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Ray Jackendoff: The languages of the mind. Essays on mental representation. Cambridge MA: The MIT Press, 1992. ix + 200 pp.

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Syntax has always been the main concern of generative linguistics. From the early sixties until the mid-seventies, Jerrold Katz took care of semantics within this paradigm, until he parted ways with Chomsky (cf. Itkonen 1983a). Since then, Ray Jackendoff has tried to fill the slot vacated by Katz.

Because Jackendoff deals with semantics, we must first of all ask how he defines *meaning*. According to him, meanings are unconscious (p. 25), language-independent (p. 33), and purely formal (p. 30) conceptual entities, and as such, part of I-language rather than E-language (p. 22). We shall see that this definition makes it difficult for Jackendoff to arrive at a coherent overall conception of semantics.

First, if meanings are unconscious, they are *unknown* to us. But such meaning descriptions as occur in a traditional dictionary, on the one hand, and in a typical philosophical analysis, on the other, are clearly based on meanings which we do know. More precisely, they are based on conscious intuitive knowledge which is public or social in the sense that it can be simultaneously attended to and discussed by several persons. It is a serious weakness of Jackendoff's overall framework that it has no place for meanings as conscious and social entities. It might seem that they could be interpreted as meanings of E-language. This is precluded, however, by Jackendoff's decision to view E-language as 'independent of language users' or as an 'abstract artifact extrinsic to speakers' (p. 27). It goes without saying, however, that meanings qua social entities exist only as objects of our common knowledge (cf. Itkonen 1978: 122-131), and therefore they cannot of course be 'independent' of us.

Second, if meanings are equated with *language-independent* concepts, then meaning is not part of language. Since this makes no sense at all, let us try to clear up the situation. It is customary to assume within the theory of language acquisition that children are, to begin with, in possession of a prelinguistic or language-independent conceptual structure. Then two things happen: every language verbalizes this structure in its own way, thus creating linguistic meanings distinct from prelinguistic concepts (cf. Cromer 1991: 206-207 and Clark 1991: 61-62); and every language enriches this prelinguistic structure by making available to the child (words with) cultural meanings which were not part of the prelinguistic conceptual repertoire (cf. Nelson 1991: 285-287). Therefore one has to distinguish between (prelinguistic) concepts and (linguistic) meanings. By failing to do so, Jackendoff's framework turns out to be much too oversimplified. It is possible that Jackendoff is unaware of the linguistic diversity that creates different systems of linguistic meanings simply because he has always confined his attention to the description of English. (To be sure, there are a few hints at languages other than English in Chapter 6, but apparently not enough to have influenced Jackendoff's overall conception of semantics.)

Third, Jackendoff's meanings are 'purely formal' in the sense that they are what they are, not because of their content, but simply because they are *distinct* from other meanings. Thus he argues, as against Fodor, that meanings/concepts have no real-world reference (p. 29), and, as against Searle, that there is no 'miraculous' power like intentionality reaching from the mind to the external world (p. 160). If this were the case, there would be simply no way to distinguish concepts from one another (because they are unconscious entities with no content and with no connection to anything outside.) Yet Jackendoff cannot quite mean what he says because the ('purely formal') conceptual structure is closely linked to (p.15) and may even contain (s. 44) visual-cum-haptic representations of the external world, i.e. elements of the '3D model'. (Sometimes, e.g. on p. 100, it is simply said that 3D representations are linked to object names, which makes the intervening conceptual level superfluous.) Therefore the 'formal' aspect of concepts nearly evaporates. It should also be pointed out that it is a fallacy to think that the elements of any system could be defined purely formally, in the sense of '*purely* negatively'. This becomes evident as soon as one actually tries to give a purely negative definition (cf. Itkonen 1991: 298-299). Jackendoff too realizes this, but in a different context: "A map cannot just specify 'wheres': it has to have *something* to stand in for the objects being located" (p. 123).

The three preceding points show that the metatheoretical foundations of Jackendoff's semantic theory are less than secure. We could clarify the issue by saying that what he is trying to do is investigate the unconscious psychological counterparts of (potentially conscious) linguistic meanings; and within this psychological domain, furthermore, he has to distinguish between at least three different types of phenomena, namely innate, non-innate but prelinguistic, and postlinguistic. The next question concerns his methodology, or the way in which he purports to describe these phenomena. When answering this question, we in a sense resume the last of the three points discussed above.

Jackendoff admits that his 'conceptual semantics' has much in common with today's cognitive linguistics as practised by Talmy, Langacker, Lakoff, and others, but as he sees it, his own (generative) approach is distinguished by its 'rigorous formalism' (p. 31). However, the only formalism that the present book contains is given on a single page, i.e. page 36. (To be sure, Jackendoff's 1990 book is more satisfying in this respect.) The main purpose of this formalism is, first, to establish a perfect parallelism between conceptual structure and syntactic structure and, second, to show how indefinitely complex (lexical) concepts may, in principle, be generated. (As for the latter point, no actual examples are given.)

The conceptual-syntactic parallelism may be psychologically real, but here it is introduced on purely a priori grounds. (This is surprisingly similar to how a perfect syntax-semantics homomorphism is postulated a priori in Montague grammar; cf. Itkonen 1983b: 142-152.) One reason for *not* taking this parallelism to be psychologically real, is the fact that, in accordance with the standard notion of VP, Jackendoff does not allow verbs to be matched by major conceptual categories. The framework of dependency grammar would handle these facts in a more plausible or realistic way. (The study of language-acquisition has to accept the fact that the superordinate notion of 'event' contains such ontological building blocks as thing, action, and property, corresponding to noun, verb, and adjective, respectively; cf. Clark 1991: 39-40, Waxman 1991: 123-124).) It is also interesting to note

that although Jackendoff claims allegiance to the autonomy of syntax (p. 31), he nevertheless admits the basic correctness of the iconicity hypothesis: "syntax presumably evolved as a means to express conceptual structure, so it is natural to expect that some of the structural properties of concepts would be mirrored in the organization of syntax" (p. 39). Thus, instead of being innate, (at least some part of) syntactic structure is causally explained, namely as the expression of (prelinguistic) conceptual structure.

Also in another respect Jackendoff's promise of 'rigorous formalism' turns out to be rather empty. As was noted above, he claims that concepts as well as their mutual relations can be defined 'purely formally', i.e. without any reference to content. But content remains an indispensable part of each meaning definition that is actually given. In fact, Jackendoff seems dangerously prone to give promises that he cannot keep. Starting from page 1, he speaks of 'computations'; and this term even figured in the title of his 1987 book. And yet he does not present one single computation, formulated e.g. in some computer language, in either book (unless arrows drawn between boxes qualify as 'computations'). Jackendoff's de facto disregard of computations is fully understandable given that, together with other Chomskyans, he openly admits to be interested in structure, and not in process. But then it would be more honest to drop the whole term, and not to use it just because it happens to be in fashion.

After evaluating the way that Jackendoff proposes to describe his subject matter, let us have a look at the descriptions that he actually provides. These are given in Chapter 6 (which has been written together with Barbara Landau). The authors explore the implications of the well-known fact that in all languages the number of nouns is very much greater than the number of prepositions (or postpositions). Concentrating on spatial language, this means that language is able to make very fine distinctions between the physical shapes of objects, but is much less constrained when it has to express physical locations and movements. The authors refuse to accept this fact as just an aspect of the innate linguistic endowment. Rather, they wish to explain it by postulating a division between 'what' and 'where' in the organization of spatial representation, and by regarding the linguistic asymmetry merely as a reflection of this conceptual asymmetry. Unlike most practitioners of cognitive linguistics, they are not content just to analyze their own intuitive knowledge and then to project the results of their analysis into the domain of unconscious psychology. Instead, they test their analysis experimentally and compare it with computer simulations; and they seem to come up with confirmatory evidence. From the methodological point of view this is impeccable. (To be sure, Jackendoff's 1990 book is less circumspect in this regard.)

This is a good chapter. The only critical remark one might wish to make concerns the way the authors interpret their tentative explanation of the noun-preposition asymmetry. They think they have shown that in this area there is no need for functional explanations (e.g. explanations referring to the efficacy of the asymmetry in question). They fail to see, however, that their own explanation is thoroughly functional, though in a more general sense: It is the *function* of language to speak of the external world as it has been conceptualized by man.

Chapter 3 is ostensibly devoted to a reconsideration of the Piaget-Chomsky debate, but its real purpose is to defend Jackendoff's 'thematic relations hypothesis': Even if there is a

close parallelism between (the language of) the physical domain and (the language of) the abstract domain, this does not mean that the former has been *generalized* to the latter, as is assumed in the accounts based on the notion of metaphor. Rather, there is a common innate structure that equally underlies the two domains (although the child's thinking exemplifies the physical domain before it does the abstract domain). Jackendoff illustrates his thesis with the notion of ownership. Although (change of) ownership is expressed very much in the same way as physical location and movement, it is impossible to reduce the former to the latter. From this Jackendoff concludes that the two sets of concepts must be innate. However, he oversimplifies the situation by leaving out wants and emotions (which are needed anyway). Suppose I hold something in my hand, *and I want it.* It could be argued with some plausibility that the notion of ownership *can* be reduced to these terms. ('It's mine, and you can't take it from me.') Observation of small children's behavior would seem to confirm this assumption.

It may be added that Jackendoff often formulates his thematic relations hypothesis in a way that is indistiguishable from any metaphor-based account: "The basic insight of this theory is that the formalism for encoding concepts of spatial location and motion...can be generalized to many other semantic fields" (p. 37). "...[spatial] preposition meanings are extended to nonspatial domains such as time and possession" (p. 118). So maybe the dispute is more ideological than substantial.

The notion of ownership recurs in Chapter 4. Recent studies have shown that infants already display social behavior (cf. Butterworth & Grover 1988), and this could be taken to mean that at least some social concepts are innate. Jackendoff embraces this conclusion whole-heartedly, and assumes the innateness of such social concepts as 'person', 'request', 'transaction', and 'ownership'. For the sake of the argument we may accept this (especially since at least the concept of person is certainly innate). The interesting thing is that Jackendoff, as a "deeply committed Chomskian" (p. 53), cannot avoid coming into conflict with the central philosophical thesis of the entire Chomskyan paradigm. Chomsky regards language not as a social, but rather as a 'private' and even biological entity, and he requires that speakers be considered as 'natural objects' (for discussion, see Itkonen 1978: 81-86, 117-121 and 1983b: 227-248). But now the following contradiction emerges: On the one hand, the innate concepts of person and order are social. On the other, the innate linguistic expressions for these concepts (i.e. grammatical person and imperative) are non-social. (Maybe someone would like to argue, incongruously, that concepts *can* be separated from their expressions. But even then the following puzzle remains: When the social concept of request *becomes* the meaning of the imperative, it *changes* into something non-scocial.) Notice another interesting implication of the Jackendoff-type innateness. When you meet a person, he is a social being; but as soon as he starts to *speak*, he miraculously changes into a natural, non-social being.

It might seem incomprehensible that anyone can entertain so obvious a contradiction without becoming aware of it. Fortunately, Jackendoff himself provides an explanation for this curious fact in Chapter 5, where he considers possible analogies between linguistics and Horowitz's 'psychodynamics'. Noting that 'bad' qualities are normally displaced from oneself and one's parents (presumably including father-figures) to others, he proposes the following 'irrational inference' to explain paranoid behavior:

Major premise: 'X has characteristic Z' is bad.
Minor premise: X has characteristic Z
Conclusion: X does not have characteristic Z - some other person Y does

We need only to substitute 'Chomsky' and 'is wrong' for X and Z, respectively, in order to understand why contradictions within the Chomskyan paradigm can remain undetected.

It needs to be pointed out that the same inferential pattern has for some time already been utilized within the theory of 'cognitive dissonance' (cf. Itkonen 1983b: 205-206). Moreover, since Jackendoff displays some interest in Piaget's developmental epistemology, it may be added that Piaget too has dealt extensively with ways to resolve cognitive conflict (cf. Mischel 1971).

In Chapter 8 Jackendoff compares two different approaches to the problem of external reality, namely a 'philosophical' and a 'psychological' one. He wants to argue that such notions as 'truth' and 'belief' are merely part of 'folk psychology', which "is full of all kinds of crazy things" (p. 172), and should accordingly be dismissed. This position may seem shocking, but it really boils down to the claim that *if* we consider human beings as nothing but carriers of certain psychological states and processes, then they need not be thought of as having either true or false beliefs. This is true [sic], but not very interesting. The interesting question is whether such an attitude is worthwhile. Jackendoff has to admit that we cannot dispense with the notion of truth altogether, because psychology as a *science* must still be allowed to make either true or false statements. Somehow we just have to accept this last vestige of folk psychology. I find this an artificial solution. It is more natural to accept the truth in common-sense thinking as basic and then to gradually develop it towards the notion of scientific truth, in the fashion of German 'constructivist' philosophy (cf. Butts & Brown 1989).

Jackendoff wishes also to dispense with the notion of intentionality (pp. 160-164). However, he makes things much too easy for himself by concentrating on cases like sensation/perception where mind is being acted upon. If one instead considers cases like the planning of future actions, where mind plays an active role and eventually acts upon the external world, intentionality is much harder to dismiss. Restricting one's attention to sensation is curiously reminiscent of Skinner's overly simple approach to language.

In the same context Jackendoff reveals his astonishingly simplistic view of the ontology of language: language has no real existence because entities like VP do not exist "in the environment" (p. 165). So much needs to be corrected here that it is difficult to know where to start. Let it be pointed out, at the very least, that language does have a real existence as a *social* phenomenon; to be a social entity means being the object of common *atheoretical* knowledge; reflection upon and analysis of atheoretical knowledge produces *theoretical* knowledge, including the notion of VP; whether or not such notions have any psychological reality must be decided separately; and so on. This argument has been developed in extenso in Itkonen (1978, esp. Chapter 8).

One final correction. Contrary to what Jackendoff assumes (p. 23), the capacity to produce and understand an infinite number of sentences must *not* be identified with the 'creativity of language'. The capacity in question is based on recursivity, and the "creative

aspect of language use [cannot] be identified with the recursive property of grammars" (Chomsky 1975: 230, n. 11). This statement has cancelled the earlier position, still adhered to by Jackendoff, according to which "recursive rules...provide the basis for the creative aspect of language use" (Chomsky 1967: 7).

Jackendoff is a competent semanticist, who uses his semantics as a platform for venting his ideas on certain general issues of psychology and/or philosophy. Because of his affiliation with Chomsky's prestigious research program, these ideas have received more attention than they would otherwise deserve.

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