3.   Implicature and explicature

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1.   Introduction

The explicature/implicature distinction is one manifestation of the distinction between the explicit content of an utterance and its implicit import. On certain 'minimalist' approaches, the explicit/implicit distinction is equated with the semantics/ pragmatics distinction or with Paul Grice's saying/implicating distinction. However, the concept of 'explicature', which belongs to the relevance-theoretic pragmatic framework, has closer affinities with the wider 'contextualist' perspective, according to which context-sensitive pragmatic processes make a much greater contribution to the proposition explicitly communicated than merely resolving ambiguities and providing referents for indexicals. Crucially, there are pragmatic processes of meaning enrichment and adjustment which have no linguistic mandate but are wholly motivated by considerations of communicative relevance. Two consequences of this are that (a) explicit utterance content can include constituents which are not articulated in the linguistic form of the utterance, and (b) certain Gricean implicatures are reanalysed as components of the explicitly communicated truth-conditional content. In this chapter, we outline the explicature/implicature distinction and highlight some of the issues it raises for semantic/pragmatic theorizing.

To get a preliminary idea of how the distinction between implicature and explicature works, consider what Amy communicates in the following exchange:

(1) Max: *How was the party? Did it go well?*
    Amy: *There wasn't enough drink and everyone left early.*

(2) THE PARTY DID NOT GO WELL[2]

It seems fairly clear that she is communicating (2). This is not something she says explicitly; rather, it is an indirect or implied answer to Max's question – a *conversational implicature*, as such implicitly communicated propositions are known. The hearer (Max) derives this implicated meaning by inferring it from the proposition which is more directly and more explicitly communicated by Amy, together with his readily available assumptions about the characteristics of successful versus unsuccessful parties (e.g. people tend to leave early when a party isn't very good). What is the more directly communicated proposition, the 'explicature' of the utterance? One possibility is that it is simply the linguistically encoded meaning of the sentence that she uttered, so it is the conjunction of the context-free meaning of the two simple sentence types:

(3) (i) THERE WASN'T ENOUGH DRINK (ii) EVERYONE LEFT EARLY

This is, undeniably, the most explicit component of the meaning of Amy's utterance, but it is very unclear what exactly it amounts to and it seems to lack the specificity of the understood content. For instance, the extension of the noun *drink* includes green tea, tap water, and medicines in liquid form, to mention but a few of the many drinks which are unlikely to be relevant in the context of Amy's utterance. Similarly, the linguistically encoded meaning of the bare quantifier *everyone* includes many people whom Amy has no intention of denoting. In the context of the dialogue above, it is clear that she intends to convey that everyone who came to the particular party that Max asked her about left that party early.

So, although the linguistic expressions employed by Amy, the words she actually uttered, have a meaning and that meaning is, arguably, the most explicit meaning that her utterance provides, it seems to be quite remote from the proposition that Max is likely to take her to have directly communicated (to have said, stated, or asserted). That seems to be more like the content in (4) (where the elements highlighted in bold all go beyond the encoded meaning of the linguistic expressions uttered):

(4) THERE WASN'T ENOUGH **ALCOHOLIC** DRINK **TO SATISFY THE PEOPLE AT THE PARTY**$_1$ AND **SO** EVERYONE **WHO CAME TO THE PARTY**$_1$ LEFT IT$_1$ EARLY.

This is the proposition on the basis of which Amy's utterance would be judged as true or false, would be agreed or disagreed with ('Yes, there was so little alcohol that we all had to go off to the pub', or 'No, not everyone left the party early and those who did had an exam the next morning'). Notice also that it is this proposition (and not the very general encoded linguistic meaning) which plays the crucial role of premise in the reasoning process which leads to the implicated conclusion that the party didn't go well. We take it that this (or something very similar to it) is the explicature of Amy's utterance.

The distinction between two kinds of communicated propositions, explicatures and implicatures, has been developed within the relevance-theoretic account of communication and utterance interpretation (Sperber and Wilson 1986/1995; Carston 2002; Wilson and Sperber 2004). This framework is resolutely cognitive-scientific in orientation: the central notion of informational 'relevance' which drives the account is defined in terms of the positive cognitive implications that a new input has in a cognitive system weighted against the costs (in such resources as attention, inferential effort, etc.) that it imposes on that system. The greater the range of cognitive implications and the lower their cost, the more the relevance of the input. Verbal utterances and other kinds of ostensive communicative acts are special inputs in that there is an inevitable presumption that they will be 'optimally relevant', that is, they will provide at least a sufficient array of cognitive implications and other positive cognitive effects to offset the processing effort they

require.[3] It is in the (non-demonstrative) inferential process of looking for an interpretation consistent with this presumption that a hearer derives an explicature, by enriching and modulating the conceptual schema provided by decoded linguistic meaning. This occurs in parallel with the derivation of implicatures (cognitive implications manifestly intended by the speaker), and the two kinds of propositional meanings are mutually constraining. The ultimate interpretation should be one in which the explicature together with intended contextual assumptions provides an inferentially sound basis for the implications derived.

In this paper, we look in detail at some of the particular micro-processes involved in the online, relevance-driven derivation of explicature and implicatures. But before that, we set out some background intellectual history tracing the development of the concept of implicature. It did not arise within linguistics or cognitive science but within the philosophy of language, where its main purpose was to help in the delineation of a favoured notion of 'semantic content'. Its subsequent adoption into the cognitively-based relevance-theoretic account of communication where it is placed in opposition to explicature rather than semantics has naturally led to its being somewhat altered with regard to the domain of utterance meaning it encompasses and the role it plays.

2.   How it all began: semantic content and implicature

In his 'logic of conversation', Paul Grice (1967/89) sought to separate out the semantic content of an uttered sentence, i.e. what it says, from any other thoughts and ideas that a speaker might mean or communicate by her action of uttering the sentence. His collective term for all those extra or secondary meanings that might be conveyed was 'implicature', where implicatures are intended propositional components of the utterance's overall significance but are not the basis on which the utterance is judged as true or false.

Implicatures can arise in two ways: via presumptions concerning rational communicative behaviour or via certain linguistic conventions. The implicature of (5) is an example of the first sort, a 'conversational' implicature, and the implicature of (6) is an example of the second sort, a 'conventional' implicature (see Huang, this volume, and Moeschler, this volume, for more details):

(5) *That material looks red to me.*
   Implicature: THERE IS SOME DOUBT ABOUT WHETHER THE MATERIAL IS RED OR NOT.

(6) *Mary is a housewife but she is very intelligent.*
   Implicature: THERE IS A CONTRAST OF SOME SORT BETWEEN BEING A HOUSEWIFE AND BEING VERY INTELLIGENT.

With (5), the idea is that if the speaker was completely certain of the redness of the material she should have made the more informative statement that the material *is* red; since she did not and since, other things being equal, speakers are expected to be as informative as they can relevantly be, she must be implicating that there is some doubt about the redness of the material. Thus this conversational implicature follows from one of the several conversational maxims that Grice sets out as regulating rational communication (Grice 1975). Note that the proposition in (2) above, implicated by Amy in her response to Max in (1), is also a conversational implicature, one that would be dependent on Grice's conversational maxim of relevance. He drew a further distinction among conversational implicatures between 'generalized' ones, such as (5), which arise across a great many contexts of use and 'particularized' ones, such as (2), which are dependent on the properties of specific, often one-off, contexts, in this case the conversation about a particular party. Whether Grice intended this generalized/particularized distinction to carry any theoretical weight is unclear, but, as we will see when we move to the explicature/implicature distinction, it turns out that the status of many of the generalized cases is quite controversial. With (6), on the other hand, the implicature does not depend on any conversational presumptions and occurs across all contexts because it is generated on the basis of the conventional linguistic meaning of the connective *but*.

In all these cases, the meaning allegedly implicated is separated off from the primary meaning, that is, the semantic content of the uttered sentence, which is the propositional content on the basis of which the utterance is judged as true or false. In the case of (5), this propositional content is that the material in question appears to the speaker to be red, so if the speaker is, in fact, in no doubt that the material is red, her utterance is somewhat infelicitous or inappropriate, but she has not spoken falsely on that basis. In the case of (6), the propositional content is that Mary is a housewife and she is very intelligent, and, again, if there is, in fact, no contrast between these two properties, the utterance is not thereby made false, though it is certainly inappropriate and very misleading.

In Grice's account, what implicatures of any stripe are set apart from is 'what is said' by a speaker, which Grice took to be the truth-conditional content of the utterance. What is said is determinable from the conventional linguistic meaning of the sentence uttered together with some minor context-dependent considerations, specifically, selection of the occasion-specific sense of any ambiguous words or structures and fixing of referents of indexical elements. The centrality of this semantic 'what is said', the proposition expressed by a sentence, goes back some way in the history of the philosophy of language, to at least Frege, Russell and Carnap. They were first and foremost logicians, interested in the syntactic and, especially, the semantic properties of formal languages, such as the predicate calculus. However, they extrapolated from these artificial languages to human (natural) languages, which they assumed would be found to have the same fundamental properties, abstracting away from such imperfections as ambiguity and vagueness. So,

just as the semantics of logical formulae was taken to be a matter of how the external world must be for them to be true (that is, their truth conditions) and the semantics of logical connectives such as '&', 'v', '→' was fully captured by truth tables, it was assumed that natural language sentences also have truth conditions and natural language connectives such as *and*, *or, if … then* are truth-functional. The presence within natural languages of such elements as indexicals which depend on a context of use for their 'semantic value' was seen as an interesting extra issue to be dealt with but not a threat to the overall picture. Adherence to truth-conditional semantics and to explicit logical formalism continues today in contemporary formal semantic work on natural languages.

This 'ideal language' approach was challenged by Austin, Strawson and the later Wittgenstein, who developed the 'ordinary language' approach, aimed at describing natural language phenomena rather than forcing them into the logical mould. They rejected the equation of sentence meaning with truth conditions, maintaining that although a sentence abstracted from use has a meaning, it is only in the context of a speech act (an utterance) that it expresses a proposition and so has truth conditions; it is the statement thus made that has truth conditions, the sentence *per se* does not. This aspect of ordinary language philosophy is very much reflected in the relevance-theoretic framework according to which sentence meaning is not truth-conditional but provides merely a template or schema which is contextually enriched on an occasion of utterance into a complete proposition, a proposition which the speaker has explicitly communicated (the explicature of the utterance).

A second aspect of the descriptive investigative work of the 'ordinary language' philosophers was the close observation of the meaning of words as used in ordinary communication. This included attention to a range of linguistic expressions that lay beyond the reach of the truth-conditional paradigm, including such connectives as *but*, *yet*, *despite*, *after all*, *whereas*, *moreover*, *so* and *anyway*, sentence adverbials like *frankly*, *seriously*, *evidently*, *unfortunately*, and *incidentally*, and such discourse elements as *alas*, *indeed*, *oh*, *for goodness sake*, and *well*. Quite a few of these seemed explainable in speech act terms; for instance, *but* in (6) above could be characterized as introducing a second-order speech act of contrasting the two first-order speech acts of stating ('Mary is a housewife' and 'Mary is very intelligent'); *seriously* could be characterized as modifying the speech act a speaker is performing, e.g. an act of asserting ('Seriously, you will regret this') or an act of requesting information ('Seriously, where is my key?') (for discussion, see Ifantidou 2001).

This focus on language in use also led to a reappraisal of analyses of words whose semantics was of central importance within the formal truth-conditional paradigm. Strawson (1952) pointed out that the natural language counterparts of logical connectives are often used with much richer (non-truth-functional) meanings than their counterparts in logical languages, such as the temporal and causal

connotations of many instances of sentences conjoined with *and* (e.g. *She insulted him and he resigned*), the implication often carried by conversational disjunctions that the speaker's grounds for uttering a sentence of the form '*P or Q*' are not that she knows P to be true or that she knows Q to be true, but that she has some other (non-truth-functional) basis for her utterance. Close attention to a range of predicates led to strong views on their precise meanings and thus on how they ought to be used: the word *know* should not be used about certainties (e.g. *I know this is my hand* is a misuse), the word *try* only applies if there is some difficulty, the phrase *looks to me* (as in (5) above) is used only when there is some doubt about the reality, and so on (for discussion, see Travis 1991).

Initially, the two approaches, the truth-theoretic and the use-theoretic, were seen as diametrically opposed and exclusive: either you analyse natural language meaning in the logical truth-conditional way or you describe it as it occurs and is understood in everyday use. One of Grice's great contributions was to bring the two traditions together into a complementary rather than rivalrous relation. His own formative philosophical development lay within the ordinary language camp, and its emphasis on speaking as an action (rationally-based and with consequences) is evident throughout his work on implicature. However, his saying/implicating distinction and his analyses of particular natural language words, including the connectives and quantifiers, are informed by insights from both traditions. He insisted – against the central tenet of most ordinary language theorists – that it is important not to equate meaning and use (Grice 1967/89: 4); in other words, he distinguished semantics and pragmatics. So, in the case of (5) above, someone who utters *it looks red to me* when she has absolute certainty about the redness of the item in question may, in many contexts, be somewhat misleading, saying something weaker than she could have said, given the state of her knowledge; nevertheless, the proposition that comprises the semantic content of her utterance, what she has said (as opposed to what she merely implicated), namely, that the item in question looks red to her, is true. Most important for Grice's case here is that the implication of doubt or uncertainty is cancellable: it is possible to conceive of a context in which what is at issue is people's perceptions, how things look or sound or feel to them, in which case the utterances *X feels hot to me* and *Y looks red to me* would not carry any implications of doubt or uncertainty. Thus, those implications, prevalent though they may be, are not part of the meaning (the semantics) of those words, not part of what is said by them; when they do arise they are a product of speaker-hearer assumptions about normal conversational use.

The explanatory power of an account that combines logico-semantic analysis with considerations of language use is particularly well-exemplified in Grice's treatment of the connectives *and* and *or*. Their semantics, he argues, is identical with that of their logical counterparts, hence truth-functional, and the stronger implications that they seem to have in many contexts can be explained by the 'logic of conversation':

(7) *Amy insulted Max and he resigned.*
   Propositions meant:
   a. Amy insulted Max & Max resigned
   b. Max resigned after Amy insulted him
   c. Max resigned because Amy insulted him

(8) *Max is working on his lecture or he is watching TV.*
   Propositions meant:
   a. Max is working on his lecture ∨ Max is watching TV
   b. Max is not both working on his lecture & watching TV
   c. The speaker doesn't know that Max is working on his lecture
   d. The speaker doesn't know that Max is watching TV

In each case, on Grice's account, the proposition that constitutes the semantics of the utterance (what is said) is the first one and all the others are conversational implicatures. Various conversational maxims play their part in the (non-demonstrative) inference process by which these implicatures are derived: the maxim of orderliness for (7b), probably the maxim of relevance for (7c), the maxim of informativeness for (8b)–(8d).[4] One of the great strengths, in Grice's opinion, of an account which distinguishes the statement made by an utterance (hence its semantics) from its implicatures is that it allows for the very general patterns of valid inference formulated within the logical semantic tradition to be carried over into the semantics of natural language (for discussion, see Grice 1975: 41–43).

   Thus, in Grice's conception of 'what is said' we see the preservation of a notion of semantic content much akin to that of Frege and Russell, that is, closely tied to the context-free semantics of the words in the uttered sentence with only a very minimal context-dependent component, restricted to choosing between the senses of ambiguous words and supplying values for indexicals, both apparently achieved on the basis of best contextual fit (Grice 1975: 44). However, Grice's 'what is said' has another important property that distinguishes it from truth-conditional sentence meaning. His interest in language in use, in actions performed by speaking, such as asserting something or implicating something, required that, for him, 'what is said' by an utterance must be a component of speaker meaning (also referred to as *meaning-intended*, or *m-intended*, content), that is, it is overtly endorsed by the speaker.[5] Hence what is said and what is implicated together constitute what the speaker meant by her utterance (for discussion, see Neale 1992; Recanati 2004: chapter 1).

3.   From 'what is said' to explicature

The two-fold nature of Grice's 'what is said' is reflected in the fact that Griceans sometimes talk of what the speaker says and sometimes of what the utterance or the words themselves say. Unfortunately, this very combination of features – speaker

meantness and a minimalist, albeit truth-conditional, semantics – in a single notion leads to a problem. It seems that quite often what a speaker says and means is something more specific than that which results from the minimal identification processes that Grice allowed for in arriving at what is said. Consider (9):

(9) *It's snowing*.

What sentence semantics (linguistic conventions, in Grice's terms) plus values for indexical elements delivers is, at most, the proposition that, say, IT IS SNOWING AT MIDDAY ON 31 MARCH 2010. But is this the proposition that the speaker asserts (explicitly communicates)? Consider an utterance of (9) as a response to an enquiry about why the speaker, who is in London, has abandoned plans to go for a run in the local park. It does not seem that the speaker intends to 'say'/assert/express the proposition that it is snowing *tout court* (that is, just anywhere): If it is snowing in Oslo, that fact would not make this particular utterance of (9) true. What makes it true is that it is snowing in London, which suggests that a specific location-of-snowing constituent, despite apparently not being the value of anything in the linguistic form, is part of what is said, rather than being merely implicated.

   Here is another example, well-known in the literature (see Bach 1994), which illustrates the same problem:

(10) Mother (to child crying over a cut on his knee): *You're not going to die*.
   a. YOU (BILLY) ARE NOT GOING TO DIE FROM THAT CUT
   b. YOU (BILLY) SHOULD STOP MAKING SUCH A FUSS ABOUT IT

What the mother means (what she intends to communicate to the child) is given in (a) and (b), where (b) is clearly an implicature and (a) seems to be what she has said (explicitly communicated). But the proposition delivered by conventional linguistic meaning and the assignment of a referent to the pronoun *you* (hence the Gricean 'what is said') is BILLY IS NOT GOING TO DIE, which seems to entail that Billy is immortal, something that the mother has no intention of conveying.

   What these examples indicate is that it is just not generally right that what a speaker says (and means) is as close to the semantics of the sentence uttered as Grice's definition of 'what is said' requires (Grice 1975: 44). In other words, it is not the case that a single level of meaning can do double duty as both sentence semantics and speaker-meant primary meaning (explicitly communicated content). Faced with this dilemma, there are essentially three moves that different theorists have made. The first is to maintain the traditional minimal truth-conditional semantics and drop the requirement that it be speaker-meant (communicated); the second is to make the opposite move, that is, maintain a level of meant/communicated content that is distinct from merely implicated content and accept that this may require much more elaboration of the linguistic meaning than Grice allowed; the third is to separate the two Gricean requirements on 'what is said' and have both a truth-conditional semantic content (which is not a part of speaker meaning)

and a fully pragmatic (speaker-meant) notion of 'what is said'. For discussion of these options and their takers, see Carston (2004a) and Recanati (2004: chapters 2 and 4). The relevance-theoretic approach that we support takes the second option: we see the explicit-implicit distinction as a *communicative* distinction – a distinction between two types of communicated assumptions or thoughts[6]. As our discussion of examples (1), (9) and (10) indicates, the explicitly communicated content may go well beyond Grice's what is said.

Before looking at the kinds of pragmatic processes that can contribute to the content of an explicature we need to say something about our view of linguistic meaning or sentence semantics. The label 'semantic minimalism' has been appropriated by philosophers who take a resolutely truth-conditional stance on sentence meaning (Borg 2004; Cappelen and Lepore 2005), but, in fact, our relevance-theoretic view of the linguistic semantics on which pragmatics builds in constructing an explicature is even more minimalist. The view is that, typically, context-free sentence meaning is subpropositional (does not determine a fully truth-conditional content) and provides a schema or set of clues that constrains the occasion-specific pragmatic process of determining the proposition the speaker explicitly communicated. This view marks a strong shift away from the traditional ideal language philosophy of Frege and Russell to a much more cognitive, empirically-informed position. The cognitive turn in linguistics spearheaded by Chomsky (1980, 2000), experimental work on language processing (Swinney 1979; Altmann and Steedman 1988, among hundreds of others), and hypotheses about cognitive architecture emerging from both philosophy of mind (Fodor 1983, 1987) and evolutionary psychology (Cosmides and Tooby 1994; Sperber 1994, 2002) have converged on a view of the mind as consisting, in large part, of modular systems each dedicated to dealing with a particular problem that human minds confront. These include an array of perceptual modules, systems for spatial reasoning, a language faculty (dedicated to decoding linguistic forms), and a cluster of systems dedicated to social cognition, including a mental state interpreter (a system or systems that attribute intentions, beliefs, motives, etc. to others) and, perhaps as a submodule of this, a system that interprets ostensive stimuli, that is, a pragmatics module, which recovers the content of speakers' communicative intentions. Within this cognitive landscape, sentences (linguistic entities) and acts of ostensive communication (whether verbal or non-verbal) fall in the domain of distinct, albeit interfacing, systems. The language faculty operates in accordance with its own parsing procedures, which are encapsulated from general world knowledge, and delivers a logical form, that is, a non-propositional conceptual representation, generated entirely from the context-free meaning of lexical items and the syntax of the sentence uttered. This is a vital input to the pragmatic processor, which uses it, together with a circumscribed set of contextual assumptions, to construct the explicatures and implicatures of the utterance. For further discussion, see Sperber and Wilson (2002) and Wilson and Sperber (2004).

The emphasis in cognitive science is on the nature of the faculties of the human mind/brain that house our linguistic and interpretive abilities and on the mechanisms that do the work of comprehension, a quite distinct set of concerns from those of the anti-psychological 'ideal language' philosophers. However, alongside these trends in cognitively-based research, there have been some roughly parallel developments in the philosophy of language. Kaplan's (1977/89) distinction between the character and content of linguistic expressions parallels the cognitivist distinction between context-invariant, encoded (or standing) linguistic meaning and the content inferred in specific contexts.[7] And the 'contextualist' semantics stance, that word meanings quite generally (not just indexicals) are highly context-sensitive (Searle 1978; Travis 1985; Recanati 1993, 2004) and so may make different contributions to truth-conditional content on different occasions of their use, is very much at one with the relevance-theoretic view on explicitly communicated utterance content, as will be evident in the next section.

4.   The pragmatics of explicature

On the cognitive pragmatic approach that we endorse, the explicit content of an utterance (its explicature) is taken to be that content which ordinary speaker-hearer intuitions would identify as having been said or asserted by the speaker. In section 5, we discuss the role of intuitions as a criterion for drawing the distinction between explicature and implicature. In this section, we look at a range of examples which, together with (1), (9) and (10) above, indicate the extent and kinds of contributions that pragmatics may make to the explicature of an utterance. Clearly, disambiguation and the assignment of context-specific values to indexicals and demonstratives are essential pragmatic processes in ascertaining the explicitly communicated content. On this, we agree with Grice and virtually everybody who has discussed the proposition explicitly expressed or communicated by a speaker. So, in the following subsections, we focus on pragmatic contributions to explicature which go well beyond the effects of those two obvious processes.

4.1.   Linguistically unarticulated constituents of content

In the following examples, the sentence uttered is given in (a) and a likely explicature of the utterance (dependent on context, of course) is given in (b):

(11) a. *No-one goes there anymore*.
     b. Hardly anyone of any worth/taste goes to location$_x$ any more

(12) a. *There's milk in the fridge*.
     b. There's milk of sufficient quantity/quality for adding to coffee in the fridge$_y$

(13) a. Max: *Would you like to stay for supper.*
             Amy: *No thanks, I've already eaten.*
       b. AMY HAS ALREADY EATEN SUPPER THIS EVENING

Intuitively, the speaker of (11a) does not assert that no-one (that is, not a single person in existence) goes to the place in question, which is what seems to be predicted by a strictly Gricean account; rather, she is directly communicating that very few people of a particular sort (important, fashionable, etc.) go to the place in question these days. This is the content with which other people may express agreement or disagreement, on which the truth or falsity of the utterance would be judged, and which would ground a possible implicature that the speaker doesn't want to go there. In the case of (12), the presence of just a few stale drips of milk on the bottom shelf of the fridge would be compatible with the conventional/encoded linguistic meaning of the utterance, but in a context in which the participants are intent on having a cup of coffee a more specific enriched conception of 'milk in the fridge' is inferred and contributes to the proposition explicitly communicated.

These examples, like several of the earlier ones (see (1), (9) and (10) above), suggest that there are explicatures which include constituents of content that do not appear to be the value of any element in the linguistic form of the utterance; for instance, the causal component in (1), the location in (9), the object of eating in (13). Such constituents have been the subject of extensive debate in recent years, concerning their source and the processes that are responsible for their recovery. One way of accounting for these elements is to assume that there is a lot more linguistic structure in the utterances than meets the eye (or ear). The proposed structure takes the form of covert indexicals attached to the relevant (overt) linguistic items, or parameters in the lexical semantics of the linguistic expression, requiring a particular type of value to be assigned. For example, the domain restriction on the quantifier in (11) (and perhaps (12)) would arise as the result of saturating an indexical that is encoded in the noun phrase,[8] while the location constituent in (9) would be the value assigned to a location variable encoded with meteorological verbs or to an event variable that accompanies predicates quite generally.

According to our cognitive pragmatic stance, it is quite possible that these elements of content are supplied by a process of 'free' pragmatic enrichment. Such a process is wholly pragmatic in that, not only is the specific content recovered pragmatically, but the motivation for its recovery is entirely pragmatic, that is, it is driven by the search for an interpretation that is consistent with the presumption of optimal relevance. If this is right, then there are cases of genuinely 'unarticulated constituents', that is, constituents of explicature content that are not just unpronounced but are not present at any level of linguistic representation, where, by 'linguistic', we are referring to the processes or representations of the language faculty, free from any pragmatic influence.

There is a vigorous ongoing discussion about whether it is extensive covert linguistic structure (plus pragmatic saturation) or a process of free pragmatic enrichment that is responsible for the recovery of these non-phonologically-realized constituents of content. Both sides of the debate have developed various criteria and tests for deciding in particular instances whether the content is linguistically mandated or pragmatically motivated. We cannot review this extensive literature here, but it seems clear that the decision will have to be made on a case by case basis. As things stand, it looks as if some cases will be best explained in terms of covert linguistic structure (the domain restriction on quantifiers, for instance), while in other cases there is just no linguistic evidence for a covert linguistic element underpinning the content in question (for instance, the causal component in the explicature of certain cases of *and*-conjunction, such as example (1)). For strong representatives of the covert linguistic structure view, see Stanley (2000, 2002), King and Stanley (2005) and Martí (2006); for the opposing pragmatic view, see Carston (2000), Recanati (2002), Wilson and Sperber (2002), Hall (2008a, 2008b).

A case that has received considerable attention is the location constituent in utterances about the weather (or other atmospheric conditions), such as (9), repeated here:

(9) *It's snowing*.

It seems at first blush that this is a good candidate for the presence in linguistic logical form of a covert location indexical which has to be given a value in context. Its apparent obligatoriness makes it like cases of overt indexicals that have to be pragmatically saturated in context:

(14) *She put it there*.

Arguably, for a full understanding of what a speaker of this sentence has explicitly communicated, a hearer needs to be able to supply a value for all the overt indexical elements: *she*, *it* and *there*. If he can't do this, if, for instance, the proposition that he derives is that a particular individual, Mary, put something on a particular table, he won't have recovered the proposition expressed; he needs to find the intended referent of *it*. However, several authors (e.g. Recanati 2002, 2007a; Cappelen and Hawthorne 2007) have argued that the provision of a location with weather verbs is optional. For instance, it doesn't seem to be required in the following cases:

(15) *Once, in the middle ages, it rained constantly for 100 years.*
(16) *Why does it rain? It rains because water vapour in the air condenses and […]*

While it is true that the majority of uses of weather predicates are understood as communicating a location, (15) and (16) demonstrate that this is not mandatory. It is, then, highly unlikely that the logical form of weather predicates contains a covert indexical demanding saturation on every occasion of utterance.[9] That the lo-

cation is so frequently communicated is because the relevance of an episode of snowing or raining most often turns on its location: the motivation for the hearer to infer it comes not from the linguistic system, but from the fact that the implications he is most likely to draw from weather information concern its effects on the particular place and its inhabitants.[10]

Furthermore, there is a range of other cases where a communicated element which is part of the explicature (the intuitive truth-conditional content) of the utterance cannot be accounted for by positing some element of hidden linguistic structure. This includes cases of deferred reference or metonymy, such as (17a), where the definite description is taken to refer to the customer who ordered the ham sandwich, and (17b), where the predicate *parked out back* cannot literally apply to the subject *I*, and referential uses of definite descriptions quite generally, as in (17c), which expresses a singular (non-descriptive) proposition: *a* IS OUR NEW EDITOR. There are also a lot of cases where the minimal (unintuitive) proposition, derivable on the basis of the encoded linguistic content and reference assignment alone, is either trivially true or patently false, as in (17d) and (17e):

(17) a. *The ham sandwich wants his bill.*
   b. *I'm parked out back.*
   c. *The woman standing in the doorway is our new editor.*
   d. *That guy has a brain.*
   e. *She isn't a human being.*

So even if some phenomena, such as quantifier domain restriction, turn out to be better analyzed as involving saturation of hidden indexicals, examples such as these strongly suggest that, in the end, free pragmatic enrichment cannot be entirely avoided and everyone who recognizes this speaker-meant level of explicit content will need an account of it.

Nevertheless, those of us who advocate free pragmatic enrichment still have some work to do to shore up our position against criticism from the hidden indexicalists. The key objection, made most explicitly by Stanley (2002), is that the process of free enrichment is not sufficiently constrained, allowing for enrichments that clearly do not occur. Two examples of the kind of overgeneration he presents are given in (18) and (19). According to the pragmaticist, an utterance of the sentence in (18a) could communicate the explicature in (18b) in an appropriate context, the quantifier domain having been supplied by a process of free pragmatic enrichment. Stanley's question, then, is what prevents that same pragmatic process from supplying the constituent [OR DUTCHMAN] so that the utterance is predicted (wrongly) to communicate the proposition in (18c) in a context in which it would be relevant. Similarly, free enrichment should enable, he says, an utterance of the sentence in (19a), in a context in which it is common ground that John likes his mother, to communicate the explicature in (19b), which, however, it clearly does not:

(18) a. *Every Frenchman is seated*.
    b. Every Frenchman in the class is seated
    c. Every Frenchman or Dutchman in the class is seated

(19) a. *John likes Sally.*
    b. John$_i$ likes Sally and his$_i$ mother

This overgeneration objection is potentially serious and it has been addressed in some detail by Hall (2008a, 2008b, 2009), who sets out to show that a relevance-theoretic account of free pragmatic enrichment would not make the alleged predictions. We cannot review the arguments here (though the distinction we make in section 5.2. between local and global processes is relevant to the issue), but what emerges clearly from Hall's discussion is that when proper attention is given to the nature of the principles and processes at work in pragmatics, 'free' enrichment is in fact quite tightly constrained.

4.2.   Pragmatic adjustment of word meaning

The controversy about the existence of a pragmatic process of free enrichment has focussed mainly on unarticulated constituents – cases where there is a component of the explicature which is not the value of any element of the linguistic form. However, it has been claimed that there is another pragmatic process contributing to explicature that is not linguistically mandated and therefore can also be considered a kind of free enrichment. This is the process of adjusting or 'modulating' lexically encoded meanings, so that the concept understood as communicated by the use of a word differs from the concept encoded – it may be narrower or looser, or some combination of the two. Consider some examples:

(20) *To buy a house in London you need money.*

(21) Max: *Would you like to go to a club tonight?*
    Amy: *I'm tired. Let's go to a movie.*

(22) *I'll put the empty bottles in the garbage.*

(23) *The water is boiling.*

Grasping the proposition explicitly communicated by these examples is very likely to involve an optional process of meaning modulation (of the concept encoded by the underlined word in each case). In most contexts, the proposition that buying something requires (some/any amount of) money will be trivial and uninformative, so the lexically encoded concept money is likely to be narrowed to a concept, represented as money*, that denotes just those quantities that would count as sufficiently large amounts of money in the context of house-buying. Similar comments apply to Amy's response in (21); the concept she communicates with the word *tired*

is more specific than the very general encoded concept TIRED, which includes states of exhaustion which would preclude doing anything other than lying down to sleep. The examples in (22) and (23) appear to require a different sort of adjustment: imagine (22) uttered in a context where people are clearing up the morning after a party, so that many of the bottles to be put in the garbage may contain the dregs of wine or beer and various other items of debris, so are not strictly and literally empty. Here the communicated concept EMPTY* has a broader denotation than the encoded concept EMPTY. A similar point can be made about (23), which might be used to communicate any of a range of broader concepts than the encoded one: it might be a rough approximation (the water is near enough to boiling for the difference not to matter for current purposes) or a hyperbolic use as when someone utters it upon stepping into bath water that is a bit too hot for an entirely comfortable immersion.

The general consensus is that these meaning modulations affect the explicature, that is, the proposition that the speaker communicates directly and that grounds any implicatures of the utterance. If this were not the case – if these pragmatically derived concepts were themselves registered only at the level of implicature – then we would expect that many of them, particularly the examples involving concept broadening, would be judged false. Yet, intuitively, this is not the case: someone who, in the context described just above, includes in the denotation of *empty* bottles, some that contain a few millilitres of flat beer, would not be judged to have spoken falsely and only *implicated* that the bottle is near enough to being empty that it can be thrown out. Recently, it has been argued by both relevance theorists and some philosophers of language that many instances of metaphorically used words can be explained in the same way, that is, as cases whose comprehension is achieved by an adjustment of the literal encoded concept, resulting in a radical broadening of denotation with often some degree of narrowing as well (Bezuidenhout 2001; Carston 2002; Wilson and Carston 2006, 2007).

Attempts to give an account of these lexical modulation processes are recent and have raised many issues that remain to be investigated in detail (see the discussion in Carston 2010). One interesting question is the nature of the input to the process – that is, the nature of word meanings themselves. In the discussion so far, we have gone along with the view that most open-class words (nouns, verbs, adjectives) encode concepts, but the idea that words might not encode full-fledged concepts but something more like constraints, instructions for building concepts, or rules for use, has been gaining popularity recently (for discussion, see Carston 2002: chapter 5.4.; Pietroski 2005; Recanati 2004: chapter 9; Bosch 2007). What motivates this view is chiefly the observation that understanding the intended meaning of a word quite typically requires some degree of modulation of its encoded meaning. In many cases, words appear to encode something too abstract to serve as a constituent of a thought, hence of a communicated proposition (see the discussion in Searle (1983) of the verbs *open* and *cut*, and in Carston (2002) of adjectives like *happy*). Given the ubiquity of modulation, an appealing view is that

word meanings are far more schematic and abstract than full-fledged concepts, and, therefore, on every occasion of understanding a word a pragmatic process of concept retrieval or construction is required. Of course, if this view of the nature of word meaning is correct, then modulation would not be a 'free' pragmatic process because the underspecified lexical encoding would make the process obligatory.

Another development enabled by the recognition of lexical pragmatic adjustment as an important contributor to explicature is the reanalysis of several of the cases previously taken to be instances of unarticulated constituents. For example, cases such as (17d), which might previously have been analysed as expressing THAT GUY HAS A BRILLIANT BRAIN, or (20) as YOU NEED A LOT OF MONEY, have been recast as cases of modulation of the lexical concepts BRAIN and MONEY. This raises the question of how many more of them it is possible to reanalyze in this way, and thus, whether there will turn out to be any truly 'free' (hence optional) pragmatic processes at the level of explicature at all. If all cases previously thought of as unarticulated constituents could be reanalyzed as cases of lexical concept adjustment, this would enable an isomorphic structural relationship between linguistic logical form and explicature to be maintained. Such an outcome should find favour with the semanticists mentioned above (Stanley, Martí) who are concerned about the violation of semantic compositionality that the existence of unarticulated constituents would entail (see note 10). At the same time, though, such a move would seem to result in pragmatic inference being even more pervasive in determining explicit content, since it makes what Carston (2010) calls 'pragmatic susceptibility' (to distinguish it from the linguistically indicated context-sensitivity of indexicals) a property of virtually every expression in the language. However, while this is in many ways an appealing way to go, there are some cases for which it does not look plausible. Consider again the case of weather predicates, discussed earlier, where a particular utterance of (24a) has the explicature in (24b):

(24) a. *It's snowing.*
     b. IT'S SNOWING IN LONDON AT TIME *t*

It is at least very counter-intuitive (and no-one has tried to argue for it) that SNOWING-IN-LONDON is a single concept that results from pragmatic modulation (narrowing) of the lexical concept SNOWING. Similar remarks apply to the explicature of certain *and*-conjunction utterances, such as the cause-consequence interpretation in (1). So it seems that some cases are likely to remain best analyzed as instances of unarticulated constituents.

4.3.   Reconstrual of some cases of Gricean implicature

What should be clear from the discussion in the two preceding subsections is that explicatures can contain a great deal more pragmatically inferred material than Grice allowed for in his 'what is said'; as well as processes of disambiguation and

indexical saturation, there is a range of pragmatic processes that enrich or otherwise modify linguistically encoded content in the course of recovering the proposition understood to have been explicitly communicated.[11] As we will discuss in more detail in the next section, this view of explicit utterance content has implications for some of Grice's key cases of conversational implicature. Consider the following:

(25) a. *I've read some of Deirdre Wilson's papers.*
    b. I HAVEN'T READ ALL OF DEIRDRE WILSON'S PAPERS

(26) a. *Hannah reported Joe for misconduct and he was fired.*
    b. JOE WAS FIRED AS A RESULT OF HANNAH REPORTING HIM FOR MISCONDUCT

In many contexts, an utterance of (25a) will communicate the proposition in (25b), and, in many contexts, an utterance of (26a) will communicate (26b). Neither of these appears to be the result of a linguistically mandated process of variable saturation and Grice treated them as cases of conversational implicature. Note that both fall into his category of 'generalized' implicatures: although they are not inevitable and can be cancelled without contradiction (e.g. *I've read some of Deirdre Wilson's papers – in fact, I've read all of them* is a consistent utterance), they would occur across the majority of contexts of utterance. This is reflected in the fact that we can present the sentences uttered in (25a) and (26a) without indicating any previous discourse or other contextual specifics and assume readers will agree that the propositions in (25b) and (26b) are likely to be inferred in each case. This distinguishes them from particularized implicatures, as in (1), (2) and others to be seen shortly.

Once it is recognized that there is far more linguistic underdeterminacy of content than was envisaged by Grice, the status of these elements of meaning becomes much less clear, since it is quite possible that they are in fact constituents of explicature. The price we pay, then, for such a pragmatic conception of explicit utterance content is that it is no longer always a straightforward matter to distinguish which elements of speaker meaning are implicatures and which belong to explicature. In the next section, we consider some of the various tests and criteria that have been proposed for drawing the explicit-implicit distinction.

5.   Explicature/implicature – How to draw the distinction

5.1.   Intuitions and tests

Explicatures and implicatures are characterized as follows within relevance theory:

> An assumption communicated by an utterance *U* is explicit (hence is an *explicature*) if and only if it is a development of a logical form[12] encoded by *U*, where explicitness is a matter of degree: the greater the contribution of encoded meaning the more explicit the

> explicature is and the greater the contribution of pragmatically inferred content the less explicit it is. Any assumption communicated, but not explicitly so, is implicitly communicated: it is an *implicature*. (Sperber and Wilson 1986/1995: 182)

These definitions are fine as far as they go, but they do not provide us with a clear criterion for deciding, in any particular case of pragmatically derived meaning, whether it constitutes a distinct implicitly communicated proposition (an implicature) or a pragmatic contribution to explicature. For instance, how can we tell whether the 'not all' meaning in (25) above and the inferred cause-consequence relation in (26) are developments of the logical form of the sentence uttered or are distinct implicated propositions?

In this case, there is strong consensus that (27c), rather than (27b), is what was said or explicitly communicated. But there are many cases where intuitions are less consistent:

Like relevance theorists, Recanati (1989, 1993, 2004) is a long-term advocate of a pragmatically enriched level of communicated content, which he often refers to as the '*intuitive* (or enriched) what is said' or the '*intuitive* truth-conditional content' of the utterance, distinguishing it from Grice's minimalist semantic notion. He has, in fact, elevated the status of native speaker intuitions about this to the level of a criterion for distinguishing explicature (enriched what is said) from implicature: "***Availability Principle***: In deciding whether a pragmatically determined aspect of utterance meaning is part of what is said, that is, in making a decision concerning what is said, we should always try to preserve our pre-theoretic intuitions on the matter" (Recanati 1989: 309–10; 1993: 248). The principle yields clear results for many cases of particularized implicatures, such as Amy's indirect answer given in (2) above, for which there is a consensus of intuitions that it falls outside what is said. But since there are no conflicting predictions among different theories for cases like this, the criterion isn't really doing any work here. Consider a slightly more contentious case:

(27) a. *Robert broke a finger last night.*
    b. ROBERT BROKE A FINGER, EITHER HIS OWN OR SOMEONE ELSE'S, ON NIGHT *n*.
    c. ROBERT BROKE HIS OWN FINGER ON NIGHT *n*.
    d. ROBERT CAN'T PLAY IN THE MATCH TODAY.

<div align="right">(Carston 2002: 167)</div>

On a Gricean account, what is said by an utterance of (27a) would be as given (roughly) in (27b). But (27b) is not available to the conscious awareness of the speaker and hearer, so the Availability Principle denies that it is what is said. Intuitively, the inference that the finger broken was Robert's – which Grice treated as a generalized conversational implicature – is part of what is 'said', or explicitly communicated, and is what provides the basis for the hearer's inference to the (particularized) implicature in (27d).

In this case, there is strong consensus that (27c), rather than (27b), is what was said or explicitly communicated. But there are many cases where intuitions are less consistent:

(28) a. *Some lecturers are insecure.*
  b. *The ham sandwich left without paying.*
  c. *When Joe saw Hanna approaching he crossed the street.*
  d. *The man over there drinking champagne is a famous philosopher.*

Arguably, a pragmatic component of content contributes to the explicature in each of these cases: 'NOT ALL LECTURERS' in (28a), 'THE PERSON WHO ORDERED THE HAM SANDWICH' in (28b), a cause-consequence relation in (28c), an individual concept denoting a particular person (say, John Perry) in (28d). But, in all these cases, a more minimal content, closer to the linguistically encoded meaning, is for many people 'available' to intuitions. Although, as most theorists agree, converging intuitions are an important source of data, in many cases we do not have consistent intuitions that are directly about 'what is said' or explicit content, so we need to get at them more indirectly.

We said above that the explicature is taken to be the 'intuitive truth-conditional content' of the utterance – that is, that content on the basis of which ordinary speaker-hearers would judge the utterance true or false. The rationale for this seems to be that the speaker has more responsibility for her explicatures than her implicatures: an explicature is based on decoded meaning, which is algorithmically derived, whereas implicatures are entirely inferred, so are more the hearer's responsibility. If, as seems to be the case, our judgments about the utterance (true/false; agree/disagree) and our behavioural responses to it are focused on this level of content, as opposed to the more minimal what is said, then there is good reason to believe that the explicature, rather than the Gricean what is said, is a psychologically real level of representation. In accordance with this, Recanati (2004: 14) assumes that "whoever fully understands a declarative utterance knows which state of affairs would possibly constitute a truth-maker for that utterance, that is, knows in what sort of circumstance it would be true". He therefore suggests that the way to elicit intuitions concerning the truth-conditional content is "to present subjects with scenarios describing situations, or, even better, with – possibly animated – pictures of situations, and to ask them to evaluate the target utterance as true or false with respect to the situations in question" (2004: 15).

This method of eliciting intuitions has been employed by Ira Noveck and colleagues in a series of experiments to test people's understanding of scalar terms such as *some* and *or* (for a summary of findings, see Noveck 2004; Noveck and Sperber 2007). As mentioned above, these terms often give rise to scalar pragmatic inferences: from *some of the F*, hearers often infer NOT ALL OF THE F; from *P or Q*, hearers often infer NOT BOTH P & Q. In an experiment requiring participants to evaluate the truth/falsity of scalar utterances in particular scenarios, one of the test utterances was *Some of the turtles are in the boxes* and it was presented together with one of several possible accompanying scenarios. For instance, in one case some of the turtles were in the boxes and some were lying outside the boxes, and in

another one, the crucial case, all of the turtles were in the boxes. Presented with an utterance-scenario pair, adult subjects were asked to judge the utterance as 'true' or 'false' in the scenario, where the response 'false' in the test case (where all the turtles were in the boxes) should, according to Recanati's principle, indicate that the scalar inference (NOT ALL OF THE TURTLES) is contributing to truth-conditional content ('what is said'). The problem for the Availability Principle is that adult responses were very far from univocal. In this particular experiment, 53 % gave the response 'true', 47 % 'false' (Noveck 2004: 308) and this result is consistent with findings across a wide number of other experiments carried out on such scalar terms. In short, the pre-theoretic intuitions of ordinary speaker-hearers concerning the truth-conditional content (hence 'what is said') of utterances involving scalar terms (presented with scenarios which strongly encourage the pragmatic inference) are highly divergent.

The same inconsistency arises for a number of other contentious cases, including metonymies (such as (28b) above), metaphorical uses (e.g. *My lawyer is a shark*), and some of the quantifier cases (e.g. when the TV guide lists continuous gardening and antiques programmes and the speaker reports *There's nothing on TV tonight*, a lot of people judge the utterance as (strictly) false). Another well-known example is the case of misuses of definite descriptions, as discussed by Donnellan (1966). Consider again (28d) above and suppose that as a matter of fact the man in question is not drinking champagne (say, he has sparkling water in a champagne flute), but he is indeed a famous philosopher. Is the utterance of (28d) true or false? Unfortunately, the full range of possible responses has been attested ('true', 'false', 'neither', and, remarkably, 'both').

Should we, then, abandon the idea that there is a propositional content that can be considered 'the' intuitive truth-conditional content of the utterance (which is stable across different interpreters)? The difficulties with this method of eliciting truth conditions do not force us to that conclusion, since such tests can be argued to be not eliciting intuitions about the right thing. What we want is the proposition that speaker-hearers intuitively take to be explicitly expressed, but what Recanati's method taps seems to be something slightly different because it introduces an element of reflection which makes salient various possible truth-conditional contents, including some of a more strictly literal nature than the intended explicature. A better guide than such judgments of truth and falsity may be hearers' responses to utterances in online comprehension. Consider B's responses in (29) – (32):

(29) A: *It'll take time for that cut to heal.*
     B: *No it won't; I'm having the stitches out tomorrow.*

(30) A: *John double-parked and Mary ran into him.*
     B: *No, Mary ran into him and that's why he stopped where he did.*

(31) A: *Bob's a bit of a bulldozer.*
　　 B: *God, yes, he completely ignored the majority opinion on the council.*

(32) A: *No one goes to that club any more.*
　　 B: *I know: there were only first-year students there last Saturday.*

Clearly, what B is agreeing or disagreeing with here is not any 'minimal' proposition of A's utterances corresponding to the Gricean 'what is said'. Rather, in each case the proposition responded to includes some element that is pragmatically inferred: A FAIRLY LONG TIME in (29); a cause-consequence connection in (30); the metaphorical meaning in (31), and the domain, something like NO ONE IN OUR GROUP OF FRIENDS, in (32).[13]

It seems clear that we would not want to abandon the Availability Principle (we do want to preserve pre-theoretic intuitions regarding what a speaker says/implicates as much as we can). The problem is that applying the principle (eliciting the desired intuitions) in contentious cases is quite difficult. One way of sharpening intuitions involves embedding the utterance/sentence at issue in the scope of an operator such as negation, disjunction, the conditional, or the comparative. Consider the following cases of *and*-conjunction:

(33) a. *The old king has died of a heart attack and a republic has been declared.*
　　 b. *A republic has been declared and the old king has died of a heart attack.*

Recall that Grice held that the meaning of *and* is simply the truth-functional logical conjunction '&' and, given his minimalist view of what is said (which is the semantic content of the utterance), it follows that, for him, what is said by utterances of (33a) and (33b) is the same (they have identical truth-conditional content). Any difference in what they communicate, specifically in their temporal sequence and cause-consequence relations, is a matter of conversational implicatures, based on Grice's maxims of orderliness and of relevance. As Cohen (1971) first pointed out, a problem emerges when these conjunctions are embedded in the antecedent of a conditional, as in (34):

(34) a. *If the old king has died of a heart attack and a republic has been declared then Tom will happy.*
　　 b. *If a republic has been declared and the old king has died of a heart attack, then Tom will be unhappy.*

The Gricean account predicts that the antecedents of the two conditionals must be truth-conditionally equivalent and, assuming the truth of this single antecedent proposition, it must be that one or other of the conditionals is false (Tom can't be both happy and unhappy). However, the intuitive consensus is that these could both be true and that this is because the antecedents differ in the temporal-consequential relations they express about the two events. It follows that these non-truth-func-

tional aspects of the conjunctions contribute to the explicatures of the conjunctive utterances in (33).

This 'scope test', as it became known, can be used to demonstrate that other pragmatically inferred constituents are components of the explicature rather than distinct implicated propositions:

(35) a. *If it rains tomorrow, we'll stay at home.*
  b. *Sam doesn't care if some of his students fail, but if they all do, he'll be worried.*
  c. *We don't have any milk; there are just a few rancid drops on the tray.*

In (35a), it's clear that the basis for staying home is rain falling in the specific location of the speaker; in (35b), Sam won't be upset if just some (not all) of his students fail;[14] in (35c), where the test employs a negation operator rather than a conditional, we understand that the milk that is lacking is of the sort that would be usable for a specific purpose (such as drinking with coffee).

This embedding procedure played an important role in the early days of relevance theory as a source of evidence indicating that certain pragmatic elements of meaning, which Grice had taken to be implicatures, can contribute to explicature instead (see, for instance, Carston 1988). So it was a useful tool for establishing the extensive role of pragmatic inference in determining explicature, in particular, the role of processes of free pragmatic enrichment.[15] However, it cannot predict or decide in advance whether some such element *does* contribute to explicature or not on any particular occasion of utterance. Since the provision of these elements is optional, one has to look at the utterance *token* – and particularly the occasion-specific context in which it was tokened – in order to decide whether there is enrichment of content or not. As the embedding procedure essentially tests utterance *types*, it does not necessarily allow one to draw the explicit-implicit distinction for any particular occurrence.[16] Given the existence of free (optional) pragmatic enrichment, the line between explicature and implicature can vary from occasion to occasion of utterance of the same sentence type, and will be determined by how the utterance is processed.

5.2.   Relevance-based derivation of explicatures and implicatures: local versus global processes

Let us consider now how the pragmatic system, as envisaged on the relevance-theoretic account, derives explicatures and implicatures. The claim is that they are derived in parallel by a unitary, online inferential process, which takes the decoded linguistic meaning and accessible contextual assumptions as evidence for the interpretation, which must ultimately be both inferentially sound and consistent with the presumption of optimal relevance. As most theorists (across different approaches) would agree, a hearer does not first decode the entire utterance, then

saturate, disambiguate, enrich, and modulate the decoded meaning in order to arrive at the explicature (what is said), and *only then* use the explicature, together with contextual assumptions, to form hypotheses about implicatures. Instead, the explicatures, implicatures, and contextual assumptions are mutually adjusted in parallel until they form an inferentially sound relation, with premises (explicature, contextual assumptions) warranting conclusions (implicatures). It follows that a hypothesis about an implicature can both precede and shape a hypothesis about an explicature.

Here is a brief example involving the adjustment of explicit content in response to hypothesized implicatures and where the outcome is a narrowing of a lexically encoded meaning:

(36) A (to B): *Be careful. The path is <u>uneven</u>.*

Given that the first part of A's utterance warns B to take care, B is very likely to expect the second part of the utterance to achieve relevance by explaining or elaborating on why, or in which way, he should take care. Now, virtually every path is, strictly speaking, uneven to some degree or other (i.e. not perfectly plane), but given that B is looking for a particular kind of implication, he will enrich the very general encoded concept UNEVEN so that the proposition explicitly communicated provides appropriate inferential warrant for such implications of the utterance as: B might trip over, B should take small steps, B should keep his eye on the path, etc. The result is a concept, which we can label UNEVEN*, whose denotation is a proper subset of the denotation of the lexical concept UNEVEN. Provided the interpretation as a whole satisfies the hearer's context-specific expectations of relevance (licensed by the general presumption of optimal relevance carried by all utterances), it is accepted as the intended meaning. For much more detailed exemplifications of the relevance-theoretic account of lexical meaning modulation, see Wilson and Sperber (2002), and for demonstrations of how the mutual adjustment mechanism brings about other pragmatic developments, including disambiguation and saturation, in deriving explicatures, see Wilson and Sperber (2004).

So are we any closer to characterising the notion of a pragmatic 'development' of logical form, which plays such a key role in the definition of explicature as distinct from implicature? We believe there is an interesting difference in both the domain and the output of the processes involved in deriving the two kinds of speaker meaning: whereas implicatures are derived by global inference from fully propositional premises, what is common to the various pragmatic processes that develop the logical form into an explicature is that they are local. What we mean by a pragmatic process being local is that it applies to a subpropositional constituent, or, more specifically, a subpart of the linguistically encoded logical form and it is the output of this pragmatic process that goes into the meaning composition process.[17] The most obvious processes exemplifying the localness of 'development' are disambiguation and reference assignment: in the online comprehension of (37), for in-

stance, the indexical is assigned a referent and it is this referent that is composed together with the semantic/pragmatic values of the other expressions to give a fully propositional content:

(37) *He is swimming*.

This is widely agreed to be a far more plausible story about processing than that the hearer first composes the standing linguistic meanings of the lexical items, deriving something like 'some male is swimming', and then uses that as the starting point for explicature development.

   The lexical modulations (narrowings and broadenings) discussed in section 4.2 are also, clearly, local in this sense:

(38) a. *France is hexagonal.*
      b. *This steak is raw.*

Here the encoded concepts HEXAGONAL and RAW are each replaced by a pragmatically inferred concept (HEXAGONAL* and RAW*, respectively), which shares relevant implications with the encoded concept, and it is these latter concepts that enter into the composition process. A similar point can be made about (possible) cases of unarticulated constituents:

(39) a. *The ham sandwich* [ORDERER] *wants his bill.*
      b. *It will take* [A LONG] *time.*
      c. *Every boy* [IN THE CLASS] *was there.*
      d. *I've got nothing* [SUITABLE FOR A WEDDING] *to wear.*

When appropriately contextualized, the comprehension of a metonymy like (39a), does not involve first computing the absurd 'literal' meaning on which a culinary item wants the bill, then, once the absurdity is recognized, inferring that the speaker was referring to the person who ordered it. Instead, the deferred meaning is computed at the local level on a first processing pass and it is what goes into the composition process (for discussion, see Recanati 1993, 2004; Sag 1981; Nunberg 1995). Similarly, the enrichment of (39b) involves a local modification of the decoded concept TIME, rather than first recovering the trivially true proposition (that the activity in question will take place over a period of time) and only then inferring the relevant communicated proposition. Being trivially true, the unenriched proposition would, of course, have no relevant implications of its own, so the enrichment is necessary if the explicit content is to play any role in further inference. Likewise, domain restriction, as in utterances of (39c) and (39d), can also be seen to be local; for instance, Recanati (1993: 262–263) treats (39c) as enrichment of the predicate BOY to BOY IN THE CLASS. Inferring implicatures, in contrast, is not a case of just modifying a subpart of the linguistically encoded meaning; rather, it is a *global* process in that it operates on fully propositional forms.[18,19]

Assuming it is correct that the pragmatically inferred elements of explicatures are derived locally, the question is: how does this line up with the requirement that the explicature be the 'intuitive truth-conditional content' of the utterance? As we have seen, ordinary speaker-hearers' intuitions are sensitive not only to the truth-conditional content of one particular proposition communicated by the utterance, but also to those of other related propositions and people vary with regard to how strict (how literal) they are in judging utterances as true/false. The distinction based on the locality criterion will often coincide with one based on judgments about the truth-conditional content of the utterance since the explicature is generally going to be highly salient to our judgments and, given that a substantial element of its content is linguistically encoded meaning, it is content that the speaker can be held largely responsible for. However, when intuitions diverge, it is the derivational distinction between local and global pragmatic inference that is the ultimate arbiter about what constitutes an explicature and what an implicature. (See Hall 2008b for further discussion of the local/global processing distinction.)

6.   Conclusion: implicature, explicature and semantics

It seems that, in the move from Grice's philosophically based saying/implicating distinction to the cognitive communicative distinction between explicature and implicature in relevance theory, the class of implicatures has become much reduced. Most, if not all, cases of generalized implicatures have turned out to be local adjustments to subparts of the decoded logical form rather than propositions derived by global inference. Thus their treatment as constituents of the proposition that is explicitly communicated (explicature) is supported both intuitively and theoretically. However, the shift from implicature to explicature is not confined to the generalized cases. Several kinds of non-literal language use, including hyperbole, metaphor and metonymy, whose communicated (speaker-meant) content was analysed as a matter of particularized implicature by Grice (and many after him), have been reanalyzed as cases of local adjustments of encoded meaning, at the lexical or phrasal level. Thus they also contribute elements of content to the proposition most directly communicated by the speaker, that is, the explicature (see Carston 2002; Wilson and Sperber 2002; Wilson and Carston 2007). So what is left of implicature within this cognitive communicative picture?[20]

Implicatures are contextual implications that are speaker-meant (i.e. which fall within the speaker's communicative intention) and, as discussed in the previous section, they are derived globally. Consider the following exchange:

(40) A: *Who's eaten my last chocolate egg?*
      B: *Not me. Mary mentioned needing a chocolate fix.*

B's utterance contextually implies that Mary is probably the person who ate A's chocolate egg and this implication is, in fact, strongly implicated by B since it would be very difficult for A to satisfy his expectations regarding the relevance of B's utterance without inferring this conclusion. This implicature is inferentially warranted by the explicature of the utterance together with highly accessible contextual assumptions including: people who are in need of a chocolate fix are likely to eat whatever chocolate they can lay their hands on; A's chocolate egg was within Mary's reach.[21] This implicature is clearly entirely dependent on the specific context, in particular the preceding question, and this is typical of implicatures on the relevance-theoretic account; there are no default implicatures (compare Levinson 2000) nor implicatures that are highly generalized across contexts. In this respect, the class of implicatures is a more unified communicative phenomenon than it was in Grice's account (and in current neo-Gricean frameworks).

According to the relevance-theoretic account, implicatures are more or less strongly communicated, depending on the extent to which they can be taken to have been specifically intended by the speaker. The example just discussed is a case of a strongly communicated implicature since establishing the relevance of the utterance depends heavily on the recovery of that particular implication. In other cases, the speaker may have in mind a wider range of possible implications, various subsets of which would contribute adequately and equally to the relevance of her utterance, and none of which she intends more specifically than any others. A simple example of this is the following:

(41) A has been devoting her time and energy for many weeks to helping B with his dissertation. Finally, she says:
    It's up to you now.

Among the possible implications of her utterance are: I have given you enough help with your dissertation; I cannot give you any more help; you need to take responsibility for your own work; you should not continue to ask me for advice; you have the ability to complete the dissertation; and so on. It is not clear that she intends any particular one (or two) of these and provided B derives several of them as implicatures of the utterance he will have grasped the relevance of A's utterance. There are, of course, cases of even more weakly communicated implicatures as in some highly creative and evocative uses of language for which hearers/readers may derive implications that are so weakly implicated that it is not clear whether they are intended by the speaker/writer at all. For further discussion of degrees of strength of implicature, see Sperber and Wilson (1986/1995: 197–202; 2008).

Another respect in which the way implicatures are construed in relevance theory differs from the Gricean conception is that entailments can, on occasion, be implicated. Consider the following exchange:

(42) X: *Does John like cats?*
    Y: *He doesn't like any animals.*
        a. CATS ARE ANIMALS.
        b. JOHN DOESN'T LIKE CATS.
           c. DOGS ARE ANIMALS.
           d. JOHN DOESN'T LIKE DOGS.

According to the relevance-theoretic account, all of (a)–(d) are (potential) implicatures of Y's utterance in the context of X's question, with (a) and (c) as implicated premises and (b) and (d) as implicated conclusions. The (a)/(b) pair are strongly communicated in that X must recover them in order to understand the utterance. The (c)/(d) pair are communicated less strongly since assumptions with this exact content need not be derived, though some assumptions of this sort are likely to be recovered, given Y's general and indirect response to X. Both (42b) and (42d) are entailed by Y's utterance of *He doesn't like any animals* and, on this basis, Griceans tend to assume that they cannot be implicatures and instead treat them as part of what is said (explicitly communicated). However, according to the relevance-theoretic view, since they are communicated by the utterance, they are either explicatures or implicatures, and they cannot be explicatures because the utterance does not encode a logical form from which they could be developed.

    This prediction is backed up by the fact that the way the example works is essentially parallel to the following one, where there is no dispute about (a)–(d) being (potential) implicatures, rather than explicatures, of Y's utterance:

(43) X: *Have you read Susan's book?*
    Y: *I don't read crime fiction.*
        a. SUSAN'S BOOK IS CRIME FICTION.
        b. Y HASN'T READ SUSAN'S BOOK.
           c. AGATHA CHRISTIE'S BOOKS ARE CRIME FICTION
           d. Y HASN'T READ AGATHA CHRISTIE'S BOOKS.

The only difference between the two cases is that there happens to be an entailment relation between the proposition expressed and the (alleged) implicatures in (42b) and (42d), but no such entailment relation in (43). The derivation process in both cases is the same: in order to establish the relevance of Y's utterance as an answer to his question, X has to access the premise in (a) in each case, from which the conclusion in (b), which answers his question, follows. There is not even, necessarily, any difference in the accessibility of the premises in the two cases, since X may or may not already have them stored as part of his general knowledge. If he does, he can retrieve them ready-made; if he does not, he has to construct them in accordance with a standard inferential procedure based on the speaker's indirect response to his question. In the (c)/(d) pairs in each case, there is only one possible processing route: in the first example, the hearer looks into his encyclopaedic entry for ani-

mals and pulls out his assumption that dogs are animals, from which, given the ex-plicature, the conclusion in (42d) follows; in the second case, he consults his knowledge of crime fiction and retrieves the assumption about Agatha Christie's books, from which, given the explicature, the conclusion in (43d) follows.

We would extend this analysis to the following examples, although they are perhaps a little more controversial:

(44) A: *Have you invited any men to the dinner?*
     B: *I've invited my father.*
     Implicature: B HAS INVITED AT LEAST ONE MAN.

(45) A: *I can't face lentil bake again tonight; I'm desperate for some meat.*
     B: *Good. I've just bought some pork.*
     Implicature: B HAS JUST BOUGHT SOME MEAT.

On the relevance-theoretic account, word meanings are atomic (i.e. unstructured) rather than decompositional: *father* encodes FATHER, *pork* encodes PORK (for strong supporting arguments, see Fodor 1998; Sperber and Wilson 1986/1995: 90–93). Thus, the derivation of the communicated assumptions that B has invited a man, in (44), and that B has bought some meat, in (45), is an entirely inferential process, in fact a straightforward logical inference, so the mechanism involved is essentially the same as that for any implicated conclusion.[22]

For Grice, entailments and implicatures were mutually exclusive, a view which remains widespread among neo-Griceans and which is a natural consequence of an account in which a notion of 'what is said' is doing double duty as both semantics and explicitly communicated proposition (as discussed in section 2). In our view, the concept of entailment and the concept of implicature belong to different ex-planatory levels, in fact different sorts of theory, the one a static description of our native speaker knowledge of linguistic meaning, the other an account of the cog-nitive processes and representations involved in understanding utterances, so there is no reason at all why one and the same element of meaning should not fall into both categories.

Finally, let us return to the issue of whether there is a minimal proposition sem-antically expressed by a sentence. Unlike Grice, current semantic minimalists ac-knowledge that 'what is said' by a speaker (explicature) is very much a matter of pragmatics and thus they make a clear distinction between it and their favoured no-tion of semantic content (Borg 2004: 127–131; Cappelen and Lepore 2005: 204). For Cappelen and Lepore, the minimal semantic content of an utterance is that proposition that results from the conventional linguistic meaning of the sentence (its lexical items and syntax) and the fixing of the referents of any overt indexicals/demonstratives and the disambiguation of any ambiguous terms. They consider this notion of semantic content to be of central importance in an account of human verbal communication for two (related) reasons: it provides a reliable fallback con-

tent when something goes awry in the speaker-hearer communicative enterprise and it constitutes a content that can be shared across divergent contexts, ensuring a reasonable degree of stability in the propositions we attribute to each other, agree or disagree with, debate about, and act upon, across time and place. Cappelen and Lepore's reasoning is that the amount of pragmatic work (non-demonstrative inference) that goes into explicature undermines the possibility of its being a shareable content as it is very unlikely that all the necessary details of the original context and speaker's intentions are carried across subsequent contexts enabling that content to be reliably inferred time after time. So explicature cannot serve as shared content, but nor can the kind of encoded linguistic meaning envisaged in relevance theory, since this is generally a subpropositional logical form while the kind of content looked for is propositional (truth-evaluable). Cappelen and Lepore's minimal propositions appear to fulfil the requirements of 'shared content', being truth-evaluable, yet determined largely semantically, requiring relatively little pragmatic work (just disambiguation and saturation of overt indexicals).[23]

However, several authors have argued (e.g. Carston 2008b; Wedgwood 2007) that Cappelen and Lepore's minimal proposition is not really well suited to play the role of shared content and this is for two quite distinct reasons. First, it just is *not* reliably shared across contexts because it must incorporate the results of variable saturation, a process which frequently requires substantial knowledge of the original context/intentions: consider the specific information required for working out the referents of *this* and *that* on different occasions of use, or of deciding whether *here* means IN ENGLAND, IN LONDON, IN THIS BUILDING, IN THIS ROOM, or something even more specific. All that a contextually disoriented addressee (or reporter) can turn to for some degree of semantic anchoring is the linguistically encoded meaning, which is typically nonpropositional. Second, even if the minimal proposition were common across all contexts in which the original utterance is reported and its content evaluated, it would not provide the *right kind of shared content* for most of the purposes to which we would want to put such a notion. As Cappelen and Lepore seem to concede (2005: 13–14, 58; 2007: 210), most instances of minimal semantic content are not the communicated content of speech acts, from which it follows that they are not the kind of content that enters into our debates and negotiations with each other, the kind of content that we hold people responsible for and on which we base our actions – rather, that content is the explicature (pragmatically enriched 'what is said') of our utterances. Thus, on the one hand, the minimal proposition that is claimed to be semantically expressed is not minimal enough and, on the other hand, it is too minimal. We conclude that it is not a psychologically real construct.[24]

On our account of linguistic communication, there are two quite distinct kinds of semantics. First, there is linguistic semantics, which concerns the meaning encoded by linguistic expression types. This consists of concepts (and procedures – see note 20), that is, constituents of the language of thought (Mentalese), and

grasping linguistic meaning is a matter of mapping or translating linguistic forms onto conceptual constituents of thought. This kind of semantic representation is usually subpropositional, hence not truth-evaluable. Second, there is truth-conditional semantics, which captures the content of thoughts. It is thoughts (realized as sentences in Mentalese) that are the primary bearers of truth conditions, from which it follows that explicatures and implicatures (communicated thoughts) have a truth-conditional semantics.

Notes

1. We would like to acknowledge funding to Robyn Carston from the Centre for the Study of Mind in Nature at the University of Oslo, and to Alison Hall from a British Academy Postdoctoral Fellowship.
2. Throughout the chapter, we use small caps to represent propositions, thoughts or conceptual representations, in order to distinguish them from sentences and other natural language expressions.
3. For a particularly clear explanation of why communicative acts carry a presumption of optimal relevance, and of the comprehension strategy it warrants and its nonapplicability to both noncommunicative intentional acts and unintentional phenomena observed in the world, see Sperber and Wilson (2002).
4. Grice's attempt to extend this treatment to natural language indicative conditionals and so maintain that they are semantically identical to material implication, hence wholly truth-functional, foundered on the basis of his observation that for natural language conditionals that carry an implicature (concerning, say, a cause-consequence relation between antecedent and consequent), the negation of the conditional has to be interpreted as denying not the semantic content but the implicature (Grice: 1967/89: 83). However, given the possibility of extensive pragmatic enrichment at the level of explicit content, which we discuss in section 4, it may be that Grice's preferred truth-functional treatment can be maintained for *if* as well as for *and* and *or* while accommodating the richer non-truth-functional understanding of the utterances containing them.
5. For this reason, Grice was driven to his talk of 'making as if to say' in the case of metaphorical and other non-literal uses of language. Although a propositional semantic content is expressed by such uses, it is not part of the speaker's meaning, so it is not 'said', in his favoured sense. See Grice (1975).
6. Most contemporary semantic minimalists would agree about the existence of this distinction between explicitly and implicitly communicated contents: Borg (2004) distinguishes what is asserted from what is implicated; Salmon (1991) and Soames (2002) recognize a 'pragmatic what is said' in contrast to both implicatures and a 'strict, semantic' notion of what is said; Bach (1994) has 'implicature' and implicature, which correspond roughly to the explicature-implicature distinction we discuss here. Our difference with the minimalist approach is that we reject the idea of an extra level of content, intermediate between standing linguistic meaning and explicitly communicated meaning.
7. Kaplan's distinction is much more limited in scope, though, than the cognitive distinction between encoded meaning and explicit content – it's only in the case of pronouns and other indexical expressions that the distinction really does some work. Strawson (1950)

had already made a more thorough-going distinction between rules for use and ex-
pressed content, a precursor of some current views on encoded word meaning (e.g. Piet-
roski 2005).

8. Different versions of this proposal have the hidden indexical attached to the nominal
(Stanley and Szabó 2000), the determiner (von Fintel 1994; Martí 2003; Elbourne
2008), or adjoinable in different positions (Stanley 2005).

9. Martí (2006) suggests that such optionality can be accounted for without appeal to free
pragmatic enrichment by making the linguistic variables themselves optional, so that,
on the occasions when they do appear, saturation operates mandatorily, just as it does for
overt indexicals and uncontroversial cases of covert ones, such as pro-drop in Spanish
and other languages. We consider (and reject) this idea in Carston and Hall (forthcom-
ing).

10. A possible concern raised by such alleged unarticulated constituents is that they would
violate a basic semantic principle, the principle of compositionality, according to which
the semantic (truth-conditional) content of the whole utterance is derived from the sem-
antic value of each of its parts and the way in which they are syntactically combined.
However, this strict version of the principle has been questioned in recent years and a
pragmatics-sensitive compositional process has been proposed (Recanati 2004, 2012;
Pagin 2005).

11. In this paper, we do not discuss the notion of 'higher-level' explicatures concerning the
speaker's attitude to the basic explicature content or the speech act she performs in ex-
pressing this basic explicature. Sentence adverbials such as *frankly*, *seriously*, *happily*,
and *unfortunately*, discussed in section 2 above, find a natural place in the relevance-
theoretic account as modifiers of such higher-level explicitly communicated proposi-
tions (for discussion, see Wilson and Sperber 1993 and Ifantidou 2001).

12. The wording is '"a" logical form' (as opposed to "the") in order to cover the case of am-
biguity, where a surface form encodes more than one logical form. It would also include
utterances which could be analyzed as encoding multiple logical forms, such as those
with parentheticals and non-restrictive relative clauses. For discussion of this definition
and a suggested amendment to it, see Carston (2002: 116–124).

13. A reasonable question here is: how can we be sure that B is not responding to an impli-
cature of A's utterance? We probably cannot be completely sure, but it does seem to be
quite pragmatically infelicitous to immediately and directly contradict the implicature
of someone's utterance. Consider C's response to B in the following conversation:
    A: *Does Max have a girlfriend these days?*
    B: *He visits New York every weekend.*
    C: *No, he hasn't. He goes to New York to see his ill mother.*
C's direct denial of B's implicature that Max probably has a girlfriend seems odd (not
fully coherent), which is not at all the case for the examples in (29) – (32). For more dis-
cussion of this point, see Carston (2004b).

14. In a discussion of similar cases of embedding of scalar terms like *some*, *two* and *or*, King
and Stanley (2005: 147–150) maintain that there is standardly a focal stress on the el-
ement that is to be pragmatically modified (*some* in this case) and this makes salient the
requirement to find a contextually appropriate contrast set (here <some, all>). The up-
shot of their analysis is that, while the enrichment of *some* does contribute to the expli-
cature, it is not a case of 'free' pragmatic enrichment but is a linguistically mandated
pragmatic process.

15. For discussion of this and other criteria for distinguishing pragmatic contributions to explicature from implicatures, see Carston (2002: 183–197). Recanati (1993: 269–274) elevates the embedding test to what he labels the 'Scope Principle' and discusses some of the pitfalls in its application. For related discussion, see also Levinson (2000) on what he calls 'intrusive constructions' and King and Stanley's (2005) response.

16. However, when the sentences are presented decontextualized (as we have done in (33) – (35)), what hearers/readers do is try to treat them as utterance tokens, that is, they tend to imagine a kind of default context – the first one that comes to mind in which it would seem appropriate to utter such a sentence.

17. Recanati (1995, 2004) makes a much stronger distinction between pragmatic processes of explicature derivation and those responsible for implicatures. He calls the former 'primary' pragmatic processes and characterizes them as subpersonal and non-inferential (associative), while the latter 'secondary' processes are person-level and properly inferential. See Carston (2007) for critical discussion of this primary/secondary process distinction and a comparison with the relevance-theoretic approach, and see Recanati (2007b) for his reply.

18. The recent analysis of scalar inferences by Noveck and Sperber (2007) provides an excellent demonstration of this local/global distinction: in their view, local lexical modulation of scalar terms like *some*, *most*, *often*, *good*, *probable*, etc. is general and frequent across utterances, but, occasionally, when expectations of relevance demand it, a distinct proposition, an implicature, is derived by a global inferential process (e.g. the proposition NOT ALL OF THE STUDENTS PASSED THE EXAM would very likely be implicated by a speaker who utters 'Some of them did' in response to the question 'Did all of the students pass the exam?').

19. An interesting question we have yet to consider is whether 'higher-level' explicatures concerning speaker attitude and speech act (see note 11) meet our 'local development' criterion.

20. Grice's category of conventional implicature (turning on such non-truth-conditional words as *but*, *moreover* and *therefore*, discussed above in section 2) has been entirely transformed in the move to the cognitively-based relevance-theoretic framework. Blakemore (1987, 2002) has argued persuasively for these words being analysed as encoding 'procedural' meaning, which functions to constrain the pragmatic inferential process of deriving contextual implications. See also Wilson and Sperber (1993), who extend the notion of procedural encoding to a wider range of words, some of which constrain pragmatic processes that contribute to explicature. Coming from a different (non-cognitive) perspective, Bach (1999) argues that there is no such thing as conventional implicatures and reanalyses a number of Grice's cases in other terms.

21. In relevance theory, speaker-intended contextual *assumptions* such as these are also classified as implicatures (implicated premises). These are, of course, also globally derived since they are retrieved as a whole from perception or memory. Recanati (2004: 48–49) does not think that so-called 'implicated premises' are genuine implicatures in that they tend to be not part of what is communicated but part of what the speaker takes for granted (presupposes) and expects the hearer to take for granted. This is an interesting issue that needs further thought.

22. Many entailments of an uttered sentence are not communicated at all and when they are communicated some are implicatures (as discussed above) and some are explicatures (e.g. the conjuncts in *and*-conjunctions). For further discussion, see Carston (2002: 121–125, 139–141).

23. It is less clear why Borg (2004) is so insistent on the propositionality of sentence meaning other than that she has an antecedent commitment to the Davidsonian truth-conditional programme for natural language semantics. For some discussion of Borg's semantic minimalism, see Carston (2008a).

24. However, the issue of shared content that drives Cappelen and Lepore is an important one and remains to be tackled within an account like ours on which propositions expressed and statements made are very pragmatic (context-sensitive) entities.

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