



Meanings, Sounds, Signs, & Gestures

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Abstract:

Motivated by Noam Chomsky's "rocks and kittens argument," I argue that whatever some meanings are, they appear to have a massive prelinguistic dimension. I begin by addressing Michael Dummett's questions regarding the possibility of theories of meaning by suggesting that we do all have, minimally speaking, a sense of what meanings are, which justifies the search for a theory. I also propose that a theory of meaning that relates lexical concepts with internal representations of the sort internalists like Chomsky, James McGilvray, and Paul Pietroski posit, is in line with recent studies on infants and nonhuman animals.

INTRODUCTION

1.1 Theories of Meanings and Meaning Eliminativism

Imagine that a baby is born. She is surrounded by humans who pay attention to her, feed her, care for her, play with her, and speak to her. Now imagine that baby is a kitten, or a puppy, a baby chimpanzee, or a dolphin, or a human child with severe pathology. There must be an essential contribution to language-learning and human understanding made by our biological nature. This motivation is referred to with some sarcasm by critics of Noam Chomsky's biolinguistic perspective as the "rocks-and-kittens argument,"¹ but the fact is, most linguists accept that this picture invokes what Chomsky refers to as a "simple truism." One hypothesis (say Hilary Putnam's) is that what distinguishes the healthy human child from the other babies mentioned in the list above, is simply brain size and "general intelligence" (Putnam, 1967, 17), and if not that then what Michael Tomasello and Esther Hermann have termed "a special kind of cultural intelligence" (2010, 5). Perhaps, aspects of these are significant, but the generativist perspective

¹ Attributed to Barbara Scholz. <https://linguistlist.org/issues/22/22-4631.html> Last retrieved on 1/10.2019

includes the assumption that we are born with innate ideas (i.e., human concepts that, when triggered in an environment, are structured in a specifically human way) and a universal grammar (UG), which structures the concepts hierarchically and allows us to generate hierarchically organized linguistic expressions. Bilingualists of the Chomskyan stripe (often called generativist grammarians) also presume that other creatures have their own innate ideas, which allow them to learn how to get along in their worlds. Whatever some meanings are, they appear to have a massive prelinguistic dimension.

There are four preliminary questions that might relate to the possibility of developing a theory of meaning.

Question A (QA): *Can we develop a theory of meaning?*

There are plenty of theories of meaning to be found when one looks around for them. The first series of questions one might pose regarding QA comes from Michael Dummett (1976, 22):

Q1) *What is a theory of meaning a theory of?*

Q2) *What are we trying to explain or define with a theory of meaning?*

These are significant questions to answer before any successful solution can be found for the problems a theory of meaning raises. And if we can't justify a word-to-world connection, as Chomsky, Frege, and de Saussure argue, then what are propositional-semantic theories about? Or if words don't refer, but people do, what are most theories of reference supposed to be theories of? And if these kinds of theories function to show that aspects of language are social or cultural or related to our environment, don't we already know that?

Question B (QB): *Are there anything like meanings for which we need a theory?*

QB raises doubts for eliminativist reasons. For example, strict behaviorist perspectives like W. v. O. Quine's anti-mentalism offer us a sparse ontology whereby meanings are viewed as part

of the folk psychology. As he put it: “[t]here is nothing in linguistic meaning beyond what is to be gleaned from overt behavior in observable circumstances” (1990, 37-8).² And Ludwig Wittgenstein’s assertion that “[f]or a *large* class of cases—though not for all—in which we employ the word ‘meaning’ it can be defined thus: the meaning of a word is its use in the language” (emphasis in original: 1953, § 43) is similarly eliminativist i.e., to Wittgenstein, in most cases there are no meanings beyond the use of lexical items in a language game. Do we need a theory of meaning if all that meaning is, is use in a community?³

QA and QB are connected to at least two other important questions:

Question C (QC): *Presuming that, minimally speaking, we use lexical items to name define or describe concepts, then in what way are they related to internal representations and internalist meanings if these latter items do exist?*

And finally:

Question D (QD): *Can there be a theory of meaning that relates lexical concepts with internal representations of the sort internalists like Noam Chomsky, James McGilvray, and Paul Pietroski posit?*

I will begin, without making much of an ontological commitment, by pointing out (with examples from Pietroski 2018) that we generally understand something about meanings and can distinguish ambiguity of meaning in sentences from homonymy of lexical items. For example, there are two readings and hence two meanings of sentence S1.

S1: The duck is ready to eat

The two meanings (or uses) for sentence S1 might be:

² Quine, W. V. O. (1990) *Pursuit of Truth*, Cambridge, MA, Harvard University Press. pp. 37-8.

³ I think this is what Dummett was going for.

Meaning 1 (M1): The duck is cooked and might be eaten soon

Meaning 2 (M2): The duck is going to be dining

Whereas there is only one meaning (or use) for the following sentences:

S2: The duck is eager to eat

S3: The duck is easy to eat

S1 derives its ambiguity from aspects of logical form and not from homonymy of the lexical items that compose them. For example: ‘duck’ can mean many things as in:

S4: I saw her duck⁴

The homonymy of word ‘duck’ (the action versus the fowl) creates at least two meanings. According to generativists logical form is necessary for explaining the syntax in some of the sentence examples above. On one meaning of S4 we can conclude that someone has a duck. It is uncontroversial that these are facts about English and that they have been learned in the context of an English community.

It is uncontroversial also that the logical structure of the phrases is to be found in the English language itself. What is puzzling is our capacity to know the structure in what seems clearly to be an unconscious manner. And the most remarkable fact of human language is the ability to take a finite number of concepts and combine them to generate an infinite or unbounded number of original thoughts. So, it may be the first time you hear that:

S5: Twenty-one is greater than Pi which is greater than three

S6: There are no bicycles on Mercury and my Mercury bicycle is seventy-years-old

⁴ An interesting exercise that is evidence of tacit knowledge is attempting to change the gender as in: *I saw his duck* and *I saw him duck*. It’s a strange set of rules.

More perplexing is that in S2 example, the adjective ‘eager’ modifies the subject of the sentence such that the duck is an active agent whereas the adjective ‘easy’ in example S3 modifies the subject ‘duck’ such that the duck is a passive recipient or patient. As Pietroski states: “that’s what I mean by ‘meanings’” (2018, minute 1:31).

What puzzles generativists is how complex these nuances appear to be. We know how to use them although they were never actually taught to us. Something about our ability to store these words (in our onboard bidirectional mental lexicon) includes these kinds of nuanced instructions.

Along similar lines, in *The Stuff of Thought — Language as a Window into Human Nature*, Steven Pinker (2007) provides an intriguing analysis of verb use by suggesting that there is a conceptual framework, cluster or “microclass” behind any word or sign, which exhibits what he calls “fastidious semantic restrictions” (Pinker 2007, 157). Consider the verb ‘pour.’ We are aware that stuff *pours down* and *pours out* but does not *pour up*. For similar reasons, Kant in his response to Hume’s empiricism, posited that the categories and a priori concepts create the conditions for the cognition of “objects in general.”⁵ We do seem to store lexical items with complex representations of how we see the world (e.g., causality, gravity, time, etc.) For example, consider:

S7: Jones hit Smith with the shovel

and:

S8: Jones beat Smith with the shovel

Clearly S8 is connected to the concept of intentionality (*mens rea*) whereas S7 is ambiguous because one can ask if it was an accident.

⁵Kant, I. (1781,1921) *The Critique of Pure Reason* tr. N. K. Smith St Martin’s Press, New York. 102–151

These examples, along with many others, suggest to generativists and rationalists that our innate way of making the world is contributing substantially to the meaning of words. We can probably conclude therefore that there are meanings, and that meanings rely on our distinctly human concepts which are rooted in our human *umwelt*, i.e., the way we make the world.

However, without offering more detailed examples (of which there are very many), I am going to simply declare that the rationalist position has been proven correct, and that strict empiricism, which posits that all our concepts are built up from sensory representations, is unworkable. In other words, our mind/brain makes a massive contribution to our linguistic capacity, and this implies the idea that our lexical meanings are undergirded by innate concepts, i.e., our *umwelt* gives rise to innate concepts. Evidence abounds. There are countless studies on nonhuman animals and infants that detail innate computational mechanisms. Some of the most fascinating cases are the violation-of-expectancy studies i.e., cases where infants as young as two-months-old are given stimuli that defy our and their expectations about gravity or numerical identity (See, for example, Susan Carey's [2009] *The Origin of Concepts* in which she rehearses the empirical work of Elizabeth Spelke and other researchers).

We can tentatively respond to QA by saying yes, there likely can be a theory of meaning and, following Chomsky and internalists like Pietroski, reply to Dummett by saying: a theory of meaning for humans is going to be a theory of human understanding. We can also respond to QB by saying, there are meanings which undergird signs, gestures and sounds, and, yes of course, that there is an important sense to the idea that lexical items have meanings in the context of a community. For instance, 'boite' in French and 'box'.

We can draw three conclusions thus far from the fact that infants and nonhuman animals are born hard-wired with innate concepts:

C1: Innate concepts can be distinguished from lexical items which can be distinguished from lexicalized concepts.⁶ Contrary to what Quine (and others believe) studies show we have concepts like numerical identity prior to acquiring linguistic labels (lexical items) for them.

C2: We can distinguish two very different aspects: I-concepts (internal innate concepts like RED) versus lexical items (labeled concepts named in some community like ‘red’ and ‘rojo’).

C3: We can posit (following Carey and others like McGilvray) that there may be kinds of concepts and that a theory of meaning will distinguish among them.

This leaves some work to be done on QC and QD.

1.2 What Does ‘Innateness’ Mean?

Many researchers seem to have difficulty understanding how the notion of INNATENESS is being used in the generative context⁷. However, we could think of it by way of an example as follows: a child moves in such a way as to make the innate concept SIT easy to grasp; the same cannot be said for fish. Facts about our biology make the concept SIT a natural phenomenon and, arguably, the concepts can be assembled hierarchically to generate sitting on logs, stones, and to the making of chairs and seats. From the perspective of wetware (brain), there are brain regions, where the word ‘sit’ is stored (Broca’s area and Wernicke’s area), that are involved in understanding the meaning of ‘sit.’ Even if by ‘language’ we mean to refer to the words used in an instituted language, pidgin or creole, (i.e., what Chomsky calls an externalized language or E-language) we are bound to connect these words to things we understand biologically and psychologically. Generativists express this by going in the opposite direction: i.e., technically as meanings with sounds (signs, gestures).

⁶ An example of a lexical concept is “water” and a lexical expression is ‘water is colourless’ and internalists use a convention when naming innate concepts e.g., RED. Chomsky has suggested that innate concepts may be word-like but not words.

⁷ See, for example: Behme, C. (2011) *Cartesian Linguistics: From Historical Antecedents to Computational Modeling PhD Thesis*: <http://www.collectionscanada.gc.ca/obj/thesescanada/vol12/NSHD/TC-NSHD-14099.pdf> [Last retrieved on 9/20/2017.]

Whatever meanings are, there are three logical approaches to them. Either words have meanings or meanings have words or some combination of both. Researchers who support a social view of language (communitarian perspective) tend to play down the role of ideas (especially innate ideas) suggesting that the word is the idea or even that there is no meaning behind the word. As noted above, Wittgenstein, for example, suggested that meaning is use in a language game. Empiricists and behaviorists might be comfortable with this minimal version of concept formation in cases like SIT or RED. We could, perhaps, reframe the question by asking: *are there kinds of concepts and do they originate in different ways?*

Pinker (2007, 150-52) distinguishes between what he regards as two extremes and directly opposing versions of concept formation. They are: 1) “Fodor’s Extreme Nativism” — all concepts are innate because they are atomic and indivisible; and: 2) “Radical Pragmatics” — the empiricist behaviorist notion that concepts are mythological and meaning results from “patterns of associations” of stereotypes. Pinker provides several persuasive counterarguments to both approaches.

Regarding the first approach (1), Pinker suggests that if all concepts are atomic then compositionality with them is impossible. For example, if the concepts GOLD and FISH are atomic, is then the concept GOLDFISH also atomic? This seems counterintuitive. Perhaps the lesson here is that the lexical item should not be too closely connected to the concept. If the word used is arbitrary then the concept must be something else. This strikes me as another way of saying that meanings have words.

The main problem Pinker sees with (2) Radical Pragmatics, is that it lacks the “strictness” that “syntactic and algebraic structure” provides (2007, 151). For example, Pinker states: “cutting

[...] doesn't just invoke a motion, a contact, and an effect in any old combination [...] This raises the bar for how logically sophisticated the mental representation of word meaning must be, and casts doubt on the idea that it is a loose tangle of associations" (2007, 152). This is evidence in favour of the researcher believing in a complex natural operating system.

But there is a third and equally plausible option one finds in Chomsky and McGilvray's work (2012). (3) There are innate concepts that are atomic, which form in humans naturally when they are properly triggered by experience (e.g., RAIN, THIRST). Other concepts are artificial (i.e., learned) and can only be triggered through conceptual study (e.g., QUANTUM DECOHERENCE). If concepts "scaffold" in the way Pinker and others (like Pietroski) suggest, then one might think of them as being upwardly generated. The clear advantage of this approach is it allows for innate structures as well as for concept learning, and it detaches the concept from the lexical item. Nonetheless, there are numerous arguments against this approach (e.g., Putnam's Twin-Earth thought experiment and Wittgenstein's Private Language Argument) which I discuss in another work.

Roughly described, from McGilvray's perspective, there are "word-like" innate concepts (RED) which are "not words" and learned concepts (ALEPH NULL). Simplifying somewhat, these conceptual elements "appear at" the Conceptual Intentional interface⁸ (CI or SEM), are combined now and again at the Phonetic interface (PHON) and articulated (more rarely than we might think) at a sensory-motor interface (SM) as externalized speech or gesture.

⁸ Chomsky claims there are two main interfaces required for the human language capacity SEM and PHON. A sensory-motor interface (roughly the physical requirements like voice box and hearing) also contributes but is unnecessary; the phonetic interface (PHON) in which sounds are stored in the brain; and a conceptual intentional interface (SEM) that makes the system useful for conveying ideas and intentions.

Communitarians have been skeptical regarding innate concepts in general (and most mental representations for that matter). Goodman was “allerg[ic] to mental items” (McGilvray 2014, 59), and Quine regarded intensions as “creatures of darkness” (Quine 1956, 188). Wittgenstein likened these mental objects to each of us having our own “beetle-in-a-box” (1953, § 293). Arguably, all of these philosophical approaches have relied on epistemological concerns regarding solipsism; while this is a fundamental feature of scientific practice, the fact that we are biologically linked with each other, I believe, deflates much of the effectiveness of these worries.

As Ray Jackendoff puts it, ultimately supporting a combinatorial version:

Nearly everyone thinks that learning anything consists of constructing it from previously known parts, using previously known means of combination. If we trace the learning process back and ask where the previously known parts came from, and their previously known parts came from, eventually we have to arrive at a point where the most basic parts are not learned: they are given to the learner genetically, by virtue of the character of brain development (2002, 334).

To be clear, no one seems to have resolved Fodor’s paradox in a satisfactory manner. However, Fodor’s atomism may go too far, although he raises important questions with respect to two main points: 1) that concepts must be innate (all are for Fodor and some are for most generativists) and, 2) that most concepts (particularly nominals) are not obviously constructed from more atomic parts (e.g., GOLDFISH and DOORKNOB).

The problem for generativists is that (1) and (2) tend to suggest the paradox indicated by Fodor. Where do we draw the line between atomic and constructed or learned concepts? Interestingly, Chomsky has not said much on the topic of innate ideas although generativists have generally included it based on the role that innate ideas plays in rationalist thought (See Pietroski, McGilvray). Like many generativists I tend to accept that along with basic categories, we also have

innate concepts which allow us to develop a “commonsense physics, commonsense biology, commonsense psychology” which are distinguishable from constructed science-based conceptually grounded theories. I presume this is a modern interpretation of Descartes. Chomsky has stated that the innate concept, say STAR might be something like: “a little bright speck up in the sky,” when lexicalized. If this is so, then HESPERUS, PHOSPHORUS, and VENUS are indeed artefactual concepts. And, we may recall that Frege was grounding a language for science, not natural language use⁹.

According to Carey, Quine believed our ontological commitments are cultural and that our “adult commonsense ontology is a cultural construction, just as the concepts that articulate scientific theories are cultural constructions” (2009, 47). The problem, Carey claims, is that Quine’s “picture of the infant just turns out to be false.” If Fodor’s paradox is wrong, it could be for the same reason that Quine’s communitarian views on commonsense ontology are wrong. Both fail to distinguish scientific concepts from innate concepts i.e., Quine and Fodor both support a “continuity thesis” with respect to concepts. Discontinuity is a crucial feature in Frege’s work also.

To offer a few definitions while responding to QC and QD, we could posit that I-meanings are undergirded by I-concepts, some of which are innate and some of which are learned. We could consider that innate I-concepts are biologically grounded while learned I-concepts are culturally grounded. We could also suggest that learned I-concepts rely on externalization and communication i.e., normative standards of correctness, and finally, that these standards can only exist in formal systems where concepts rely on identity, rather than vague biological similarities.

⁹ I am referring to Frege’s characterization of the poet’s world versus the objective scientific world.

Because these externalized learned concepts are community determined, we could, perhaps, name them C-concepts.

There is a fundamental distinction between the Fregean approach in which a concept is generated with words versus the generativist notion that the concept allows for the agent's generation of words. According to George Lakoff, and without going overboard on what the expression entails, "words don't have meanings, rather meanings have words." And Chomsky argues similarly:

[...] language evolved for thought and interpretation: it is fundamentally a system of meaning. Aristotle's classic dictum that language is sound with meaning should be reversed. Language is meaning with sound (or some other externalization, or none); and the concept *with* is richly significant. (Emphasis in source)¹⁰

The position I am advocating attempts to unify these seemingly contradictory approaches to meaning. C-meanings are undergirded by I-meanings. However, when concepts are artefactual, C-meanings are indeed "situated in a world", to use Charles Taylor's expression (2016). For example, talk of H₂O is situated in chemistry, and talk of 'water' is situated in the English commonsense world.

1.3 Conclusion

I have argued that whatever some meanings are, they appear to have a massive prelinguistic dimension. I began by addressing Michael Dummett's questions regarding the possibility of theories of meaning by suggesting that we do all have, minimally speaking, a sense of what meanings are, which justifies the search for a theory. Some sentences have one, others have more than one, and the same is true for lexical items. I agree that theories of meaning for humans are

¹⁰ Chomsky, N. & Berwick, R. C. (2016) *Why Only Us?* MIT Press.

essentially theories of human understanding. I also proposed that a theory of meaning that relates lexical concepts with internal representations of the sort internalists like Noam Chomsky, James McGilvray, and Paul Pietroski posit, is in line with recent studies on infants and nonhuman animals.

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