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MODALITY: ISSUES IN THE SEMANTICS-PRAGMATICS INTERFACE

Anna Papafragou

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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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1

INTRODUCTION

1.1 THE ISSUES

1.1.1 Context and Word Meaning

A well-known property of lexical items in natural language is that they are capable of conveying different meanings in different situations of utterance. Examples of the context-dependence of lexically expressed meanings include the following:

(1) a. The lawyers approached the *bar* to have a word with the judge.
b. The lawyers approached the *bar* and ordered two martinis.

(2) a. I asked her many times but got no *answer*.
b. I rang her many times but there was no *answer*.

(3) a. I want to fly like a *bird*.
b. A *bird* was flying above the corpses.

On a traditional analysis, examples (1)-(3) correspond to distinct semantic options (see Cruse, 1986; Lyons, 1977; Saeed, 1997). In (1), *bar* is lexically ambiguous between (roughly) the senses 'court area' and 'area serving drinks': it therefore corresponds to two distinct (and unrelated) entries in the mental lexicon.[1] In (2), *answer* is polysemous: it encodes two separate but related meanings, and is thus treated as a case distinct from (1).

[1] Notational conventions: Concepts are cited in capital letters. The use of small-case italics is generally reserved for lexical items. I will occasionally use single quotation marks to refer to an expression's meaning.

In (3), *bird* is semantically univocal but its contextual interpretation takes on different properties depending on pragmatic considerations. (3a) involves the construal of a member of the category BIRD which is very close to the prototype: something like a swallow; (3b), by contrast, involves an exemplar which is closer to a vulture. One of the main problems for linguistic theory has been to account for the various aspects of the context-dependence of lexically communicated meaning - which includes (but is not limited to) the phenomena in (1)-(3) - in a principled way.

Of the three possibilities above, polysemy has always been the hardest to delineate, and its territory the most difficult to separate from either ambiguity or semantic univocality (monosemy). Interestingly, the concept has been revived and developed in much recent research within philosophy, cognitive psychology, linguistics and artificial intelligence, where there has been a resurgence of interest in the structure of the mental lexicon and the way it interacts with other components of cognitive architecture (see selectively Nunberg, 1979; Jackendoff, 1983, 1990; Lakoff, 1987; Levin and Pinker, 1991; Nunberg and Zaenen, 1992; Sag and Szabolski, 1992; Gibbs, 1994; Goldberg, 1995; Pustejovsky, 1993, 1995; Tsohatzidis, 1990; Lehrer and Kittay, 1992; Pustejovsky and Boguraev, 1996). Although there is still little consensus among different researchers as to how the subvarieties of systematic multiplicity of lexically conveyed meaning are to be captured, many of authors converge on the conclusion that our lexical entries have a rich internal structure, which often over-determines the output of the comprehension process (in the sense that it furnishes more than one candidate sense, between which pragmatic interpretation has to choose). This structure is polysemic,[2] in that it consists of clusters of related concepts which correspond to different contextual readings of a lexical item. Details differ among accounts, and polysemy is often used as a portmanteau term to cover a variety of cases - with corresponding implications for the division of labour between this phenomenon and either ambiguity or monosemy.[3]

---

[2] I will use the adjectives *polysemous* for words/lexical items, and *polysemic* for the clusters of interrelated meanings themselves (cf. also *monosemous* vs. *monosemic*).

[3] For instance, polysemy has been invoked to describe and explain: the selection of different complements by aspectual verbs such as (i); the effects of the direct object on the meaning conveyed by the verb in (ii); the effects of the modified noun on the adjectival modifier in (iii); 'semi-conventionalised' uses such as (iv); 'predictable sense extensions' such as (v):

(i) I *began* the novel/reading the novel/to read the novel.
(ii) They *opened* the car/the bottle/the envelope.
(iii) My boss has a *healthy* face/diet/dog.
(iv) Artistic creation is a *miracle*.
(v) *The third violin* is playing badly.

On *begin* and *healthy*, see Pustejovsky (1993, 1995), Pustejovsky and Boguraev (1993), Pustejovsky and Bouillon (1996); on *open*, see Taylor (1995); on 'semi-conventionalised' uses and 'rule-governed sense

This study explores aspects of the context-dependence of lexically communicated meaning focusing on the specific case of modality in English. Given the flexibility of lexical concepts, one would want to know what it is about their semantic representation that allows them to receive multiple interpretations in context - or, to put it differently, what sorts of starting points are provided by grammatical information and how they are exploited by the pragmatic mechanisms of utterance comprehension. The chapters to follow argue for the role of pragmatic factors (and against polysemy) in explaining the plasticity of lexically conveyed information in modal expressions. The next section briefly presents the issues raised by the context-sensitivity of modal items and motivates the choice of modality as a testing ground for settling border disputes between lexical semantics and pragmatics.

1.1.2 The Problem of Modality

Modal expressions allow us to talk (and modal concepts allow us to think) about states of affairs which are not present in the current situation and may never occur in the actual world. In the linguistics literature, it is widely acknowledged that modal expressions may be used to communicate at least two broad clusters of meanings: *epistemic* modal meanings, which roughly deal with the possibility or necessity of an inference drawn from available evidence, and *deontic* modal meanings, concerned with the necessity or possibility of acts performed by morally responsible agents, e.g. obligation and permission (Lyons, 1977; Kratzer, 1981a; Palmer, 1986, 1990). The utterances in (4) and (5), on their preferred interpretations, are examples of epistemic and deontic modality respectively:

(4) a. You must be John's wife.
b. It may rain later in the afternoon.
c. Bioethics lectures should prove interesting.
d. Might I ask whether you are using the typewriter?
e. The sea ought to be visible from the balcony.
f. It is possible that the universe keeps expanding.

(5) a. Employees must feed the animals twice a day.
b. Whoever has finished may go.

---

extensions', see Apresjan (1973), Ostler and Atkins (1992), Copestake and Briscoe (1996), Fauconnier (1985, 1997). I return to examples of this type in section 1.2.1 below; see also 5.2.

c. You should be grateful to your parents for their support.
d. This book might serve as a good introduction to Picasso.
e. He ought to do as she says.
f. It is not possible to get a refund for used beddings.

Apart from the epistemic/deontic distinction, another main area of modal meaning is often recognised, *dynamic* modality, which includes the notional categories of real-world ability, possibility and intention/willingness (von Wright, 1951; Palmer, 1990):

(6) a. Ned can speak four languages.
b. When I was younger, I could run two miles every morning.
c. It is possible for multinational corporations to keep production costs very low.
d. I will become the best skier in the world.

A fourth class of modal interpretations includes *alethic* modality; this has been the traditional concern of logicians and philosophers and deals with absolute or logical necessity or possibility (von Wright, 1951):

(7) a. This conclusion is not necessarily false; in other models, it is actually true.
b. It must be the case that two plus two equals four.

Alethic modality belongs to the conceptual family of epistemic notions and can therefore be distinguished from deontic and dynamic modality. As for the last two types, they are normally grouped together under *agent-oriented* modalities (to be distinguished from *speaker-oriented*, i.e. epistemic, modalities - cf. Bybee and Pagliuca, 1985; Bybee *et al.*, 1994; Bybee and Fleischman, 1995a), or *root* modalities (Hofmann, 1966; Bybee, 1988a; Sweetser, 1988, 1990; Traugott, 1989). In the chapters to follow, I will generally adopt the root-epistemic distinction throughout; I will occasionally refer to dynamic modal readings as *simple root* interpretations.

As the above examples show, it is commonly the case in English that a single modal expression is capable of conveying both root and epistemic modal meanings. As Joos (1964: 195) put it, 'within the modal system English does not distinguish between duty and logic'. Interestingly, the same phenomenon seems to have a robust cross-linguistic presence: sample examples from other languages are given below (see also Fleischman, 1982; Perkins, 1983; Traugott, 1988; Traugott and König, 1991; Bybee *et al.*, 1994):

(8) German

a. Er muss bleiben.
He must-3pres.sing. stay-inf.
'He must stay'.

b. Er muss geheiratet sein.
He must-3pres.sing. married be-inf.
'He must be married'.

(9) Modern Greek

a. Prepi na figis.
Must-3pres.sing. to go-2pres.sing.subj.
'You must go'.

b. Prepi na ine megaliteros mu.
Must-3pres.sing. to be-3pres.sing.subj. older than me
'He must be older than me'.

(10) Gaelic (Adger, 1997)

a. Feumaidh thu seo a dheanamh.
Must you this A do-VN
'You must do this'.

b. Feumaidh gu bheil thu trang.
Must that be-pres.dep. you busy
'You must be busy'.

(11) Tamil (Palmer, 1986)

a. Kantacaami vantaalum vara-laam.
Kandaswami come-concess. come-perm.
'Kandaswami may perhaps come'.

b. veeŋum-ŋŋaakkaa naalekki avan peeca-laam.
Want-cond. tomorrow he speak-perm.
'If he wants, he can speak tomorrow'.

(12) Colloquial Cairene Arabic (Palmer, 1986)

a. Laazim tiXallas bukra.
Must you-sing.finish tomorrow
'You must finish tomorrow'.

b. Laazim jikuun hinaak.
Must he be there
'He must be there'.

Naturally, it is not the case that the forms used for root and epistemic modality are always identical in every language. For instance, in English, it is doubtful whether *can*, compared to *may*, has any genuine epistemic uses. An indication of the restrictions in the interpretation of can is given by the pair in (13):[4]

(13) a. I may have a pencil.
b. *I can have a pencil.

Moreover, there are various constraints on the distribution of modal interpretations, including notorious idiosyncrasy in the interaction of modality with negation (see chapter 3). Nevertheless, the root-epistemic alternation seems to be characterised by a sufficient amount of cross-linguistic regularity to deserve an explanation. Given the pervasiveness of the root-epistemic shift, the question naturally arises: What is the source of this alternation? Is it due to semantic encoding or to pragmatic aspects of utterance interpretation? Are modals lexically ambiguous, polysemous or unitary in meaning? More generally, what underlies the variability in modal interpretation including the subtle subtypes within the root and epistemic classes? Do natural languages grammatically distinguish among dynamic and deontic, or epistemic and alethic categories of modal meaning? Accordingly, how does semantically specified content interact with pragmatic mechanisms to yield the various types of modal interpretation in context? Consider the examples:

---

[4] Also: In Modern Greek, the verb *boro,* when denoting epistemic possibility occurs only in the 3rd person singular as an 'impersonal' verb (with no subject agreement); however, it appears with fully inflected forms (and subject agreement) in its root senses:

(i) a. I fitites bori na figun avrio.
The students *boro*-3sing.pres to leave tomorrow
'The students may leave tomorrow'.
b. I fitites borun na figun avrio.
The students *boro*-3pl.pres. to leave tomorrow
'The students can leave tomorrow'.

In colloquial Cairene Arabic, different forms are used for epistemic and root possibility (Palmer, 1986):

(ii) a. Ti?dari tifuuti min hina.
You-sing.can/may you.sing.pass from here
'You can/may pass through here'.
b. Jimkin jikuun hinaak.
Probable/probably he be there
'He may be there'.

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