded from the start (Mead 1934: 47). Nevertheless, this challenge to understand human meaning-making as grounded in inter-bodily being can serve as a motivation for new methods in research. As mentioned, the interactive and multimodal turn observable in cognitive linguistics today is a good response or a good journeying forth on this middle way. Recent work brings the notions of inter-corporeal and multi-body cognition to neuroscience as well (e.g., Dumas 2011; Froese and Fuchs 2012).

4. Conclusion

Importantly, in reviewing these different possibilities for grounding meaning in bodily life, our point is not to discard the individual as a living organism, self, or person. To

the contrary, we aim to recover the individual in its particularity of perspective and experience, as a unique center of care, agency, and sense-making that has a unique history and knows of unique affordances. Nor is our point to deny identifiable similarities in dimensions of human bodily existence. For example, “sense-making” and participating in distributed dialogical systems are assumed to be basic traits of human bodily life. What we call for are treatments of embodiment that maintain conceptual space and curiosity for the full range of significant aspects of sensing and sensible bodies as they interact, experience, and live from moment to moment to year. For the purposes of studying conversations and other live interactions involving language, the term “embodiment” must at least be complemented by, if not replaced with, descriptions such as “interbodily” and “bodies”, to maintain the reality of plurality and difference that shapes our exchanges and our shared meaning. There is only so much that can be understood about sense-making on the basis of what “all human bodies” have in common. A crucial question to be addressed in further cross-disciplinary research, then, is what relationships obtain between experience, individual body-selves, and the dynamic coordinations or meanings that they enact in coming together in particular times and places. While we have not taken on this work here, we have tried to clear space for this way of thinking by calling for more complex and pluralistic treatments of bodies in interaction.

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