NOTE

1. When chimpanzee infants, however, are nursed by human caretakers and sensitized to face-to-face interaction with humans, they appear able, as Bard (1998) has shown, to imitate human facial models of certain gestures. I have a video record of a chimpanzee infant (age 39 days) engaging in a sort of turn-taking vocal interplay with his foster parent, but I have never observed this in infant-adult chimpanzee interaction. Further, although adult males in the wild may interact relatively little with infants (see target article, Note 1), the captive males I have observed sometimes do. For example, a Beta male is sometimes used as a baby-sitter by one of the mothers when she goes off in search of food (Braten 2000, p. 282). In any event, never have I observed prolonged facial eye-to-eye contact between infants and adults, males or females.

Prosody does not equal language

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Abstract: Prosody, in motherese as in all forms of language, has a very different form and a very different use than the central lexical, phonological, and syntactic components of language. Whereas the prosodic aspects of motherese probably derive from primate vocalization, this does not help us to understand how the more distinctive parts of language emerged.

Dean Falk makes a strong argument that human motherese began with affective vocalization and that "*the use of prosody in human maternal speech is similar to the use of vocal signals by some nonhuman primates*" (Fernald 1994; quoted and given emphasis by Falk). Even though, as Falk makes clear, neither chimpanzee nor bonobo mothers engage in much infant-directed vocalization, I am sympathetic with her argument that the prosodic component of human infant-directed (ID) speech shows continuity with primate communication and I find it plausible that ID vocalization could have formed an important bridge between primate and human communication. Among other things, the early development of ID vocalization in phylogeny could help to solve the puzzle of how vocal/auditory language, rather than a manual/visible rival, became dominant. Most primates have much better voluntary control over their hands and arms than over their mouths and tongues. This should have given a decisive head start to a manual language. If voluntary control over the vocal organs had already been achieved with the help of such things as ID vocalization, a vocal language might have been viable from the very start.

Most of Falk's article is concerned with very early forms of parent-infant communication, and I am in general agreement with her discussion. I feel less comfortable with the sections of the paper, starting with 3.2, where Falk seeks to relate motherese to language. If Falk is right, the earliest forms of human ID vocalization had none of the specifically linguistic features that have been so difficult to account for in an evolutionary framework. Present-day motherese makes use of the same words, combinatorial phonology, and heirarchical syntax that we find in other linguistic styles; it is set apart primarily by its characteristic prosodic features. Falk's hypothesized prelinguistic ID vocalization has prosodic features of the sort found in modern human motherese but lacks its lexical, phonological, and syntactic features. To say "Over time, words would have emerged in hominins from prelinguistic melody (Fernald 1994, p. 65) and become conventionalized" (sect. 3.2.1) seems to beg the question. Just *how* would this emergence have come about?

Tone of voice, the ability of the voice to convey such emotions as joy, excitement, and anger, and the soothing tones of motherese are important uses of prosody, and I find it reasonable to see them as emerging from (and still, I believe, belonging to) a primate call system. However, this prosody lacks the system of contrastive phonology that is characteristic of language. As with other kinds of human and animals calls, the referential potential of prosody is more limited than that of words. Prosody is better at conveying emotions, whereas words are better at reference. To be sure, prosody has become deeply entangled with contrastive phonology in modern languages, but they do remain easily distinguishable. Parents have no trouble extracting their infant's first words from the abundant primate vocalizations that they have been listening to since the baby's birth. Some features of that vocalization will forever accompany their child's language in the form of prosody. In other words, prosody has both a different form and different functions than phonology or the lexicon, and it is the new form and functions of language that need to be accounted for if we are ever to understand how it emerged in phylogeny. I continue to think that the best way to understand what happened is to conclude that "tone of voice [along with the other aspects of prosody] amounts to an invasion of language by something that is fundamentally different" (Burling 1993, p. 30). We ignore the most interesting and difficult parts of the puzzle if we take for granted that all of language somehow emerged from prosody.

I seem to have failed to make myself clear in my 1993 article, for Falk is not the first person to conclude that I believe in the sudden emergence of language. In that article, I did express deep skepticism about finding the origins of language in a call system, but such skepticism need not imply that language emerged suddenly. One could believe, and I do believe, that language emerged very gradually from something other than a primate call system. Human cries, laughs, and screams, after all, constitute a fine primate call system – the call system of the human primate – and neither our own calls nor the calls of other primates show the degree of continuity with language that we might expect if language had emerged from a call system. Falk is right that the phonetic aspects of motherese are derived from primate vocalizations. Sadly, this tells us very little about the origin of the most distinctive parts of language: contrastive phonology, syntax, and the lexicon.

Early hominins, utterance-activity, and niche construction

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Abstract: Falk's argument takes for granted that "protolanguage" used a genetic propensity for producing word-forms. Using developmental evidence, I dispute this assumption and, instead, reframe the argument in terms of behavioral ecology. Viewed as niche-construction, *putting the baby down* can help clarify not only the origins of talk but also the capacity to modify what we are saying as we speak.

Invoking "protolanguage," Falk uses cross-primate comparisons to speculate on how hominins set off toward full-fledged language. *Putting the baby down,* she suggests, prompted words to arise in response to alterations in mother-infant interaction. Use of a comparative method allows due weight to be given to the multimodality of this "utterance-activity." Instead of emphasizing the prosodic, however, Falk's argument stresses conventionalized events. Rejecting this focus on "words" and protolanguage, I use behavioral ecology to reframe the thesis. Stronger arguments arise if caregiver-infant interaction is seen in terms of "niche construction" (Laland et al. 1999).

Taking the folk view that words distinguish us from chimps and bonobos, Falk posits a "genetically driven propensity to produce natural protolanguage" (sect. 3.2.1, para. 7). Did this exist? First, as no other species exploits simple language, words may owe more to brain-culture coevolution than to genes (Deacon 1997). Second, intention attribution is crucial in learning to talk because, without sympathetic others, infant vocalizations make little sense. In Dennett's terms (1987), taking an "intentional stance" may be

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