Talking about the cognitive: meaning in mind, mentalism in semantics

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Abstract

This paper is a philosophical investigation into the cognitivist or mentalistic approach to natural language semantics, *i.e.*, the line of research which assumes that the meanings of language expressions can be identified with objects in the minds, or cognitive systems, of human individuals. I subsequently examine three prominent instances of semantic cognitivism in linguistics (the classical cognitive semantics, Jackendoff's conceptualist semantics, and the theory of conceptual spaces by Peter Gärdenfors), the focus being on the issue of interindividual agreement on mental structures and on the practice of transcribing worldly structures into the mind for the purposes of semantic explanation. I argue that many of the cognitivist results are questionable in so far as they are taken for descriptions of the language-related mental structures in human individuals. Under a non-mentalistic intepretation, however, those results may be perfectly valid.

1 Introduction

What our words and sentences mean is to be looked for in our heads: in the language user's mind, in her cognitive system, and possibly also in her neural structures. In the contemporary linguistics, this is very likely the dominant position on meaning, at least in so far as explicit positions are taken. One would not want to claim the same for philosophy of language, in which the stakes appear to be more balanced, but in linguistics the picture is relatively clear. Surely there are alternatives to this "cognitivist" (or "mentalistic") view: these are, however, ones that either blossom on the interface of linguistics with other disciplines, or, originating in linguistics proper, have seen a decline quite some time ago and are nowadays not as influential as they were in the past. The former is the case of formal and computational semantics, on the interfaces

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of linguistics with logic/philosophy and computation, respectively. The latter is arguably the case of linguistic structuralism and what it had to say about semantics.

In the core of the contemporary linguistics, the cognitivist stance does not seem to find a serious competitor. This is no doubt a lasting result of the cognitive revolution, ignited (among others) by Noam Chomsky and taking place since the 1950s. It is not for nothing that the term "cognitive" points in the direction of *both* Chomsky, as one of the fathers of general cognitive science, and the successful anti-Chomskyan linguistic movement of the past several decades, known as cognitive linguistics. Among the many respects in which cognitive linguistics is a clear negation of the Chomskyan, generative approach to language, the commitment to the exploration of language as a cognitive capacity of an individual speaker is missing. Thus, shared by both the most influential linguistic framework of the previous century and the most powerful reaction to that framework, the cognitivist stance has slowly become an unquestioned given for many in the field of linguistics. The semantic aspects of natural language are no exception from this prevailing attitude.

In this paper, I want to trace and examine the mentalistic approach to meaning as present in three prominent instances of post-Chomskyan linguistics: in what can now be called classical cognitive semantics (the works of, e.g., George Lakoff, John R. Taylor and Charles Fillmore), in the conceptualist semantics of Ray Jackendoff, and most recently, in the (socio-)cognitive theory of conceptual spaces as developed by Peter Gärdenfors. Despite the differences in their theoretical background, I regard all three approaches as good examples of the cognitivist or mentalistic stance. Based on this material, it is my aim to review the forms that mentalism in semantics takes, and to point out what in my opinion are the weak points of the approach. The discussion is in many places connected to the extensive philosophical debate on representationalism and internalism vs. externalism regarding mental content (Fodor, Kripke, Putnam, Burge, Rorty, Brandom and others), and some of the arguments can no doubt be viewed as mirorring the existing, more general ones. However, given my present focus on mentalism as specifically manifested in linguistics, the connection will mostly remain implicit.

Let me put my cards on the table. It is a part of my plan to criticize mentalism from fairly traditional logical and philosophical positions, more specifically from the point of view of semantic normativity: the position that meaning is, importantly, a matter of what *should* be (rather than *is*) the case, how expressions are—in some sense—supposed to be used, etc. I am nonetheless not too keen on maintaining the division which one can often find in the literature: that of logical approaches to meaning, on one hand, and of the cognitive ones, on the other. If these two perspectives need to be presented as distinct approaches, with scarcely any room for fruitful cooperation, something has arguably gone wrong. One might of course point to the diversity of how "meaning" and related terms are used in the everyday talk. Yet what seems important is that in the everyday use we do not find a clear split into distinct families of use, as we find in the case of "bank" or "seal". (We do not talk about meaning, *first*, in the sense

of what is going on in our mind when we use expressions, and *second*, in the sense of how these expressions should be publicly used.) I reject that cognitive and logical semantics deal with two different phenomena titled "meaning", and that, hence, the existence of two virtually unrelated branches of semantics is an adequate state of affairs. There are two senses of "pedology" – in one, pedology deals with soil, in the other, it deals with children – but not of "semantics".

So, although I think that the cognitivist stance cannot by itself provide us with a satisfactory grip on language meaning, I also believe we should be careful to appreciate the many valuable insights it offers. There is no denying that we are biological creatures: our ability to master and use a particular language in our characteristic ways rests on a rich biological substrate and is heavily interlinked with the rest of our cognitive capacities, which are – needless to say – also anchored biologically. The biological and cognitive underpinning of our language skills results from ages of evolution and is inter-individually shared to a very large extent. This of course severely constrains what the semantics of our language can be like, and these constraints are, by the same token, ones that may be efficiently tracked on the level of a human individual. Thus even if we believe that language meaning is a normative phenomenon, one that reaches far beyond the level of individual psychology, the cognitive perspective can be in no way avoided.

In some logical approaches, the lack of interest in the actual psychology of meaning is just a comfortable way—allegedly, sanctioned by Frege—of ignoring a whole world of pertinent questions. But even when such an attitude is supported by the Wittgensteinian view that meaning is a matter of the (actual or appropriate) use of words, not of the concurring mental processes (whatever these are), one can reply as follows. Wittgenstein's seems to be an apt semantics for a population of black boxes playing language games. But knowing how much of the biological and cognitive grounding is *shared* by communicating humans, can't we hope for more?

My suggestion is that a good part of the cognitivist insights should figure in whatever theory of meaning we are finally going to adopt. In this paper, I will however also argue that many of these insights, after all, require being interpreted in a way which is not quite in accordance with how they are intended by their very authors. Basically, they often call for a non-mentalistic reinterpretation. The price for adopting a good deal of the cognitivist findings in a more general view of semantics will consist in admitting that they do not always primarily concern what they are supposed to, viz., the psychology of human individuals.

Examining in the following three sections three representative cases of mentalistic semantics, I am about to focus on the following issues in particular. First, does the approach in question locate meanings in the minds of human individuals? In other words, are meanings (of subsentential and sentential expressions) identified with concepts and thoughts, and are these, in turn, regarded as entities of the mental realm? Second, is it simply an assumption of the authors that concepts and other cognitive structures are shared interindividually, or does the mentalistic framework offer a way of verifying and explaining such agreement?

The third issue is related to one I have raised elsewhere (Ocelák, 2015b). In connection with formal (model-theoretic) semantics, I have expressed the concern there that much of the formal semantic practice involves "explanation" by trivial re-description, namely, via copying the relevant distinctions of our talk into the assumed ontology. Here, I would like to explore in how far something similar takes place in the cognitive approaches, namely in the form of copying parts of the world into the mind and regarding them straightforwardly as mental ingredients to which we can appeal in semantic explanation. The fourth question has been touched upon already: it is the question of whether, or to what extent, the cognitivist findings should be reinterpreted in non-mentalistic terms.

2 Classical cognitive semantics

Categorization and the structure of the categories expressed in language belong to the most salient areas of investigation in cognitive semantics (or more generally, cognitive linguistics; cf. Geeraerts, 2010, p. 182ff.). The classical cognitive approach to the linguistic categorization of our experience provides a first convenient illustration of the mentalism that is characteristic of large part of modern semantic thinking.

Usually (cf. Taylor, 1989, p. 38ff.; Geeraerts, 2010, 183ff.), the presentation goes as follows. The new theory of categories, developed by the psychologist Eleanor Rosch during the 1970s (see Rosch, 1978 for an overview), replaced the classical ("Aristotelian") picture of categories (categories as all-or-none classifiers building on necessary and sufficient conditions) with a prototype-based view combining Wittgensteinian "family resemblances" (Wittgenstein, 1967, §65ff.) with degrees of categorical membership or typicality. According to this view, as opposed to the "traditional" theory of categorization, there need not be any particular set of properties that are shared by all members of a particular linguistic category (such as *fruit, bird*, or *furniture*) and only them. Instead, the cohesion of the category in question can result from a number of partial overlaps in properties, none of which strictly separates all members from all non-members of the category. (For instance, fruits in general grow on trees, but strawberries do not; lemons do, but unlike most other fruits they do not ripen into sweetness.) Also, not all members are equally representative of their category, or equal in their very membership. Categories are well-defined in the core, some members being clear or even exemplary cases of the category in question, yet the categorical boundaries are often blurred: we can find a range of atypical members, and besides clear non-members, there are instances whose membership in the category is hard to assess. (For instance, robins and sparrows are clear birds, or even birds *par excellence*, penguins and ostriches are birds too, even if somewhat unbirdly. Lemons and strawberries are atypical fruits in certain respects, but their fruit status is not as questionable as that of coconuts, watermelons or tomatoes. In case of artifacts, as opposed to natural kinds, the boundaries are even more fuzzy.)

Now, some of the issues glossed over in this outline, and in the original articles by Rosch and colleagues, have been reflected upon during the theory's subsequent development in the context of cognitive linguistics. An explicit distinction has been made between degrees of typicality and degrees of membership, and in relation to that, people have noticed the influence of scientific taxonomies upon the folk categories of objects. (Taylor, 1989, p. 64–65; Geeraerts, 2010, 189–190.) It has been further pointed out that prototypicality has both extensional and intensional aspects (in the traditional lexicographic, rather than the logical sense of these terms, see Geeraerts, 2010, p. 189),[1] and the theory has been also extended beyond the original focus on nominal categories such as *birds* or *furniture*.[2]

What is remarkable about the literature on prototype theory, though, is the surprising lack of reflection on the most fundamental questions. *What* are categories, the categories that we discuss and examine? How should we understand the empirical claims that are made concerning categorical membership, typicality, etc.? Is "category" a synonym of "concept"? (In the cognitive writings, the use of these terms overlaps to a large extent.[3]) And whether they are synonymous or not, do we locate either categories or concepts primarily on the level of individual psychology, in the mind or the cognitive system of a human *individual*? Should we identify a category, say, with a way in which an individual organizes his or her experience?

It is very common to start the discussion of prototypicality (just as I have done in the previous exposition, by the way) by simply contrasting the prototype view of categories with the "traditional" one—as if it was already clear what the term "categories" refers to in both cases. My suspicion however is that remaining silent about what is actually meant by the term is the only way of saving the impression that the "traditional" and the new, Roschian, theory of categories strictly concern one and the same phenomenon.

Let me, first, note that the use of "category" and "concept" as largely substitutable terms, so typical for cognitive linguistics, is something that cannot be

[1] One can however ask whether this is a sufficient account for the fact that some prototypicality studies concern the categorization of *objects*, while in others it is lexical *categories* what is further categorized. Cf. Labov (1973), on the one hand, and Rosch (1973, 1975), on the other. Cf. also Taylor (1989, p. 60): "We want to be able to say, not only that individual robins are members of BIRD, but also that BIRD has as one of its members the category ROBIN."

[2] Geeraerts (2010, p. 185) somewhat confusingly characterizes them as "categories naming natural objects". I don't think we should say categories *name* anything. Rather, they *arise* in connection with the fact that we apply names to objects.

[3] Cf. the following formulations: "The existence of prototypicality effects in clearly bounded concepts such as bird implies [...] Membership in the category *bird* is discrete; something is or is not a bird." (Geeraerts, 2010, p. 191.) "By natural categories Rosch means 'concepts designatable by words in natural languages'" (Taylor, 1989, p. 43) "Alternatively, the prototype can be understood as a schematic representation of the *conceptual core of a category*." (Taylor, 1989, p. 59.) "Human meaning-making depends in part on how we *categorize* entities and events in the world; that is, on the nature of *conceptual categories*, or *concepts*, we have concerning these entities and events." (Kövecses, Semiotics Encyclopedia Online; italics in the latter two quotations are mine, RO.) True, the emphasis, or point of view, may differ: *categories* but not *concepts* have *members*. Also, given the prototype theory's focus on object categories, what is more abstract is likely to be labeled *concept*.

easily found in the pre-20th century "tradition". In any case, neither Aristotle (the usual reference for the "traditional" conception, cf. Taylor, 1989, ch. 1; Aarts, 2006) nor Kant (who seems to be the source of the view of concepts as classifiers of experience) can be seen as precursors for such a wide application of "category". For both, categories are highly general ways along which our speech or thought is structured (such as quantity, relation or modality), certainly not something that would serve to establish object distinctions on an arbitrary level of granularity (animals, birds, furniture, chairs etc.); cf. Klev (2014). This can probably be put aside as a mere terminological dispute: the categories/concepts of cognitive semantics are simply what has been more commonly referred to just as (lexical) concepts.

The following is, however, of more consequence. In the tradition referred to by the cognitive semanticists, concepts and categories (in the old sense) are not characteristics of an individual mind (or soul) in the first place. At least as much, they function as the structural moments of our general rationality. Falling under a concept/category is traditionally a logical, rather than a psychological notion.

In case one's conception of the mind is as universal as Kant's, the dilemma might in fact be a false one: in such a view, the structures of the mind and those of logic, or general rationality, seem to coincide. Arguably, it was only the cognitive revolution of the 1950s what fully opened the rift. Focusing on the cognitive processes in an individual (understood as an instance of a biological kind), the cognitive approach opened the room for describing concepts on two distinct levels. On one hand, concepts may characterize an individual mind or cognitive system. On the other, they can be seen as nodes in the structures of rationality by which any particular individual is transcended and bound (whatever their ontological status and their generality is).

That the first of these two perspectives of concepts will be strong in cognitive semantics is already clear from its rooting in the cognitive revolution (via Chomsky, despite large disagreement in other respects) and experimental psychology (the experiments by Eleanor Rosch). The second understanding, however, seems to be deeply entrenched in our thinking and is not so easy to expel. In discussing, say, the concept of chastity, there is a strong sense of interindividual objectivity: I primarily wonder what chastity as such involves. To this end I may be also interested in XY's own particular understanding of that notion. But should it turn out that it involves drinking gallons of alcohol and acting promiscuously, I will lose my interest, since *such* understanding would be of no use in delimiting chastity.

I believe the view of categories/concepts as nodes of rationality that are characteristic of a community or a particular culture, rather than a single individual, is also present in the classical cognitive semantics. The problem is not that these two conceptions are necessarily incompatible: one can surely try to construct the "objective" (or socio-cultural) concepts out of the individual ones.[4]

[4] Whoever would object to using the term "concept" for the latter, may just pick a term of his/her own taste. Clearly, individual mind or cognitive system can be profitably described

The problem rather is that in many works of the classical cognitive semantics, both readings of "concept"/"category" are blended in a very confusing manner. In particular, results that may well be valid on the objective, cultural level are problematically transposed onto the individual one. They are supposed to reveal the mental structure of each competent speaker, as though it was clear that the "objective" concepts are straightforward reflections of the individual ones. For this to make sense, we need to assume that individual concepts are shared between individuals. But that precisely is what is always just assumed in the classical cognitive semantics and never proved, neither is it explained how such interindividual agreement on mental structures could arise.

Let me provide some examples. As regards the structure of categories such as *furniture* or *bird*, it is common in the literature to generalize over the responses of a number of speakers. With a sufficient sample of speakers, the claim that chairs are prototypical pieces of furniture but rugs are not[5] may come out fairly safe. We only must not forget that this finding primarily concerns the objective, or socio-cultural, concepts/categories; it does not necessarily provide for conclusions regarding the mental organization in each of us. True, if the interindividual agreement on categorization is found to be high enough (cf. Rosch, 1975), the difference between the two levels can become negligible for practical purposes (e.g., calibration of psychological experiments; cf. van Overschelde et al., 2004). We nonetheless need to keep the difference in mind, if only because in the case of more advanced concepts we cannot expect as much interindividual agreement as with *furniture* or *bird*.

Another example. As the classical theory of conceptual metaphors (Lakoff and Johnson, 1980; Lakoff, 1987) has firmly established, the more abstract domains of our thought are often structured by metaphorical mapping from more basic experiential domains. For instance, theories are conceptualized as buildings, this involving large correspondences between how we talk about either (theories are being *built*, *amended*, *dismantled*, they rest on *foundations*, etc.). Similarly, it is claimed that the domain of love is structured after the domain of traveling (LOVE IS A JOURNEY), or that argumentation is conceptualized in terms of battle operations (ARGUMENT IS WAR). Let us assume for our purposes that the method of discovering metaphorical transfers by means of gathering positive examples of use (such as, "look how far we've come" and "we are at a crossroads" for LOVE IS A JOURNEY) is by itself not problematic.[6] Then still, what kind of fact is it that we have ascertained, finding that theories are conceived as buildings? In my opinion, it is a fact concerning a particular culture and its rationality, not necessarily the mental organization of each particular individual. I, personally, may conceive a theory as an apple orchard, or love as a football match, and the only way for a cognitive linguist to find out is to come and ask (or otherwise examine my mind). Of course, individuals are subject to

in terms of functionally organizing principles, however they are labeled.

[5] Or, for that matter, that an ostrich is an untypical bird, yet it unequivocally *is* a bird. The point here is that both typicality and membership must be taken into account on both the individual and the socio-cultural level.

[6] But cf. Geeraerts (2010, p. 208ff.).

the more general structures of rationality, and my individual concepts cannot be utterly disconnected from that. (At least, if the talk is about the *construction of a theory*, I, as a competent speaker, am supposed to understand those words in a specific non-literal way, not to go looking for bolts and wrenches.) But the connection between the individual and the socio-cultural cannot be straightforward either.

Finally, I want to illustrate my point on the example of frame semantics (Fillmore, 1982; Fillmore and Atkins, 1992; Geeraerts, 2010, p. 222ff.), one more prominent instance of broadly cognitive linguistics. Roughly speaking, the idea of frame semantics is that our knowledge of the world is organized in larger structures, and that the expressions of our language encode particular elements of, or perspectives on those structures. For instance, there is certain general scheme of commercial transaction, which involves the transfer of goods from a buyer to a seller for payment, following mutual agreement and on the background of a certain ownership system, monetary system, and so on. It is then impossible to give complete semantics for "buy", "sell", "pay" or "spend" without reference to the overall scheme. This is no doubt a pertinent point on the socio-cultural level: if A bought B from C for a price D, every competent speaker is supposed to be able to infer that B was sold by C to A, that D was the sum spent by A for B, that B and D changed possessors in opposite directions, and so on and so forth. (The latter are objective notional consequences of the original statement.) What is more controversial is the following: in what sense can we regard such a frame-based semantic description as *cognitive*? Does it provide an insight into the mind or the cognitive system of a particular speaker? Does it reveal mental structures that are shared among individuals? And if so, does the "agreement on mental structures" involve anything over and above the fact that the cognitive system of each of us has to cope with the same objective socio-cultural relations of buying, buyers, selling, goods, spending etc.? Hence, have we really identified in our minds anything so firm that it could serve as the meanings to which our language expressions could refer?

The three examples above are meant to indicate the troublesome nature of the claim that classical cognitive semantics successfully transplanted meanings into our mind, cognitive system, or individual psychology, by means of identifying them with our individual concepts. In fact, this tradition—despite its aspirations—seems to have said fairly little about such mental structures. Note that there is absolutely no denying it told us a *lot* about meaning. Only, it did not make mentalism concerning language meaning much more plausible than it appeared, say, in the wake of Wittgenstein's critique.

3 Jackendoff's conceptualist semantics

In his *Foundations of language* (2002), Ray Jackendoff offers a version of mentalistic semantics that is very much worth attention here, as it is highly considered, aware of the possible strands of criticism, and very explicit in the assumptions. Of the three examples of cognitivism with respect to meaning that I discuss in

this paper, Jackendoff's work is the one that stands closest to the Chomskyan origin of modern linguistics.

Jackendoff is certainly no orthodox follower of Chomsky and mainstream generative linguistics is subject to informed critique in much of his work (Lehečková, 2010). Nevertheless, he also adopts some important assumptions and coordinates of the Chomskyan thinking about language, and meaning in particular. Besides the very mentalistic stance (linguistics is primarily the study of language as present in the mind of a human individual, mind here being understood as the functional organization of the brain; Jackendoff, 2002, p. 21), we should at least mention the traditional Chomskyan assumption that linguistic competence and performance can be studied separately.[7]

What is of particular importance in the present context is that in Jackendoff's work, semantics is unambiguously conceived in terms of conceptual structures which in our mind run parallel with the strictly linguistic structures (syntax, phonetics/phonology) and are fully independent of them. This point, like many others, is one in which Jackendoff non-dogmatically elaborates on a traditional generative tenet. In Chomsky (1965), semantic form is asymmetrically assumed to approach the outputs of the syntactic component, supposedly the only creative, generative component of our language faculty. In opposition to that, and drawing inspiration from the generative semantics of the 1960s, Jackendoff regards semantics as a self-standing conceptual layer of our cognition, capable of generating its own complex structures (concepts or thoughts) based on its own rules. These structures are then not only systematically linked to the structures produced by syntax and phonology, but they also constitute our general knowledge of the world, in its relations to our perception of the world and actions therein. (See Jackendoff, 2002, ch. 9.)

So, having adopted the idea of semantics as a separate component of the language faculty whereby structures of a particular nature (distinct from the syntactic ones) are processed, Jackendoff raises its status to that of an independent and creative component of our general cognition. And in fact, while mainstream generative linguistics from 1970s on has mostly left the study of meaning to a handful of younger, emerging disciplines (formal semantics, computational semantics, cognitive psychology, cognitive linguistics), Jackendoff is the one who has always been trying to return semantics into the generative focus.

Jackendoff, in the Chomskyan line, explicitly requires the conceptual system to complement the syntactic complexity of language. The identification of concepts (as mental entities) with the meanings which we demand for language expressions is thus more pronounced in his work than in the classical cognitive semantics. There is also more attention to their combinatoric aspects. It is

[7] For Jackendoff (2002, p. 29ff.) however, as opposed to the tradition, the distinction is a relatively soft one: "[...] I think the competence–performance distinction acknowledges the value of the sort of work linguists do in their day-to-day research, while recognizing that this work eventually must be placed in a broader psychological context. But I regard it as a pragmatic division of labor, a methodological convenience, not as a firewall to protect a certain form of inquiry." (2002, p. 34.)

no doubt the rooting in the generative linguistic framework, with its particular interest in syntax, what leads the author to a fairly specific picture of semantics: the meaning of a sentence (or utterance) is conceived as a construction of mental blocks *sui generis*, a construction which, however, in more or less regular ways relates to the sentence's construction on the other linguistic levels. To better appreciate the distinctiveness of this position on meaning, recall the Wittgensteinian alternative. If meaning and concepts are thought to be a matter of how linguistic forms are put to use, there is hardly any room for such an independent conceptual structure, or any semantic role for it to play (even though our ability to use terms appropriately of course still requires anchoring in our cognitive apparatus).

Jackendoff is well aware that the mentalistic picture of meaning is far from consensual. "Rather than engage in arguments based on terminological imperialism, I will use the term "conceptualist semantics" as a term of art for this enterprise. Above all, I don't want to get trapped in the question: Is this enterprise really a kind of semantics or not? The relevant questions are: Is this enterprise a worthwhile way of studying meaning? To what extent can it incorporate intuitions and insights from other approaches, and to what extent can it offer insights unavailable in other approaches?" (Jackendoff, 2002, p. 271). Let us respond to this invitation: we will be interested not in promoting a particular use for "meaning" and the related terms, but in the more substantial question of how fruitful it is to conceive semantic phenomena in mentalistic terms.

First, I would like to address the issue of inter-individual agreement on mental structures. If in describing the semantics of a particular language expression we appeal to the corresponding structures of our mind, we clearly presuppose that these structures are to a sufficient extent shared by the speakers of the language in question. That also seems to be the position assumed by Jackendoff. Even if the identity of language-related cognitive structures across competent speakers (the "homogeneous community" envisaged by Chomsky) is an idealization, he says, it is a soft one which can be dropped in case there is a need of greater detail (say, in the study of acquisition or dialects; Jackendoff, 2002, p. 35; cf. also Stokhof and van Lambalgen, 2011a,b; Nefdt, To appear). "I suggest that the use of language names [such as "English" or "Standard American English"] is a harmless reification of the commonality in the linguistic f-knowledge of a perceived community of speakers." (Jackendoff, 2002, p. 35; here, "f-knowledge" stands for functional knowledge, that is, knowledge as present in the functional mind, not necessarily conscious; see p. 21.)

The talk here is about linguistic knowledge in general, so the statements apparently also hold for semantics. The author clearly assumes that our conceptual structures are largely in agreement—that they overlap to such an extent that interindividual differences can be safely neglected most of the time. He suggests (p. 35–36) that the talk of languages in linguistics is as useful an approximation as the talk of species in biology: the latter, too, conveniently captures important similarities, without implying that all members of a species are genetically identical. However, in so far as this simile is meant to justify the assumption of large interindividual agreement on mental structures, it is in my opinion misleading.

In the case of biology, the commonalities in function, behavior and appearance sometimes do enable us to infer in some cases to genetic correspondences. That is nonetheless based on a larger understanding of the genetic processes involved: surely not all surface commonalities provide for such a conclusion. As regards linguistics, what we observe are commonalities in verbal behavior and action. At the present state of cognitive psychology and neuroscience, we can surely think of methods to investigate whether the cognitive implementation of those conducts is the same for different individuals. But concluding a priori that it *must be* (more or less) the same would be like concluding from the appearance that the polar bear, the snowy owl and the albino rabbit must have something common in their genetics that produces the whiteness.

Either it is the case that when semantically associating expressions (such as "it might rain tomorrow") with mental entities or processes (such as the thought that it might rain tomorrow), by the latter we mean nothing but *whatever* takes part or happens in one's cognition as the expressions are being processed and orderly used. Then, it is a simple truism that we, competent speakers, all have a concept of the tomorrow's rain; and to the extent that it provides by and large for the same verbal conduct in each of us, we may even call it the *same* concept. But in such a case, the reference in semantics to mental structures is purely verbal and idle: no actual step from the familiar use-theoretic standpoint towards cognitive adequacy has been undertaken.

Or, mentalistic semantics wants to appeal to the substantial structures of an individual's functional mind. But the ability to use expressions in agreement with how the others use them can in principle be cognitively implemented in many different ways. That is, the mental structures in question can seriously differ from one individual to another. Whether they do or not is clearly an empirical question: there is no way the negative answer can be assumed from the beginning.

Jackendoff's (2002, ch. 10) rhetorical strategy is to present his mentalistic proposal as a more penetrating alternative to the "common sense" or "standard" view of meaning and reference, that is, the view that our expressions refer to objects in the world and say things about them, and that sentences are true or not based on what the actual world is like. The suggested alternative, then, is to "thoroughly psychologize not just language, but also "the world"" (p. 294): to acknowledge that our expressions refer to entities in *the world as conceptualized by us* (cf. p. 304), that is, to our mental items or structures. The argument is basically the following: proceeding from "middle-sized perceivable physical objects like tables and refrigerators" to other objects identified by noun phrases, we soon get to a point where what is referred to is hard or impossible to locate in the world (in any ordinary sense of those terms): think of Sherlock Holmes, the unicorn in my dream last night, the square formed by four particular dots, your reputation, Morris Halle's Ph.D. degree, Mahler's Second Symphony, or the set of all possible worlds (p. 301 ff.). In my mind though, unlike in the world, each of these is easy to find: they are parts of how I conceptualize the world. Thus according to Jackendoff (p. 308), the pronoun "that" in my uttterance "Hey, look at that!" does not refer to anything in the world (for there may not be anything

at all, my senses "populating" the world with objects of no physical reality; p. 308), but to a visual percept of mine. The dentist, when asking "Did *that* hurt?", actually refers to my tactile sensation (presumably, as conceptualized by herself, cf. p. 315). And in Joe's utterance "Look at that duck!" (p. 329), the noun phrase refers to the duck in Joe's mind, the duck in his conceptualization of the situation—even provided that the creature in question is actually a platypus!

On a minor note, Jackendoff's presentation of what is the "standard" view of meaning and what is not is somewhat questionable. While the views he refers to originate in logic and are indeed predominant in formal semantics and in the Anglo-American philosophy of language, the cognitivist approach, involving explicit or tacit reference to mental entities and processes, has over the past decades arguably become the standard in linguistics proper.

But what is more important is of course how plausible the author's proposals are. I would not like to go deep into the discussion of the epistemological consequences of such a thoroughly conceptualist position. Jackendoff is aware of the threat of solipsism (see p. 304ff. and 329ff.), but I don't think he does much to avoid it. Given that the world is "utterly psychologized", what is the position from which we state that Morris Halle is *really out there* but Sherlock Holmes is not, or that Joe's duck is *actually* a platypus, or that our "neural assemblies responsible for storing and processing conceptual structures" *really* "have no direct access to the outside world" (p. 306)? In my opinion, a philosophy which starts from the subject being trapped in itself with its private contents is doomed to end up with the very same: with the subject at the end of the day still short of objects, of the world, and of the others. If the philosophy of the modern era has achieved any firm results at all, this is certainly one of them. Perhaps, Jackendoff would not be willing to draw these far philosophical consequences, since the suggestion is that we push the world into the speaker's mind just "for purposes of the theory of reference" (p. 303). But I don't think that can work. If Ray Jackendoff is allowed to talk about real Morris Halle, not just his own mental image of the renowned linguist, there seems little point in depriving the speakers in the scope of our theory of the very same option.

The strange thing about Jackendoff's approach is the following. He takes a peculiar theory of meaning, devised by the logicians and involving a mysterious relation of reference between language expressions and all kinds of worldly objects, and declares it "common sense". Then he makes it even more peculiar, keeping the old mysterious notion of reference, but letting it relate expressions to mental objects that are to a large extent just as mysterious.

In fact, it is the exact opposite of what one would expect. Rather than being "deeply skeptical of the ordinary non-mentalistic notion of a thing" (p. 277) and running into the philosophical difficulties of solipsism, one could argue that our world contains many objects that are not really of a physical nature, are constructed by our ways of social (and verbal) acting, and are nonetheless pretty real. Morris Halle's Ph.D. degree is an excellent example: a Ph.D. degree (which is your own) enables you to do things you can never manage, say, with a nice middle-sized physical and perceivable hammer. Or think of Jerry Fodor's mortgage. ("That is not just a way of talking; they make me pay up every

month, cash on the barrel. How on earth could that be so if there really are not any banks at all?" Fodor, 2000, quoted by Jackendoff on p. 309.) We might like to acknowledge such respectable objects, elaborating instead on what it means for our expressions to *refer* to them, or for us to refer to them by means of those expressions. The simple and absolute referential relation between an expression and an object, as conceived by the logicians, is pure mystery. But what I am engaging in when referring to Morris Halle by "the older co-author of The Sound Pattern of English", or to a particular bank by "those greedy bastards", is a fairly regular activity with complex conditions and binding consequences.

Jackendoff, nevertheless, goes for the other way. He takes the traditional notion of reference for granted and considers the relation of reference between expressions and mental contents unproblematic. The idea probably is that in the case of both expressions and mental contents, it is the individual who is in charge, hence he or she can somehow let one stand for the other. The price, to remind, consists in the theoretical utilization of mental objects which we have never been very clear about.

Finally, when the need to be more specific about such mental objects arises, it is hard to avoid the impression that they are arrived at by straightforward copying of things and their features from the world into the mind. Consider the example of "Hey, look at *that*!" uttered "in response to a particularly large and disgusting bug scuttling across the floor" (p. 310). In Jackendoff's view, the pronoun refers ("is bound or linked") to the percept that is construed by the speaker's visual system, the percept here being an f-mental object (object of the functional mind, that is, object postulated on the functional, as opposed to neural, level of describing how the brain works).

What can we say about this bug-induced percept? "The percept has a shape, a size, a color, and can be decomposed into shaped and joined parts (a body, eyes, lots of lags). It also has a location, motion, and a "character of motion" [...] Let us call these features, however they come to be characterized theoretically, the *descriptive features* of the percept." (p. 110). Now, the idea that my *percept* (not the bug, my percept!) can have a color and lots of legs is surely too funny to prompt serious discussion. However, the view is questionable even when the statement is not understood literally. Perhaps the percept, as a mental object, can indeed be characterized in terms of features that have much to do, respectively, with size, shape, color, the number of limbs, etc. But is this actually an informative analysis which non-trivially describes the organization of our mind? All bugs have a size, a color and a number of legs; everyone knows that. So, haven't we just transcribed a piece of the world's structure into the mind, instead of providing an actual account of how the (functional) mind copes with such structures?

Postulating in any bug-perceiver or in any language user a percept or a concept of a bug characterized by functional features such as those mentioned, do we envisage substantial interindividual identity of mental structures? Or do we just mean that everyone's cognitive system makes it possible for him or her to deal with bugs in a way highly commensurable with how the others deal with bugs, in manifold respects? The question is of course the same as the either-or

dilemma from a couple of pages before—what is it that we share when sharing a concept such as that of tomorrow's rain?—and the answer must be as considered. It is very likely that we *do* share substantial mental structures that have to do with our most basic areas of cognition, such as the perception of moving objects (bugs, people and the like). We had millions of years to develop a substantive functional characterization of the perceived objects in terms of size, shape, color etc. But equally clear is that we had nothing like that for the advanced modes of our cognition, say, for playing chess or voting in the parliament. The interindividual identity of mental structures is therefore a topic for empirical investigation in each particular area of cognition, definitely not an assumption one could make in the beginning and apply across the board. And only to the extent justified by the empirical investigation is it plausible to transcribe the structures of the world into the mind as in the bug example above. Surely it cannot be made into a general model of psychology and mentalistic semantics—not if these are expected to informatively refer to the mental structures of human individuals.

Jackendoff does apparently not think of such a limit; he seems willing to transpose into the mind whatever distinctions can be found concerning the objects of our experience. The bug percept is further characterized (p. 311ff.) by certain modality (we see or hear the bug, or maybe feel it on our skin), and an "indexical feature" which as if unifies the descriptive features of the percept ("gives the f-mind a "something" to which descriptive features can be bound"[8]). It also contains a number of "valuations": external vs. internal, familiar vs. novel, self-produced vs. non-self-produced, meaningful vs. non-meaningful, mattering vs. non-mattering. (Of course, some objects are familiar to us, some are new, some are hallucinatory, some are real, some matter and some don't, but should all that figure in the functional description of a percept?) Pains, events, Tuesdays, symphonies, obligations, all that easily finds a place in our conceptualization of the world, and can thus be turned into a referent of a language expression, according to Jackendoff. It all sounds quite natural—but somewhere along the way, the point of the cognitive approach seems to have been lost. In the following discussion of Peter Gärdenfors and his socio-cognitive view of meaning, the issue will be touched upon again.

4 Gärdenfors, meanings in conceptual spaces

The recent book *The geometry of meaning: semantics based on conceptual spaces* (2014) by Peter Gärdenfors is a respectable instance of the present state of cognitively oriented semantics. Arguably, it makes a highly important contribution to the theory of meaning in natural language: the author, who has a strong

[8] We perceive the bug as one object that can, for instance, disappear and reappear; it can also rapidly change or split in two (even if that is more likely in case of other objects). What is more, the presence or absence of an indexical feature is what according to Jackendoff constitutes the difference between the notion of a singular object and that of a kind. We can think of it as the scholastic *haecceity*, or "thisness", utterly psychologized.

personal background in the traditional logical and mathematical approaches to language and meaning, basically assumes the perspective of cognitive linguistics, but is also able to enhance it with that of more general cognitive science (including computational experiments), computational linguistics, and take into account psychological and psycholinguistic evidence. The ambition is to develop a theory of meaning that would be socio-cognitive, rather than "individually" cognitive: Gärdenfors aims for a theory which would still refer in semantic description to the mental structures of individual language users; but which, instead of just *presupposing that* these structures are (more or less) shared by all of us (cf. p. 17 and 93), could *explain how* such interindividual agreement can be achieved in social interaction.

In how far this is achieved by Gärdenfors is the main topic of this section. In general, I want to argue that he does not quite manage to keep his position consistent throughout the book: he does not fully carry out what the first part of the book commits him to, and in the second part, he largely recedes from the socio-cognitive position elaborated previously. To me, this furthermore indicates that even the departure from the cognitive tradition undertaken in the first part may not be radical enough.

A crucial idea of *The geometry of meaning* (ch. 2) is that there is more structure in natural language meaning than has been traditionally acknowledged in the logical (ultimately, set-theoretic) accounts. This structure is geometric in nature. Objects as well as other components of our experience can be characterized in terms of their similarity in various respects or dimensions (such as height, acidity or age). Some of the dimensions come hand in hand as domains (such as the domain of size or color), which can be represented as geometric spaces of various dimensionality. Concepts/meanings that get expressed in natural languages then are not "free" to pick just anything from such spaces: they characteristically carve out *regions* that are *continuous*, and moreover, *convex*.

Think of it as follows. *Furniture* or *blue* may not be clear-cut concepts; there are borderline cases where it is not clear whether we are dealing with an instance or not (cf. section 2). But for any two positive instances, whatever lies *between* them in the abstract dimensional representation is also a positive instance. For example, whatever fits "between" an ordinary wooden chair and a supermodern dentist chair in terms of size, material, shape, function etc. is also a case of a chair. And if two color samples are appropriately judged blue, then any color sample of an intermediate hue, lightness, and saturation is also blue.

The previous may sound almost trivial (given a bigger and a smaller instance of a *small car*, a car of an intermediate size is of course also a small car), yet the traditional logical methods of semantic description are surprisingly incapable to capture this general feature of natural language meaning. That is why Gärdenfors in his semantic considerations appeals to geometry, rather than pure set theory. The thesis that concepts/meanings are continuous and convex regions of conceptual spaces not only gives important (and apparently very plausible) predictions as to how the semantics of any human language can and cannot be structured. It also suggests a very efficient way of learning categories from ex-

amples, and provides a convincing solution to the question of how it is possible to achieve effective communication at a reasonable cognitive cost. (Gärdenfors, 2014, p. 25ff., 42ff., 105ff.) Additional valuable predictions of the book concern the correlated acquisition of words from a particular cognitive domain, or the grouping of metaphors which draw on the structural similarity of particular domains (p. 66ff.).

The above mentioned laudable step in the socio-cognitive direction, from assuming *that* mental structures are shared among individuals towards explaining *how* that could be the case, is undertaken in chapter 5. Here, meanings are explained in terms of fixpoints, or equilibria, of communicative interactions. These are notions of game theory:[9] they describe the states of a signaling interaction in which the communicators have no incentive to unilaterally change their coding or interpreting strategies, as any such change would make the communication less efficient. For instance, consider the state in which the train dispatcher uses the green light in case the railway is free and the red light in case it is blocked, and the engine-driver interprets the green light as "go" and the red light as "stop". This state is a clear equilibrium, or a fixpoint in the dynamics of the game. The dispatcher and the engine-driver could perhaps safely agree on substituting the red signal for the green; but if any of them changes his signaling/interpreting strategy unilaterally, the consequences will be disastrous.

Now, assume that what gets communicated are positions in a conceptual space. For instance, we describe the color of an object; that is, a position in the abstract space constituted by the dimensions of hue, lightness and saturation. The game-theoretic notions make it clear how a concept (say, *blue*) can come to be shared inter-individually: we simply keep changing our coding and interpreting strategies, until they optimally fit the others strategies (by being more or less the same) and there is no more incentive for us to deviate.

Equally importantly, however, the view leaves room for our individual concepts *not* being the same, even if this is less emphasized by the author. A communication fixpoint can be reached even when our coding and interpreting strategies differ from the other's strategies.[10] Also, it is worth noting that not all of our communication necessarily dwells in a fixpoint stage, from a synchronic point of view (yet this seems not to imply that there is no semantics in such a case). And the author is further aware of the possibility that our concepts do not even "live" in the same space (as is arguably the case with the color concepts of the color-blind speakers; p. 108). In the context of cognitive linguistics, showing how concepts (such as the concept of blue) *can be* inter-individually shared, and that they *need not* be, is in my opinion a major achievement of Gärdenfors and the works he refers to.

[9] Game theory is, roughly speaking, the mathematical study of rational decision-making in group settings; cf. Lewis, 2002 (1969; Benz et al., 2006; Skyrms, 2010.

[10] Consider the case in which a particular color between green and blue is labeled "green" by one half of a large population and "blue" by the other half. Such a state constitutes an equilibrium, for nobody is better off having changed his or her strategy *unilaterally*, despite the fact that the whole population could communicate more efficiently if they were jointly able to coordinate their strategies.

It must be noted that the employed notion of meanings and concepts is still a substantially mentalistic one. Although the book contains a couple of references or allusions to later Ludwig Wittgenstein (Gärdenfors even characterizes the presented semantic theory as a combination of cognitive linguistics, conceptual spaces, and *language games*; p. 265), it is by no means a use-theoretic conception in Wittgensteinian lines. Wittgenstein himself would no doubt reject the view of meanings or concepts as definite objects and recurring processes in the mental realm, objects and processes which would regularly correspond to the expressions of language. A Wittgensteinian conception might thus identify one's having a concept with the use of particular, publicly observable strategies of sending and receiving signals, while avoiding the discussion of how these are implemented in one's mind. In Gärdenfors, by contrast, the use of words in communication is a necessary means for conceptual coordination, but what is coordinated are unequivocally concepts as mental objects, regions in the conceptual spaces that characterize the mind of each particular individual.[11]

Gärdenfors seems to assume that it is, after all, normal for these concepts to be fully coordinated between individuals, lack of coordination being something extraordinary or defective.[12] That must be why in most of the book the author feels no need to keep apart the mental level of concepts and the intersubjective level of meanings as communication fixpoints. If our concepts are fully shared, analysis on the intersubjective level is of course omissible for all practical purposes.[13] And indeed, despite the revolutionary chapter 5, most of Gärdenfors' analyses are completely in line with the cognitivist view of semantics in that no important distinction between individual mentalistic concepts and meanings is exercised. Even where the two levels are distinguished, Gärdenfors finds it convenient to label mentalistic concepts "individual meanings" (p. 18): the insight that what is individual is *not* meaning yet is apparently not entrenched very deeply. In the second part of the book, the option that our individual concepts may not be fully coordinated is as if forgotten. Semantics of nouns, adjectives or verbs is discussed, building on regions in conceptual spaces, and the implication seems to be that the author claims cognitive adequacy on the level of any single individual.

In my own view, as opposed to both the orthodox Wittgensteinian and that of Gärdenfors, locating conceptual spaces in individual minds and conceiving them as shared backgrounds for establishing shared concepts can be reasonably safe; this, however, only holds for the most basic, biologically well-grounded domains of our cognition. For instance, it is quite plausible to assume that the visual perception by each of us (except the fraction of color-deficient observers in the population) induces the same similarity-based color space (although its

[11] Cf. Gärdenfors, 2014, p. 112: "[A] person grasps the meaning of an expression by relating it to a cognitive structure."

[12] An example given on p. 99 concerns communication between adults and children; the position with respect to interindividual agreement on mental structures thus appears similar to Jackendoff's (see section 3).

[13] Cf. Jackendoff's opinion that individual differences can be mostly neglected and that language meaning can thus be profitably located in the individual cognition.

characterization by the "color spindle", p. 23, is questionable).[14] It then makes enough sense to describe color concepts as regions within that space (assuming for now that interindividual agreement has been achieved) and to regard such descriptions as statements concerning our individual cognition. (Concept in this sense appears as a reasonable individual correlate of the interindividual phenomenon usually labeled "meaning" in the logico-philosophical tradition. The dispute about which of these is to be referred to by "meaning" then becomes largely a matter of terminological preference.)

I however believe that Gärdenfors is wrong when he decides to make this into a general model of semantics. That, in my opinion, rather quickly turns into a sort of mental metaphysics, into postulating mental structures for which there is no evidence and for which it is hard to imagine any. The problem is thus not merely that little research has been done so far, as the author suggests in some places. With the exception of some very basic domains (such as size, color, or temperature), the semantic description in geometric terms requires advanced many-dimensional spaces, spaces where the meaning of particular dimensions is hard to determine, and higher-order spaces which provide, e.g., for the geometric construction of events out of simpler components. For the more complex of these structures, there seems to be no other motivation than to provide something in the mind of every single individual that could correspond to various language expressions. For instance, the mental representation suggested for the event of Oscar pulling a sledge to the top of the hill (pp. 160–161), or for the sentence describing this event, is highly complex. It is doubtful that more individuals could arrive at an identical one, or what it would even mean for them to have done so.

I decidedly believe that explaining meanings across the board as regions in conceptual spaces is a fruitful way of presenting natural language semantics. What I do not believe is that it can plausibly get a straightforward mentalistic interpretation, with the exception of the most basic cognitive domains. Rather, I take it as a claim concerning the structures of the intersubjective rationality, with which we individually struggle using our cognitive resources. I think most of the conceptual spaces relevant for our language and thinking are intersubjective constructions: they are constituted, *inter alia*, by the appropriate use of certain expressions, which many of the individual speakers may never fully master on their own. (Take for instance the space of political positions: left, right, fascist, liberal, libertarian, conservative... I suspect everyone is at times confused about where in this space a particular statement or decision belongs.) It therefore makes little sense to conceive the meanings in these spaces as supervenient on individualistic, mental ones, as the cognitivist tradition would presumably be inclined to. The chicken-or-the-egg problem of individual cognition and semantics cannot be solved by stating that the former is the chicken and comes first, all across the board.[15]

[14] For color spaces, that is models of human color perception, cf. Fairchild (2005).

[15] I cannot refrain from pointing to a particular place of Part II of Gärdenfors' book, where the perspective of intersubjective rationality forces itself into the book as if against the author's will. It is claimed (p. 126) that the sentence *An abyssinian is a cat* "will automatically be

True, Gärdenfors analysis is largely limited to the more concrete, cognitively more basic domains, which "are required for the development of communication during a childs first years" (p. 24) and for which the mentalistic understanding of conceptual spaces may seem relatively adequate. Even if such was the intended significance of the book, however, the problem would be that Gärdenfors does not discuss where the mentalistic view stops being tenable, or how we can add abstract domains to the overall picture, without creating a dubious gap between the more concrete and the more abstract domains of semantics.

Neither is it convincingly shown that the boundary is not seriously trespassed in some of the analyses. For instance, we might subscribe to the view that Oscars pulling of the sledge can be in some sense very rationally represented by a force vector and a result vector in some abstract underlying domain, while denying that this is what each of us performs in his on her mind on each and every occasion when Oscars action is discussed. In a similar fashion, we can question the mechanism of mental focusing, which plays an important role for Gärdenfors as well as for many other works in cognitive linguistics (see p. 9ff.). It is surely a true point that a sentence describes an event focusing on some of its aspects, or that a sentence in the passive voice focuses on the theme rather than on the agent. Only, we should not claim that such focusing is something that people necessarily do in their minds when using these sentences. For how would we know?

5 Conclusion

In the previous, I have inspected three prominent examples of the cognitivist (or mentalistic) approach to semantics. Given the complicated story of modern linguistics, the term "cognitive" bears a variety of connotations: perhaps not all of the authors discussed above would be happy with their work being designated as a part of the cognitive linguistics movement of the past several decades. I have therefore coined "cognitivist" as an umbrella term to cover theoretical positions as diverse as that of classical cognitive semantics, Ray Jackendoff's conceptualist semantics, and the socio-cognitive semantics by Peter Gärdenfors. What is common to all of them is the assumption that the meaning of a language expression should primarily be searched for in the mind of an individual language user; the assumption that meanings are conceivable as mental objects, mental structures to which our expressions refer.

As regards the four key issues defined at the outset, we are now able to conclude to the following.

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true by the fact that the regions associated with the domains for the category of an abyssinian are subregions of those associated with the category of a cat". Such references to the notion of *truth* are rare in the cognitivist approach to meaning (but cf. Jackendoff, 2002, p. 325ff), and it is for a good reason. Namely, as far as the individual concepts of any of us are concerned, abyssinians may as well fall in the category of horses or mushrooms. The fact that they *are* cats (and not horses or mushrooms), or that the quoted sentence is *true*, importantly transcends the level of individual cognition.

The answer to the first issue merely confirms that there indeed is an influential branch of semantic theorizing characterized by what I have dubbed "cognitivism" above, and that each of the three examples discussed can be considered a reasonable instance of that theoretical stance. In all three cases, meanings are identified with concepts as characterizing an individual human mind, even if the explicitness and consistency of the identification varies and the authors are also variously explicit as to their understanding of "mind" and "mental".

Concerning the question of the interindividual identity of mental structures, we have seen a steady willingness to assume that our individual mental structures are, basically, shared. Proceeding chronologically, we have observed a growth of interest in how such interindividual agreement might arise. Strangely, though, we have not seen this interest accompanied with the intention of actually examining, with the methods that are presently available, to what extent, or in which cognitive domains, such an agreement *is* in fact achieved.[16] I have argued that the assumption of mental structures across the population being largely identical is plausible only for the most basic domains of our cognition (and to be sure, it remains to be seen which domains those actually are). By no means can it be taken for granted and perpetuated for the more advanced and abstract domains: not if mentalistic semantic is to refer to the substantial structures of the (functional) mind, rather than offering a mere harmless reformulation of the use-theoretic perspective.

Third, we have seen a tendency in cognitivist semantics (particularly, in Jackendoff's conceptualism) to straightforwardly transcribe worldly structures and distinctions into the mental realm (thus achieving interindividual identity of mental structures as if for free) and, subsequently, to use these in semantic description and explanation. In relation to the previous point, this can in no way be accepted as a general method of semantic research. If such a method is to yield any real semantic insight at all, severe restrictions are necessary, viz., restrictions derived from empirical investigation into the interindividual similarities and differences of our language-related cognition.

Last but not least important, the issue of non-mentalistic reinterpretations of the cognitivist findings. In this paper, I have in a sense attempted to bridge between the cognitivist and a common logico-philosophical (more specifically, use-theoretic) perspective of language meaning. An assumption of mine was that the large interindividual similarity of our individual cognition (given simply by the human biology we all share) and the grounding of an individual's verbal conduct in his/her cognitive system constitute two points on which both parties may easily agree.

In the building of a bridge, then, two banks are always involved. On the part of philosophers, it must be acknowledged that in so far as the nature of our cognition places non-trivial constraints on the semantics of our languages,

[16] Filip Smolík has pointed out to me that this might actually be a matter of the methodology of cognitive science: it seems hard to reconciliate the ideas of individual variability (1) as an effect of measurement error, (2) as produced by factors about which we can formulate testable hypotheses, and (3) as something that is present in the substrate as if by default, with no particular source.

there is hardly any justification for expelling cognitive issues out of semantic considerations. Yet at the same time, we have clearly seen that many of the results achieved in the cognitivist paradigm of semantic thinking are highly questionable in so far as they are interpreted as descriptions of the language-related mental structures in human individuals. Still, they may constitute a valuable contribution to a general, overarching semantic theory, one that would be free of the need to decide between the cognitive and the normative pole. To this end, however, we need to admit that what is in many cases described are the interindividual structures of discursive rationality each of us is bound to cope with—not necessarily the way the struggle is implemented in the cognitive apparatus of any of us.

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