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Language and thought (the nature of mind from G. Frege and J. Fodor to cognitive linguistics) ¹

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Abstract

In trying to decide how to go about studying the relation between language and thought we face several options. We may, for instance, do work in logic, or investigate mental models associated with natural languages, or set out to compare animal and human minds. Still, whatever option we decide for, we will not necessarily have to make our commitments concerning the nature of mind and the place of mind in nature explicit. Philosophers of mind, though, are especially interested in making such commitments explicit. In this article I will try to analyse the commitments about the nature of mind that can be found in Frege, Fodor and cognitive linguistics.

Keywords: language, thought, Frege, Fodor, cognitive linguistics.

0. Introduction

In trying to decide how to go about studying the relation between language and thought we face several options. We may for instance, do work in logic, or investigate mental models associated with natural languages, or set out to compare animal and human minds. Still, whatever option we decide for, we will not necessarily have to make our commitments concerning the nature of mind and the place of mind in nature explicit. Philosophers of mind, though, are especially interested in making such commitments explicit, and this may involve distinctions among close notions, such as those of thought and cognition. This is the perspective of my talk.

¹ I thank Professor George Lakoff for the many valuable suggestions he gave me in the Braga Conference on how to develop the ideas defended in the last part of this paper.
I will consider on the one hand two philosophers – two analytical philosophers one century apart, G. Frege and J. Fodor, and on the other hand cognitive linguists, some of them present in this conference. I will explain why I chose Frege and Fodor for this comparison, which is in fact also a comparison of the somewhat different ways linguists and philosophers engage in the study of the relation between thought and language. This is the reason. Both Frege and Fodor worried about the issue at stake – language and thought – and both proclaimed the need to replace, at least in some theoretical contexts, natural languages for something different. This was, in Frege's case, logic, and in Fodor's case the language of thought, considered as a design feature of cognitive systems. What in my opinion makes them relevant is the fact that they can help us clarify what we mean by 'the problem of the relation between language and thought'. For instance, and more specifically, is there something wrong, when we're dealing with the problem, in not identifying 'language' with natural language? This is, in fact, not uncommon in philosophy.

I want to assess the legitimacy of such a shift of focus, from natural language to something else, as the one we find in Frege and Fodor. I must say I am not persuaded that Frege and Fodor are totally misguided, although what I will call their formalist commitments definitely seem bound to a head-on collision with some of cognitive linguistics central tenets. But I also think cognitive linguistics gives us ground to argue against overlooking natural languages when working on general questions, such as those concerning the relation between language and thought or the nature of mind.

What I will try to do here then is first (i) to give some information about the way these two philosophers have dealt with the problem of language and thought. In doing that I will (ii) try to underline the specificity of the philosophical perspective and to point out some of the reasons in favour of what I call, borrowing the term from G. Lakoff (Lakoff 1987), formalist perspectives. I will also try to (iii) defend the need for a distinction between thought and cognition. Only then will it be possible to (iv) locate the contribution of cognitive linguistics in the context of a wider discussion about thought and language and to look for cognitive linguistics to provide us with arguments against overlooking natural languages when we are trying to understand the nature of mind and the place of human mind in nature.
1. Cognitive linguistics and formalist perspectives

Let me begin by spelling out what I think brings Frege and Fodor together: I will call it a formalist perspective on the problem of language and thought. Actually, we may look at Frege and Fodor as examples of what George Lakoff (Lakoff 1987) called 'the metaphor of formal languages for natural languages'. When Lakoff targets this metaphor (the very core of the formalist approach he wants to replace with his experientialist view of thought, of embodied, imaginative reason), he aims not only at Chomsky but at the omnipresence of logic in the study of language, and so also at much contemporary philosophy. Cognitive linguists are perfectly aware of how widespread formalist convictions about the nature of language are and how different from cognitive linguistics central tenets they are. For instance, G. Lakoff (Lakoff 1987: 58) says: «It is by no means obvious that language makes use of our general cognitive apparatus» (this is of course a central thesis of cognitive linguistics) «In fact, the most widely accepted views of language within both linguistics and the philosophy of language make the opposite assumption: that language is a separate modular system independent of the rest of cognition. The independence of grammar from the rest of cognition is perhaps the most fundamental assumption on which Noam Chomsky’s theory of language rests (...) the very idea that language is a formal system (in the technical mathematical sense used by Chomsky and many other linguistic theorists) requires the assumption that language is independent from the rest of cognition».

2. Philosophical characters

Let me now present the philosophical characters and try to explain why I think they are important for us here. I didn’t choose them in vain, they represent trends, methodological orientations, which are very widely spread, at least in contemporary analytical philosophy. Frege was a German mathematician and philosopher, whose main works were published approximately 100-120 years ago. He is usually regarded as the ‘founding father’ of three things: analytical philosophy, formal logic and philosophy of language. He represents here the intimate relation of contemporary analytical philosophy with logic. Jerry Fodor is one of the
most important contemporary philosophers of psychology. He has also worked in linguistics and was especially close to N. Chomsky, theoretically and spatially speaking, in the 60s (when they were both at the MIT). What he represents here is an ontological view of cognition, which we may call cognitivism.

2.1. Frege

Let us start with Frege. From the point of view of philosophy, Frege's work marks an historical moment, the moment when formal logic changes the way philosophers approach the problem of the structure of thought. Let us consider a thought with the structure 'A is B'. If we look at classical philosophy, this problem was for instance for the empiricist D. Hume a question of association of ideas, for Kant a question of judgments, somehow originated by the mind through the synthetic unity of apperception, that is, consciousness. But to Frege this question - what makes concepts hang together in a thought, so that we may entertain it - has a logical nature, is not a psychological or transcendental question. This new approach to the problem, the fact that Frege comes up with the apparatus of modern formal logic to deal with it, is the origin of so called analytical philosophy.

Analytical philosophy starts from the idea according to which the object of philosophy is the analysis of the structure of thoughts. And that is done by means of an analysis of language. In other words, philosophy's epistemological-ontological inquiry (how do we know? what is there in the world?) is to proceed by means of logical-linguistic investigations. This is the so called linguistic turn in philosophy, a conception which brings together philosophers as different as Frege, Wittgenstein, Quine, Davidson, etc.

Now, language as it is considered here - when our aim is to investigate the nature of thought and ultimately the nature of reality - is not necessarily natural language. To Frege, namely, and that's one reason why it is slightly ironical to consider him the initiator of philosophy of language, natural language is plainly an obstacle. A great deal of the work of a philosopher as Frege conceived of it is to get rid of natural language, more specifically to get rid the vagueness and ambiguity which characterize it. Frege thinks natural languages resist any coherent systematization, namely any systematization of the laws of thought. That's why Frege creates an artificial language, a Begriffsschrift, or conceptual notation, which is a fundamental element of his philosophical outlook,
and which is supposed to provide more precise means to express thought and to formulate the principles of thought explicitly. If we consider the way Frege meant to put his *Begriffsschrift* (Frege 1879) to use — namely in his investigation of the logical foundations of arithmetic — we get a clear example of Frege’s approach to the problem of the relation between language and thought.

So, recapitulating, according to Frege vagueness will forever plague natural language thinking and we can do better than that. One thing is the pragmatic skill, which is psychologically basic, essential to each of us, natural language thinking, another is the best theory we can develop in a certain domain and for the conceptual analysis of those theories artificial languages will help us best. But still why the focus on language if what we are interested in are ontological and epistemological investigations? Frege’s point is that language may be a distorting mirror but it is the only one we possess. What does he mean? He means that other beings, other kinds of minds, might perhaps do without language but not humans. Our thought is linguistic (articulate, inferential, not intuitive). This is why focusing on language when we want to analyze thought is unavoidable. Another reason for focusing our epistemological and ontological inquiries on language is the fact that this allows for a de-mentalized, de-psychologized investigation of thought. In other words it allows us to keep cognitive questions (questions about minds, which implement thoughts) apart from the questions the philosopher-logician is interested in (questions concerning the structure of thought and theories (and reality)).

The characteristic of thought which makes this ‘separation’, this division of labour, possible is thought’s intentionality. I will explain what’s usually meant by it. Philosophers usually make a distinction between *qualia*, the very private feeling of thinking, what is it like to be a mind, and intentionality, aboutness, what the thought is about (numbers, chairs, chemical elements, galaxies). My *qualia* of red is — maybe — different from yours (I wouldn’t know, given the privacy of minds) but we both use the word ‘red’ to identify something worldly, something supposedly common. We may then say that it is language that makes this objectivity possible. In other words, it is language that makes room for an objectiveness of thought, it is language that makes room for the independence of thought from mental processes, from individual minds. So, to Frege philosophy consists in logical investigations, and he thinks of these logical investigations as being about thought and not about mental processes or
cognition. He thinks the objectiveness of human thought is due to its linguistic nature. That's why he is a philosopher of language.

I will give a brief example, an historically important one, of the way Frege puts his conceptual notation to use. What Frege proposes to do in the Foundations of Arithmetic (Frege 1884) is the first example of analytical philosophy in the sense I have been trying to sketch. What we have there is the program for a logical investigation, an investigation of the concept of number. The investigation proceeds by asking how is it that the meaning of sentences which comprise terms for numbers is fixed. Now, what Frege says he wants to do in Foundations of Arithmetic depends on his Begriffsschrift. He is sketching a program of use for the technical means he had devised, the conceptual notation, and he wants to use this conceptual notation to help him go beyond the vagueness of natural language in thinking about the nature of numbers.

In fact, Frege's philosophical agenda is to show that truths of arithmetic can be derived from logic alone. That philosophical project is known as logicism and its failure is not particularly important for us here. What we were interested in are the reasons why Frege developed an artificial language, a Begriffsschrift, to approach the problem of language and thought. And we could formulate them thus: he wants to overcome the vagueness and ambiguity of natural language, still capture the objectiveness of thought, and also to do something that is not possible by means of natural language only – to make the nature of sound inference explicit.

Frege's example is still very influential in philosophy, as a model of how we go about thinking about thought. We may say that when Frege speaks of thought, what he is considering are conscious, explicit, justified beliefs, which constitute our best theories in whatever domain. It is not common cognitive tasks which interest him but the best theories available, and what those theories make us think about the way the world is (as for instance, in the example I gave, number theory – it is not hard to see that the foundations of arithmetic are not a problem for the individual cognizer). This is what he proposes formal logic for. Logic is essential for philosophy's endeavour in that epistemological-ontological investigations cannot be done by means of natural languages only.

It is also very important to notice that he does not want take his artificial language back and apply it to natural languages. Of course history shows us that formal logic, created by Frege for the analysis of thought was projected back, throughout the 20th century, to modeling natural languages. But Frege did not conceive logic as modeling real
reasoning, psychology, natural language thinking. Fregean thought is not mind or cognition. Frege was not interested in cognition. If we consider the way he describes the analysis of thought by means of an analysis of language we see that for him it is ultimately unimportant to consider the physical and psychological nature of cognition. This guarantees on the one hand a claim of universality—the logical-linguistic investigation of the concept of number is supposed to be good for every thinking human, it is the essence of thought, according to Frege, that it is transferable, communicable between minds, without a residue—but on the other hand this poses a problem: Fregean thought has no place in nature (nor need it have one, at least in this context).

So, what we get from Frege is: thought is not individual cognition (the psychological going-about of categorization, object identification, memory, processing, etc). Thought is what our species elaborates by means of theoretical, scientific inquiry, about the nature of reality. Mind, cognition, is only a part of that reality (at least for those who profess a physicalist theory of mind, I wouldn't bring Frege in here). Anyway, that's why he is a philosopher of thought.

2.2. Fodor

Fodor is definitely something different. Fodor is a philosopher of cognition: he is interested in the nature of mental states and processes and in their relation to the brain and to the physical world. In terms of philosophy, much and almost one century stands between Frege and Fodor—some people would speak of a tendency towards psychologizing within analytical philosophy (this is supposed to be a very bad thing). The fact is, in the last decades philosophy of mind has somehow replaced philosophy of language in terms of importance. Arguably, this is due to cognitive science and to the fact that it represents such a challenge to philosophy.

From Frege to Fodor, then, we go from thought, as defined, to cognition, as defined, but there is something in common: language still occupies centre stage in philosophical investigations and natural language is still considered somehow secondary. Why? Language is very important to Fodor in that he basically thinks mind / cognition exists in nature because there is language. But the language Fodor thinks of, the language of thought, is not natural language. To Fodor, natural languages come second, as an interface. This is the so called 'communicative
conception of the relation between language and thought' (Carruthers 1996). What does Fodor mean by this? He means that for there to be minds (intentionality = representation, rationality = representation transformation, use of representations to guide action) there must be symbols and use of symbols. More precisely, there must be the possibility of articulation and productivity of representations, and only a language can guarantee that.

In his 1975 book, The Language of Thought, Fodor claimed that no cognitive scientist who takes psychological explanation to be computational, can refuse to admit a medium for computation, an internal system of representations. And this is what the language of thought is, and this is not natural language. As Fodor puts it, it may seem crude, offensive and unbiological to suppose – in order to be able to explain representation and rationality – that people have sentences in their heads2, but it is cognitive theory that compels us to accept it. The Language of Thought Hypothesis is then an engineering hypothesis according to which all cognitive systems must share one design trait. They must have an internal representation system, a language of thought. What we call mental processes should then be conceived as computations of these representations. Representations themselves are instantiations of symbols in physical systems. And as Fodor puts it himself: «No representations, no computations. No computations, no minds»3. We must be careful here: the Representational Theory of Mind associated with Fodor’s Language of Thought Hypothesis is not a theory of content or meaning. That is another big problem for Fodor, but a different one. RTM is a syntactic theory of the nature of certain entities, which make cognition and mind possible, a theory of, I would say, empty syntax, not semantics.

So, everything Fodor says when he defends the Language of Thought Hypothesis is about cognition, not about thought in the fregean sense. It is the problem of the nature of cognition Fodor wants to deal with, and he sees it as a hardware/software problem in a biological system such as the human brain. The Language of Thought is a software for cognition, something which is ‘below’ natural language thinking. Natural language thinking would presumably involve consciousness, something Fodor doesn’t even touch here.

3. Fodor 1975: 31. The centrality of this idea for cognitivism is defended in an exemplary way in Pylyshyn (1984). In the Preface, Pylyshyn explicitly states his debt to Fodor, the person who explained to him ‘what philosophy was for’.
3. Cognitive Linguistics

I agree with Lakoff – and that’s why in the beginning of this article I brought in a quotation of *Women, Fire and Dangerous Things* – that a great deal of contemporary approaches of language within philosophy, whether they are more connected with Frege’s lineage, more epistemological-ontological, or more connected with Fodor’s, more psychological and cognitive, are in fact somehow committed to the metaphor of formal languages for natural languages. That commitment is not bad per se. In fact if we look at what Frege’s main issue was, we understand it concerns the structure of theories, the soundness of inference, not cognition. Arguably, formal languages have advantages in helping us there. I think the formalist commitment brings us directly into problems only when what we are dealing with is the nature of mind and cognition.

Could it be then that cognitive linguistics has something to propose here? And in case it does, which one of our philosophical characters would it oppose more directly? Frege or Fodor? Fodor, of course, and this is why I said Frege and Fodor could show us different aspects of the so-called problem of the relation between thought and language. Cognitive linguistics’ principles stand opposed to Fodor’s because they’re both dealing with the nature of cognition, not with thought in Frege’s sense.

What would cognitive linguistics positions about the place of mind in nature then be, knowing they are contrary to Fodor’s? I will of course consider only very general principles, but I will try to be systematic. I’ve been searching for traces of this discussion in the writings of Langacker, Lakoff and Talmy (Langacker 1978, Lakoff 1987, Talmy 1988). In *Women, Fire and Dangerous Things* (Lakoff 1987) George Lakoff points very directly at what opposes cognitive linguistics to formalist perspectives of language: a formalist perspective considers that minds are symbol processors, formal software, running on whichever – biological, artificial – hardware. Now the kind of linguistic phenomena cognitive linguists have always been interested in – grammar as imagery, typicality in categorization, metaphor, force dynamics – give us evidence to build a case against that conception of mind and mental processes. What do we get then as an alternative to formalism? Embodiment of mind and meaning, cognitive linguists say. But what does it mean?

Let’s put our philosophical characters to use here. It is this embodiment of mind both Frege and Fodor overlook. They do it in different
ways, though. Given Frege's aims, it is not unreasonable to consider the physical nature of symbolism indifferent. But given the fact that Fodor's cognitivism is a self-professed physicalism or materialism, he does have to deal with the physical nature of symbolism, its implementation and processing. And there he faces a problem: Fodor's cognitivist ontology is committed to a dualism of physics and symbolism. In fact, only this dualism makes his formalism sustainable.

4. Conclusion

I will finish on a practical note (as practical as possible, coming from philosophy...): I think that if we spell out the principles of Fodor's approach to the problem of the nature of mind and representation, we will get, by contrast, cognitive linguistics philosophical principles. Those positions are what makes cognitive linguistics very interesting from the point of view of the philosophy of mind. So, where on the side of Fodor's Representational-Computational theory of mind we have the idea that only a language can make for the existence of cognition and the isolation of language from the rest of cognition, on the side of cognitive linguistics we have the idea that language is not independent from the rest of cognition. Now, language here is natural language, seen in its specificity and not through the lens of formal languages, and thus involving (i) a relation of linguistic categories to perception, (ii) processing of space/time relations, characteristics which are obviously absent in formal languages. This intimate relation of what we call mental with perception and with space-time is the context for the well known thesis of the meaningfulness of syntax, syntax as imagery, continuity between grammatical and lexical categories, pervasiveness of metaphor, force dynamics phenomena, etc.

Concerning cognition and not thought — through Frege I think I showed what cognitive linguistics is not talking about — I would say that what we have here is a confrontation, within physicalism, of mind embodied versus mind implemented. We may now see that cognitive linguistics basic tenets — that language is not independent from the rest of cognition, the embodiment of meaning and mind — represent a general orientation opposed to Fodor's cognitivist ontology, which is rather widespread in cognitive science. So cognitive linguistics, seen from the perspective of philosophers interested in the nature of mind, can be invaluable in providing evidence and data that allows us to think about
the several dimensions of the embodiment of mind, namely the continuity of physical nature of cognitive systems and symbol instantiation and processing, and the importance of perception in what we call mind. This is why, I think cognitive linguistics can be so important persuading us that a formalist perspective, which leads us to overlook natural languages, is a bad choice when we are facing the problem of the nature of mind.

References

Carruthers, Peter
1996

Dummett, Michael
1981
Frege – Philosophy of Language. Cambridge MA: Harvard University Press.

Frege, Gottlob
(1879) 1967

(1884) 1992
Fundamentos da Aritmética. Lisboa: INCM.

Fodor, Jerry
1975
The Language of Thought. Cambridge MA: Harvard University Press.

Lakoff, George & Mark Johnson
1980
Metaphors We Live By. Chicago: Chicago University Press.

Lakoff, George
1987

Langacker, Ronald
1987

Miguens, Sofia
1997

2002

Pylyshyn, Zenon
1984

Talmy, Leonard
1988

Weiner, Joan
1999