Beyond beanbag semantics

Daniel C. Dennett

Center for Cognitive Studies, Tufts University, Medford, MA 02155.
ddennett@tufts.edu   http://ase.tufts.edu/cogstud/

Abstract: Jackendoff's "mentalistic" semantics looks more radical than it is. It can best be understood as a necessary corrective to the traditional oversimplification that holds that psychological variation "cancels out" on the path from word to world. This reform parallels the "evo-devo" reform in evolutionary biology.

Mendel's genes were a brilliant simplification that permitted many of the fundamental principles and constraints of inheritance to be clearly described and tested. But if you took them too literally, imagining them to have exact counterparts lined up like simple beads strung on the chromosomes, you got "beanbag genetics," as Ernst Mayr once dismissively called it. The working parts of the DNA inheritance machinery encountered in contemporary molecular genetics are so much more subtle and active than Mendelian genes, that some would declare that genes – the genes Mendel introduced to us – do not exist at all! *Eliminative materialism* regarding genes in the Age of Genes? An unlikely terminological reform. We don't throw the Mendelian ladder away; we continue to use it, with due circumspection and allowances (Crow 2001; Haldane 1964).

Jackendoff's masterpiece *Foundations of Language* (Jackendoff 2002) poses a counterpart question: Isn't it time to trade in Chomsky's pathfinding syntactocentric vision for something more complex in some ways and more natural in others? In the syntactocentric picture, a word is a simple, inert sort of thing, *a sound* plus *a meaning* sitting in its pigeonhole in the lexicon waiting to be attached to a twig on a syntactic tree. In Jackendoff's alternative vision, words are active: "little interface rules" (target article, sect. 9.3, para. 6) with lots of attachment prospects, links, constraints, affinities, and so on, carrying many of their combinatorial powers with them. Jackendoff's proposed parallel architecture, with its three simultaneous and semi-autonomous generative processes, is biologically plausible, both neuroscientifically and evolutionarily. It opens up a space for theory modeling in which hypotheses about opponent processes, recurrence, and other sorts of mutual interaction, can be formulated and tested. The Universal Grammar (UG) doesn't need to be written down as rules to be consulted. It is partly embodied in the architecture, and partly fixed by culturally evolved attractors homed-in on by individual learning. The epicycles of syntactocentric theories largely evaporate, as the division of labor between syntax, semantics, and phonology gets re-allotted.

Any revolution is apt to look more outrageous in prospect than it turns out to be in retrospect. I would like to propose a friendly amendment, softening the blow of Jackendoff's "mentalistic" semantics. Semantics, as traditionally conceived by logicians, philosophers, and linguists, is where the rubber meets the road, where language gets all the way to the world and words refer to the things and events therein. The winding path by which a word "gets to" the world, when it does, surely lies in the mind (or brain) of a language user, but tradition has it that this messy intermediary can and should be largely ignored. There are several influential bad arguments as to why this should be so, but here's one that can stand for them all:

"My uncle is suing his stockbroker." When you hear that sentence, and understand it, you perhaps engage in some imagery, picturing an adult male (in a suit?) with some papers in his hand, confronting, somehow, some other man (why a man?), and so on. There would no doubt be wide variation in the imagery in the minds of different hearers, and some might claim that they engaged in no imaging at all and yet still understood the sentence just fine. Moreover, such imagery as people did indulge in would be unable on its own to fix the meaning of the sentence (there is nothing an uncle looks like that distinguishes him from a father or

brother). Clearly, goes the argument, the idiosyncrasies of imagery or other mental processes we each indulge in are irrelevant to the issue of semantics – the word-world relation that specifies, somehow, the set of objects in the world correctly referred to by "uncle," "sue," and "stockbroker." So, we cancel out all the conflicting and irrelevant mental states and processes and leave the messy minds out of semantics altogether. In any case, since we semanticists have to get all the way to the world in the end, it won't do to stop short in the mind (or the brain), so why tarry?

This is strikingly like the justification that has been offered by evolutionists for habitually ignoring developmental biology: We choose to go from the gene directly to the adaptation, the phenotypic structure or behavior that is actually selected for, because that is, in evolution, where the rubber meets the road. A gene for x, a gene for y, and we can postpone indefinitely the tricky job of charting the winding path from gene transcription to operational phenotypic asset. This is in fact a very valuable simplification, but it can be overdone. Reacting against it – today's "evo-devo" bandwagon -- can overshoot, too.

Jackendoff says, in italics, *"it is necessary to thoroughly psychologize not just language, but also 'the world'"* (p. 294) and adds: *"the perceptual world **is** reality for us"* (p. 308). As he recognizes, this looks as if he's stopping semantics in the brain, saddling his brilliant view of language with some weird sort of materialistic idealism. Let me try to put the matter more mundanely. Most people go through life without ever giving semantics any thought. You don't have to figure out the semantics of your own language to use it, but if you do try to, you soon discover the set of issues that exercise Jackendoff. It helps keep the quandaries at bay to go *hetero-*, to do the semantics of some other guy's language (and mind). Like this:

The words of his language refer to things. We mustn't presuppose that his semantic system matches ours – the meta-language we use to *describe* his psychology. If we want to say what his words refer to, we have to see how his brain is designed by evolution (including cultural evolution) and by individual learning, to parse out his perceptual and conceptual world. Once we've done this we can ask: Do his terms refer to things in the world *as we parse it,* or "just" to things in the world as he experiences it (and as his conspecifics and companions experience it)? (For if there is a language, there is a shared system even if it isn't *our* shared system.) If the former is true, then we share the world with him; our *manifest image* (Sellars 1963) is (roughly) the same as his, and theirs. If not, then we have to maintain something like scare-quotes when we refer to the "things" in his world. But either way, we eventually get all the way out to the world -- where the rubber meets the road. What we can't *express* in our terms, we can *describe* in our terms.

Jackendoff insists, rightly in my opinion, that it is only by taking this indirect path that analyzes the manifest image implicit in the language-users' brains that we can complete the task of linguistics. For most purposes, however, we can continue using the traditional semantical talk about the word-world relation, just as biologists can continue to talk about genes for myopia or even dyslexia (Dawkins 1982; Dennett 1995), because we know how to take the longer, more complicated path when necessary.