

Cambridge University Press

0521780489 - The Language of Word Meaning - Edited by Pierrette Bouillon and Federica Busa

Excerpt

[More information](#)

PART I

Linguistic Creativity and the Lexicon

1 Introduction

FEDERICA BUSA AND PIERRETTE BOUILLON

Lexical semantics has not yet given a satisfactory answer to a crucial question that implicitly or explicitly has been asked by philosophers of language, computer scientists, linguists, and lexicographers, namely, “What is word meaning?” The goal of this part of the volume is to set the stage for subsequent discussion, presenting the issues that confront those investigating language and the mind through the study of the mental lexicon.

The reader should not expect a definite answer. We may gain an insight that word meaning can best be studied as a transparent structure, rather than a black box whose contents escape us. Alternatively, we may choose to take a stand in the debate presented in Chapters 4, 5, and 6, where opposed views are expressed.

There are two broad positions emerging in this part of the volume: One argues for an internal syntax of word meaning (James McGilvray; James Pustejovsky; Yorick Wilks), and the other views concepts as particulars (Jerry Fodor and Ernie Lepore).

McGilvray discusses how word meaning contributes to the creative aspect of language and reaches the conclusion that lexical semantics, as done within a research program such as the Generative Lexicon, is a “branch of syntax, broadly speaking.”

Jerry Fodor and Ernie Lepore criticize lexical semantics frameworks that aim at isolating the internal constitution of word meaning. They forcefully argue against the assumption that the content of concepts is constituted by inferential relations, a view that necessarily leads to holism. Alternatively, they take concepts to be atoms with no internal constitution whatsoever, such that all that can be said about word meaning is: “Nothing can be said about word meaning.”

In replying to Fodor and Lepore, Pustejovsky presents an internalist view of the lexicon, where qualia structure is the syntax for lexical description, which in turn provides the input to the rules of semantic composition. The role of a syntax of word meaning is precisely that of avoiding holism, while permitting questions concerning the well-formedness of concepts, the combinatorial possibilities of the elements constituting their internal structure (i.e., qualia), and the relations they bear to each other.

Yorick Wilks, approaching the debate from the Artificial Intelligence (AI) perspective, argues against the position of Fodor and Lepore. In this area of

4 *Federica Busa and Pierrette Bouillon*

research, the semantic import of words ought to be explicitly spelled out if any degree of understanding is to be achieved. In particular, Wilks addresses explicitly the role of inferential relations as key elements that drive “intelligent” natural language understanding and the computational modeling of language. Such a view could be challenged by arguing that the requirements from AI may not mean anything from the perspective of human psychology. The human mind may not be computational in this sense and hence the effort is moot.

Before taking this position – which in our opinion is an unfair criticism – there are still too many avenues of research to be explored. These are addressed in later parts of the volume and include seeking a sound methodology in lexical semantics; addressing the *poverty of the stimulus*, and the ease with which people *prefer* (as opposed to select) certain interpretations and not others in different contexts. These issues are so much at the core of lexical research that their answer determines whether there is a field of investigation at all or whether there should only be lexicographic practice. This is certainly a potential alternative. However, as shown in the last part of the volume, there may not be options after all. Lexicographic practice, in fact, may have some surprises in store for us.

2 Chomsky on the Creative Aspect of Language Use and Its Implications for Lexical Semantic Studies

JAMES MCGILVRAY

Abstract

Observations on the creative aspect of language use constrain theories of language in much the way as those on the poverty of stimulus do. The observations as Chomsky discusses them will be explained and their consequences for a semantic theory of the lexicon explored.

1 Introduction

Chomsky began to mention the creative aspect of language use in the early 1960s; his 1964 *Current Issues* discusses it. In 1966, *Cartesian Linguistics* takes it up in detail. At the end of the 1950s he had read extensively in the works of Descartes, Cudworth, Humboldt, and others in the seventeenth to mid-nineteenth centuries “Cartesian linguistics” tradition, and they provided a framework for articulating these ideas. Arguably, though, they were implicit in his review of Skinner and even in *The Logical Structure of Linguistic Theory* (ca. 1955). The creative aspect observations, along with the poverty of stimulus observations, offer a set of facts with which his and – he holds – any science of language must contend. However, he thinks that the lessons of the creative aspect observations in particular are often ignored, especially in dealing with semantic issues such as truth and reference, meaning and content. He may be right. I review the creativity observations and discuss some of their implications and suggestions for a semantic theory of the lexicon. In their light, I discuss briefly James Pustejovsky’s different approach.

Chomsky treats the creative aspect and poverty of stimulus observations as facts that a theory of language needs to explain. Here, “explain” amounts to something like “make sense of.” A theory of UG explains the poverty of stimulus observations if it portrays the language faculty and its operations in the human mind in such a way that one can see how creatures with the mental capacities the theory deals with would behave in the way the observations indicate. For the poverty observations, a theory that specifies what is innate and that makes defensible claims about just how these innate elements play a role in the computational system of the language faculty (for example, a theory that proposes specific principles and parameters, says how they are represented in the lexicon, etc.) can make sense of how children across the human population so readily and uniformly use language, given in each case a rather thin and skewed data set. As for the creativity facts, the same UG

6 James McGilvray

theory of language and the portrait it paints of the language faculty and its place in the mind must show how a paradigm case of intelligent behavior, “language use,” can arise, without attempting, of course, to predict what someone would say in any given set of circumstances. Explaining language use means appealing to what the theory says about language and its place in the mind to show how a person’s use of language can be stimulus free, unbounded, and innovative, as well as coherent and appropriate to circumstances.

2 The Creative Aspect Observations

The creativity observations are generalizations that anyone with common sense can make by reflecting on what they have experienced; no one needs knowledge of a theory – of language or anything else – to make them. They are also supported by organized and controlled observations. Nothing has shown them to be wrong, or even suspect. Chomsky attributes their first recorded mention to Descartes in the fifth part of his 1637 *Discourse on the method of rightly conducting one’s reason and seeking the truth in the sciences*. There they are used as a test of having a mind “as we do,” a mind that neither machines nor animals have. Specifically,

... [machines and animals] could never use words, or put together other signs, as we do in order to declare our thoughts to others. For we can certainly conceive of a machine so constructed [or animal so trained] that it utters words, and even utters words which correspond to bodily actions causing a change in its organs ... [b]ut it is not conceivable that such a machine [or animal] should produce different arrangements of words so as to give an appropriately meaningful answer to whatever is said in its presence, as the dumbest of men can do (p. 140 of Cottingham et al. translation).

Having the observations serve as a test of mind puts them in the right context, for it raises the question of what special capacity humans have that allows them to produce and do what they do.

Notice Descartes’ remark, “as the dumbest of men can do.” The emphasis for Descartes and Chomsky (1966, p. 3f) is on what any speaker displays when she speaks in arbitrary circumstances, not on what some people with special training, insight, or brilliance can sometimes do in specific circumstances when they set their minds to it. The observations are based on ordinary linguistic creativity, not on (say) the extraordinary creativity of the poet. The creativity observations apply universally; that is one reason the sciences of language and mind must take them into account.

To disentangle the different threads in this brief passage from Descartes (and some of his others) and to capture central themes developed later by other rationalists, Chomsky glosses “produce different arrangements of words so as to give an appropriately meaningful answer to whatever is said in its presence” as three distinct but interrelated observations. He uses various labels for them. Taking Mark

Baker's (1995) selection from among these labels¹ the creative aspect amounts to *stimulus freedom, unboundedness, and appropriateness*. Stimulus freedom is easy to recognize and illustrate. The idea is that what a person says (out loud or in foro interno) is not causally dependent upon the environment in which the person speaks or thinks. Speaking to her logic instructor after his third effort to explain why C.I. Lewis felt it was important to define strict implication, Gertrude declares her interest in spelunking, or she takes up the topic of the latest U.N. report on the state of the Sudanese economy. It is obvious that there is no prima facie reason to think that there is a "real" causal connection between her circumstances, her uttering words at all, and the specific expression(s) she produces. Perhaps a psychiatrist, soothsayer, or the instructor himself, taking Gertrude's remarks to result from the instructor's earnest efforts, would offer a "causal" explanation of her linguistic output. However, it is not serious causality. It is interpretation of an event as part of a pattern that includes what the instructor said; his position, character, state of fatigue, . . .; Gertrude's character, quirks, aptitude and interest in logic, what else she is doing now, what she wants to do besides what she is doing, . . .; and an unlimitable number of other things. This is not the well-defined causality of serious theory, and – given the apparent impossibility of limiting the factors that might play a role in it – it never will be.

Unboundedness is apparent in the example. Gertrude is not constrained to produce a specific set of sentences. Descartes' remark that there are "different arrangements of words" suggests description of the range available to her in terms of generative rules or principles, but the remark itself seems to be innocent of theoretical commitments. The Port-Royal grammarians may have had generative rules in mind when they made the same observation, but likely Descartes was only observing that the sentences of a natural language come in various configurations and have no apparent limit on length.² That this observation is independent of *specific* principles, at least, is obvious from the fact that while virtually everyone agrees that languages provide for various configurations and unlimited length for sentences, there is disagreement on how to account for it – what kind of grammar to construct, what to include in it, and so on. The various *theoretical descriptions* of the phenomenon of linguistic productivity that these attempts yield are disputable.³ The basic observation is not.

¹ In an unpublished manuscript entitled *On The Creative Aspect of Language Use*, Department of Linguistics, McGill University, 1995.

² Perhaps Descartes had *some* notion of generativity in mind. It was not unusual to marvel at the way in which the words of a language could be put together from 26 letters. And, as Chomsky notes in (1966, n. 9), Huarte's 1575 *Examen de Ingenios* thought of mind as essentially involving engendering and generating. Chomsky quotes from p. 3 of Huarte: "Wit [ingenio] is a generative power . . . the Understanding is a Generative Faculty." Huarte goes on to describe three degrees of activity or creativity, representing also three degrees or kind of mind that he associates with beast, humans, and divinity (and in rare cases, humans too).

³ I use "description" as Chomsky does: a generative grammar, if adequate, provides a description, not explanation, of the (infinite) set of sentences/expressions of a natural language.

8 *James McGilvray*

Stimulus freedom and unboundedness are not enough by themselves to serve as a modern test of minds “like ours.” Consider machines. We now understand machines in a way that allows them to produce stimulus free and unbounded sets of language-like entities. Computers provided with a randomizing device and various recursive principles can produce language-like strings that are both. In contrast, Descartes’ machines (and all nonhuman organisms also, for all were thought to operate in accord with “instinct” alone) were more limited devices whose operations – supposed to be completely describable in terms of a contact mechanics – were thought to require impulse, received initially from without. So unboundedness and stimulus freedom ruled out Descartes’ machines, but not ours.

The unboundedness observation does, however, remain an effective test for mind with animals: no known nonhuman animal has a mind with syntactically productive linguistic capacities “like ours.” Animals apparently cannot, in Descartes’ language, “use words, or put together other signs, as we do.” As Chomsky explains it, this is because animals lack innate knowledge of basic syntactic principles [formal syntactic and phonological ones, certainly, and probably semantic ones (in Chomsky’s broadly syntactic sense of “semantic”) too]. These principles seem to be beyond the capacity of animals to learn, but that is another matter.

In any case, the third aspect of the creativity observations – appropriateness to circumstance or coherence – seems to constitute a test for linguistic capacities that all machines and animals fail and only (but all) humans can and do pass. The observation is that what people say is usually, perhaps almost always, “appropriate to circumstances” (when judged by another human being). This raises several issues. First is the issue of what counts as a circumstance, which is tightly connected to the issue of which circumstances to take into account. Circumstances must amount to more than just a speaker’s immediate environment at time of speech. If a person is telling a fictional tale, what s/he produces is appropriate to what s/he is doing (the task s/he has set), so it is appropriate to the speaker’s immediate circumstances in this oblique way. However, it is more important that its content – in one usage of this abused word – be appropriate to the fictional circumstances that s/he relates. If an expression in a fictional tale is also appropriate to current real-world circumstances in some way – where, for example, the tale is an attempt to satirize current government policy – it is less directly appropriate to these real circumstances than it is to the fictional circumstances of the tale. Further, the problems of delimiting what count as the circumstances to which an expression is appropriate by no means stop here. Everyday speech is full of allusions, double-entendres, metaphorical applications to multiple domains (and comparisons between them), and so on. It seems safe to say that it is very unlikely that anyone can come up with a canonical list of items that *must* be included among “circumstances” to which a remark can be said to be appropriate. No doubt this is related to Chomsky’s view that language use or language application seems to be beyond the competence of serious science; I return to that topic.

Although the expressions a person produces are almost always appropriate to circumstances, these expressions are stimulus free – that is, they are causally

unrelated to things in the speaker's immediate environment. So "being appropriate" is not "being caused by environmental conditions." Nor is it being regularly correlated with environment, although most philosophers and linguists who do semantics seem to think so, for they look to something like correlation to underwrite their view that, semantically speaking, language is related to the world. This is not to say that regular correlation, with or without causation, yields no conception of appropriateness at all. In fact, where immediate environmental conditions correlate regularly with speech and speech in turn regularly correlates with acts and activities that serve the interests of human beings, we have a clear case of speech being appropriate to the circumstances in which it is to be found. In these cases, speech is *functionally* appropriate; it clearly serves a need or goal. However, this functional sense is of no use for the kind of appropriateness we are interested in. Except for the intervention of speech, it is the same form that we attribute to a bee's perceptual and motor states where we can impute to the bee a biologically based need to gather pollen, and it routinely targets flowers that have the pollen it seeks. Nor is it different from the kinds of "speech" Descartes thought animals and machines are capable of. It gives language and speech an intermediary functional role, perhaps likening linguistic production to the states of a calculating device that intervenes between perceptual inputs and any acts and activities that subserve specific needs or desires. This is not the observed ordinary creative use of language. It is conceiving of language as applied to the performance of tasks, jobs, and strategies, or as a device for holding and manipulating "information" and applying it in activity, or as getting its "semantic values" by establishing determinate relations to the things of the world. Use-theoretic, information-theoretic, and most truth conditional accounts of language's semantic aspects appeal to this conception of appropriateness. However, it misses the point and misconceives the task of the theory of meaning too.

There are other ways to put Descartes' and Chomsky's point about appropriateness, but the remarks above suffice. Expressions are almost always recognizably appropriate to circumstances; they are often readily seen to be so. However, there seems to be no articulate scheme(s) or formula(e) that can take a circumstance and a speaker and say of them that such-and-such a set of sentences is appropriate if, and only if, it is used in or with respect to that speaker and set of circumstances. Vague generalizations and question-begging after-the-fact claims do not count, of course. Nothing less than a no-holds-barred theory that specifies exactly what counts as appropriate (given circumstance and speaker) is required of a serious science of language use or of semantics as it is usually understood. It seems that this aspect of Descartes' test for mind not only sets a condition that no machine or animal has managed to meet (or is at all likely to),⁴ but it challenges

⁴ If reflection is not enough to convince, the (larger) Loebner prize competition shows this for machines. And if the many efforts to train apes to produce something like a natural language do not even allow them to meet the unboundedness test, there is no point in speculating about whether they can meet the appropriateness test.

10 James McGilvray

orthodox views of how to construct a naturalistic “semantic theory” for natural languages.⁵

3 How to Explain the Facts: Externalist and Internalist Answers

Whatever their accounts of stimulus freedom (perhaps “complexity of organization”) and of unboundedness (perhaps “analogy”), the externalist – Chomsky includes among externalists the empiricist tradition that he discusses in *Cartesian Linguistics* and later – deals with appropriateness by trying to make language use out to be routines that satisfy needs and goals. Human beings might be treated as creatures who are trained to produce linguistic responses to circumstances that the community takes to be appropriate. This move is made by the contemporary tradition that like Wittgenstein treats language as a “game” that fulfills goals (cp Chomsky 1966, p. 10). Humans might be conceived as information-gatherers and agents. Or they might be treated as truth-tellers; some who call themselves Fregeans and who are preoccupied with reference and truth take this tack. For all externalists, language in its semantic aspects is basically a functional device, the essence of which is serving goals, including truth-telling. For them, a theory of language must be externalist, for it must include the things and states of affairs of the world and relations between these and words. It is significant that there is little being said now about semantics so construed that has not been said before, sometimes with more insight. Little, if any, progress has been made in the efforts to construct theories of this domain – a sign that there is no theory to be had and that those who seek one have misconceived the issues. No doubt post-Fregean formal logic and the development of formal systems have helped make it appear that science has been brought to bear on the domain of language use but, formal or not, there are no serious answers of the input-linguistic intermediary-output or contents via relations to the world varieties that can pretend to capture appropriateness by appeal to regularities or routines. Perhaps for naturalistic science to be brought to bear at all on appropriateness of ordinary creative language use, a completely different approach is necessary, one that constructs a naturalistic science of the capacity in the mind that makes it possible for humans to produce expressions that are appropriate to circumstance (and stimulus free and unbounded).

Chomsky, like those in the rationalist tradition before him, abandons the effort to provide a science of language use, except for those aspects of language use that can be dealt with by internalist theories (such as the sciences of language articulation and perception, and perhaps an internalist science of what is found immediately on the other side of the semantic interface, LF/SEM). Instead, he suggests how

⁵ I assume that naturalistic theories are what is at issue. One can, of course, stipulate a set of semantic values for an expression or set of expressions, and even include these stipulations within a formal theory. But, unless this is taken to be an exercise in how to express contents (and a rather arcane one, in my opinion) and only that, it is difficult to see why one would want to do it. Much the same can be said of attempts to introduce abstract entities as referents of expressions and their parts. For discussion, see McGilvray (1998).

a naturalistic theory can help explain (in the “make sense of” vein) how creative language use is *possible* (cp 1972, p. 13). The rationalist tradition before him made some progress in this regard. It treated language not as a functional device that mediates between perception and action, but as an instrument of free thought and self-expression whose meanings or contents come prespecified, or are innate, so there is no need to try to find content through regularity in “relations to the world.” Descartes’ own efforts in this regard were not very successful. Like other rationalists, he treated language use as an expression of, or artefact of, coherent “thought,” or “reason.” In effect, he attributed the special properties of stimulus free and unbounded but appropriate language use to special properties of thought or reason. This allowed him to mobilize important properties of thought – that thought is independent of context and stimulus, can range far and wide, and can be coherent – to make sense of how language use could appear to have these properties. This might appear to beg the question, but not if he can show why *thought* has these properties. He does not, however, offer much by way of doing so. He did, famously, try to say why our internal thoughts can be appropriate to (external) circumstance by appeal to God and His unwillingness to deceive us by populating the world with a mild-mannered Harry (or no Harry at all) when we think or declare that Harry is obstreperous. He did, equally famously, build thought’s freedom from circumstance into his view of mind as a separate substance. However, neither of these moves count as contributions to a naturalistic science of thought, at least not now. Furthermore, although Descartes acknowledged that thought is “unbounded,” he did not attempt to say what it is about thoughts that allows it to be so.

Unlike Descartes, the Port-Royal grammarians made progress in accounting for thought’s unbounded character, for they offered an approximation of Chomsky’s early transformational generative grammar, although dealing with judgments (1966), not “strings.” That is, they did not clearly distinguish, as Chomsky does, between purely syntactically characterized sentences (“strings”) and sentential judgments or thoughts, which are acts of persons and are assumed to have a semantic interpretation. Ignoring Panini, who had no influence on any of these individuals, the Port-Royalists were perhaps the most successful at this task before Chomsky.⁶ None of the other Cartesian linguists really got around to attempting to produce generative theories, although they did seem to realize that something needed to be done. Humboldt, for example, for all his fascinating suggestions and insights into the productivity of language, never developed a theory. Well before him,

⁶ It is worth mentioning a surprising partial exception. In a virtually unknown work called *Menomimi Morphophonemics* that appeared in a rather obscure (to Bloomfieldians) Czech journal in 1939, Bloomfield very uncharacteristically developed the rudiments of a generative theory of morphophonemics (Bloomfield, 1939). No doubt for political or ideological reasons, given the behaviorist orthodoxy of the day and his position as one of its high priests, neither he nor any of his friends mentioned this work again. Chomsky remarks that neither of his teachers at Penn – Harris and Hoenigswald, both of whom were familiar with this work of Bloomfield’s and with Chomsky’s own very early generative efforts – mentioned to him that Bloomfield had already developed a similar generative theory. He was not aware of Bloomfield’s efforts when he did his work.