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Utterance Interpretation and Cognitive Models

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The aim of this series is to focus upon the relationship between semantic and pragmatic theories for a variety of natural language constructions. The boundary between semantics and pragmatics can be drawn in many various ways; the relative benefits of each gave rise to a vivid theoretical dispute in the literature in the last two decades. As a side effect, this variety has given rise to a certain amount of confusion and lack of purpose in the extant publications on the topic. This series provides a forum where the confusion within existing literature can be removed and the issues raised by different positions can be discussed with a renewed sense of purpose. The editors intend the contributions to this series to take further strides towards clarity and cautious consensus.



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4

More than Words

ELISABETTA LALUMERA

Abstract

According to a line of thought favoured by semantic contextualists, a proper account of cases of communication featuring figurative discourse would involve the notion of ad hoc concept, namely, a temporary representation created on the fly out of contextual inputs. Assuming that there is no sharp distinction between literal and figurative discourse, these theorists conclude that concepts in general are ad hoc representations in this sense.

This paper proposes an alternative account of figurative discourse, according to which, at least in core cases, the context doesn't do as much as to create a new concept; rather, it helps us associate an already existing, stable but non-lexicalized concept with a word, which may provide the audience with a cue for retrieving it. The alternative stable-concept view advocated here invokes two levels for the explanation of communication: the level of word meanings and the level of concepts. I will therefore defend the view that concepts are not identical with word meanings. Concepts are more numerous, or – as is often said – they are sliced more finely than word meanings. The two-level stable concept view provides an explanation of cognitive cross-context generalizations, which is not readily available to ad hoc concept views. It also avoids the conclusion that conceptual creativity comes cheap, given the pervasiveness of figurative speech (and a fortiori, given the claim that there is no literal-figurative boundary). Third, it may receive indirect support from recent psychological work on the relationship between linguistic and non-linguistic categorization.

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4.1 Introduction

According to an increasingly popular view, concepts are ad hoc representations of categories. They are created on the fly out of contextually relevant information, and stored in working memory. This view contrasts with the traditional view, according to which concepts are stable representations of general knowledge about categories, accessed and employed in different contexts and through different cognitive encounters with category members. Arguments for the ad hoc nature of concepts come from two different sources, namely philosophy of language (relevance theory) and psychology of categorization (the emerging paradigm of situated cognition). This paper focuses on philosophical arguments only. In some recent philosophical accounts of communication, ad hoc concepts are initially invoked in order to account for a range of phenomena such as the 'narrowing' and 'broadening' of predicates, metaphor and polysemy, which point to the limits of literal meaning. Then they are promoted to the role of primary constituents of thoughts, often via arguments for the conclusion that there is no sharp distinction between literal and non-literal discourse.

The notion of ad hoc concept appears to be crucial both for theories of cognition and for theories of meaning and communication. Its proper explanatory role and definition are, however, still clouded by unclarity. The general idea behind this paper is that ad hoc concepts may be useful scientific explananda for various cognitive activities, but their postulation as components of thought is not mandatory on purely philosophical and linguistic grounds.¹ Accordingly, my first aim here is to argue that the philosophical slippery-slope argument of relevance theorists can be resisted by objecting to its initial step. I will propose an alternative explanation, according to which, at least in some cases of metaphorical utterances, context does not do as much as to create a new concept; rather, it helps us associate a pre-existing but non-lexicalized concept with a word that may provide the audience with a

cue for retrieving it, sometimes in virtue of its conventional meaning. In such cases, the concept itself may well be a stable representation. Though the concept-word association is ad hoc. If this is so, there is no direct route from linguistic ad hocness to the ad hoc nature of concepts.

The alternative stable concept view advocated here invokes two levels for the explanation of communication and cognition: the level of word meanings and the level of concepts. I will therefore defend the view that concepts are not identical with word meanings. Concepts are more numerous, or – as is often said – they are sliced more finely than word meanings. Consequently, it is often the case that a single word can be used to express other concepts than the one it is conventionally associated with. Polysemy and metaphor are two faces of this very same coin. In polysemy, different though related concepts are assigned the same linguistic label by convention. In metaphors, it is sometimes the case that a stable but non-lexicalized concept is given a temporary linguistic label, already conventionally assigned to a different, but somehow contextually related concept. At least in such cases, ad hoc concepts are not needed.

The two-level stable concept view advocated here may be defended on the following grounds. First, it offers an explanation of cognitive cross-context generalizations, which is not readily available to ad hoc concept views. Second, it avoids the conclusion that conceptual creativity comes cheap, given the pervasiveness of figurative speech (and a fortiori, given the claim that there is no literal-figurative boundary). Third, it may receive indirect support from recent psychological work on the relationship between linguistic and non-linguistic categorization. Finally, it is, nevertheless, compatible with the claim that ad hoc concepts do exist and have some role in cognition. In other words, the two-level stable concept view is not in tension with psychological findings about there being occurrent representations of ad hoc categories (Barsalou, 1983, 1999, 2003). The view advocated here, however, is not compatible with the generalization that ad hoc concepts *only* can be components of thought.

The paper is organized as follows. In Sections 4.2 and 4.3 I will draw a map of the possible views on the relationships between concepts, meanings and context. I will use as a test a wide-currency example in the contemporary debate, which involves metaphor, and I will identify and present four alternative positions, namely, two ad hoc concept views (Section 4.2) and two stable concept views (Section 4.3). Then I will describe in more detail one of the four, namely the two-level stable concept view, together with some reasons for favouring it. I will not be

¹The same conclusion is defended, with different arguments and implications, in Dolnic (2006).

directly engaged in providing reasons against the other positions – if the two-level stable concept view I propose comes out as the best explanation (at least in some cases), then the other ones are not (at least in those cases). Anyhow, some of the main objections will be mentioned. Section 4.4 defends the two-level stable concept view by providing evidence that concepts are more than words, and Section 4.5 considers some relevant possible objections, and formulates a conclusion.

4.2 Contextualism and Ad Hoc Concepts

The current debate between Contextualists and Semantic Minimalists in the philosophy of language is – roughly – about whether the notion of literal meaning (or semantic content, or what is said) is primary for the individuation of the speaker's meaning (or speech-act content, or what is communicated) in a given episode of conversation. Minimalists follow Grice and truth-conditional semantics, and say it is. By contrast, Contextualists maintain, within a variegated range of positions, that literal meaning radically underdetermines speaker's meaning, to the point of being an idle wheel in a theory of communication.² Rather, according to them, contextual data and non-deductive inferential processes play a key role in the individuation of the speaker's meaning.

Granting the minimally contentious claim that people communicate in order to express their thoughts to others (at least in many interesting cases), a closely related question comes to be the following: Which relationship holds between the linguistic meaning of an utterance, and the thought expressed by that utterance? In a successful episode of communication, by definition, the thought expressed would also be the thought grasped by the speaker's audience. Given an utterance and a context, how are we to identify the thought this utterance expresses? Which concepts does it contain? The question collapses into the traditional form of the Contextualist-Minimalist debate only if the notion of the thought expressed by an utterance collapses with the notion of speaker's meaning – and leads to an additional couple of positions otherwise. Two of them postulate ad hoc concepts, the other two don't. Let me present the whole set of four

²For a carefully argued Contextualist position see Carston (2002), or Recanatì (2004), which also contains an overview of the spectrum of alternatives. Semantic Minimalism is fully explained in Borg (2004), and made famous by Cappelen and Lepore (2005).

briefly, and explain what ad hoc concepts are meant to be in this dialectic. I will make use of a standard example where there is an intuitive gap to fill between the literal meaning of the sentence uttered, and whatever concerns the speaker's side – be it the speaker's meaning, or the thought expressed.

The example is the metaphorical sentence

Mary is a bulldozer

where 'Mary' is a woman's name. Let the communicative context be such that it contains two people, Rita and Lisa, and they are commenting on Mary's being intent on fulfilling her own objectives, regardless of other people's feelings and doings. Lisa utters the sentence 'Mary is a bulldozer' and Rita agrees (Carston, 2002).³

According to the first ad hoc concept view, an utterance like 'Mary is a bulldozer' expresses a thought containing the concept BULLDOZER*, a concept created on the fly and whose extension comprises, let's say, obstinate and insensitive people. BULLDOZER* is numerically and qualitatively different from the concept BULLDOZER, the artefact concept conventionally associated with the word 'bulldozer'. On the one hand, it broadens the extension of BULLDOZER, admitting humans within it. On the other hand, it denotes emergent, 'new' properties – a human BULLDOZER* is insensitive, while we wouldn't normally say that a bulldozer (machine) is insensitive. Psychologically speaking, the ad hoc concept is a temporary data structure activated in short-term memory, not a stable representation stored in semantic memory (Barsalou, 1983: 218).

What about the meaning of the word 'bulldozer' as it figures in the utterance? The ad hoc concept BULLDOZER* also plays the role of speaker's meaning, as it is the ad hoc meaning of the word 'bulldozer'. On this view, word meanings are concepts, specifically conceived as word counterparts in a language of thought, where they compose as unstructured atoms (Fodor, 1975, 1998). But concepts are radically context-dependent, they emerge from the completion of an unsaturated entity called 'schema' or 'indicator', with contextual data. The idea

³It might be objected that the example sentence contains a dead metaphor, and that 'bulldozer' simply means a certain trait of character, almost to the point that a very good dictionary could report it. I might reply that the boundary between dead and live metaphors is really hard to draw. Or I may just bite the bullet here, as my rationale can be rerun with any example of 'creative' metaphor. Anyhow, this very example is common currency in the contemporary literature.

here is that lexical interpretation is not conceived as the (deductive) assignment of an already existing concept to a word (or word-token), but rather it is an inference to the best explanation leading to the postulation of that unique concept that best fits a minimal semantic input, contextual data and some given constraints (Carston, 2002: 363–364).⁴

Of course, according to this approach, underdetermination and non-deductive inferential processes are meant to affect the complete sentential level as well as the local level. On this view, semantic interpretation as a projection of syntax, a function of the semantic values of the constituents of a sentence and of its syntactic structure, is not even sufficient to determine a truth-evaluable content. That is to say, the sole content here is ad hoc content. Knowledge of language (or the language faculty) contributes a minimal array of syntactic and pre-semantic data, to be completed and enriched in a process of pragmatic interpretation, along with contextual information and according to general cognitive heuristics. The formation of a truth-evaluable utterance content and thought requires other cognitive resources than those available to the language faculty, and it involves the so-called central processes. This position is endorsed by relevance theorists, who would include expectations of relevance among the key cognitive heuristics (Sperber and Wilson, 1995; Carston, 2002; Wilson and Carston, 2007). Let me call it the *one-level ad hoc concept view*, because it postulates ad hoc concepts as components of the thought expressed, and because it allows for a single level of semantic assignment, involving ad hoc concepts, that is ad hoc word meanings.

The one-level ad hoc concept view accounts for the intuition that the thought conveyed by an utterance like 'Mary is a bulldozer' can be true, or at least can be valued as true from the speaker's and hearer's perspective. There is some informative content that speaker and hearer

⁴As it features both the ad hoc concept hypothesis and the Language of thought hypothesis (LOT), the view advocated by relevance theorists might be called 'the Language of ad hoc thought hypothesis'. It is important to notice, however, that the ad hoc concept hypothesis is independent of the LOT theory. Psychologists working within the new paradigm of distributed cognition, who introduced the notion of ad hoc concept, are explicitly against the LOT, and object to computationalism in general. This is also to remark that psychological arguments for ad hoc concepts and linguistic-philosophical arguments are different, and ought to be carefully distinguished.

can agree with, or disagree with. This is what we assume when we find this dialogue natural:

- (A) *Lisa: Mary is a bulldozer*
Rita: Yes that's true. She fired ten employees in order to be promoted vice-president last year

And when we find this other dialogue unnatural (maybe ironic):

- (B) *Lisa: Mary is a bulldozer*
Rita: No she isn't. She is a woman like both of us, and women are not things

The one-level ad hoc concept view also squares with considerations of cognitive economy, at least *prima facie*. Ad hoc conceptual representations are built up and employed by the cognitive system only insofar as they serve for the specific task of an episode of communication – given the data available in semantic memory, and the data from context, concepts are constructed on the fly, and are preserved as long as it takes for the cognitive task to be completed. There is no unnecessary clutter in semantic memory – we're saving, so to say, storage cost. Proponents of the theory admit that all the notions involved here stand in need of further clarification. But the rationale behind this position is sufficiently clear.

One can envisage a more conservative kind of ad hoc concept view, different from the first one in one central feature. According to the second kind of ad hoc concept view, the word 'bulldozer' keeps its conventional, artefact-referring semantic function, while the concept expressed, via contextual enrichment processes, is the ad hoc one, namely BULLDOZER* – it's a *two-level ad hoc concept view*. It keeps meaning fixed, while allowing concepts to vary with context. Semantic interpretation as performed by the language module gives literal meaning as an output, while the thought expressed is encoded by the speaker and decoded by the hearer through pragmatic interpretation involving their knowledge of the world (their central processes). Here, two levels of content are at play.

As in the previously considered position, here the intuition that there is some true content about which speaker and hearer may agree is safe, as well as the perceived asymmetry between dialogues (A) and (B) above. In the communicative context, a false linguistic meaning (that Mary is a bulldozer) provides the input for a (possibly) true thought

expressed – the thought containing an ad hoc concept – that attributes to Mary a certain behavioural and personality trait.

How is that thought arrived at, given the first-step semantic output? A two-level ad hoc concept view is compatible with – though not required by – a classical Gricean account (Grice, 1989). On such an account, a rational reconstruction of the audience's process of identification⁵ of the thought expressed would feature the assumptions that the speaker is cooperative, that she is informed of the audience's own cooperativeness and knowledge status about relevant issues, and it would also presumably include the statement of the fact that the speaker deliberately violates one of the conversational maxims. Given such assumptions, the thought content that Mary is (roughly) a strongly goal-directed and insensitive kind of person would come out as an implicature. The final, non-traditionally Gricean line would be that the implicated content contains at least one thoroughly contextual component, namely the ad hoc concept BULLDOZER.⁶

The main problem with ad hoc concept views has to do with cross-context generalizations.⁷ By definition, the concept BULLDOZER is an occurrent representation, created on the fly for the purposes of Lisa and Rita's specific episode of communication. It cannot be redeployed in another context – being context-dependent for its very individuation, it cannot survive (so to say) a context-shift. Nevertheless, as soon as we describe Lisa and Rita's communicative context as C1, we can imagine a second context C2 in which BULLDOZER* is employed again – it is the very context in which I am reporting Lisa and Rita's conversation to the readers of this paper:

C1 Lisa: Mary is a bulldozer

Rita: Yes, that's true. She fired ten employees last year in order to be promoted vice-president

⁵I am here assuming that Grice's account is not meant to be a description of the actual process of metaphor generation and interpretation. It has been argued that it cannot be such a description (see, e.g. Wearing (2006) for a review). This empirical claim is not a direct objection against the theory of implicatures, though it may prompt the need for finding an alternative theory which wears its empirical plausibility on its sleeve.

⁶Wearing (2006) argues that metaphors can't be Gricean implicatures, because they lack a defining feature of implicatures, namely cancellability. If this objection is sound, then the Gricean process is not even a good rational reconstruction of the process of metaphor production and interpretation. As I will make explicit below, however, the details of the process of utterance interpretation are not central to the question of this paper, namely, whether ad hoc concepts are the outputs of such a process.

⁷For another objection, regarding the overgeneration of ad hoc concepts in a given context, see Stern (2006).

C2 Lisa said to Rita that Mary is a bulldozer. Rita agreed and added that Mary fired ten employees last year in order to be promoted vice-president.

As for C2, the question 'what is the thought expressed?' can be raised again. The intuitive answer is that whatever the thought expressed, it would feature the same concept contained in the thought expressed by C1, namely, the concept BULLDOZER*. However, this is not possible for the above-mentioned reason that BULLDOZER* is a temporary data structure in Rita and Lisa's minds. The thought expressed in C2 would presumably feature a concept BULLDOZER**, but we are not told whether and how it is related to the first BULLDOZER* concept. We are left with no idea of how cross-context generalization can be explained.⁸

This is particularly important when the context shift is merely temporal, and does not involve different subjects. Take, for example, a context C3 where Lisa herself, after a few days, realizes her behaviour was significantly similar to Mary's behaviour in some respects, so she writes down in her personal blog 'I've been a bit of a bulldozer today. But finally I got what I was hoping for'. Here, Lisa is apparently using the same concept again – tracking the same kind of behavioural trait in the world, and recognizing it as her own. According to ad hoc concept views, however, she is actually employing a different concept BULLDOZER***, different from the other two we've just considered, as contexts are different. Here again – but at the intra-personal level – ad hoc concept theories have difficulty explaining how concepts can be stable enough to support cross-context generalizations. Intra-personal concept stability seems to be a far more relevant property of cognitive systems than inter-personal concept stability, for it makes it possible for a subject to accumulate knowledge on objects and kinds and to project it on newly encountered cases of the same category. Ad hoc concept views owe an account of how this property emerges. In philosophical and linguistic arguments, the problem does not seem to be addressed.

4.3 Stable Concept Views

On stable concept views, concepts are not created on the fly for the purposes of an one-off episode of communication or categorization task. Rather, they are created and preserved by a representational system in

⁸See Cappelen and Lepore (2005), chap. 2.

order to keep track of and represent categories in different contexts, and through different cognitive encounters. We may add that one of their functions is precisely to support inductive projection of knowledge from one context to the other (Millikan, 2000). In order to do that, concepts ought to abstract from peculiarities of different contexts, and generalize over them. So, at least some of our concepts ought to be abstract (enough) and general (enough), rather than context-dependent and temporary.

Starting from this general premise, stable concept views may come in two kinds. First, there are one-level stable concept views, which sharply contrast with ad hoc concept views. According to these, the meaning of 'bulldozer' and the concept expressed by that word is one and the same representation, the representation of bulldozers. Here, word meanings are stable and context-free thought components. Semantic interpretation yields word meanings, and word meanings are symbols in the language of thought. Here, no world knowledge is involved in the process of interpretation.⁹ In the example, the thought that Lisa expresses is the false thought that Mary is a bulldozer, as it is conveyed by the utterance saying (falsely) that Mary is a bulldozer (Borg, 2004, following Fodor, 1975, 1998). One-level stable concept views are sometimes explicit in claiming that the primary literal/conceptual content can be processed further, along with contextual data, so as to express virtually *any* content whatsoever. Once the literal content is fixed and delivered by the language-plus-concept faculty, indefinitely many optional pragmatic processes of further elaboration and reinterpretation can take place. In appropriate circumstances, for example, the utterance 'Mary is a bulldozer' could be used by Lisa to convey to Rita the thought that the project they proposed was approved. Or it could be used to communicate to Rita that Mary left John for Joe the day before her wedding (with the former). As for the question 'Which thought is expressed by the utterance "Mary is a bulldozer" in a given episode of communication?', these theorists would consider it to be ill conceived from the start. Either it is the thought that Mary is a bulldozer (the false one), or (via pragmatic processes) one of the indefinitely many thoughts that can be expressed (Cappelen and Lepore, 2005, chap. 13). That is to say, differently from the two-level ad hoc concept view, on a one-level stable concept view there is no specific *true* content individuated, neither at the linguistic nor at the

⁹ A small class of expressions – those identified in Kaplan (1989) – are obviously allowed to vary their denotation as context shifts. Context-sensitivity, however, must always be syntactically marked (in logical form). See Cappelen and Lepore (2005), chap. 1.

mental level. Thus, on a one-level stable concept view there is no explanation of the perceived asymmetry between (A) and (B) – no reason why the true content in (A) is intuitively felt as more natural than the literal false content in (B). According to the theory, the literal false content grasped by Rita in (B) is primary, while the agreed content in (A) is merely one interpretation out of indefinitely many possible ones. These results (especially the second one) are at odds with speakers' intuitions about (A) and (B):

- (A) *Lisa: Mary is a bulldozer*
Rita: Yes that's true. She fired ten employees in order to be promoted vice-president last year
- (B) *Lisa: Mary is a bulldozer*
Rita: No she isn't. She is a woman like both of us, and women are not things

This paper defends a kind of stable concept view; more precisely, a *two-level stable concept view*. Just as in the previous position considered, concepts, in the general case,¹⁰ are assumed to be representations in semantic memory, not temporary representations in working memory. On a two-level ad hoc concept view, however, concepts are not identical to word meanings. I'll defend this claim below. For now I'll provide an alternative description of the bulldozer example.

When Lisa utters 'Mary is a bulldozer' and Rita agrees, the thought successfully conveyed is that Mary is a person endowed with a particular personality trait, involving obstinacy, strength, goal-directedness and insensitivity. Lisa has met many people who possess that personality trait before, and so has Rita. They both possess a mental mark for keeping track of that specific personality trait, as for any other relevant environmental regularity they observe. Let's call the personality trait 'C' and its mental mark 'the concept of C'. Lisa and Rita's concepts of C are both concepts of C just because they are mental marks for the same human trait, no matter whether – say – Lisa despises people who are C, while Rita strongly admires them, or whether Lisa thinks C-people live more happily while Rita wouldn't say that, or whether Lisa is extremely good at detecting C-people even after a very short acquaintance. I am here suggesting a purely functional

¹⁰ I add the qualification 'in the general case' because I want to make allowances for the possibility of there being ad hoc representations of categories; more on this discussed below.

characterization of the concept of C, as that unique kind of cognitive tool (presumably a kind of data structure) people use in order to identify and represent the specific trait of personality in question – no matter how rich, or how meagre, it could be in the case of a specific subject as compared to the others, and no matter what the format of mental codification may be. This functional characterization of concepts (merely) presupposes that kinds and properties exist, in some sense independently of our conceptualization of them, and that people tend to share concepts in the minimal sense of being cognitively sensitive to roughly the same kinds and properties (the amount of sharing would of course depend on many factors, including the cultural and geographical background, and the respective age of the subjects).

What is peculiar to the concept of C, as far as communication is concerned, is that it is not lexicalized in English, the language of our example. (This looks more like a contingent feature of English than a general cross-linguistic fact, let alone a linguistic universal, but this tentative claim stands in need of adequate evidence). It is, however, an important accident in the fictional context considered, because Lisa wants to convey that very thought, containing that very concept in a quick and effective way to Rita, but she has no conventionally associated word to hand in her mental lexicon. Thus, Lisa employs the means she finds most appropriate for the circumstances, in this case, the artefact-referring English noun 'bulldozer'. In the picture I am proposing, 'bulldozer' refers to an entity in the world, the artefact kind of bulldozers.¹¹ The conditions for category inclusion may be somewhat vague here, as is often the case (is a rusty old bulldozer without the blade still a bulldozer? etc.). Mary, however, would definitely not be a paradigm borderline case – being a woman, she is not a bulldozer in the literal sense. Thus, Lisa utters a sentence expressing the false proposition that Mary is a certain kind of artefact with a large blade in the front part, in order to convey what she thinks is a true thought, that Mary is a person with property C. Lisa thinks that there is some relation between property C and the artefact kind of bulldozers (intuitively, some similarity relation). She also presumes that Rita can grasp the same relation, and therefore that she has the resources to arrive at the intended thought from the literal meaning of the false sentence. The process of interpretation, here, can be Gricean again: Rita knows that Lisa is cooperative, she notices that she said something

blatantly false (categorically so), so she tries to make sense of her nonsense by (say) speculating on which possible property of persons is connected with the artefact kind of bulldozers. She finds that property C is the best candidate (though maybe not the only possible one). She concludes that Lisa expressed the thought that Mary has property C, and therefore the concept of C is a component of her thought.

This account, undoubtedly, is oversimplified. The question of which possible property of persons is connected with the artefact kind of bulldozers is a very difficult one. The form of inference involved in giving an answer, if any, is probably abduction, which typically involves the subject's stored knowledge of the world (or at least, of a large experiential domain). If this is so, then an explicit reconstruction of all the inferential premises involved is not feasible, or at least it is empirically very difficult.¹² This is a meagre result, but at least one that is generally accepted as such, even by those who explicitly defend an inferential account of metaphor (and non-literal language) interpretation, like relevance theorists (Wilson and Carston, 2007). Moreover, I assumed, for the sake of simplicity, that the route from the semantic meaning of 'bulldozer' to the concept of C is inferential, and specifically Gricean, but it may be that associative, Davidsonian approaches would do cognitively as well.¹³ What is at issue here is not the specific process of metaphor interpretation, but rather what kind of entities its outputs are. Virtually, one and the same explanation of a pragmatic process of metaphor interpretation is compatible with a relevance-theoretic account (where pragmatic interpretation yields ad hoc concepts and ad hoc meanings), with a classical Gricean theory, and even with semantic minimalism (in which concepts as stable entities are the outputs of a purely semantic interpretation process, but where pragmatic processes are responsible for delivering a potentially infinite variety of other contents). In other words, the question of the nature of the pragmatic process is orthogonal to the one I mean to address. This being said, the two-level stable concept view is neither better, nor less well placed than its alternatives on the grounds that it does not include a proper description of the process of interpretation, but only a sketchy one.

So which entities are involved in the two-level stable concept view? Words, word meanings conceived as world entities (objects, kinds, properties) and concepts, conceived as data structures that

¹²Fodor (2000) thinks that all abductive processes inevitably fall outside the domain of a scientific (meaning 'computational') study of mind.

¹³See the classical collection on metaphor Ortony (1993). For an update, see *Mind and Language*, vol. 3, 2006 (the complete journal issue).

represent world entities, and are conventionally associated with words. According to the two-level stable concept view, it is possible that no new concept is generated in the course of a successful episode of communication involving non-literal language, like the one we have been discussing so far. It may well happen that an old, though non-lexicalized, concept is associated with a word in a non-conventional way. In such cases concepts themselves are stable, not *ad hoc*, though their association with words is contextual, and done on the fly. This view doesn't involve *ad hoc* meanings either, since meanings are conceived as the world entities (if any) that words stand for. It involves, though, *ad hoc* word-concept associations.

Word-concept association is explained as follows. It is usually the case that among the various data a subject stores in her semantic memory about a certain object or property, there is the phonological and graphic representation of the word conventionally used to mean that object or property in the language she speaks. These lexical representations are extremely important in most cognitive activities, because they are easy to remember, reproduce and compute in reasoning and generally in all the cognitive tasks we perform off-line, that is, in the absence of the relevant category samples. Though word-concept association plays a central role in the application of concepts when present, in some cases it may be absent.¹⁴ Word-concept association is contingent, and depends both on the speaker's mastery of her own language, on her epistemic status and on the characteristics of the language itself, specifically on the conventions followed by speakers of that language. In fact, it may happen that in the language of a community, or more frequently in a subject's idiolect, a concept is not lexicalized. This means that the subject or subjects can discriminate a certain kind of object or property, draw inferences about it, store knowledge about previously encountered instances and apply it to new ones, even though they have no graphic or phonetic representation stored in memory along with knowledge about that kind of object or property. Thus, in this limited sense, concepts are more than words. If concepts are more than words in this sense, it must sometimes be the case that a word is used to express some other concept than the one it is

¹⁴Thus, word-concept association cannot be an essential, i.e. internal property of concepts. The possibility of such a relation, however, may well be essential for concepts – i.e., concepts need not be expressed by words, but they need to be expressible. When concepts are not associated with word representations, they are presumably associated with images (exemplars from previous perceptual encounters, maps or icons). The easiest example is of people we recognize at a glance, without knowing their name.

conventionally associated with.¹⁵ At least some metaphorical utterances can be given an explanation along these lines. If this is so, at least some stable representations can be expressed by metaphorical utterances.

4.4 Concepts are More than Words

What is the claim that concepts are more than words? More precisely, it means that there is no one-to-one mapping between conceptual representations and the lexicon, mainly because only a part of the conceptual repertoire is lexicalized. The 'mainly' specification is meant to leave open the possibility that there be words which do not correspond to a concept – conceived as a means of representing and projecting general knowledge about something. For example, words like 'the' or 'by' do not correspond to a concept thus conceived. Also, a few words are synonyms, that is they are associated with the same concept.¹⁶ Leaving the specification aside, the claims can be unpacked in two versions, one for public languages, and one for idiolects:

(PL) For every language there are salient objects and kinds in the natural and cultural environment of speakers that are not conventionally associated with one word in that language.

(I) For every idiolect there are salient regularities in the natural and social environment of the speaker that he or she does not have a word for.

On philosophical grounds, this has already been convincingly argued for in Sperber and Wilson (1998). This is their own intuitive motivation for the claim that concepts are more than words: 'you look at your friend and recognize the symptoms of a mood for which you have no word, which you might be unable to describe exactly, and whose previous occurrences you only dimly remember; but you know that mood, and you know how it is likely to affect her and you. Similarly, you look at the landscape and the sky, and you recognize the weather, you know how it will feel, but you have no word for it. Or you feel a pain, you recognize it and know what to expect, but have no word for it; and so on. You are capable not just of recognizing these phenomena but also of anticipating them, imagining them, regretting

¹⁵Actually, this is not a matter of logical necessity, since it is not true that a subject ought to express (sooner or later) all the concepts she possesses, nor is it true that she ought to express them with single words, as opposed to phrases. It is, however, empirically plausible.

¹⁶The claim that idiolects contain perfect synonyms is, however, controversial.

or rejoicing that they are not actual. You can communicate thoughts about them to interlocutors who are capable of recognizing them, if not spontaneously, at least with the help of your communication. Your ability to recognize and think about the mood, the weather, the pain, is evidence that you have a corresponding stable mental file or entry, that is a mental concept'.¹⁷

The bulldozer case can be precisely one of these cases. Lisa knows the kind of personality trait, but she does not have a word for it. So, she uses 'bulldozer'. I have quoted this long passage from Sperber and Wilson in order to show how one and the same insight can be processed further so to arrive at very different conclusions.

Evidence for the incomplete mapping claim can be found in experimental psychology, for example in Malt and colleagues' cross-linguistic studies on categorization (1999, 2003). In a number of experiments, they found that speakers of English, Spanish and Chinese produced highly correlated judgments of similarity about the objects presented (60 common containers, like bottles and cans). The linguistic categories of their respective languages, however, were found to be considerably divergent. For example, subjects of the three languages generally found that an item *i* was more similar to item *j* and not to item *k*, but speakers of one language called *i* with the same common noun as *k*, while speakers of another language used one common word for all *i*, *k* and *j*, and speakers of the third language had a word for *i* only. The example can be read as showing that the prelinguistic (or cross-linguistic) category applied to *i* and *k* (the concept of the kind to which *i* and *k* belong) is not lexicalized in some of the languages considered. Speakers of English, Spanish and Chinese have concepts that do not correspond exactly to their words.

Why is it so? One of the prevailing hypotheses in the cross-linguistic literature is that within some specific experiential domains (e.g. artefacts such as containers for liquids, or emotions), some languages may have more words than others, due to cultural and evolutionary factors (Murphy and Medin, 1985). The variable density of the lexicon of different languages in specific domains may also be influenced by the morphology and syntax of the languages considered. For example, Spanish and Italian have an easy way to form nouns for containers, by adding a suffix to the root noun (in Italian, the suffix -era, as in 'biscotti(i)-era', biscuit box), so they have many more names for containers than English. But it does not follow that English

speakers have fewer concepts of containers than Spaniards and Italians – they just have fewer lexicalized ones.

It should be noted that the thesis that concepts are more than word would be false if a strong linguistic determinism were true. By strong linguistic determinism I mean the claim that all categories (and concepts) are a product of language (see Schwanenflugel et al., 1991, for a review). Such a view, however, has not received empirical confirmation recently. The position of the psychologists who favour weak versions of linguistic determinism can still be taken to be compatible with the view I'm defending here. For example, on the developmental side, Yoshida and Smith (2003) note that the English language emphasizes the distinction between objects and substances, while Japanese privileges the distinction between animate and inanimate entities. They add, however, that both Japanese and English would categorize a moving and talking person as animate, and splashing water as a substance, thus using the same concepts of animate and substance in non-borderline cases.¹⁸ Thus they claim that language is 'one force creating ontological distinctions', but some distinctions are immune to effects of language. Here again, these considerations support the claim that language and concepts do not map one to one, and it is not incompatible with the further thesis that the conceptual system is generally more dense.

Further studies in favour of the hypothesis that concepts are more than words were recently conducted by Klein and Murphy (2001, 2002) on polysemy.¹⁹ Polysemous words are words with many interrelated meanings, for example 'paper', which can be used to refer (at least) to a substance made out of wood, to sheets of that substance, to a written scientific article, to a daily publication and to the institution who publishes it. These meanings are different though somehow related, while meanings of a word like 'bank' are not. Klein and Murphy's categorization task experiments showed, for example, that only 20% of subjects categorized together the different meanings of a polysemous word (Klein and Murphy, 2002). Moreover, it was found that using a

¹⁸Yoshida and Smith think that concepts are contextual entities, but for reasons that differ from the ones considered in this paper.

¹⁹Murphy (2002) maintains that meanings are built out of concepts, whereas I assumed here that word meanings are world entities, and concepts are associated with words. Experimental results about polysemy can be read either as suggesting that there can be many concepts associated with the same word (my reading), or that the same word has many conceptual meanings (Murphy's reading). See Murphy (1991) for the compatibility of the two approaches.

¹⁷Sperber and Wilson (1998).

word in a specific sense facilitated comprehension for a sentence that used a different word with the same meaning, and inhibited comprehension for a sentence that used that first word with a different meaning (Klein and Murphy, 2001). It is therefore likely that in polysemy subjects associate different concepts (different stable mental data structures) with one and the same word. The alternative – there is one single core concept that all the meanings of the polysemous words derive from – appears to be disconfirmed, because it would neither predict the difference of performance in the comprehension of couples of sentences containing the same meaning of the polysemous word and couples of sentences that do not, nor would it predict the results of the categorization task. In other words, a core concept hypothetically associated with 'paper' does not seem to play any role – rather, many concepts stored in semantic memory under the same linguistic label seem to be activated as context shifts. These studies are particularly relevant to the problem discussed here because it is sometimes argued that there is no clear-cut distinction between polysemy and metaphor (Wilson and Carston, 2007). The word 'bulldozer', for example, can be used metaphorically to denote a personality trait, but it is not implausible that in some idiolects it is regularly used to denote this personality trait, thus becoming a polysemous word just like 'paper'. If polysemy involves a one-to-many relation between words and concepts, then it is plausible that metaphor exhibits the same pattern, at least in some cases. Different stable concepts can be associated to the same word, and the relation of association can be constructed either on the fly (metaphor) or permanently (polysemy) by speakers who choose (often consciously and rationally) the best means to fill in a lexical lacuna, and achieve their communicative goals.

4.5 Objections and Concluding Remarks

In the remaining part of the paper, I will consider some objections to the line of argument I have presented. The first one has to do with empirical evidence. It can be objected that the recent psychological literature on categorization is actually accumulating evidence in favour of ad hoc concepts. More precisely, many experiments show that subjects' performance in typical conceptual tasks are influenced by context. One task is categorization, and specifically feature listing, namely the attribution of properties to an item of a certain category. In a typical experiment run by Barsalou (2003), subjects were asked to remember various objects, or to view pictures of them, and then to

answer questions as to whether a certain object possessed a certain property. Research found that unoccluded features (either in pictures or in subjects' reported mental images) were produced more often than occluded ones, even though the latter, and not the former, were typical for the category in question. For example, subjects were more likely to tell that *with roots* is a property of lawn when they saw (or when they were made to imagine) a rolled-up lawn, than when they just thought about it. As the visual perspective (what is seen of and around the object) can be taken to be part of the context, the experiment can be taken to provide evidence for the claim that context affects conceptual application.

Property verification ('Do things in category C possess property P?') and exemplar generation ('give me an example of category C') are similarly influenced by context. In general, the presence of background information makes it considerably easier for subjects to perform the required task. Moreover, when asked about their strategies in doing what they were asked to do, subjects strikingly often report that they have scanned through memories of scenes or events, where an exemplar of the category in question was present together with a background and connected items – that is, they appealed to context (Vallee-Tourangeau et al., 1998; Yeh and Barsalou, 2006).

Experiments also show that more refined tasks, such as the attribution of functions to an unknown object, are based on background information retrieved from the context. In Wisniewski (1996) subjects were asked to evaluate some artefacts designed to clean up pollution. Introduced to a situation where roadside trash was pertinent, they judged that a good example of (the concept of) *pollution cleaner* was an artefact with the property of having a large vacuum. On the other hand, when introduced to a situation where an ocean was pertinent, they opted for the object *equipped with a large spoon*. Thus, context affects people's representation of the category of a pollution cleaner. That is – the hypothesis goes – context affects people's *concept* of a pollution cleaner. Similar results are reported when the context is thoroughly linguistic (a spoken sentence, like 'The blond hair of the little girl had the lustre of gold') and the task is lexical (tick a written word that names a property of gold. Subjects chose 'shining' rather than 'malleable') (reviewed in Yeh and Barsalou, 2006).

I think that this evidence can be taken at face value and still be compatible with the main claim of this paper, mainly, that at least some concepts are stable though non lexicalized. Experiments show that many conceptual tasks are influenced by context, namely, that in many cognitive tasks people employ context-modified representations

of categories.²⁰ However, there may well be other cognitive tasks in which the impact of contextual information is minimal, and where stable concepts are employed. Speculatively speaking, deductive reasoning, counterfactual supposition, cross-context generalization and imagination may not require contextual modifications of stored representations. If experiments showed that all conceptual tasks are influenced by context in the sense that people use context-modified representations of categories, then the stable concept view advocated here would be refuted. But this is not the case. Experiments just show that some (albeit important) uses of concepts are influenced by context. Therefore, a plausible conclusion could be that at least for some cognitive tasks, we employ stable concepts stored in semantic memory, while in some other tasks the impact of context is stronger, and on-line temporary representations are central. A concept of *x* is a set of stored data that can be accessed and processed either as a whole or partially, and either integrated or not with data from the context. There is no reason, at the moment, for ruling out that these modalities are compatible and coexist within our cognitive system, and that concepts are found on a continuum between minimal and maximal sensitivity to contextual data.

Stable concept views in general may also invite an objection that centres on the notion of cognitive economy. Cognitive economy can be characterized as the relationship between costs and benefits of a certain process of management of information within a system. Suppose the information is that contained in my unpublished papers, and suppose that I stored each one of them in the room I was in when I wrote the final line. Then in order to retrieve the papers I may need to travel by plane or by train, and spend a huge amount of effort, time and money. Supposing that information included in my unpublished papers is not dramatically relevant, that would definitively be an uneconomical process of information management.

Theories of cognition are sometimes evaluated in terms of cognitive economy. It may be argued, for example – as noted in Section 4.2 – that ad hoc concept views save in storage cost, because if concepts are built on-line, then they are not stored indefinitely in semantic memory. Conversely, stable concept views are committed to high storage costs, because they require concepts to be almost permanent residents of semantic memory (and it is likely that concepts

turn out to be highly complex data structures). According to such a line of thought, ad hoc concept views are therefore preferable to stable concept views, because they fare better in terms of cognitive economy.

My first reply is as follows. First, there is no definitive evidence for the claim that our cognitive system is built and operates in accordance with strict principles of cognitive economy. As Rescher notes, 'cost effectiveness – the proper coordination of costs and benefits in the pursuit of our ends – is an indispensable requisite of rationality' (Rescher, 1989: 12). That is, a rational agent ought to operate so as to maximize cognitive economy. Our cognitive system *per se*, however, is not a rational agent (an agent who is in control of its own goals and means). Rather, it is a collection of subsystems whose outputs can result in rational behaviour. There is no need that each subsystem is itself rational in order to output something intelligent. Thus – as a theoretical possibility – it may well be that some of our cognitive systems and processes could have been designed and implemented better than they were, as far as cognitive economy is concerned – but that, simply, it didn't happen. In order to rule out such a possibility of imperfection, one would need to resort to very strong assumptions about either God or evolution.

My second reply to the objection takes the cognitive economy ideal for granted. Even assuming cognitive economy as a regulative ideal, it can be said that if ad hoc concept theories save storage cost, they can be a lot more expensive than stable concept views as far as production costs are concerned. On ad hoc concept views, a new concept is created from scattered data in every new cognitive task. However, many relevant features of our environment are highly stable, and we are likely to use and reuse the same information about a certain category through different cognitive encounters. If this is true, then to have such information already organized and stored would be more economical than to repeat the same process of access, retrieval and organization from scattered data every time. Access, retrieval and organization can be more expensive than storage, especially if they are repeated frequently. Even though these considerations stand in need of empirical confirmation, they are no more speculative than the principle of cognitive economy itself.

Finally, the stable concept views advocated in this paper can be found wanting as an account of metaphor. I claimed that at least some metaphors are not genuine cases of on-line concept creation, but that they are rather cases of ad hoc word-concept associations motivated by a gap in the lexicon. In short, metaphors are produced because concepts are more than words. Now, as many scholars have pointed out, metaphors come in many different kinds, that may need to be explained by

²⁰A further possible reply would be to argue that concepts are not identical to representations employed in people's performance of cognitive tasks. I will not pursue this line here.

different cognitive mechanisms. It is highly plausible that the hypothesis I presented is not sufficient to explain all cases of metaphor. Thus, it is plausible that there are genuinely creative metaphors, in which new concepts are created along with new concept-word associations. Examples can be found in poetry and in the history of science, when genuine creativity is involved (see, e.g. Boden, 1990 for a review).

So, it is true that the hypothesis presented here does not qualify as an adequate explanation of metaphor. It is at best a very partial one, and it lacks wide-scope explanatory power. The main aim of the paper, however, was to show that there is no direct route from the explanation of some everyday cases of metaphorical utterances to the psychological claim that concepts are ad hoc structures. A theory of language interpretation need not be the same enterprise as a theory of concepts, because concepts are not just word meanings.

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