children sometimes fail is important and might hold clues about how development occurs. For instance, we suspect that the youngest children's performance on our interactive persuasion tasks is indeed socially scaffolded through the child's engagement in dialogue. The social context of persuasion, in which two agents are initially at odds, together with the proclamation of a belief in back-and-forth dialogue (e.g., "I think puppies are noisy!"), may be sufficient to allow the child to respond reflexively with the argument that "this puppy is quiet." But our suspicion is that the child responds to this situation without having much of a concept of belief, perhaps without any. However, such interchanges may provide important experience to children so that they eventually notice that responding to someone's stated belief with an argument relevant to that belief is more effective than when they respond with an irrelevant comment. This experience cannot be explained without an understanding of beliefs and their sources, so eventually the child adopts the more comprehensive theory. In this sense, we certainly agree with C&L that close inspection of the social facilitators of development is essential for explaining the development of mental state understanding. But social facilitation effects are not necessarily at odds with theory-theory.

C&L complain that theory-theory and other existing theories focus on cognitive architecture without reflecting on the social landscape. But surely any adequate constructivist account must address conceptual change in individuals and its implications for developments in social understanding and reasoning, even when all the scaffolding provided by the social landscape has been acknowledged. Theory-theory offers exactly what C&L (target article, Abstract) say is needed, "a theory of development . . . that accords a fundamental role to social interaction, yet does not assume that children simply adopt socially available knowledge but rather that children construct an understanding of mind within social interaction."

Why believe in beliefs?

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Abstract: A central pillar of Carpendale & Lewis's (C&L's) argument is Wittgenstein's later work on language. I suggest that this support is not as strong as might be wished, and offer an alternative approach to their conclusion that language learning, especially of folk psychology, involves a socially embedded constructivism.

Two intertwined issues are the focus here: What is the status of belief talk? And how do children learn this "folk psychology" way of talking and functioning in the world? I would like to suggest some problems with a core set of arguments in Carpendale & Lewis's (C&L's) target article, and offer an alternative but convergent perspective on children's learning of folk psychology.

C&L's discussion turns on Wittgenstein's later discussions and arguments concerning language and language learning, and is therefore only as strong as those discussions and arguments. But there are reasons for concern here. First, Wittgenstein was appropriately concerned with the normativities of language, with the "grammar" of language.[1] However, his account of that normativity fails. His discussions in *Philosophical Investigations* (Wittgenstein 1958) and previous works regarding ever more complex language games and the forms of life that these might participate in, do not provide an account of normative emergence – complexity *per se* does not generate normativity – and leave readers with a "brute" normativity (Bickhard 2003; Shankar 1996; Summerfield 1996). This is not an adequate account of normativity, and that casts doubt on other aspects of Wittgenstein's account of language.

The private language argument, in particular, turns precisely on normativity as emerging only in the realm of the social. But this ignores, for example, the normativities of *individuals*' epistemological and representational relations with the world, including the social world, and including, in particular, the language games individuals are involved in. Wittgenstein slighted issues of epistemology until his last work, *On Certainty* (1969), and even then approached it solely from within a language framework. His failure to account for prelanguage normativities (and the normativities of prelinguistic animals, including human infants) constitutes a major deficiency.

An additional problem with Wittgenstein's approach, at least as generally interpreted, lies in his account of the learning of words for mental phenomena, such as belief. "Inner processes require outer criteria" is an oft-repeated slogan. There is clearly a sense in which this is correct: Something in the social interaction must be involved in the learning of any word. But what is the (normative) epistemological relationship between the individual (toddler) and those criteria? What is it that is being learned regarding, say, "belief"? A standard interpretation is that a complex nonmonotonic language game of criteria is being learned, one in which some criteria support the use of the term, while others, if present, may defeat that use, as when noticing that someone engaged in street theater defeats the primary criteria that they seem to be in pain. As this illustrates, however, that such learning must take place *in terms of* such criteria, slides into the assumption that what is learned must be *constituted out of* such criteria (however complex that constitution may be). This is not valid: If some internal *constructive* process is ongoing, and external (social) criteria serve as selections on that process, then what is learned – constructed – need not be constituted out of those criteria at all. That we must learn *from* criteria, does not entail that criteria are *what* we must learn.[2] The knowledge of how to "make it" as a frog is not *constituted out of* the survivals, deaths, and reproductions that were selected among the evolutionary constructions involved.

"Learning language as learning names," which C&L (not to mention Wittgenstein) so rightly criticize, is in even worse condition, however: There is nothing unitary, no coherent kind of matter of fact, for belief talk to refer to. The argument here is the (extended) frame problem. I believe that large trucks can hurt me; I believe that trucks with stripes can hurt me; so can trucks with polka dots; and so on. There is an unbounded number of "beliefs" that I have, that anyone has, about trucks and their capacity to harm, as well as about almost everything else. Many of these beliefs are ones that I may have never thought of before, and yet they describe accurately what I believe. But there are too many of them to "fit" into a bounded skull, and too many of them to be learned by a toddler in a bounded time span (Bickhard 2001). Whatever else it does, belief talk cannot always or primarily refer to individuated beliefs. This I take to be convergent with C&L's arguments. Note that the point holds regardless of the role of external criteria in the learning process.

What is belief talk, then? The central suggestion is that folk psychology, belief talk especially, is involved in making, breaking, discussing, evaluating, and so on, the epistemic claims and commitments that people make with each other, including those that others make with third parties, as well as those that each individual may be involved in directly (Bickhard 1998). Hence, if I claim, or if I behave in a way that presupposes, something to be true in the world, then I have a commitment to answer challenges to that presuppositional belief, perhaps by supporting the belief involved, or by supporting my legitimacy in that belief even if it turns out to be false, and so on. Most importantly, I do not have to have any explicit representational belief that the world is not made of Brie cheese in order to presuppose it, and, hence, to "believe" it. Therefore, I do not have to have any individuated inner process nor any individuated criterial learning in order to have such a belief. This belief is not likely to encounter challenges, but my general belief that "figures of authority are malevolent" might, and yet it too need not involve individuated processes or learning. It too can have the ontology solely of a presupposition of the way I live in the world.

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In this view, belief talk and, by extension, folk psychology talk in general cannot be learned as a naming game or as a mere internalization of social practices. It must be constructively learned as a form of coordination of modes of commitment and modes of explanation for the presuppositions of our interactions with each other and with the world.

NOTES

1. "Normativity" is used here in the philosophical sense of involving the possibility of being bad or wrong. It includes such oppositions as functional-dysfunctional, true-false, correct-incorrect, and so on. Regarding Wittgenstein and language, see, for example, Glock (1996) and Shankar (1996).

2. It is an empiricist assumption that it *must* be so constituted. In contrast, *any* action-based model of representation forces learning to be a constructivist process: The environment cannot impress successful action systems into an otherwise passive mind (Bickhard & Campbell 1989).

The contributions of the interdisciplinary study of language to an understanding of mind

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Abstract: Carpendale & Lewis (C&L) emphasize the importance of viewing language as activity. In this commentary I push further their claim by highlighting how constructions, rather than words, are the appropriate unit of analysis. In addition, I suggest how a discussion of indexicality paves the way for a better understanding of how language provides a powerful tool for children's construction of mind.

Carpendale & Lewis (C&L) offer a provocative argument concerning children's construction of knowledge in and through social interaction. Although I am in large agreement with the general claims C&L make, I aim to clarify their argument concerning the dynamic interplay between language and the development of an understanding of mind by touching on two inter-related issues: first, how functional linguistics can contribute to a better way to conceive of language, and second, how work from linguistic anthropology can contribute to an account of how language plays a guiding role in children's construction of an understanding of mind.

Beyond words: Constructions as the unit of linguistic analysis. One of the strengths of the target article concerns its emancipated conception of language as activity. Rather than buying into the tendency to view language solely in terms of its representational function, C&L stress the centrality – borrowed from Wittgenstein – of viewing language as action. Nevertheless, the authors sometimes slip back into adopting jargon typically associated with the strictly representational view of language and could be encouraged to move beyond the focus on "words" by beginning to think of meaning in terms of the more dynamic notion of *constructions* (see Budwig 1998; Goldberg 1995; Tomasello 1998). Constructions are the typical unit of analysis for functional linguists, rather than the distinction between words and syntactic rules, because of their focus on patterns of usage. Simply put, constructions are best viewed as usage-based patterns and can be units of meaning that involve, for instance, bound morphemes (e.g., past tense-ed), words (e.g., *doggie*), or more abstract constructions such as "Animate Actor Xed the Y."

The relevance of looking at constructions for understanding children's construction of mind can be illustrated by some cross-linguistic work I have conducted examining children's early use of transitive and intransitive utterances. For example, American two-year-olds have been noted to reserve, early on, transitive constructions to scenes describing their own (and sometimes others') intentional actions that bring about change (e.g., *My build a tower*). These same children switch to intransitive constructions to describe a scene involving goal-blocking, as, for example, when they intend to place a block on a tower they are building, but because the block is too large, the structure tumbles (*It doesn't build*). Careful analyses of such constructions offer insight into children's construction of mind, although mental state vocabulary has not been the focus of analysis (see Budwig 2002; Budwig et al. 2001).

The idea emphasized by functional linguists who use constructions as the unit of analysis is that linguistic forms themselves do not carry meaning in terms of re-presenting reality but rather, when fixed in particular scenes or symbolic fields, such forms gain a more dynamic meaning and thereby play a central role in structuring experience. To this extent, constructions as embodied units of meaning that link sign and symbolic field play a central role in mediating the interpretation of reality.

Indexicality and children's construction of mind. Although there is growing agreement that social interaction is an arena within which the unfolding of an understanding of mind occurs, little is known about the particulars of this process. C&L begin to shed light on this issue by suggesting that relationships and talk itself provide fundamental resources for children. Further insight into how we might better understand the role of symbolic behavior in constructing culturally appropriate ways of understanding mental life could stem from current work in linguistic anthropology. Linguistic anthropologists start from the assumption that talk is a highly organized activity in which conversation unfolds in terms of highly structured units that universally segment the ongoing stream of action into orderly sequences related to culturally sanctioned ways of organizing social life (see Budwig 2003; Duranti 1997). Central here is the discussion of indexicality. As Ochs (1996) argues, linguistic constructions come to be habitually used in such ways that they come to index larger meaning units. The indexical use of language constructions provides communicative partners with signposts for how each partner grounds the interaction and thereby allows for the dynamic unfolding of meaning. Use of the particular construction comes to stand for a larger meaning unit.

Consider, for example, the use of desire talk in a crosslinguistic study of German and American caregiver-child dyads when the children were two years of age (see Moissinac & Budwig 2000). The American caregivers were noted to use desire verbs in constructions either to inquire about their children's ongoing states (*Do you want a tea cup?*) or to access permission from their children to act in particular ways (*Do you want me to pour tea?*). In contrast, the German caregivers rarely grounded desire talk in terms of individuals' desires and, rather, used desire talk to construct joint activities and otherwise relate the children's actions to normative frames. For instance, one mother appealed to joint desire as she realized it was time to clean up the blocks, saying to her child: "*Wollen wir die mal einsammeln (Do we want to collect them)*?" The claim here is that the regular use of desire constructions, and more specifically, the way in which particular desire constructions linked up in patterned ways with larger meaning units, provides a powerful point of entry for children to tacitly begin to work on ways of seeing that are culturally sanctioned. It is important to note, consistent with the point made by C&L, that children do not accept ready-made the units as organized by caregivers, but rather, that children's linguistic usage of desire constructions is indeed sensitive to the language patternings available in their caregivers' discourse. Rather than emphasizing *that* caregivers or children talk about desire, the notion of indexicality contributes by providing a suggestion for *how* children can grab onto culturally relevant aspects of an understanding of mind by attending to the patterned uses of particular linguistic constructions (see Budwig 2003).

Around the turn of the twentieth century, the study of human development often included close discussion between psychologists, linguists, and anthropologists. C&L's article brings us back to such a time and encourages developmental psychologists to not

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