

# Ad Hoc Concepts, Polysemy and the Lexicon

Robyn Carston

## 1. Introduction

According to the relevance-theoretic (RT) approach to lexical pragmatics, the interpretation in context of substantive words (nouns, verbs, adjectives) often involves the construction of an *ad hoc* concept or occasion-specific sense, based on interaction among encoded lexical concepts, contextual information and expectations of relevance (Carston 2002; Wilson & Carston 2007). This approach captures the flexibility of word meaning, its pragmatic responsiveness to the specificity of contexts of utterance, and the variability in familiarity and frequency of word senses across different individuals whom we, nevertheless, think of as speaking the ‘same language’.

In this short paper, I focus on the implications of this approach for (a) an account of the phenomenon of polysemy, understood as the case of a single word which has several established interrelated senses, and (b) the appropriate construal of the substantive (open-class) lexicon,<sup>1</sup> that is, the list of sound-meaning pairings that are stored in an individual’s mind, enabling direct selection of a word meaning in utterance interpretation rather than an inferential pragmatic construction process.

The paper is structured as follows: in section 2, examples of polysemy are given and some of the issues they raise are outlined; in section 3, the RT lexical pragmatic account is presented and the development of ‘families’ of related senses is described; in section 4, some views on the mental lexicon and the representation of polysemy within it are discussed, concluding that two distinct and complementary construals are essential (the linguistic lexicon and the communicational lexicon). Section 5 is a brief summing up.

## 2. Polysemy – pragmatics and/or semantics?

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<sup>1</sup> The contrast here is with the ‘functional lexicon’, which consists of linguistic items that do not correspond to concepts denoting things in the world, but to grammatical objects (e.g. determiners, quantifiers, pronouns). These tend to be quite rigid in their uses, seldom polysemous, and generally closed to new items.

Consider the following instances of the noun ‘mouth’ (rough paraphrases are given in brackets):

- (1) a. The whale has a huge mouth.
- b. The mouth of the cave/tunnel is visible from here. (an aperture)
- c. The water at the mouth looks green. (part of a river that enters into an ocean)
- d. I have four mouths to feed. (whole body/person)
- e. He is a big mouth (‘Mack the mouth’). (someone who talks too much)
- f. Stop putting words in my mouth.

(examples adapted from Vicente forthcoming)

Assuming for the moment that there is a single word ‘mouth’ here, it can clearly be used to express a multiplicity of distinct (but related) senses. If we take the physical mouth of animals/humans as the basic sense, most of the others are fairly transparently related to it (and each other), whether through a metonymic process (e.g. (1d), where the word for a body part is used for the whole body), or metaphorical extension (e.g. (1b), where the relation is one of perceived resemblance between animal mouths and entrances to caves), or some other kind of process (see section 3). The lexical form ‘mouth’ may also be used as a verb, again with multiple senses:

- (2) a. He mouthed obscenities at us. (mouth movement without sound)
- b. They’re just mouthing empty slogans (saying something without belief in its content)
- c. She’s mouthing off again.
- d. The new-born puppies mouthed each other’s faces.

The cross-categorical nature of polysemy in English is widespread:

- (3) a. He has a bad pain in his *back*.
- b. I’ll *back* the car into the drive.
- c. Her *back* garden is tiny.

And each of these three words (noun, verb, adjective), all from the same root  $\sqrt{\text{back}}$ , can be used to express a range of distinct (but related) senses, as the following uses of the verb indicate:

- (4)
- a. I backed the car into the drive.
  - b. She backed the prints with cardboard.
  - c. He backed Clinton for president.

Examples could be proliferated indefinitely, but the point should be clear enough: polysemy is ubiquitous. Every substantive word is polysemous, at least potentially so – if not now, then it's only a matter of time. Consider, for instance, the case of the noun 'laser', which was originally coined as an acronym, from the initial letter of each of the content words in the phrase 'light amplification by stimulated emission of radiation'. At that time (1957), 'laser' had a single concrete meaning. However, as noted by Panagiotidis (2014a), who discusses the example, a quick online search turns up expressions that could 'lexify', as he puts it (*ibid*: 294), in the near future:

- (5)
- a. 'get one's tattoos lasered' (verbal form)
  - b. 'a laser stare', i.e. a persistent and piercing stare (adjectival use)
  - c. 'throw a laser', i.e. a straight strong shot in football (a new sense of the noun)

The claim I ultimately want to defend is that the exigencies of human communication make it virtually inevitable that a word will become polysemous; these examples provide some initial support for this claim.

The question arises whether polysemy is a semantic or a pragmatic phenomenon. The fact that the various senses/concepts expressed by the few lexical forms discussed above vary greatly in how established (conventionalised) they are indicates that there is no simple across-the-board answer to this question. What does seem clear is that many of the senses of a polysemy cluster originate from pragmatic processes,<sup>2</sup> that is, a speaker uses a word with an established sense to express a different concept/sense and relies on the addressee's

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<sup>2</sup> Linguists discuss another kind of verb polysemy, which arises from the array of distinct argument structures verbs may enter into, e.g. 'open' can be transitive ('John opened the door') or intransitive ('The door opened'). See Marantz (2013).

knowledge of the established word sense together with his capacity for relevance-driven meaning modulation to infer the new (ad hoc) concept/sense; how this works is outlined in the next section. In this respect, polysemy is a pragmatic phenomenon (it is the output of online pragmatic inferences). However, some ad hoc senses become frequently used and may eventually be fully conventionalised, hence ‘semantic’ in that they can be retrieved directly from the lexicon (decoded, in RT’s terms) and so are potentially input to pragmatic processes of meaning modulation. There are differences across individual speakers with regard to how well-established specific senses of a polysemous word are, even though these speakers can all be said to ‘know’ the word involved. As noted in Wilson & Carston (2007: 241), an important function of pragmatic inference is to bridge lexical differences among members of a speech community, so that individuals who vary in their established senses for a word can end up with the same interpretation of an utterance containing that word, albeit via different routes (linguistic decoding and/or pragmatic inferencing).

Polysemy is often contrasted with homonymy, in that the senses of a polysemous word are interrelated (and recognised as such by native speakers), while homonymy involves several distinct words that happen (through some sort of historical accident) to have the same phonological form although their meanings are unrelated (e.g. bank/bank; race/race). Etymology, however intriguing, is not the point here, so it is quite possible that what is a case of polysemy for one person (e.g. the senses of ‘mouth’ in (1a) and (1c) above) is homonymy for another person (i.e. the inferential connection between an animal mouth and a river mouth is unavailable to that individual), in which case, again, we would expect some differences in the processing of the lexical form ‘mouth’ across these individuals. More generally, for any case of homonymy, e.g. ‘bank’, each of the distinct words sharing a lexical form is itself almost bound to be polysemous (Carston 2013). It is worth noting here that one could take the stance that polysemy is a *pragmatic* phenomenon, tout court, so once a derived sense is fully conventionalised it enters the lexicon as a distinct word (e.g. ‘mouth’ as applied to a river) and thus as a homonym. This is in some ways an appealing idea, but for now I am assuming that there are cases of word senses that are fully conventionalised and whose relatedness to other conventionalised senses of that one word remains psychologically real to the individual language user and so must be registered in some way in his mental lexicon. As discussed in the next section, this is the case of a single lexical entry whose meaning component is a ‘polysemy complex’, i.e. a bundle or cluster of conventionalised interrelated senses.

### 3. Ad hoc concepts and lexical innovation

A central assumption of this paper is that many cases of conventionalised polysemy have their origins in pragmatic processes of lexical meaning modulation. Here is a brief reminder of the relevance-theoretic account of word meaning modulation during utterance interpretation, using the two examples in (6) (and assuming that the Boris referred to is a forty-year-old man):

- (6) a. Boris is a bachelor.  
b. Boris is a child.

For (6a), uttered in an appropriate context, the lexically encoded concept BACHELOR may be narrowed to BACHELOR\* (denoting a certain sort of unmarried man: perhaps one who is eligible for marriage or, on the contrary, one who values his independence and eschews committed relationships). For (6b), the encoded concept CHILD will be broadened to an ad hoc concept CHILD\* whose denotation includes adults who behave in certain childlike ways.

Focusing on (6b), the pragmatic process is as follows: the atomic (unstructured) lexical concept CHILD gives access to an ‘encyclopaedic entry’ of general knowledge/beliefs about children, including the following:

- (7) a. They are young, need to be nurtured and looked after by adults,  
b. They are still developing physically and psychologically,  
c. They cannot take full responsibility for their own decisions and behaviour,  
Etc.

Some elements of encyclopaedic information will be more accessible (more highly activated) than others, e.g. the information in (7c) in the case of (6b). These are used as contextual assumptions/premises in deriving contextual implications (e.g. Boris behaves irresponsibly), which, in turn, via a mechanism of ‘mutual parallel adjustment’ of explicit content (explicature), contextual assumptions and implications (implicatures), can modulate the concept expressed by a word, e.g. CHILD\*. This inferential process stops when the specific

expectations of relevance (formed on the basis of the presumption of ‘optimal relevance’ conveyed by all utterances) are satisfied.<sup>3</sup>

The result of such pragmatic processes of online lexical meaning adjustment may be a one-off ephemeral ad hoc concept/sense, or the word may come to be regularly used to express that concept/sense and, eventually, it might become an established sense of the word (hence ‘semantic’ polysemy). For instance, the narrowed sense of ‘bachelor’ as ‘unmarried man who is eligible for marriage’ is very well-established and may be used more often than the pure definitional sense, in which case it is part of the stored polysemy complex for the word ‘bachelor’. It seems less likely that this is the case for the broadened sense of ‘child’ understood as ‘irresponsible dependent person’.

Consider now a second kind of online lexical creativity, that of *cross-categorical* modulations of meaning/sense (i.e. motivated coinings of new words). Clark & Clark (1979) discuss a large range of cases of established nouns that subsequently became used as verbs, such as the following:

- (8) a. The factory *sired* midday and everyone broke for lunch.
- b. The police car *sired* the Porsche to a stop.
- c. The police car *sired* the daylights out of me.
- d. The boy *porched* the newspaper.
- e. Max tried to *teapot* a policeman. (ibid: 786)

The opposite phenomenon occurs too (established verbs may be employed as nouns):

- (9) a. That was a great *get* by the tennis champion.
- b. James was an *embed* for two years in Afghanistan.

We can think of these as ‘ad hoc words’, that is, new on-the-spot coinages, which may or may not become established words of the language. With each of them comes the ad hoc concept it is used to express: SIREN\*, PORCH\*, EMBED\*, etc.

Focusing on (8a)-(8c), each of the concepts expressed here is distinct, albeit clearly related, that is, the new verb ‘siren’ is polysemous, the senses roughly paraphraseable as follows:

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<sup>3</sup> For more detailed accounts, see Wilson & Sperber (2004), Wilson & Carston (2007), Falkum (2015).

- (10) a. SIREN\*                    ‘use the sound of a siren to signal a time’  
       b. SIREN\*\*                ‘use the sound of a siren to signal a request/order’  
       c. SIREN\*\*\*              ‘scare by means of the sound produced by a siren’

Clark & Clark (1979: 803) say: ‘The interpretation of an innovative verb is strongly constrained by its syntactic environment. .... But these constraints do not work in a vacuum. To distinguish the interpretation of “siren midday” and “siren the Porsche to a stop”, one must know the difference between factory and police sirens, and how they are used.’ In other words, the addressee must employ his encyclopaedic knowledge about sirens and how they are used in different environments in order to pragmatically infer the concept of a particular kind of action being performed with a siren.

The result of the pragmatic process here is interestingly different from that of the cases discussed earlier in that the concept constructed is clearly not a narrowing or a broadening of the concept encoded by the noun from which it is derived, as its denotation belongs to a different class altogether, the class of actions rather than entities.<sup>4</sup> Nevertheless, the process involved is very similar to that above: following the relevance-based comprehension heuristic, the addressee infers the intended concept/sense, using the clues the speaker has provided, including syntactic constraints and the concept encoded by the noun ‘siren’, which is activated by the utterance, together with its most accessible encyclopaedic information, which in turn is partially determined by activation spreading from other concepts encoded by the utterance. The inferential process stops once the hypothesised interpretation satisfies expectations of relevance.

Another set of cases discussed by Clark & Clark is the use of proper names as verbs, such as the following:

- (11) Max *houdinied* his way out of the prison cell.  
       = Max managed to make an incredible escape from his prison cell.

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<sup>4</sup> It is similar to a part-for-whole metonymy in as much as the object (the siren) plays a part in the activity (the sirening). Wilson & Falkum (2015) make interesting suggestions about the relation between metonymy and the motivated coining of new words from existing ones.

This verb is probably quite well-established now, although not as conventionalised as cases like ‘boycott’, ‘lynch’, and ‘sandwich’, which most speakers don’t associate with any proper name, despite their etymology. More often than not, these creative uses of proper names as verbs are short-lived, as in (12), where ‘Jarvis-Gann’ was the name of a Californian tax-cut initiative that led to the axing of many jobs (ibid: 785):

(12) She was *jarvis-ganned* out of her teaching job.

Once a new word becomes relatively established, the sense with which it was coined becomes a source for further innovative uses:

(13) The president cunningly *houdinied* out of the corruption allegations.

This kind of flexible online pragmatic construction of new senses for words, taking existing senses and their associated encyclopaedic information as input, is the origin of much polysemy. The senses that make up what I call a ‘polysemy complex’ are interrelated via chains of often very context-sensitive inference, and can differ from one another in arbitrarily many ways, their derivation depending on a wide array of different kinds of ordinary world knowledge, often unpredictable in advance of the utterance. They are not constrained by any semantic core or set of central properties of the originating concept/sense, or by any predetermined set of parameters to be contextually filled, but only by whatever encyclopaedic premises are most accessible and relevant on the particular occasion of use. Hence it is appropriate to talk of polysemy as involving ‘families’ of related senses.

To conclude this section, the components of an adequate treatment of polysemy include at least the following: (a) An account of how we generate and grasp new word senses in online communication, and (b) An account of how we mentally register and represent those related senses/concepts that become established and stably associated with a word. I believe that the relevance-theoretic account outlined in this section goes some way towards providing the first of these components. In the next section, I tackle the second one. A main point will be that the kind of lexicon which records the semantic polysemy of words must be quite distinct from the kind of lexicon that provides the basic input to the grammar. In developing this point, it emerges that another component of a full account of polysemy, namely, the common root in cases of cross-categorial polysemy, can be accommodated, albeit at a different level of explanation from that of the set of senses of a polysemous word.



#### 4. The communicational lexicon and the linguistic lexicon

There is a striking difference between the way in which language is construed by many philosophers of language, on the one hand, and by linguists (in the generative grammar tradition), on the other hand. For many philosophers, language is a social competence and any particular language consists of a set of shared conventions<sup>5</sup>, which includes the established senses of words as well as various socio-cultural norms of language use (e.g. how to make a polite request). A particularly strong version of this position is taken by Lepore & Stone (2015), who maintain that all linguistic knowledge is a matter of conventions and who provide many examples of single words with multiple sense conventions (that is, cases of polysemy). For generative linguists, on the other hand, language is an individual's internal system of recursive computational operations, which effect mappings between sounds/gestures and meanings. There is, of course, no incompatibility here, but rather a difference of focus. As Hauser et al. (2002: 1569) say, language is not monolithic, and fruitful investigation requires carving up the broad folk notion of language into tractable domains of study, separating out questions concerning language as a communicative system and questions concerning the computations underlying this system. Hauser et al.'s focus is on the latter, the narrow I-language (syntax and its perceptual/cognitive interfaces), while most philosophers focus on language as a public communication system.

I suggest that, corresponding to each of these construals of language, there are distinct construals of 'the' lexicon, which can be characterised as follows: (a) A communicational lexicon (C-lexicon), which is a set of reasonably stable associations of particular formal elements (syntactically categorised phonetic/gestural objects) and senses/concepts, tacitly agreed on across a community of speakers (i.e. a set of conventions) and used by them as devices of communication; (b) A linguistic lexicon (L-lexicon), which is a component of the computational I-language system, and whose listed elements are the basic input to the system of combinatorial principles that generate the formal structures of the language. At this level it makes little sense to talk of public meaning conventions and the elements of 'lexical meaning' here, if there are any, directly interact with, perhaps constrain, syntactic operations.

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<sup>5</sup> The appropriate notion of convention for lexical senses is that of an 'enabling' convention (rather than a 'lawlike' convention) and is based on the weight of successful precedents (see Geurts forthcoming).

If this distinction is right, it seems clear that the lexicon of primary interest in the account of polysemy as outlined so far is the C-lexicon. This is the set of stored communicative units which both provides input to the pragmatic processes of relevance-based comprehension on any given occasion of utterance and is itself, over time, shaped by those pragmatic processes as they give rise to new words and new senses for existing words. Nevertheless, the L-lexicon must also play a part in the bigger picture, with its listed elements connected in some way to those of the C-lexicon, a connection I will try to make at the end of this section.

We find something like this C-lexicon/L-lexicon distinction latent in a disagreement between two prominent linguists over the nature of ‘the’ mental lexicon. Jackendoff (1997) equates the lexicon with the ‘store of *memorized elements* of language’, as distinct from those aspects of language which are generated afresh on each use by combinatorial rules (syntax). On this construal, the lexicon contains not only words (with their various stored senses), but also larger multi-word items:

- (14) a. - to spill the beans, - to bury the hatchet  
b. The cat’s got NP’s tongue.  
c. by and large; in cahoots with; kith and kin  
d. May the force be with you.

Marantz (2001) finds this view of the lexicon excessively expansive: ‘Jackendoff argues that the “lexicon” should be extended to include units larger than words/phrases. But doesn’t [his] corpus rather argue against the correlation between “memorized” and “special linguistic properties”? We know we’ve encountered [“May the force be with you”] just as we know we’ve encountered “nationalization” ... That means we’ve stored these items – in some way or other. But does “storage” necessarily imply “storage in a special linguistic Lexicon”?’ Marantz’s question here points to a distinction between two kinds of stored language units: those that comprise a narrowly linguistic lexicon (L-lexicon) and a different kind of usage-based store of established communicational units, which seems to be what Jackendoff is discussing (the C-lexicon).

Let’s look a bit more closely at the properties of these two lexicons, starting with the C-lexicon. The key claim is that it is not part of the narrow I-language faculty but falls outside it, within what generative grammarians call the ‘conceptual-intentional’ interface systems (Chomsky 1995: 168). There is strong evidence to support this. First, there is a

marked difference between the acquisition of syntax and the learning of (substantive) words. A native speaker's grammar (including the full panoply of embedded structures and long distance dependencies) reaches a steady state relatively early in her lifespan, at around 5-6 years of age, from which point on her syntax is highly stable (Lust 2006). In contrast, the acquisition of new words and new senses for existing words goes on throughout our lifetime, and is responsive to new developments in our social-cultural environments, e.g. the relatively recent new words 'microwave', 'google', 'vape', 'photobomb', 'staycation', and new senses for existing words, such as 'transformation', 'binding' (in generative grammar), 'deflation', 'credit', 'derivative' (in economics), 'spin', 'surgery', 'snowflake' (in politics). Of course, young children do acquire words at a rapid rate, requiring very few exposures to any new word, a process known as 'fast mapping', but this ability does not seem to involve a dedicated cognitive system in the way that the acquisition of syntax does (Markson & Bloom 1997). Rather, the ability involved also applies to domains other than language, specifically, to the learning of new facts about the world: 'Children who heard a novel object described, in passing, as "a koba" remembered which object the word referred to when tested a month later. However, children who heard a novel object described, in passing, as "the one that my uncle gave me" were equally good at remembering which object the fact referred to.' Bloom & Markson (2001: 89). Children are learning new words and new facts at an equally rapid rate and retaining them, so it seems reasonable to conclude that word learning for children, as for adults, is a function of more general cognitive systems (of learning and intentional inferencing) rather than of a dedicated language faculty.<sup>6</sup>

A second piece of evidence in support of a C-lexicon which is separate from the faculty of I-language comes from the fascinating phenomenon of Homesign (Goldin-Meadow 2005). It seems that deaf children who are not exposed to a conventional sign language (so get essentially no linguistic input), nevertheless, develop a large set of words and idioms, consisting of discrete gestures paired with concepts/senses. Although linguistically isolated, these children are socially active and integrated. Their signs are negotiated and (re)calibrated in the process of ostensive communicative interactions and many subsequently stabilise into lexical meaning conventions. Thus, the process is very much akin to the relevance-based account of lexical innovation discussed above, except that these children are creating words

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<sup>6</sup> Note that this doesn't mean that there are not some constraints on word learning that distinguish it from fact learning; children know the difference between words and facts, and will extend 'koba' to new items of the 'same category' but won't extend the learned fact in the same way.

(or communication units) from the ground up, without the benefit of an established public lexicon to build on (Begby 2017).

The contents of the C-lexicon, then, are communication units of varying sizes and syntactic complexity: words (nouns, verbs, adjectives), phrasal idioms, frozen or frequent collocations, and even memorized sentences (see the list from Jackendoff in (14) above). Crucially for the concerns of this paper, a word is stored with its ‘polysemy complex’, an evolving set of interrelated senses/concepts, which are conventionalised to some appreciable degree. These are probably atomic concepts, in Fodor’s sense (I see no reason to suppose otherwise), and will have associated encyclopaedic entries, as envisaged in the standard RT view of concepts (Sperber & Wilson 1995). They are input to the pragmatic processes that form ad hoc concepts, or occasion-specific senses, some of which may themselves subsequently become established and enter the C-lexicon.

The question now is what figures in the L-lexicon, the stored input elements of grammar or I-language (and how does that lexicon connect with the C-lexicon). This is a hotly debated issue in current generative linguistics and I will do no more here than gesture at the position that seems most congenial to the account of polysemy I am developing, one which is being actively promoted by some within the minimalist grammar framework (see, in particular, Aquaviva 2014; Panagiotidis 2014a, 2014b). The claim is that it is categoryless roots which are the components of the substantive lexicon within I-language, that is, elements such as  $\sqrt{\text{mouth}}$ ,  $\sqrt{\text{back}}$ ,  $\sqrt{\text{siren}}$ ,  $\sqrt{\text{houdini}}$ , which are available to be made into nouns, verbs, or adjectives, and which must be, in order to be usable in thought and communication. On this view, lexical structure is part of syntax and what we think of as simple monomorphemic words are, in fact, phrasal structures made up of a root plus a syntactic categorizing head, e.g. [ $\sqrt{\text{back}}$  + n], [ $\sqrt{\text{back}}$  + v]. The most contentious part of this proposal concerns the meaning of these roots and there are currently two main positions on this: (a) a root has an underspecified schematic core meaning, which is common to all those lexicalisations based on it (Arad 2005); (b) a root has no semantic content or meaning at all, but is simply a ‘distinguishing index or address’, e.g.  $\sqrt{4170}$ , say, for the root that is common to all of the noun ‘back’, the verb ‘back’, the adjective ‘back’ (and morphological derivatives, such as ‘backer’, ‘backing’, ‘half-back’, etc.) (Panagiotidis 2014a).<sup>7</sup>

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<sup>7</sup> A significant point here is that the meaningless index/address account of roots is the only approach which can reconcile conceptual atomism (Fodor 1998) with lexical-syntactic decomposition (Aquaviva 2014; Panagiotidis 2014a).

Whichever answer to the question of the meaning of roots turns out to be correct, we have here the basis for capturing cross-categorical polysemy (e.g. ‘back’, ‘siren’). As Aquaviva (2014: 283) says: ‘[this account] ... may model the distinction between polysemy and homonymy in formal terms, letting only polysemous words share the very same syntactic root. Interpretations that are related as different senses of the same lexeme, e.g. *sad* as “in a sad state” and “inspiring sadness” [e.g. a sad movie] could be associated with the very same syntactic object, including the root; this would distinguish senses which are variants of one core lexical interpretation (often derived through general cognitive mechanisms [pragmatics (RC)] from interpretations that instead belong to distinct lexemes (with distinct if homonymous roots), e.g. *race*, as “running contest” and as “genetically identified population”.’ Thus, although the three words ‘back’ are stored separately in the C-lexicon, each with its polysemy complex, they are connected via the root  $\sqrt{\text{back}}$  in the L-lexicon.

Finally, the two lexicons register different properties of the language units they store and are thus subject to different constraints. Two such properties or constraints that have been discussed are compositionality and frequency. Fodor (2002) insists that the key constraint on each component of a lexical entry, including the meaning component, is that it contains ‘nothing ... except what that item contributes to the grammatical representation of its hosts’ (ibid: 76), thereby conforming to a strict principle of compositionality. Among the many properties ruled out by this constraint is that of the frequency of a word sense, because ‘the relative frequency of the constituents of a lexical item doesn’t predict the relative frequency of its hosts and vice versa’ (ibid: 80), e.g. while both the financial sense of ‘bank’ and the colour sense of ‘blue’ are highly frequent uses of those words, that property is not inherited by the host phrase ‘blue bank’. However, as is well-known in psycholinguistics, frequency effects do impact on the production and comprehension of utterances in a range of ways (see, e.g., Lucas 1987; Weinberg 2002), so relative frequencies must be registered somewhere somehow in the mind of the language user. I suggest that word and sense frequencies are registered in the communicational lexicon, which is thus a component of what Fodor calls ‘performance theory’ (along with the effects of relevance, plausibility and context).

We might then ask whether semantic compositionality, Fodor’s cherished requirement, is met by the entries in the L-lexicon. Strictly speaking, the answer is ‘no’, because it is not roots themselves but *categorised* roots (nouns, verbs, adjectives) which are the first domain of idiosyncratic content and, therefore, the basic input to the compositional meaning of their hosts (Panagiotidis 2014a). However, although roots do not strictly meet Fodor’s constraint at the semantic level, they do not violate it either: since they are

semantically empty or underspecified, they simply cannot feed the function that yields compositional interpretations. Roots are, of course, the basic atoms of *syntactic composition* (along with categorisers), and the output of the first phase of syntactic composition (that is, the syntactic categorisation of roots) provides the basic atoms of semantic composition.<sup>8</sup>

## 5. Summing up

The main points made in this paper are the following:

- (a) Much polysemy originates in the process of communication: speakers use existing words to express new senses and coin new words, and hearers are able to pragmatically infer the ad hoc senses and words intended.
- (b) Languages consist of a generative computational core and a system of communicative conventions, and there is a distinct lexicon or list of basic units corresponding with each of these components.
- (c) Words (nouns, verbs, adjectives, etc.), which are listed in the communicational lexicon, are typically polysemous, that is, are associated with a cluster of interrelated senses, while categoryless roots, the items listed in the linguistic lexicon, have at most an underspecified schematic meaning<sup>9</sup> (and possibly no meaning at all).
- (d) The senses of a polysemy complex comprise the meaning component of a single word (e.g. the noun ‘back’), while the senses of a homonymous lexical form belong to distinct words (e.g. the two nouns ‘bank’). Cross-categorial polysemy is associated with a single root (e.g.  $\sqrt{\text{back}}$  for the related noun, verb and adjective), while homonymous words have distinct roots (e.g.  $\sqrt{\text{bank-1}}$  and  $\sqrt{\text{bank-2}}$ ).

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<sup>8</sup> There are many further issues raised by these two lexicons, including how the often non-compositional (idiosyncratic) meanings of communication units in the C-lexicon are incorporated into the compositional structure delivered by I-language, an issue I hope to pursue in future work (see Aquaviva 2014 and Panagiotidis 2014b for relevant discussion).

<sup>9</sup> A similar view about the nature of the ‘standing’ meaning of a *word* has its advocates, that is, the idea that the core meaning of a word is not a sense (or concept) but a semantically underspecified schema, which constrains the senses/concepts that the word can be used to express. I review this and other views on word meaning in Carston (2012) and assess them more fully in Carston (forthcoming).

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