Cognitive linguistics between empiricism and rationalism: is a truly empirical cognitive linguistics possible?*

Gard B. Jenset
Department of Foreign Languages
University of Bergen, Norway

> Our [ordinary working grammarian], we have seen, is essentially lazy, and, indeed, almost "practical" in his views about what theories are for.
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> Fillmore 1972: 2

> A mathematician, a physicist, an engineer, and a linguist are trying to decide if all odd numbers are prime. The mathematician says, "one's prime, 3's prime, 5's prime, 7's prime, 9's not prime, so no." The physicist says, "one's prime, 3's prime, 5's prime, 7's prime, 9's not prime, but maybe that's experimental error." The engineer says, "one's prime, 3's prime, 5's prime, 7's prime, 9's prime [sic] ..." The linguist says, "one's prime, 3's prime, 5's prime, 7's prime. Aha! We have a universal generalization. Nine doesn't seem to be prime, but it MUST be prime at some underlying level of representation!"
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> Joke told by Arnold Zwicky during his Presidential Address at the Linguistic Society of America, in Goldberg 2006: 19.

1 Introduction

Setting the scene for a discussion on empiricism and rationalism[1] in linguistics is not easy. In fact, since this is a debate that has, in one way or another, afflicted the field almost since its inception,[2] it is very difficult. It

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[1]Or "mentalism," as the position has frequently been referred to as in linguistics, cf. e.g. Harris 1993: 25 ff. We will return to this complicated question of terminology shortly.

[2]Cf. Harris 1993, Jespersen 1924, Robins 1990.

must be stressed that this essay is not an attempt to solve the problem. It is my belief that the problem has been solved, it just needs following up. Rather, the goal is to critically examine the relation between rhetoric and actual practice in the field of linguistics, and to explore the possibilities for doing empirical research should one wish to do so. While it is my opinion that empirical research is good idea, I do not intend to be dogmatic,[3] but my own opinion will of course color the discussion. The goal of this essay is twofold: first, I wish to discuss some questions pertaining to the various epistemological positions in linguistics. Extending from this is an overview of the history of linguistics in the twentieth century, both as an illustration of the epistemological positions, and as a backdrop to the current situation. Second, I intend to discuss various ways in which cognitive linguistics (as proposed by e.g. Langacker and Lakoff) can be conducted as an empirical science while maintaining a view of language as being fundamentally individual, i.e. tied to a specific epistemological position.

2 Rationalism vs. empiricism

The title of this essay mentions the concepts of "empiricism"and "rationalism." As will become apparent, these terms are crucial when it comes to determining what counts as explanations in linguistics, and thus, as a corollary, how linguistics should be carried out and on what kind of data. Harris (1993: 66)[4] neatly sums up the difference between rationalism and empiricism as follows:

- **Empiricism:** most knowledge is acquired through the senses.
- **Rationalism:** most knowledge is not acquired through the senses.

This is of course, as Harris (ibid) points out, a modification of the much stronger claim that all or no knowledge is acquired through the senses, which he says that "[n]obody in the history of epistemology, naturally, has bought (or tried to sell)." However, things are in fact a bit more complicated, and this has had a crucial impact on the development of linguistic theory, and also what we might characterize as "the sociology of linguistics." Steinberg

[3]People should of course be free to do as they like. However, that is not the same as saying that any kind of introspective speculation should be accorded the status of valuable linguistic research.

[4]Among the many qualities of Harris 1993 as a historical overview of the recent history of linguistics, one stands out, namely its fairly unbiased treatment of the material. Taylor (2002: 37) refers to it as a "beautifully" and "reasonably objectively" narrated version of the events it deals with, Langendoen (1995) gave it a very favourable review in *Language*, and both Paul Postal and Frederick Newmeyer are quoted on the cover of the book with positive evaluations. Its strongest claim to approximate neutrality can perhaps be found in the fact that both Noam Chomsky and George Lakoff feel that the other was favored by the author (Harris 1993: ix).

and Sciarini (2006: 199 ff), in their discussion of the case of linguistics, start with an epistemological division between "mentalism" and "materialism." The latter -ism has its origins "in the ancient Greeks (Epicurus, the Stoics) and with La Mettrie in eighteenth-century France" (Steinberg and Sciarini 2006: 200). Julian de La Mettrie, with his notion of the "man-machine" had, as Cottingham (1992: 252) points out, picked up on one strand of the philosophy of René Descartes, who had helped pave the way for a materialistic philosophy by his insistence that phenomena like "fire or gravity, or even life itself, can all be explained if we are prepared to go deeply enough into the purely physical mechanisms operating at the micro level" (Cottingham 1992: 251). Later on, this tradition was taken up in the twentieth century by behaviorist psychologists such as Watson and Skinner. A common characteristic for all these diverse materialist / anti-mentalist views is a refutation of "the mind" and the supposition that only the physical body should be studied, and its processes and functions should then be related to events and situations in the physical environment (ibid). Mentalism, on the other hand, picking up on another strand of Cartesian philosophy, namely the *limitations* of physical matter,[5] holds that "there are qualitatively *two* kinds of substances in the universe, the material and the mental" (Steinberg and Sciarini 2006: 200). Furthermore, the mentalist position can be subdivided into "interactionism" and "idealism" (Steinberg and Sciarini 2006: 201). While radical idealism (such as it was advocated by e.g. Plato, Berkeley and Hegel) with its claim that the physical world is merely a construction of the mind, has largely gone out of fashion, the interactionist view has been, and still is, influential. As the label implies, the interactionist view posits that body and mind interact, and are mutually dependent on each other. Like early modern materialism, this position can in many respects be traced back to Descartes,[6] , who held that there was a real distinction between mind and body, and that the former could exist without the latter.[7] In other words, the body was seen as a machine, and the mind as a "separate incorporeal substance" (Cottingham 1992: 239); and Steinberg and Sciarini (2006: 201) point out that both rationalism and empiricism are in fact "competing doctrines" within interactionist mentalism. As should be obvious, the terminology is somewhat confusing. Steinberg and Sciarini suggest that a clean up is in order.

> The word "Empiricist" (and "Empiricism") has developed two distinct meanings. One, the more philosophical-traditional, concerns the mentalistic philosophical school, of which Aristotle (fourth century BC) and John Locke (1690) were proponents. The other meaning is that of placing a high value on facts and

[5] Cf. Cottingham 1992: 248-249.
[6] Cf. e.g. Geeraerts 1993: 54 ff.
[7] Cf. Cottingham 1992: 236 ff.

> subordinating theory and speculation in accord with those facts. All of us often use the word "empirical" to indicate this meaning. However, in this interpretation nothing is implied about Mentalism. This sense is the one that Behaviourist theorists, in particular, imply whenever they use the words "Empiricist" and "Empiricism." "Empricialism", perhaps, would be a better term to label their outlook
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> Steinberg and Sciraini 2006: 206-207.

This confusion over terms is, as will become apparent, vital when it comes to assessing the status of empirical research in linguistics. For the purposes of this paper, I will stick with Steinberg and Sciarini's nuanced taxonomy (while still subscribing to Harris' definition in the narrower usage employed by Steinberg and Sciarini), for reasons which will become obvious. A crucial point in the discussion so far, is that a mentalist view (whether it be empiricist or rationalist) typically assumes that a human being has a mind. This might sound superfluous, but compare a statement from the aforementioned Behaviorist Watson:

> Belief in the existence of consciousness goes back to the ancient days of superstition and magic Magic lives forever... These concepts–these heritages of a timid savage past–have made the emergence and growth of scientific psychology extremely difficult... No one has ever touched a soul [or a mind] or seen one in a test tube, or has in any way come into relationship with it as he has with other objects of his daily existence.
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> Watson 1924: 2-3, in Steinberg and Sciarini 2006: 202.

One of the other notable Behaviorists, Skinner, did (unlike Watson) concede that the mind exists, but remained committed to excluding it as a source for explaining human behavior, including "feelings, states of mind and mental processes, [instead seeking] alternatives in genetic and environmental histories" (1971: 35, in Steinberg and Sciarini 2006: 202). For the sake of perspective, it should perhaps be noted that the question of materialism vs. mentalism is of course not restricted to linguistics. A number of academic disciplines have wrestled with the topic. Writing from the perspective of the field which originally spawned Behaviorist theory, namely psychology, Bates et al (1998: 590) say that "[the] Nature-Nurture controversy has been with us since it was first outlined by Plato and Aristotle. Nobody likes it anymore. All reasonable scholars today agree that genes and environment interact to determine complex cognitive outcomes." However, if everyone (all "reasonable scholars," that is) agrees that humans have

minds which interact with the surroundings (as both empiricists and rationalists putatively subscribe to) then one might be tempted to ask what the whole discussion is all about. A case in point illustrating the situation in linguistics, is the tone of the following mid 1970s quote (in the form of a warning against the possible return of the heresy of empiricism), by Katz and Bever (1976: 30, in Harris 1993: 191): "We do not claim that the linguists who are bringing it [i.e. empiricism] back are necessarily empiricists or aware that their work has this thrust, but only that their work clears the way for the return of empiricism." A reasonable question then, is "what's so special about linguistics?"

3 The special case of linguistics

It might seem a superfluous reminder to point out that this is an essay on the theory of science in linguistics. I would maintain that it is very important to keep this in mind. In many ways, linguistics is a very peculiar discipline. To once again quote Harris (1993: 4): "Not all linguists would agree that their science charts the sinuous relations of language to thought, thought to language, nor even that linguistics is a science, nor, if it is, what sort of science it is." Principal contemporary linguists would be hard pressed to agree on very fundamental questions (Harris 1993: 5). Noam Chomsky and George Lakoff, for instance, would both agree that linguistics is something pertaining to the mind, and that it is an empirical science. However, they fervently disagree on how language pertains to the mind,[8] what language is,[9] and which aspects of it make it an empirical science.[10] Someone like Paul Postal would maintain that language is primarily a formal science without any direct relation to thought,[11] whereas a cognitive functionalist such as Dirk Geeraerts would take an entirely different position,[12] and so on, *ad infinitum*. There is nothing which suggests that this situation will change in the immediate future.[13] Someone with a pragmatic disposition might of course – correctly in my – opinion suggest that an academic discipline would not necessarily suffer from theoretical plurality. However, due to a number of factors, which we will return to, it is not sufficient in linguistics to propose and defend one's own ideas; according to long standing traditions it is also customary to insist that those who disagree are not merely wrong, but fundamentally misguided and (possibly) in fact not doing "real"

[8] Cf. Chomsky 1965; 2003; Lakoff 1980, 1987, 2006.
[9] Cf. Chomsky 1986; Lakoff, 1980, 1987.
[10] Cf. Chomsky 2003: 9-11 and 71-72; Lakoff 2006.
[11] Cf. Postal 2004: 5-6.
[12] Cf. Geeraerts 1997, 2006.
[13] Judging by the writings of most of these linguists as of lately.

linguistics.[14]

4 Linguistics: the data and the aspirations

Before we go into a dissemination of the sociology and history of linguistics, let us take a look at some of the special characteristics of the discipline, which are largely due to do the material and methods which linguistics is concerned with. While linguistics might arguably fall much closer to the goals, methods and data of sciences like chemistry, paleontology, and biology than those of e.g. history and philosophy, it is perhaps better categorized on its own (cf. Harris 1993: 11). After all, a morpheme is not a molecule and a sentence is not an organism, and neither microscopes nor dissections can be used in their analysis. A basic problem, as pointed out above, is that linguists are not really in agreement on the data which forms the basis of the discipline. Chomsky and most mainstream generative theories have, since at least the mid 1960s, insisted that the relevant object of study is an innate, genetically coded Universal Grammar (UG) common to all humans. According to these theories, actually occurring speech or performance data (so-called "external" or "E-language") are not relevant to linguistic work. Instead, it is the "internal," or "I-language," (which is taken to be an operationalized manifestation of UG after exposure to linguistic input[15]) which is the proper object of linguistic study.[16] The methods used for studying I-language, have mostly been traditional pen and pencil analyses based on introspection (i.e. consulting the linguist's own UG). This was at one point a very radical break with the current dogma in linguistics (especially American structuralism, cf. below), which insisted that what should be studied was exclusively actually occurring speech and writing. Sociolinguists (e.g. Labov) would use certain data and methodologies, and psycholinguists used other (however, the latter group has traditionally been more influenced by generative theories than the former). The European tradition, meanwhile, followed its own course, influenced by, but nevertheless independent from, what was happening in the United States. To put things in perspective, no one in their right minds would propose a distinct European or American tradition in, say, the study of chemistry. However, in linguistics there is neither agreement as to how the data should be studied, nor what data counts as evidence for or against some theory, hypothesis or assumption. In other words, "one debates the 'explanans' as well as the explananda" (Newmeyer 1998: 96). There is not even any consensus on what constitutes a domain of research and what constitutes a theory. For instance, Chomsky

[14] Cf. various passages in Harris 1993, and also Robins 1990: 206. This attitude can be found expressed in recent works such as e.g. Chomsky 2003; Goldberg 2006; Lakoff 1987; and Postal 2004.

[15] Cf. Chomsky 1991: 9.

[16] Cf. e.g. Chomsky 1986.

(1986: 4) writes that "Generative grammar is sometimes referred to as a theory, advocated by this or that person. In fact, it is not a theory any more than chemistry is a theory. Generative grammar is a topic, which one may or may not choose to study." Linguistics simply lacks a shared "theory of interpretation" (Geeraerts 1997: 159). The result is, as Harris (1993: 5) says, that linguists "examine language in a variety of largely opportunistic ways." However, ever since the early twentieth century, the expressed goal of many prominent linguists has been to establish linguistics as a natural science alongside mathematics, physics, chemistry and biology.[17] Since this was the gold standard, the importance of defining once and for all the limits of the discipline and its data and methods in a similar way was, and remains, imperative. As we will see, various fractions proposed very different criteria. This lack of consensus has given rise to a situation which can be very interesting for students of the history of science, and very challenging for students of linguistics. A recurring question in linguistics since the early twentieth century has been, to borrow Harris' metaphor (1993: 8), how much of language should linguistics try to swallow?

5 A selective history of linguistics

When reading works on the history of linguistics, it is difficult not to be struck by how often some allegedly crucial turn or event has taken place, laying the foundations of linguistics as a modern, scientific enterprise. Strong candidates have been nominated, such as e.g. the twelfth century Modistae,[18] the renaissance *zeitgeist* with its widening of the linguistic horizon with empirical work being done on both vernacular and non-European languages,[19] Chief Justice Sir William Jones and his 1786 "Third Annual Discourse to the Royal Asiatic Society" which subsequently laid the groundwork for comparative philology and linguistics,[20] the historically oriented Neogrammarians or "Junggrammatiker" of the late nineteenth century,[21] Ferdinand de Saussure's posthumously edited and published *Course in general linguistics*,[22] and of course Noam Chomsky's Syntactic structures from 1957.[23] Perhaps Harris (1993: 16) is correct in his tongue-in-cheek observation that it seems that "just as the middle class is always rising, linguistics

[17] E.g. the Neogrammarians, Saussure, Bloomfield, Jespersen, Chomsky, and Lakoff, to mention a few. Cf. e.g. Culler 1986, Harris 1987: 109; Robins 1990: 237 ff, but also Lakoff 1987 and 2006.

[18] Cf. Robins 1990: 84-97.

[19] Cf. Robins 1990: 109-110.

[20] Harris 1993: 15; Robins 1990: 186. It could, however, be argued that this credit more properly belongs to the later efforts of Franz Bopp, Jacob Grimm and Rasmus Rask (cf. Culler 1986: 66; Robins 1990: 188).

[21] Robins 1990: 201.

[22] Culler 1986: 15; Harris 1993: 16; Robins 1990: 219 ff.

[23] Langendoen 1998: 241; Robins 1990: 236.

is always becoming a science."[24]

Linguistics has a long and complicated history, and to keep it manageable, we will start this overview with the penultimate contender from the short-list of candidates above; namely Saussure and Structuralism. Saussure's theory of language (which, as it is presented in the posthumously edited and published *Course in general linguistics*, only partially reflects the views probably held by Saussure himself[25]), has its roots in the Neogrammarian tradition. Saussure was educated within this tradition, and wrote several respectable works within the field of historical linguistics.[26] However, Saussure also reacted to certain views held by his fellow Neogrammarians. According to Culler (1986: 27), Saussure was "unhappy with linguistics as he knew it" because the discipline so far had failed to come to terms with what exactly it was studying, that is, it had failed to define what the nature of language is. The answer provided by Saussure was far-reaching. The Course in general linguistics proposes that a language is a system of sounds, used for communication or the expression of ideas, and as such, they must form part of a system of signs.[27] The sign is "the union of a form which signifies [...] and an idea [which is] signified" (Culler 1986: 28). Although it is possible to talk about the two as entities in their own right for the purpose of discussion, Saussure maintains that they "exist only as components of the sign" (Culler *ibid*). This notion of what a language is was to have a deep impact on modern linguistic theory. Crucially, Saussure stressed the arbitrary nature of the sign,[28] and the way its status as a sign is established by its relations to the other signs in the system,[29] i.e. the signs are not autonomous entities, and they create categories, rather than name pre-existing taxonomic units.[30] Thus, the "actual sounds we produce in speaking are not in themselves units of the linguistic system" (Culler 1986: 39), and as a corollary of this, Saussure proposes a distinction between "*langue*," or language as an abstract system of forms, and "*parole*," which is the "actual speech" (Culler 1986: 39-40). "*La langue*" is what the individual internalizes when he or she learns a language, and according to Saussure, this should be the linguist's primary concern.[31] A consequence of this is a preoccupation with "synchronic" over "diachronic" linguistics, which again led to a predominance of the study of sound (i.e. phonetics and phonology), since "once one

[24]Chomsky himself insists that the only really significant development that has ever taken place in the history of linguistics was the introduction of the Principles and Parameters theory around 1980 (Chomsky 2003: 13-15; Chomsky 2004: 148).
[25]Cf. Culler 1986.
[26]Culler 1986: 22 ff.
[27]Cf. Culler 1986: 28.
[28]Cf. Culler 1986: 28-30.
[29]Cf. Culler 1986: 34-35.
[30]Cf. Culler 1986: 31.
[31]Cf. Culler 1986: 40.

leaves the plane of sound it becomes more difficult to maintain the absolute distinction between the synchronic and the diachronic" (Culler 1986: 55).[32] Saussure's views entail that analyzing a language[33] is "analyzing social facts" and that the proper object of linguistics is the study of "a system of social conventions" (Culler 1986: 63). In this way, Saussure was able to accomplish two things at once. The nineteenth century linguists had felt a very necessary need to distance themselves from metaphysics and to "break the connection between the study of language and the study of mind in order approach a better understanding of language as a system" (Culler 1986: 73). Saussure held that synchronic linguistics should examine how the various sound correspondences and morphological systems studied by the comparative grammarians come together to form an organized system.[34] In this respect it could be argued that Saussure brought "the mind" back into linguistics, but, crucially, not as an object of study. The motivations for doing this are presented by Culler as being largely "linguistic-internal." The second half of the nineteenth century also saw the emergence of the neurophysiological study of language, with Paul Broca's brain dissections. By the time the Course in general linguistics was published, dissections of patients with aphasia had established that language undoubtedly has a neural basis. Saussure is categorical in stating that linguistics does not belong to the natural sciences,[35] and his langue-parole distinction allows him to situate language in the mind, while at the same time retaining it as a social object.[36] Thus, Saussure not only reintroduced the mind to linguistics, he also cut the budding ties to a natural scientific approach and carved out a scholarly territory which was to be explicitly "linguistic", making sure that linguists "need not wear white coats or wield scalpels after all, (which must have brought immediate relief to those who had read about Broca's discoveries with mounting dismay)" (Harris 1987: 46). As we will see, Saussure was in no way capable of resolving this question once and for all, and we will return to it later. One last feature of Saussure's Structuralism should be noted here: its disregard of syntax. Saussure relegated syntax to the realm of parole,[37] and Culler notes that "Saussure's conception of syntax seems exceptionally weak" (1986: 98).

That being said, Saussure's influence was nevertheless far-reaching. Culler (1986: 95) lists a number of schools and directions in linguistics which were profoundly influenced by Saussure, such as the Prague School, the Copenhagen School, various Functionalists (including contemporary linguists such

[32]Cf. also Robins 1990: 222.
[33]Or more properly: Analyzing linguistic structure (cf. Saussure: 1983: 9).
[34]Cf. Culler 1986: 75.
[35]Cf. Culler 1986: 104.
[36]Cf. Saussure 1983: 9-15.
[37]Cf. Culler 1986: 97-98.

as Halliday[38]), and, of course, American Structuralism. For various reasons, linguistics acquired a high academic status in the US, and in the remainder of this essay, I will focus mainly on the very influential ideas and theories developed in the US.

The term "American Structuralism" is warranted by more than geographic location. It developed its own distinctive style, under influence by men such as Boas, Sapir and Bloomfield. Interestingly, Franz Boas was not trained as a linguist (his initial training was in physics and geography, but he later turned to anthropology and linguistics[39]), yet herein lies one of the reasons for the status of linguistics in the US. Boas is by some considered "the Father of American Linguistics",[40] largely because of his influence on the so-called "Amerindian imperative" (Harris 1993: 19) and as the teacher of Sapir and Bloomfield. Boas brought, through his influence on the Bureau of American Ethnology, a descriptive and largely data-oriented approach to the study of Native American language and culture. As it was realized in the late nineteenth century that many Native American languages and cultures were on the brink of extinction, an effort was made to describe them before it was too late, which led to an important practical cooperation between linguistics and anthropology in the US.[41] By necessity, this required a large amount of fieldwork, and much descriptive work on previously undescribed languages, which was a "situation quite unlike that prevailing in earlier studies of most European languages" (Robins 1990: 232). However, these men did not operate in vacuum. Boas and Edward Sapir were born in Europe, and Leonard Bloomfield had studied historical linguistics with leading European Neogrammarians.[42] The distinct Americanness of their structuralism can be found especially in the high regard for linguistic variety.[43] Boas imbued his students with a love of linguistic variation, and - in a natural-scientific spirit - the appreciation for "the collection of textual specimens" (Harris 1993: 20). Boas' influence can be found in high regard for data, the focus on languages "in and of themselves" (Harris 1993: 21) while at the same time bestowing a prestige upon linguistics as befitting a discipline which was taking part in an important anthropological endeavor. It was left to Sapir and Bloomfield (both a generation or so younger than

[38]Cf. Robins 1990: 245.

[39]Cf. Bloomfield 1987:279.

[40]Cf. Harris 1993: 19 ff. Given the list of founding fathers in linguistics above, any such claim should probably be accepted with more than just a pinch of salt. However, there can be no denying that Boas was very influential in American Structuralism. Bloomfield expresses this very clearly in his 1943 obituary to Boas (Bloomfield 1987: 279-280).

[41]Cf. Robins 1990: 232.

[42]Cf. Robins 1990: 321.

[43]Cf. Harris 1993; 20.

Boas) to further refine the American Structuralism.[44] Sapir was insightful, but also criticized for a lack of proper method, and it was Leonard Bloomfield who was to set the standards for linguistic orthodoxy in the US in the 1940s and 1950s.[45] Harris describes their different approaches thus: "[Sapir and Bloomfield] both wrote books entitled Language, and the differences are telling. Sapir's is [...] heaped high with brilliant insights and imaginative leaps. Bloomfield's [...] is a cookbook" (1993: 22).[46] Bloomfield was above all methodological, and this went well with two other intellectual movements at the time: Behaviorism and Logical Positivism, both of which were enlisted into the American Structuralist program. We have touched upon Behaviorism earlier, as a genuinely materialistic and mechanistic movement within psychology. Logical Positivism is what Harris (1993: 22) calls "an outdated brand of philosophy," and which Popper (2002: 12) characterizes as accepting "as scientific or legitimate, only those statements which are reducible to elementary [...] statements of experience – to 'judgments of perception' or 'atomic propositions'," and relying heavily on inductive logic. In some respects, Bloomfield cut the strings that tied linguistics both to anthropology and psychology.[47] It was, however, the association of linguistics with Behaviorism and Logical Positivism which both necessitated and facilitated this move. Behaviorism allowed Bloomfield to cut linguistics loose from the study of the mind. As Harris (1993: 24) puts it: "[Behaviorism's] attraction for Bloomfield was not so much that he could put it to work explaining linguistic behavior. Quite the opposite. It was so successful, he felt comfortable leaving the psychological ends of language to the psychologists." In other words, the more obscure aspects of language such as acquisition, use, perception, and – crucially and paradoxically – meaning,[48] could now, with a clear conscience, be left to the psychologists.[49] The mental aspects of language came to be seen by American Structuralism as a hindrance,

[44]Edward Sapir's contribution followed the lines of Saussure's work in operating with a notion not unlike langue. His structuralism differs from Saussure's mostly in being "more thoroughly psychological and [...] – thanks to the wealth of native data that kept American linguists skeptical of general claims about language – much more aware of the diversity and volatility in the human trade of meanings" (Harris 1993: 21).

[45]Cf. Harris 1993: 21.

[46]A short example of Bloomfield's meticulous approach, from Harris (1993: 23): "Def. 8. A minimum X is an X which does not consist entirely of lesser X's. Thus if X_1 consists of $X_2X_3X_4$, then X_1 is not a minimum X. But if X_1 consists of X_2X_3A, or of A_1A_2, or is unanalyzable, then X_1 is a minimum X." There are seventy-six more definitions like this one in Bloomfield's *Language.*

[47]Cf. Harris 1993: 24.

[48]Cf. Bloomfield 1935: 515; Harris 1993: 26.

[49]No doubt accompanied by a general sense of relief within linguistics at the time. In his earlier, pre-Behaviorist, writings, Bloomfield also wrestled with the "mental tentacles of language" (Harris 1993: 24).

which got in the way of the real linguistic work.[50] From Logical Positivism, American Structuralism learnt the importance of having a method of verification. The important thing if one wanted a place on the Parnassus of the sciences, was, in Harris' words (1993: 27), "having a method; or better yet, having a methodology." Bloomfield's methodology was a mixture of influences from Saussure and Sapir, with some practical considerations toward the necessities of doing field work on the native languages of the Americas thrown in, heavily infused with the rigor of Bloomfield himself (e.g. fn. 46),[51] and all neatly "tied up with anti-mentalist, meaning-fearing ribbons" (Harris 1993: 27). The recipe was a huge success. It allowed structuralist linguists to get on with their "proper" job of linguistic description: "getting the phonological and morphological structure right" (Harris 1993: 25). The methodological and positivist approach gave linguistics the scientific underpinnings it needed to establish itself as an autonomous discipline in its own right in American universities.[52] At the same time, American Structuralism was hailed and admired for its methodology and its "rigorous and fruitful knowledge-gathering" (Harris 1993: 28), which caused other disciplines such as sociology and anthropology to try to emulate linguistics.[53] Furthermore, American linguists were to prove their worth during WW II working as and educating language teachers, translators and code makers (and -breakers).[54] This, along with continued interest in the field during the Cold War era of the late 1940s and early 1950s when linguistics was involved in work on strategically important machine translation,[55] ensured both the academic and financial prosperity of American Structuralism. As Harris (1993: 28) puts it: "Linguists had reason to be a little smug."

In the late 1940s and early 1950s, there was a general feeling in linguistics that all the major problems had been solved.[56] Chomsky (1991: 11) recalls: "It was widely assumed in the early 1950s that [the structuralist] methods were essentially complete, apart from possible refinements." However, despite a great deal of optimism, all was not well within American

[50]Symptomatic of this view is Hockett's (1965: 196, in Harris 1993: 25) comparison of the relation of mental explanations to linguistic data with the relation "of the House of Lords to the House of Commons: when it agrees, superfluous; when it disagrees, obnoxious."

[51]It is very instructive to read Bloomfield's (1987: 59-62) review of Otto Jespersen's *Language: its nature, development and origin.* Although it is generally sympathetic, Bloomfield repeatedly chastises Jespersen throughout the review for his lack of a proper method.

[52]Which nevertheless took some time. Hill (1980: 70-72 in King 1994: 132-133) points out that there were virtually no departments or programs in linguistics in the mid 1920s.

[53]Cf. Lees 1957: 375.

[54]Cf. Harris 1993: 28; King 1994: 133.

[55]Cf. Harris 1987: 77.

[56]This view is also shared by Hockett, who was one of the leading Bloomfieldians, cf. Hockett 1968: 9.

Structuralism. Two aspects of language had for the most part been neglected by the structuralists: syntax and meaning. However, they had been neglected for different reasons. As mentioned above, the *Course in general linguistics* had left syntax in the dark by placing it in the realm of *parole*, and thus largely out of reach for linguistics. This view was inherited by the American Structuralists, who appear to have left syntax as a blank *terra incognita* partly for their own reasons as well. Although the reasons appear to be quite complex,[57] it seems that an important reason lay in Bloomfield's methodology. Bloomfieldian linguistics imposed a ban on "'mixing levels' – in effect, the insistence that a linguist first work out the sounds of a language [...], then the words [...], then the phrases and sentences [...]. Since the sounds and the words presented so many problems, it was tough to do the syntax justice" (Harris 1993: 29). Harris (ibid) also notes the problem of separating syntax from morphology in some of the native American languages, the primary data of the Bloomfieldians. This, however, was not a major worry, since there seemed to be reason for optimism about the attempts at syntax in the early 1950s. The problem of meaning was a whole different matter. As we have already seen, meaning had been defined out of linguistics by simply "leaving them in someone else's backyard" (Harris 1993: 26).[58] However, even meaning was being tentatively touched upon by the Bloomfieldians, such as in Trager and Smith's *Outline of English structure*.[59] Without going too deep into the details, suffice it to say that Harris (1993: 35 ff) argues convincingly that there were no signs of a kuhnian paradigmatic crisis in American linguistics in the 1950s,[60] but rather a certain generational tension and an eagerness at getting to work on meaning and syntax, as soon as someone[61] came up with a good idea on how to do it. This is the kind of climate in which Noam Chomsky published his *Syntactic structures* in 1957.[62]

No discussion of rationalism vs. empiricism in linguistics could possibly be complete without mentioning Noam Chomsky. To oversimplify a little, there

[57] Cf. Harris 1993: 29 ff.

[58] Such as e.g. psychology, sociology or anthropology, cf. Harris 1993:26. However, it is worth noticing that both Robins (1990: 238) and Harris (1993: 26) stress that Bloomfield intended his remarks on meaning to be read as descriptive, and that meaning obviously had to be taken into account in the study of language. While Bloomfield may have wished to merely point out the difficulty of applying a rigorous methodological approach to the study of meaning, his followers appear to have interpreted his writings differently and far more dogmatically.

[59] Cf. Harris 1993: 35.

[60] This view is also expressed in Chomsky 2004: 66.

[61] Although this "someone" was to be Chomsky, this was far from obvious at the time, cf. Harris 1993: 38 ff.

[62] The edition used for the preparation of this essay is the 2002 second edition. In order to combine historical clarity with notational consistency, *Syntactic structures* is referred to as "Chomsky 2002 [1957]."

is linguistics before Chomsky[63] and linguistics after Chomsky. Regardless of what one might think of his research programs,[64] it is very difficult not to take a stand regarding the opinions and views associated with the man. In many ways, *Syntactic structures* was a seemingly direct continuation of the structuralist program (the book deals with syntax, not the old core domains of structuralism: phonology and morphology),[65] and it received an initial warm welcome among the Bloomfieldians. Chomsky had studied under the notable structuralist Zellig S. Harris,[66] who had done the initial work on transformations, albeit from a different starting point.[67] However, beneath the seemingly innocent surface, where Chomsky's rejection of immediate constituent analysis and its replacement by a phrase structure grammar augmented by transformations[68] seemed merely a valuable addition to the toolbox of Bloomfieldian linguistics, there lurked a distinctly rationalist view of language.[69] Embedded in Chomsky's model was a change away from discovering grammars,[70] toward evaluating them.[71] At first the model offered by Syntactic structures was certainly appealing to Bloomfieldian linguistics. It was precise, testable and scientific, and it offered a way of describing meaning, without having to resort to intuitions in the classification process.[72] Nevertheless, Chomsky did propose a novel approach to meaning, which was antagonistic to the Behaviorist roots of American structuralism, and which heralded a new, rationalist world view in linguistics:[73] "I think that anyone who wishes to save the phrase 'study of meaning' as descriptive of an important aspect of linguistic research must reject this identification

[63]Sometimes half-jokingly referred to as "BC," i.e. "Before Chomsky."

[64]Chomsky's research program has changed radically so many times over the years that the plural form seems most appropriate here.

[65]Cf. Harris 1993: 37.

[66]Zellig Harris' 1951 book Methods in structural linguistics was at the time hailed as "epoch marking," cf. Harris 1993: 37.

[67]Cf. Chomsky 2002 [1957]: 6.

[68]In Chomsky 2002 [1957] it is argued that the phrase structure of English can be made explicit through a number of recursive rewriting rules of the following form: Sentence → NP + VP; NP → T + N; VP → V + NP; T → the; N → man, ball, etc.; V → hit, etc. (cf. Chomsky 2002 [1957]: 26). Transformations are introduced to explain the various syntactic structures found in English. For instance, a transformation "T" such as the negative transformation T_{not} takes a string of input elements and imposes on it the following structural change: $X_1 - X_2 - X_3 \rightarrow X_1 - X_2 + n't - X_3$ (cf. Chomsky 2002 [1957]: 112).

[69]This is implied, for instance, when Chomsky (2002 [1957]: 17) says that "I think that we are forced to conclude that grammar is autonomous and independent of meaning, and that probabilistic models give no particular insight into some of the basic problems of syntactic structure."

[70]Cf. Chomsky 2002 [1957]: 52-53.

[71]Cf. Harris 1993: 41; Lees 1957: 378 ff.

[72]Cf. Chomsky 2002 [1957]: 92 ff, especially 94; Lees 1957: 392 ff.

[73]Cf. Harris 1993: 249ff for a more detailed discussion on how Chomsky's research was influenced by his Bloomfieldian structuralist background.

of 'meaning' with 'response to language' " (Chomsky 2002 [1957]: 99-100).[74] This statement by Chomsky entails an at the time radical break with the old master himself, Bloomfield, who once wrote (1935: 506) about the English word *not* that "we should define the word not as the linguistic *inhibitor* in our speech community [fn: *Inhibition* is here a psychological term (Pavlov): all English-speaking persons have been trained so that hearing the word not inhibits them in certain definable ways]."

Harris (1993: 55-56) also notes that Behaviorist psychology had become beset with ethical problems after WW II, and when Chomsky's review of Skinner's *Verbal behavior* was published in 1959, the Behaviorist model of language was left "completely vacuous" (Harris 1993: 56). Chomsky (1959: 28) dryly states that "Skinner's work is the most extensive attempt to accommodate human behavior involving higher mental faculties within a strict behaviorist schema." It follows then, that after Chomsky's crushing refutation of Skinner's work,[75] linguistics had no choice but to go in some other direction. That direction was charted out by Chomsky and his followers in subsequent works during the 1960s. It was a direction towards a rationalist view of language where linguistics came to be seen as a part of psychology and biology,[76] it was a view which was resisted by parts of the Bloomfieldian establishment,[77] and it was the view which was to become the prevailing one. Mentalism, once denounced by Bloomfield as "empty and useless" (1935: 502), had returned in linguistics. Another casualty, alongside Behaviorism, was Logical Positivism, and the obsession with methodology. Chomsky is not, and has never really been, half as interested in methods as in results.[78] As such he was in tune with contemporary trends in the 1950s and 1960s. Karl Popper, for instance, (2002: xx) wrote in 1959 that "I do not care what methods a philosopher (or anybody else) may use so long as he has an interesting problem, and so long as he is sincerely trying to solve it." From this

[74]The final line of Lees 1957 (408) does also, in retrospect, seem very much like a foreboding of things to come: "If we are to account adequately for the indubitable fact that a child by the age of five or six has somehow reconstructed for himself the theory of his language, it would seem that our notions of human learning are due for some considerable sophistication."

[75]See Harris 1993: 56-58 for a detailed discussion of some of the effects of Chomsky's review.

[76]I.e. a radical departure from Saussurean and Bloomfieldian structuralism. Chomsky (1986: 40) writes: "The relation of brain and mind, so conceived [i.e. in Chomsky's terms], is a problem of the natural sciences."

[77]Consider George L. Trager's appeal to the Bloomfieldian community regarding the direction Chomsky was taking linguistics in (1968: 84, in Harris 1993: 33): "Let's stop being polite, reject any concession to the heresy, and get back to linguistics as a science, an anthropological science."

[78]Cf. Chomsky 2002 [1957]: 56; 1965: 20.

point on, Bloomfieldian structuralism took a decidedly back-seat position[79] to Chomsky's Transformational Generative Grammar (TGG, later simply labeled GG, as the role of transformations were downplayed) as it evolved through its distinct phases.[80]

Another factor which deserves mentioning is a distinctive style adopted by Chomsky in linguistic argumentation, of hitting hard at opponents. This was nothing new to linguistics, indeed Harris (1993: 58) says that the Bloomfieldians "had a poacher-shooting tradition," but Chomsky certainly took that tradition to new heights and perfected it. In addition to the devastating attack on Skinner, he also appeared at the Third Texas conference in 1958 ready for battle, and – along with Morris Halle – argued very heatedly against Householder in a series of vicious polemics in 1965.[81] The style was taken up by Chomsky's students[82] and a 1964 work by Paul Postal is described in Harris (1993: 70) by an anonymous colleague of Postal's as "a character assassination of all the major [Bloomfieldian] players in syntax." In short, the circle of young, successful linguists working with the brilliant Chomsky at MIT in the 1960s developed a reputation for cockiness which was reflected in their argumentation.[83] However, while personality goes a long way in explaining why the situation arose, it does not explain why it persisted, and it seems fair to assume that the underlying reason was the special nature of linguistic data, as touched upon earlier. It is, perhaps, easier to attack your opponent than his data, when the opposing data and research programs simply are as un-comparable as a dandelion and one of the moons of Jupiter.

However, Chomsky's students also picked up on two other ideas from him. While Chomsky's theories and research programs (which would require more space than is available here to go into) have changed over the years, some things have been left unaltered, and have had a profound impact on modern linguistics. First, Chomsky lifted the Bloomfieldian ban on the

[79]It is perhaps indicative that a 1972 festschrift which concerned itself with Bloomfieldian-style linguistics, *Studies in linguistics in honor of George L. Trager*, was reviewed in a journal called *American anthropologist* and not in a linguistics journal.

[80]Respectively, the Standard Theory (ST), the Extended Standard Theory (EST), the Revised Extended Standard Theory (REST), Principles and Parameters (P&P) and Government and Binding (GB), and, since the mid to late 1990s, the Minimalist Program (MP). Cf. Jackendoff 2002: 108-110 for an instructive summary of Chomsky's theories since the *Aspects of the theory of syntax*.

[81]Cf. Harris 1993: 61.

[82]Harris 1993: 72 quotes Lees, who in retrospect bluntly describes his own attacks on the Bloomfieldian establishment as "getting up at meetings and calling people stupid." In a quote from a 1962 paper, Postal simply dismisses any possibility of dialogue with the Bloomfieldians thus: "One cannot argue with someone who wishes only to classify utterances" (in Harris ibid).

[83]Cf. Harris 1993: 68.

study of meaning. While he has always maintained that syntax can be studied in a formal manner independently of semantics,[84] Chomsky was – and still is – interested in the study of meaning[85] (although not as a *basis* for linguistic description, theory building and explanation). Second, as we have already touched upon, Chomsky has always remained staunchly rationalist. He proclaimed his support for the "General Grammar"[86] idea supported by the Modistae and the Port-Royal thinkers,[87] and enlisted this European rationalist basis of traditional grammar as forebears of his own notion of an innate "Universal Grammar" (UG). Linguistic universals,[88] mental aspects of grammar, and adequate ways to capture linguistic creativity are central to Chomsky's rationalist linguistics, and those themes he found in the Port-Royal works, and in the works of Descartes.[89]

The interest in meaning as expressed in a syntactic "deep structure" and realized through transformations, caused a major rift within generative linguistics in the late 1960s and early 1970s, when some of Chomsky's students (notably George Lakoff, John "Háj" Ross, Paul Postal and James McCawley) took some of Chomsky's ideas a lot further than their former mentor.[90] This so-called "generative semantics" movement was basically a continuation[91] of some of the ideas launched in Chomsky's *Aspects of the theory of syntax* from 1965, and partially grew out of a dissatisfaction with the slow pace of the march towards the promised land of semantics.[92] However, Chomsky decided to take his research in other directions, but for those on "the outside" it was sometimes difficult to see the point of the ensuing ill-behaved,[93] highly technical and arcane polemics.[94] As Harris (1993) shows, there was a great deal of personal differences in interests and style

[84]Cf. Chomsky 2002 [1957]: 93, 2004 131 ff.

[85]Cf. Chomsky 2002 [1957]: 108; Chomsky 1965: 16, 75, 77; Chomsky 2003: 73-74; Hauser, Chomsky and Fitch 2002: 1571; Fitch, Hauser and Chomsky 2005: 182. Harris (1993: 249) puts it like this: "If form will help [Chomsky] get at meaning, he's overjoyed at the opportunity, but the reverse is unthinkable. He will never use meaning to get at form."

[86]The original "General Grammar" of traditional grammar, was of course, taken to be Latin and its associated grammatical paradigms. This was a favorite criticism against traditional grammar among the structuralists (cf. Harris 1993: 63).

[87]This refers to two important seventeenth century texts in traditional grammar, from the Port-Royal-des-Champs Abbey outside Paris. These are the *Port-Royal Logic* and *the Port-Royal Grammar* (cf. Harris 1993: 63).

[88]Cf. e.g. Jespersen 1924: 47-49 for an idea on just how radical this move by Chomsky was.

[89]Cf. Harris 1993: 64, 66-67.

[90]This is the central theme of Harris 1993, *The linguistics wars*. Taylor (2002: 34-35) presents a fairly accurate short-version of the story.

[91]Cf. Harris 1993: 230 ff.

[92]Cf. Harris 1993: 240.

[93]Cf. Harris 1993: 152 ff; Jackendoff 2002: 74.

[94]Cf. Harris 1993: 217-219, 224-230, 236-239; Jackendoff 2002: 75.

involved, and, as the polemics got increasingly caustic, a great deal of personal animosity.[95] For reasons which we cannot enter into in detail here,[96] the generative semantics movement fell apart in the early to mid 1970s. However, a number of people[97] involved in generative semantics went on to found a new challenger[98] to Chomsky's research: cognitive linguistics.[99]

Central cognitive theorists such as Ronald Langacker and George Lakoff were both involved in the generative semantics movement (i.e. they started out as what Lakoff (in Harris 1993: 136) has referred to as "good little Chomskyans"), but their subsequent work grew from different perspectives. Langacker was gravely disappointed with linguistic theory of the 1970s,[100] as is evident from the following quote: "My own dissatisfaction with the dominant trends in current theory is profound. [...] Rightly or wrongly, I concluded some time ago that the conceptual foundations of linguistic theory were built on quicksand, and that the only remedy was to start over on firmer ground" (1987: v, in Taylor 2002: 31). Lakoff, on the other hand, calls his version of cognitive linguistics "an updated version of generative semantics" (1987: 582). A common denominator for cognitive functional theories of language is the rejection of Chomsky's narrow emphasis on a formalized, syntactic machinery,[101] and, as a corollary of this rejection, the assumption that language should be explained in terms of general cognitive abilities, i.e. in concert with (experimental) psychology. Another aspect

[95] It seems that the personalities of those involved were not concomitant to a dispassionate debate. According to Harris (1993: 240) "Chomsky is biting, Lakoff is abrasive, Jackendoff is hot-tempered; stir in Postal's dogged commitment, Dougherty's scorn, McCawley's congenital inability to let flung gauntlets lie, and the wonder is that there were no early morning trips up the river with pistols for two and coffee for one."

[96] In Harris 1993: 241, it is suggested that generative semantics simply tried to make promises it could not keep, and instead kept making ever grander claims of what it could handle. In short, generative semantics "failed for the reason most research programs fail. You can't keep scientists' attention for too long without giving them something to do" (Harris 1993: 242).

[97] Some of the generative semanticists, like Fredrick Newmeyer, returned to mainstream generative linguistics. Others, like Robin Lakoff and John Ross, disavowed theory building and pursued other lines of research (cf. Harris 1993: 230).

[98] Competing generative frameworks like e.g. LFG and HPSG will not be touched upon in the present essay.

[99] I am using "cognitive linguistics" here as a cover term for both cognitive grammar, Lakoff's metaphor theories and other more or less related cognitive-functional theories. It should, however, be noted that Chomsky also considers his work to be "cognitive," and that he in many ways initiated the "cognitive revolution" in linguistics and psychology (cf. Chomsky 1986: 40-41; Harris 1993: 55; Taylor 2002: 4 ff). In the present essay, the term "cognitive linguistics" will be used exclusively to refer to those research programs which grew out of a dissatisfaction with, or in opposition to, Chomsky's research in the 1970s and 1980s.

[100] Harris (1993: 251) suggests that Langacker's cognitive grammar is more anti-chomskyan, than a direct continuation of generative semantics.

[101] What Jackendoff 2002: 107 calls "syntactocentrism."

which traditionally[102] has set these paradigms apart from Chomsky's theories is what Harris 1993: 236 (quoting Lakoff) calls "data-love." Recalling Chomsky's battle with Behaviorism and empiricism, it is noteworthy that Lakoff (quoted in Harris 1993: 193) labels himself as a "*Good guy* empiricist" (my emphasis). However, with some of the quotes above regarding Lakoff's personality in mind, it remains and open question to what degree this is a reflection of actual research practice and not just a rhetorical distancing of himself from Chomsky.[103] In any case, cognitive linguistics has inherited much from its generative forebears. This is most clearly seen in the basically mentalist view of language, and the view of methodology which again influences the data. This requires a closer look, presented in the two following paragraphs.

6 The epistemology of language

As discussed above, Saussure was out to sever the ties between brain and language, or more properly: between the brain and linguistics, while at the same acknowledging that there is a neural substrate to language. His solution was to limit the study object of linguistics to *langue*, a *social*[104] as opposed to a mental concept, which could be studied independently of the brain. However, this creates a highly undesirable dichotomy for linguistics of a language which is "out there" in society somewhere and mysteriously interacts with the mind in some way;[105] and Chomsky's main contribution to linguistics has in my opinion been to attempt to bridge the gap between mind and language. As we have seen, Chomsky's attempt brought with it its own difficulties, some of which have persevered within cognitive linguistics. While cognitive linguists (like Lakoff) sometimes pay lip service to a scientific relationship with "empiricism" in the meaning of "empiricalism" (i.e. American Structuralism and Behaviorism), it seems that their own theories are heavily imbued with a mentalist point of view, but empiricist (in the narrow sense) rather than rationalist.[106] Thus, it seems difficult to argue against a mentalist (whether it be empiricist or rationalist) epistemological position in linguistics today. It is, in my opinion at least, crucial to keep the epistemology and the methodology separate (we will return to the latter in the next section). Thus, empiricists and rationalists alike can

[102]Cf. e.g. Kepser and Reis (2005: 2 ff), who argue for an empirical, data-driven mainstream generative linguistics, in a publication which deals with a much wider range of data than what has been the case until recently.

[103]Cf. Harris 1993: 193, for a few examples that show how Lakoff positions himself opposite to Chomsky in hard-line binary terms.

[104]Located in the mind, but nevertheless irreducibly social in nature. Cf. e.g. Chomsky 2004: 157-157 for a generative comment.

[105]Cf. also the discussion above on Saussure's distancing of linguistics from Broca's research.

[106]Cf. Croft 1996: 110; Haspelmath 2000: 237 ff; Langacker 2000: 2-3.

(although they do not necessarily do it) agree that language is a mental entity, and that some kind of linguistic ability is native to human beings. Some generative linguists such as Newmeyer and Pinker, and Jackendoff[107] subscribe to a view where we are born with a rich grammatical "toolbox." However, as Jackendoff (2002: 72) points out, UG might be better labeled as "metagrammar" or "the seeds of grammar," in which case have arrived at a concept (but not an explication of that concept) which most cognitive linguists would agree on.[108] However, due to Chomksy's insistence that what he calls E-language (actual usage) is *epiphenomenal to the goals of linguistics*,[109] we get an unfortunate blurring of the distinctions between epistemology and methodology (i.e. what we study and how / why we study it). Therefore, in the epistemological sense, language is properly considered a mental phenomenon, which exists in the minds of its users. This does not entail a denial of the social realities of language use, or the cultural impacts of social factors on language and grammar. Croft (1996: 103 ff) argues, and I agree, that a social definition of a language is the only viable definition. But the (social) language (e.g. English, Norwegian, Swahili) cannot exist without a population of individuals who use and speak the language (e.g. who have mental structures in their brains which somehow correspond to English, Norwegian etc.). An argument that Norwegian would still exist (e.g. in grammar books) even if all the native speakers died is meaningless if we have settled for a social definition of what a language is, since the language is defined as a language precisely through its identification with and use by a specific population of individuals who consider it "their language."[110] Since there exists no communal repository of grammar and lexicon which the language users can plug into and download the language from, we are faced with the (on the surface) rather puzzling (yet logical) situation that language as a social entity, defined as "an autonomous variety [...] perceived by its speakers as a distinct language" (Chambers & Trudgill 1980, in Croft 1996: 103) exists only in and through the minds of the population using it. Thus, paradoxically as it may sound, if one believes that a social definition of language is desirable (as I do), then this necessitates a mentally real grammar because "it must be able to interact with the able to interact

[107] Cf. Newmeyer 1998: 304-305; Pinker and Jackendoff 2005.

[108] With, possibly, the added refinement, that this of course refers to the linguistic expression of general cognitive abilities.

[109] Cf. Chomsky 1986: 24 ff.

[110] This also holds for dead languages, who are then identified as such (i.e. the language no longer exists) precisely because no group of living native speakers identify with it. To posit that a dead language exists in a certain restricted way because we have legible surviving texts written in the language, would be close to saying that e.g. the classical Greek culture still exists in a certain restricted way, since we have artefacts dating from it and descriptions of it.

with a real physical/mental/social environment" (Croft 1996: 111).[111]

A rather different view is found in Dyvik (1980, 1995). Dyvik (1980: 173) argues that "der er sider ved språklig adferd som er konvensjonsbestemt, dvs. betinget av normer som transcenderer den enkelte språkbrukers vilje. Det er nettopp disse overindividuelle konvensjonene som er lingvistikkens domene [there are aspects of linguistic behavior that are conventionalized, i.e. determined by norms which transcend the will of the individual language user. These super-individual conventions are the domain of linguistics]." Dyvik (1995: 27) rejects linguistics as a theory about native-speaker judgments and intuitions, since the informants only have partial and incomplete access to the norms which underlie (or constitute, in Dyvik's terminology) their own linguistic competence. Dyvik is, rightly so in my opinion, out to prove that a deductive-nomological approach should not be applied to linguistic phenomena. However, he maintains a rather artificial distinction between linguistics and psychology (and psycholinguistics).[112] The problematic aspect of e.g. Chomsky's, Lakoff's and Langacker's theories is not, as Dyvik claims, to postulate a mentalist epistemological position in linguistics, but to directly equate linguistic structure with mental structure (in that order of primacy). Of course, what an empiricist mentalist epistemology entails is the opposite of what Dyvik here argues against: the grammar is assumed to reflect (or more properly: be constrained by) the cognitive structures, not the other way around. And this is precisely why linguistics, as an enterprise dealing with mentally based, meaning-bearing social constructs, needs to not only to consider evidence from nearby sciences such as psychology and psycholinguistics, but also to work in close cooperation with them. The argument in Dyvik (1995: 32) that linguistics is limited to studying language as a social, super-individual entity only, because that is how the language users conceive of language, seems rather weak (would a psychiatrist or psychologist study e.g. anxiety or depression as a purely biological, purely mental or purely social phenomenon? This seems unlikely; although anxiety and depression are arguably conditions witch manifest themselves in all these domains). While I agree with Dyvik (1995: 33) that there is no reason to assume the existence of mentally real grammars in any biological or psychological sense, this agreement only applies to "grammar" in the sense of "list of formalized rules of a given language as put together by a linguist." However, GG-linguists have also used "grammar" synonymously with "linguistic knowledge/ability"[113] and in that sense, the "grammar" can be nothing but mental. Otherwise, we quickly find ourselves in the position

[111]The alternative would be an unfortunate lapse into mysticism. If psycholinguistics is to be considered a real scientific discipline with relevance to linguistics, then the mental aspects of language must have a place in linguistic theory

[112]Especially in Dyvik 1980: 6, 16-17, 72, 164, 171, 173.

[113]Cf. Chomsky 1991: 9.

described by Geeraerts (1993: 72) in his discussion of Derrida: the language user disappears, and "it is the language that talks through the individual, rather than the reverse." Geeraerts characterizes this kind of subject-less structuralism as "textuocentrism." In this atomistic view, the fundamental "locus of knowledge is not subjects, but languages and texts" (ibid). However, it is not at all clear how such a disembodied language is supposed to interact with its users in any psychologically real way (which we must assume that it does, at some level, or resort to magic). Furthermore, this kind of disembodied language seems rather inflexible.[114] Deviations from linguistic norms (unlike the laws of physics) are of course possible, but in a structuralist view of language, these deviations seem to be interpreted as *violations* of the norms (the structuralist norms are, after all, above and outside the speaking subject, and it is the adherence to these norms which constitutes language in the first place),[115] rather than as creativity.[116] In other words, there are very good reasons to assume a mentalist (be it empiricist or rationalist) view in the question of the epistemology of language.

7 The methodology of language – rationalist style

The following widely known exchange took place at the Third Texas Conference in 1958[117] between Noam Chomsky and the Bloomfieldian Archibald Hill:

> **Hill** : If I took some of your statements literally, I would say that you are not studying language at all, but some form of psychology, the intuitions of native speakers.
>
> **Chomsky** : That is studying language.
>
> In Harris 1993: 54

As the oft-quoted passage above reveals, the early Chomsky relied on native speaker judgments for evaluating linguists' intuitions. In Syntactic structures Chomsky argued that a discovery procedure (i.e. the methodology for arriving at a given analysis) is uninteresting (2002 [1957]: 52) and that the "more modest goal of developing an evaluation procedure for grammars" (Chomsky 2002 [1957]: 53) is more suited for answering the "crucial

[114] Cf. Geeraerts 1993: 72

[115] Cf. Dyvik 1995: 24-27. This view is also attested in the generative view of language, but for different reasons cf. Hestvik 1995: 43-44.

[116] Cf. Geeraerts 1997: 161 ff.

[117] The proceedings were published in 1962.

problems of linguistic structure" (ibid).[118] The evaluation of whether an utterance which a grammar can account for is based on whether the utterance is grammatical in the sense "acceptable to a native speaker" (Chomsky 2002 [1957]: 13).[119] While Chomsky continues to rely on the grammatical – ungrammatical distinction, he has toned down the role of the native speaker, and instead argues from an ideal assumption that the problem is solved, while at the same time admitting that it is not.[120] In *Aspects of the theory of syntax*, Chomsky (1965: 11) states that "although one might propose various operational tests for acceptability, it is unlikely that a necessary and sufficient operational criterion might be invented for the much more abstract and far more important notion of grammaticalness." He goes on to say (1965: 19) that

> there is no reason to expect that reliable operational criteria for the deeper and more theoretical notions of linguistics (such as 'grammaticalness' and 'paraphrase') will ever be forthcoming. Even though few reliable operational procedures have been developed, the theoretical (that is, grammatical) investigation of the knowledge of the native speaker can proceed perfectly well. The critical problem for grammatical theory today is not a paucity of evidence but rather the inadequacy of present theories of language to account for masses of evidence that are hardly open to serious question.

Paradoxically as it may sound, Chomsky's grammars are investigations of what the native speaker knows, carried out without "reliable operational procedures," while at the same time defining a grammatical sentence as one that is generated by the same grammar, and is considered well-formed independently of speaker beliefs (Chomsky 1972: 64).[121] Several passages in *Aspects* suggest that grammaticalness is a mere technicality and produced by the grammar itself;[122] the same grammar which is to be evaluated based on whether its sentences are grammatical. What is left then, is – for better

[118]This passage highlights some of Chomsky's brilliance as a rhetorician. Chomsky's own goals are presented as both modest and suited for answering crucially important questions, while the goals of Bloomfieldians like Bloch and Hockett are at the same time too ambitious and uninteresting.

[119]It is typical for Chomsky's style of argumentation that he continues, stating that "[we] can take certain steps towards providing a behavioral criterion for grammaticalness so that this test of adequacy can be carried out. *For the purposes of this discussion, however, suppose that we assume intuitive knowledge of the grammatical sentences of English*" [emphasis added] (Chomsky 2002 [1957]: 13).

[120]This might appear confusing and contradictory for those not intimately familiar with Chomsky's rhetoric and general style of argumentation. Cf. Postal 2004: 286 ff.

[121]Cf. Chomsky 1972: 119, for a further detailed discussion on grammaticality.

[122]Cf. e.g. Chomsky 1965: 40, 157.

or worse – nothing more than the introspective judgments of the linguist,[123] and here Chomsky (1965: 20) is quite explicit:

> The social and behavioral sciences provide ample evidence that objectivity can be pursued with little consequent gain in insight or understanding. On the other hand, a good case can be made for the view that the natural sciences have, by and large, sought objectivity primarily insofar as it is a tool for gaining insight (for providing phenomena that can suggest or test deeper explanatory hypotheses). In any event, at a given stage of investigation, one whose concern is for insight and understanding (rather than for objectivity as a goal in itself) must ask whether or to what extent a wider range and more exact description of phenomena is relevant to solving the problems he faces.

Although the generative semanticists, and later on the cognitive linguists, made (and still make) a point of distancing themselves from Chomsky,[124] it is difficult to see any principled difference between Chomsky's position regarding methodology above, and that advocated by Lakoff in the following quote from an e-mail to the COGLING e-mail list:

> To do cognitive linguistics with corpus data, you need to interpret the data - to give it meaning. The meaning doesn't occur in the corpus data. Thus, introspection is always used in any cognitive analysis of language. [...] Since you have have [sic] a better idea of what you mean than you can have of what other people mean, your semantic introspection is more likely to be accurate when you are working on your own "corpus" than when when [sic] you are working with other people's utterances. [...] There is no empirical research in cognitive linguistics without introspection. The idea that there is an empirical research /introspection contrast makes no sense at all in our field.
>
> Lakoff 2004

This reliance on introspection is reflected in works like *Metaphors we live by* and *Women, fire, and dangerous things* which have very little to say on methodology. Langacker too seems deeply imbued with Chomsky's notion of (or lack of) methodology, when he in a paper[125]without any reference to

[123]Cf. also Chomsky 1986: 36.

[124]I.e. what Harris (again, notably, quoting Lakoff) 1993: 199 calls "the importance of not being like Chomsky."

[125]This disregard of empirical data-gathering techniques such as corpus-searches, neuro- and psycholinguistic experiments, and survey and elicitation methods, is in fact a trait which recurs in all of Langacker's writings with which I am familiar.

even the grossest layout of the brain or neurological structures whatsoever writes (2001:30):

> Since language and conceptualization reside in patterns of neurological activity, it stands to reason that dynamicity – understood as evolution through processing time – should prove essential. I have tried to suggest some places to look for it.

This is of course not meant as a claim that all cognitive (or generative, for that matter) research is introspective, but a substantial amount of it is, as Newmeyer notes (1998: 38), resulting in generativists and cognitivists relying on the same introspective data interpreted in different directions. Dirk Geeraerts (2006: 41) writes of the leading cognitive linguists that "[t]heir work, in fact, is to a large extent of an analytical, theory-building kind that does not go, in terms of methodological procedure, beyond the traditional methodology of contemporary linguistics." Geeraerts suggests that one of the reasons for a certain reluctance in the cognitive linguistics community to enter into full scale empirical operations based on experimental and corpus data, is to be found in the traditional curricula which budding linguists are taught (Geeraerts 2006: 39 ff). Experimental and corpus based empirical research are simply skills which are not taught.[126] The once-rebellious[127] cognitive linguists are, in other words, quite conservative in their methodological treatment of language. And when e.g. Langacker (2000: 71) writes that "[numerous 'invisible' semantic constructs] do however leave grammatical tracks that linguists can learn to recognize and interpret' he is implicitly accepting Chomsky's radical notions of a grammar in which the linguists' constructs are considered psychologically real.[128] While arguing against this fallacy, Dyvik (1995: 26) also seems to advocate a rather narrow methodological treatment of language in the following passage:

> grammatikeren og semantikeren betrakter som relevante data bare slike ytringer som kan karakteriseres som korrekte [...] Vårt grunnlag for å fastslå at noe er korrekt, altså i overensstemmelse med de normer som konstituerer for eksempel norsk, er informantreaksjoner. [the grammarian and the semanticist regard as relevant data only those utterances which can be characterized as correct [...] Our basis for establishing something as correct, i.e. in accordance with the norms which constitute e.g. Norwegian, is native-speaker judgments.]

[126] Additionally, they are, of course, a lot more labor intensive and time consuming than the usual introspective kind of "empirical" research, AKA "armchair linguistics."

[127] Langacker 2001: 7 refers to the various cognitive theories as "radical alternatives" to GG.

[128] Cf. Bates et al 1998: 593 for a refutation of Chomsky's claim of a psychologically real, genetically transmitted GG.

This insistence in linguistics on reliance on primarily native speaker judgments and linguist intuitions is fundamentally at odds with the preceding discussion of language as a social phenomenon with a real psychological embodiment in the individual language user. In the following paragraph, a tentative alternative will be put forward.

8 An empirical approach to mentalist linguistics

To rehearse the distinction referred to by Steinberg and Sciarini above: rationalism and empiricism are competing doctrines within interactionist mentalist philosophy (see appendix for illustration). And, as I have attempted to show, cognitive linguistics has much more in common with generative linguistics than it has with a thoroughly materialistic approach like Bloomfield's Behaviorist structuralism. When it comes to choosing between empiricism and rationalism, it seems to me that the empiricist position associated with cognitive linguistics holds certain methodological advantages over Chomskyan-style rationalism. Geeraerts (1993) shows how cognitive linguistics can bridge the gap between experience and innate ideas and "link up" with empiricism and rationalism (1993: 58). In other words, cognitive linguistics can be described as a mentalist position which avoids Descartes' mind-matter distinction, thus cognitive linguistics can handle both innate and acquired linguistic knowledge, as discussed by Geeraerts (1993: 59 ff). As Dyvik (1980: i) points out, there is reason to be skeptical about a theory which can fit any data, but unlike early TGG, cognitive linguistics is (in principle, although as Geeraerts 2006 points out, not yet in practice), in the position to rely on data from *several independent domains which can be studied through a variety of empirical methods*: cognitive semantics is a "general theory of categorization" (Geeraerts 1993: 53), it occupies (or should occupy) itself with "actual utterances produced and comprehended in a particular speech community" (Croft 1996: 110), and it concerns itself with "the embodiment of thought" (Geeraerts 1993: 61). These are concepts which can be studied empirically, in linguistics as well as in adjacent disciplines such as psychology and neurology.[129] Experimental techniques and data can, alongside other sources of data like linguistic corpora, sociolinguistic surveys, historical studies and even clinical case studies, shed light on language as a phenomenon. Jackendoff (2002: 268) has laid down some fundamental linguistic postulates, which to me seem eminently plausible and uncontroversial:[130]

- People find sentences (and other entities) meaningful because of something going on in their brains.

[129] Cf. e.g. Bassett and Bullmore 2006; Damasio 1994; Rosch 1975.

[130] As well as being wholly compatible with the aims of the cognitive linguistics movement.

- There is no magic.
- Meaning is central to everything human.

This is not to say that every endeavor to study some limited aspect of language needs to take the brain and the mind (or the social aspects of language) into account. But it strongly suggests that any attempt to study what the entity we call language *is* and *how* it works, will ultimately fail unless it is capable of taking what goes on in the brain into account. Note also that there is no reductionism involved in this. As Geeraerts (1993: 62) puts it:

> Contrary to what is suggested by the Cartesian dichotomy of mind and matter, we are not detached pure minds that either passively receive objectively structured impressions from the outside world, or that mould an unstructured mass of raw sensory data by means of innate concepts. Rather, we are primarily bodies, and it is the body that shapes our experience.

There is, in other words, no "ghost in the machine" (to use Koestler's phrase) because there is no "machine." This position is supported by research done by the neurologist Antonio Damasio, who says that while culture and civilization "cannot be reduced to biological mechanisms, and, even less, can they be reduced to a subset of genetic specifications" (1994: 124), he also points out (1994: 126) that "the human brain comes to development endowed with drives and instincts that include not just a physiological kit to regulate metabolism, but, in addition, basic devices to cope with social cognition and behavior." What Damasio (1994) does, is to develop what Geeraerts (1993: 63) calls for, namely a psychologically real (to complement Geeraerts' own philosophical) theory of how to bridge the gap between mind and matter. Damasio (1994: 225) suggests that the "mind derives from the entire organism as an ensemble" and that it "contributes a *content* which is part and parcel of the workings of a normal mind" (1994: 226). This suggests that linguistics, insofar as it deals with meaning and mental *as well as* social aspects of language, needs to conduct (or take part in) empirical research on these issues as well.

In the methodological sense, then, we can view language as consisting of two distinct, yet related, clusters. One cluster is social, and this is where we find the study of language as a social system and its related methods. The other cluster is mental, with other appropriate methods. However, in the methodological sense, the two should under no circumstances be seen as being in opposition to each other. As Croft (1996: 116) points out the two are invaluable complements in studies of complex linguistic phenomena such as e.g. language change. If we accept McCawley's definition (rather than

the usual loose definition as "a set of propositions on issues" (1982: 2)) of a theory as "an ontology combined with a conception of what propositions are meaningful and what their relationship to possible facts is" (ibid), it seems reasonably clear that a proper theory of language ought to operate with both an explicit epistemology and methodology. And, as I have tried to show, the two work in tandem and are mutually dependent on each other. There is, in other words, not only need for more properly empirical research in linguistics (cognitive as well as in general), but also a more careful explication of the relationship between epistemology and methodology.

9 Summary and conclusion

In this essay, I have tried to show the complexities of linguistics pertaining to epistemology and methodology. As we have seen, these complexities are partly of a philosophical nature, partly a result of the nature of the data, and partly historical and social. No science should consider complete agreement among its practitioners as an ultimate goal, however, in linguistics personal preferences and antagonisms have dominated the theoretical market since there has been a lack of an agreed-upon way to settle scientific disputes. I have no hope that a consensus on this matter is within reach in the immediate future. However, as I have tried to show, there are many cases where rhetoric hides differences which are in fact small (although not necessarily trivial). This is by no means a great victory for linguistic ecumenism. The rhetoric is not easy to bridge, and there are also real differences in the goals of cognitive linguistics and GG (especially as personified by Chomsky). I have tried to argue explicitly for a mentalist, empiricist position which bridges Descartes' mind-matter distinction, based on what I perceive as common (though by no means universal) goals in modern linguistics, such as the desirability of including *both* social and mental aspects of language in a unified model. If this basic premise is not accepted, then, of course, the argumentation provided in this essay does not apply. Given this goal, I have also argued that a wide range of domains and data-gathering techniques should be employed. Again, this is far from revolutionary. Jespersen (1924: 345) wrote that "[g]rammatical phenomena can and should be considered from various (often supplementary) points of view." What has changed since the days of Jespersen (as well as the days of the young Chomsky), is the wealth of new data which can be obtained about language as a mental phenomenon through new technology. However, if this is to be useful, it requires a linguistics which is catholic in its data, eclectic in its methods, principled in its methodology and consistent in its epistemology.

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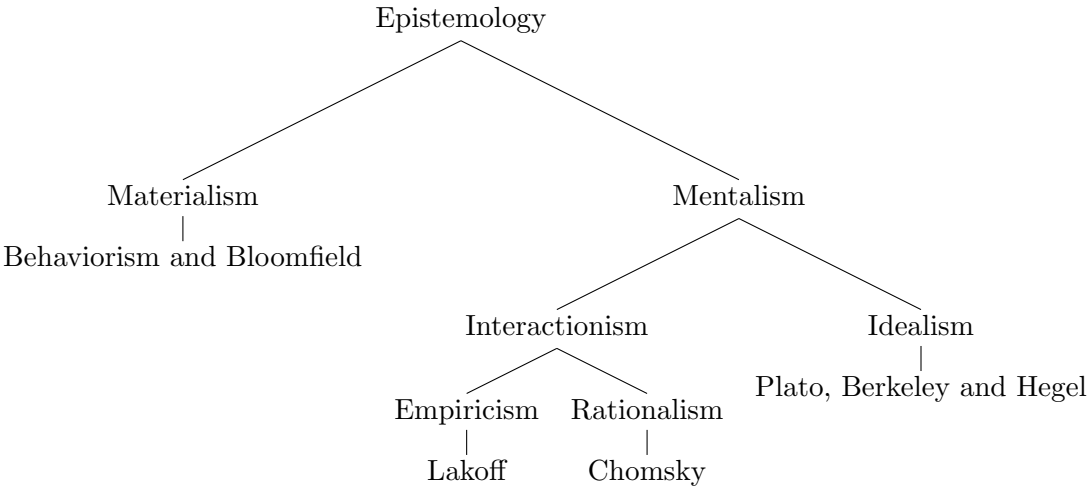
Appendix



A tree model of possible epistemological positions in linguistics and some representatives of those positions.