

Believing in: A Pragmatic Account*

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Abstract

The gap between the linguistic meaning of an utterance and the content of the proposition it expresses in a particular context is bridged by a pragmatic inferential process with free access to general world knowledge. Therefore, pragmatic theory should be able to characterize the inputs to this inference process in a way which provides the basis for explaining why a particular linguistic expression has some contextual interpretations to the exclusion of others. The main aim of this paper is to consider how Relevance Theory (Sperber and Wilson, 1986/95) rises to this challenge in one particular case: utterances of sentences containing the phrase *believe in*. I try to show how the various interpretations of this expression follow from the interaction between its linguistic meaning, the Communicative Principle of Relevance, the context, and two general cognitive tendencies in context selection: the orientation towards positive outcomes and the orientation towards cause-effect relations.

Keywords: relevance, underdeterminacy, context, orientation towards positive outcomes, causal efficacy.

1. Introduction

Here is something of a truism: the explicit content of an utterance (or the proposition it expresses) is a function of its linguistically encoded meaning and the context. In fact, pragmatic inference may, and generally does, play a major role in determining, not only what is communicated implicitly, but also what is communicated explicitly. This observation, sometimes labelled the radical underdeterminacy thesis, has been developed in much detail within the framework of Relevance Theory (Sperber and Wilson, 1986/95), in particular by Robyn Carston (see Carston, 1988; 1996; 2002), who considers utterances like (1):

(1) She gave him her key and he opened the door.

An utterance of the sentence in (1) is normally taken to express a proposition whose content is only partly linguistically specified, with referents of pronouns, co-reference and temporal relations being supplied pragmatically, as indicated in (2):

(2) She₁ gave him₂ [her₁ key]₃ at t and he₂ opened the door at $t + n$ using [the key]₃

This way of looking at what is communicated explicitly has met with approval (Searle 1996) and criticism (see Stanley 2002). Searle finds the underdeterminacy thesis plausible, but not radical enough:

“There is much discussion about whether when a speaker utters that sentence [*She gave him her key and he opened the door* (VŽ)] it is actually said (or merely implied) that he opened the door *with that key*, and whether he actually says that she *first* gave him the key and *then later* he opened the door; but it is generally agreed that there is a certain underdetermination of what is said by the literal meaning of this sentence. I wish to say that there is a *radical* underdetermination of what is said by the literal meaning of the sentence. There is nothing in the literal meaning of the sentence *She gave him her key and he opened the door* to block the interpretation, He opened the door with her key by bashing the door down with the key; the key weighed two hundred pounds and was in the shape of an axe. Or, he swallowed both the door and the key and he inserted the key in the lock by the peristaltic contraction of his gut.” (Searle, 1996: 131)

One consequence of Searle’s radical version of the (radical) underdeterminacy thesis is that the likely explicatures of a given utterance are but a small subset of the possible thoughts which that utterance might communicate (in various, more or less likely contexts)¹. A major task of pragmatic analysis is to explain why it is that an utterance of a given sentence has only those interpretations that it does have, and why other conceivable interpretations are less likely or even impossible in any realistic communicative setting. A relevance-theoretic answer to this question goes, roughly, as follows: utterance comprehension is an inferential process constrained by a general presumption about the communicator’s rationality: a (rational)

communicator should aim to produce an utterance (or other ostensive stimulus) which, given her abilities and preferences, is the least demanding option for the addressee while giving him sufficient worthwhile information (see Žegarac, 2004: 203). For an utterance of *She gave him her key and he opened the door to* communicate rationally something like: *She gave him the key and he opened the door with her key by bashing the door down with the key; the key weighed two hundred pounds and was in the shape of axe*, our general (contextual) knowledge about keys, doors and ways of using the former to open the latter would need to be very different from what it actually is.

The underdeterminacy thesis has been challenged in two interesting ways, which are briefly considered in this paper. First, I look at one of Stanley's (2000; 2002) syntactic arguments against underdeterminacy and I suggest that there are examples which cannot be explained on his approach. Second, I provisionally assume that Pustejovsky's (1991; 1995) Generative Lexicon Theory (GLT) provides a viable alternative to a pragmatic account of the context-dependent aspects of meaning, using *believe (in)* as an example. I then show that this approach still leaves some considerable work for pragmatic analysis and go on to point out that the relevance-theoretic account, which is independently required to address the issues that GLT does not deal with, can also explain those aspects of the lexical meaning of *believe in* which are captured by a GLT-based account. This conclusion lends support to well-known theoretical arguments (e.g. Fodor and Lepore, 1998; Blutner, 2002) against semantic accounts of the contribution of context to lexical meaning.

2. The underdeterminacy thesis

Stanley (2000, 2002) has argued that the linguistic input to pragmatic interpretation is much richer than proponents of radical underdeterminacy assume:

“... the linguistic meaning of an utterance specifies all the constituents of the proposition that it expresses. The linguistically specified constituents of the logical form, the output of linguistic decoding, are assigned denotations pragmatically, with the range of possible enrichments being ‘constrained by the linguistic conventions governing those elements’.” (Stanley, 2002: 149)

One of Stanley’s arguments is based on the type of binding relation illustrated by an utterance of the sentence in (3), which can express the proposition in (4), where the pronoun *her* in the domain of the quantifier *every question* is bound by the quantifier *every student*:

(3) Every student answered every question.

(4) Every student answered every question *on her exam*.

In a nutshell, the argument is that the italicized material in (4) is best analyzed as the value for a covert, i.e. linguistically specified, pronominal element (a quantifier-domain variable) in (3), because truly missing syntactic constituents are not semantically interpretable, as illustrated by (5) (Stanley’s example (13)):

(5) *Everyone_j who John ran, he liked.

Arguably, if pragmatic interpretation allowed for the introduction of new syntactic constituents, it should be possible to find a context in which (5) communicates (6) (Stanley's example (14)):

(6) Everyone_j who John ran by x_j , he liked.

In Stanley's words (2002: 162):

“If there were the sort of pragmatic process that allowed an interpreter to smoothly replace an uttered sentence by another sentence that contains a new bound variable, the ungrammaticality of [(5)] would be a complete mystery. For all an interpreter has to do to make [(5)] grammatical is (tacitly) add on the phrase ‘by x_j ’ to the sentence,”

This position is further supported by a critical consideration of possible counterarguments which cannot be considered here. I will assume that the radical underdeterminacy thesis is essentially correct, because the idea that all constituents of the propositional content of an utterance are articulated does not stand up to scrutiny.

There are many examples which illustrate the general point that constituents of the explicit content of an utterance may be fully pragmatically derived, rather

than being pragmatic saturations of covert syntactic variables. Thus, an utterance of (7), read by a newscaster on the evening TV news programme, expresses a thought (roughly given in (8)) which is structurally more complex than the sentence used to convey it:

(7) In future you will be breathalyzed after every accident.

(8) After the new law is passed (in the next few days) a person will be breathalyzed if they are the driver of a motor vehicle which has been involved in a road traffic accident in England that has been dealt with by the police.

Possible pragmatic developments of the lexical item *accident* are variable to the point that trying to account for them in terms of covert syntactic categories seems highly improbable. Therefore, examples like (7) suggest that there is a strong case for free pragmatic enrichment and that the extent to which linguistic (more specifically, syntactic) encoding constrains pragmatic interpretation is an empirical matter to be resolved on a case by case basis by assuming the following criterion: if a particular pragmatic completion of an utterance is precluded even in contexts in which it would be pragmatically appropriate (highly relevant), one should assume that there is a (covert) structural (syntactic) element which precludes it.

The underdeterminacy thesis has also been challenged within semantic approaches to lexical meaning, where the systematic restrictions on the available range of interpretations of a given expression are explained by positing semantic

mechanisms which have access to and exploit encyclopaedic (i.e. general world, contextual) knowledge. Perhaps the most influential approach of this type is Pustejovsky's (1991, 1995) Generative Lexicon Theory (GLT). On this view, lexical semantics needs to be "a theory of word meaning that is integrated into a linguistic theory, as well as interpreted in a real knowledge representation system" (Pustejovsky, 1991: 415). The interaction between linguistic and contextual meaning is clearly illustrated by cases of what he terms 'logical polysemy', such as the examples in (9):

- (9) a. John baked the potato.
b. John baked the cake

(example (15) in Pustejovsky, 1991: 415)

Only in (9b) does the verb *bake* mean, roughly, *make by baking*. Thus, *John made the cake by baking it* is felicitous, whereas *John made the potato by baking it* is distinctly odd. Since our general world (i.e. encyclopaedic) knowledge about the words *potato* and *cake* includes the information that the former denotes a natural kind, whereas the latter denotes an artifact created by baking, it would appear that the meaning of *bake* is sensitive to the meaning of its NP complement. Central to GLT is the view that examples such as (9) can be accounted for in a principled way by relaxing the traditional notion of compositionality and by developing a decompositional account of word meaning on which a given lexical item is characterized in terms of a template, a structured form which provides the minimal

semantic configuration of a lexical item. A key part of this template is the *qualia structure* which specifies four aspects of a word's meaning: (a) the relation between its constituent parts (constitutive role); (b) its physical characteristics (which distinguish it within the larger domain) (formal role); (c) its purpose and function (telic role), and (d) whatever brings it about (agentive role). These (and other) distinctions provide the basis for a formal account of lexical meaning which is generative in that it states explicitly the well-formedness conditions for the semantics of each expression in a given language. For example, the verb *bake* is not seen as polysemous after all, but rather as having a unitary semantics which shifts in a predictable way (from *change of state* to *creation*) in the context of the complement *cake*, whose agentive role includes the information that it is an artifact made by baking, through a process termed 'cocompositionality' (as distinct from the traditional notion of compositionality). This also accounts for the metonymic understanding of examples like (10) and (11):

(10) Mary enjoyed the book.

(11) Thatcher vetoed the channel tunnel.

(examples (33a) and (33b) in Pustejovsky, 1991: 424)

The standard interpretations of (10) and (11) are claimed to be the result of a semantic operation of 'type coercion', which converts an argument (e.g. material object, such as *book*, *channel tunnel*) to the type that is expected by a function (e.g. an action, such as *reading*, *plan/proposal*), where it would otherwise result in a type

error (Pustejovsky, 1991: 425). In other words, type coercion is a mechanism which constrains the range of logical metonymies by ensuring that a verb's syntactic argument maps onto a logical argument of the appropriate type.

The Generative Lexicon Theory has been criticized (Fodor and Lepore, 1998; Blutner, 2002) and defended (Pustejovsky, 1998). In this paper, I proceed on the provisional assumption that this approach to lexical meaning is essentially correct, and I consider briefly its implications for characterizing the semantics of *believe (in) NP*. I argue that a GLT-based account of the lexical meaning of these expressions still leaves a considerable amount of work for pragmatics, and that a pragmatic theory which rises to this task can also do the job that GLT does.

3. *Believe (in)*: a semantic account

The verb *believe* is a two-place predicate. It encodes a relation between an individual and a proposition². It appears to have at least the following subcategorization frames:

(12) Mary believes Peter to be honest. [__NP VP]

(13) Mary believes that Peter is honest. [__S]

(14) Mary believes Peter. [__NP]

(15) Mary believes in Peter. [__PP]

While they belong to different syntactic categories, the internal arguments of *believe* are all interpreted as propositions:

(12') Mary believes: Peter is honest.

(13') Mary believes: Peter is honest.

(14') Mary believes: What Peter communicates/has communicated is true.

(15') Mary believes: Peter is reliable/honest (and the like).

In terms of GLT, (14) and (15) are examples of logical metonymy which receive a straightforward explanation in terms of qualia structure and type coercion. The logical object of *believe* is a propositional representation. The qualia structure for *Peter* includes the information that the referent is a human being, and that humans typically express propositional representations which can be held as true or false through communication. Therefore, in (14) the NP *Peter* metonymically stands for the proposition, roughly: *What Peter communicates/has communicated*. (15) could be accounted for in the same way, with the added assumption that the preposition *in* brings about a change in the meaning of *believe* to the effect that its logical complement is a proposition in which a property is attributed to the NP referent. This is supported by syntactic evidence and by the use of *believe in* in construction with an NP which denotes the relevant property (e.g. *believe in aspirin* = *believe in the efficacy of aspirin as a medicine*).

Although *believe in* does not behave syntactically like a phrasal verb, evidence from preposing points to a close lexical link between the preposition and the verb. Consider (16) and (17):

(16) ?In aspirin I believe, but in paracetamol I don't.

(17) *In the cheque I cashed.

Most native speakers find (16) rather marginal (though much better than (17)), which is only to be expected if *believe in* has a separate lexical entry. Moreover, *in* is the only preposition which can follow *believe*, which clearly points to a close lexical link between these two items. Finally, some cross-linguistic evidence from case assignment also supports this view. Thus, in Serbian the predicate *verovati u NP* (where *u* means *in*) is the equivalent of *believe in NP*. The Serbian verb *verovati* also has the subcategorization frame [___ NP], so the contrast between (18) and (19) corresponds closely to that between (14) and (15):

(18) Marija veruje Petru..

Mary believes Peter (dative)

(19) Marija veruje u Petra.

Mary believes in Peter (accusative)

The preposition *u (in)* normally assigns locative case to its complement. However, when *u (in)* is used with verbs indicating movement towards a destination, the NP complement is assigned accusative case, as in (20):

(20) Petar ide u Beograd.
Peter is going to[in] Belgrade. (accusative).

(21) Petar je u Beogradu.
Peter is in Belgrade. (locative/dative)

Now, in (19) *u (in)* is followed by an NP in the accusative (rather than the locative) case. This would suggest that there is a close lexical relation between the preposition and the verb. Thus, Emonds (1985) takes the view that prepositions which follow verbs expressing “motion toward” do not assign case to their NP complements:

“Rather, these NPs are assigned accusative by virtue of the fact that directional complements are inside the smallest V-bar; an intransitive V (such as *go, run, etc.*) or the V case feature on the direct object of a transitive V (such as *push, drop, etc.*) assigns them case and thus allows them to be interpreted as directional rather than locational complements.” (Emonds, 1985: 224-5)

Arguably, some languages provide morphological evidence for this assumption, as Emonds observes:

“In Sanskrit and Greek, the P of motion typically appears compounded with the V (cf. Whitney, 1889: 395-400). Whether this compounding is lexical and appears in deep structure, or is achieved transformationally, it implies that at S-structure the P is not available to case-mark its semantic object. The latter function must be performed by V.” (1985: 224-5)

If this is generally correct, then it seems plausible to assume that in *verovati u NP*, the NP is assigned accusative case by the verb, rather than by the preposition. Given the correspondence between (14)/(15) and (18)/(19), it is also plausible to assume that in English, the verb *believe*, rather than the preposition *in*, assigns case to the NP in *believe in NP*, and that *believe in* and *verovati u* are single lexical items, though they are not phrasal verbs.

Now, if the logical complement of *believe* is a proposition about a representation and the logical complement of *believe in* is a proposition about a property (of the NP referent), then the former should be felicitous when followed by NPs which include general knowledge assumptions about representations, and the latter should readily take NP complements which include general knowledge assumptions about properties. Consider (22) and (23):

- (22) a. Mary believes the book.
b. Mary believes Peter.
- (23) ?Mary believes aspirin.

On this account, (22a) and (22b) are felicitous because the qualia structure for *representation* contains assumptions about representations spreading through communication, which are salient in the context of persons (who are locutionary agents) and books (which contain representations). (23) is semantically incoherent because the qualia structure for *representation* does not include assumptions which are particularly salient in the context of aspirin (aspirins are neither producers of nor vehicles for the production of representations). As the NP complements in (22) and (23) have salient relevant properties, they all readily occur as complements of *believe in*:

- (24) a. Mary believes in the book.
b. Mary believes in Peter.
c. Mary believes in aspirin.

Furthermore, NPs which denote properties readily appear as complements of *believe in* but not as complements of *believe*. This explains why only B's reply (25a) - but not (25b), which could only be used loosely or metaphorically - is felt to be semantically well-formed:

- (25) A: So, you don't believe in my plan?
B: a. I don't believe in its cost-effectiveness.
b. *I don't believe its cost-effectiveness.

This is the case because cost-effectiveness is construed as a property, rather than as a representation (or a source of representations).

So, it seems that GLT can provide a plausible characterization of the semantics of *believe* and *believe in*. However, the interpretations of utterances with *believe (in) NP* are systematic in a way which, in my view, calls for a pragmatic analysis. Thus, the complement of *believe in* systematically denotes a property about the positive causal efficacy (positive in the sense that the effects are generally seen as desirable) or the existence of the NP referent. Consider (26) and (27):

- (26)
- a. Mary believes in aspirin.
 - b. Mary believes that aspirin exists.
 - c. Mary believes that aspirin is effective in performing the function for which it was made.
- (27)
- a. Mary believes in the Loch Ness monster.
 - b. Mary believes that the Loch Ness monster exists.
 - c. ?Mary believes that the Loch Ness monster is causally efficacious.

Intuitively, (26a) would usually be taken to communicate something like (26c), whilst presupposing (26b), as evidenced by (28) and (29):

- (28) ?Mary believes in aspirin, but she does not believe that aspirin is causally efficacious.

(29) Mary does not believe in aspirin, but (of course) she believes that aspirin exists.

(28) is contradictory which suggests that the complement of *believe in* here denotes a property relating to some kind of causal efficacy of the NP referent. Since Mary's belief in aspirin (as an effective medicine) can be denied at the same time as her belief in its existence is asserted, the latter appears to be presupposed by the *believe in* utterance. In contrast to (26a), (27a) would normally be taken to communicate Mary's belief in the existence of the NP referent (the Loch Ness Monster) rather than conveying anything about its causal efficacy. Consider (30) and (31):

(30) ?Mary does not believe in the Loch Ness monster, but she believes that the Loch Ness monster exists.

(31) Mary believes in the Loch Ness monster, but she does not believe that it is causally efficacious.

These examples present the following problem for pragmatic analysis. How can we explain that *believe in X* means either *believe in the causal efficacy of X* or *believe in the existence of X* if the linguistic meaning of *believe in X* is, roughly: *hold a belief about a property of X*? These examples suggest that the semantic account of *believe in* may be fine as far as it goes, but that it does not go far enough.

4. ***Believe (in): a pragmatic account***

A fairly straightforward relevance-theoretic analysis of the way *believe in X* is systematically interpreted in context makes it possible to maintain a simple semantics for this expression. The account that follows draws freely on the framework of Relevance Theory, but is largely built around three main concepts: the Communicative Principle of Relevance (Sperber and Wilson, 1986/95), the Background (Searle, 1980; Carston, 2002), and the orientation of human cognition towards positive outcomes and towards finding causal relations.

Human communicative behaviour rests on the production and interpretation of evidence of the intention to communicate information. In verbal communication, the evidence for the information which is communicated is, at least in part, presented by the lexical meanings of words used. The production and the interpretation of communicative signals (including utterances) are guided by the Communicative Principle of Relevance and the strategies based on it:

The Communicative Principle of Relevance:

Every act of ostensive communication communicates a presumption of its own optimal relevance. (Sperber and Wilson, 1995: 260)

Presumption of Optimal Relevance:

- (a) The ostensive stimulus is relevant enough for it to be worth the addressee's while to process it.
- (b) The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences. (Sperber and Wilson, 1995: 270)

The Principle of Relevance provides the basis for the following two strategies:

Production strategy:

Given your preferences, choose the least effort-demanding option for the hearer. (taken from Žegarac 2004: 203)

Comprehension strategy:

- Construct interpretations in order of accessibility (i.e. follow a path of least effort).
- Stop when your expectation of relevance is satisfied.

(Note: expectations of relevance may vary across different situations of utterance and with the relative developmental level of the hearer, from an expectation of actual optimal relevance, to more sophisticated and realistic expectations that allow for speakers' fallibility and/or deceptiveness (taken from Carston 2002: 380).)

On this view, utterance production generally depends, on the one hand, on the communicator's abilities and preferences, and, on the other, on her estimates of the addressee's linguistic and pragmatic abilities; and utterance comprehension relies on reasoning (non-demonstrative inference) about the communicator's intentions. It follows from this that a communicator aiming at optimal relevance should present only as much evidence as is needed for the addressee to be able to figure out the communicator's informative intention without undue effort. To do otherwise would involve making the addressee incur additional cost in processing effort, which would not be offset by a commensurate gain in communicated cognitive effects. In other words, the general direction in verbal communication is towards minimizing the semantic content which is linguistically encoded, whilst maximizing the conceptual content which can be easily pragmatically inferred. Therefore, if a feature of the meaning of an expression can be explained either in

terms of linguistic encoding, or in terms of general cognitive constraints on pragmatic interpretation, the latter option is theoretically preferable.

The comprehension of an utterance involves: (a) the assignment of linguistic structure to a string of words, (b) the mapping of that linguistic structure onto a logical form, i.e. a – typically incomplete - conceptual representation in the language of thought (Fodor, 1975) and (c) the fleshing out of the logical form of the utterance into a fully-fledged proposition, a conceptual representation which is determinate enough to yield an adequate range of effects when integrated with other conceptually represented assumptions. Within Relevance Theory, the logical form of an utterance is characterized as a structured string of concepts with logical category labels which “are semantic interpretations of syntactic category labels of natural language (though there need not be a one-one correspondence)” (Sperber and Wilson, 1986/95: 205-6). On this view, upon hearing (18) (repeated as (32)) the hearer recovers the logical form (sketchily represented) in (33):

(32) Mary believes Peter.

(33) [[SOMEONE]Mary] [HOLDS A PROPOSITIONAL ATTITUDE] **believes** [A PROPOSITIONAL REPRESENTATION ABOUT SOMEBODY [Peter]]

How is this logical form completed pragmatically into a fully-fledged proposition?

An act of communicative behaviour presupposes a set of beliefs or assumptions, some of which are universal, while others are shared by the members of particular cultural communities. Searle (1980) refers to this set of assumptions as the

Background (with a capital 'B') and points out its importance for the way utterances are assigned truth conditions. Consider again (1) and (2) (repeated as (34) and (35), respectively):

(34) She gave him her key and he opened the door.

(35) She₁ gave him₂ [her₁ key]₃ at t and he₂ opened the door at $t + n$ using [the key]₃

The utterance in (34) is assigned the truth-conditional content in (35) in virtue of a set of shared cultural beliefs/assumptions and practices involving keys, doors and ways of using keys to open doors. If this set of beliefs/assumptions and practices were radically different, the same utterance, (34), would be assigned a different set of truth conditions. This can be explained in terms of the role of the Background in utterance interpretation, which Carston (2002) characterizes in relevance-theoretic terms as follows:

“We might usefully think of the Background as a set of assumptions and practices that maintain a fairly steady degree of not very high manifestness, across time, in an individual’s cognitive environment. A subset of the Background consists in assumptions/practices which make up the mutual cognitive environment of all (non-pathological) human beings – the deep Background; other subsets are the mutual cognitive environments of what can be loosely termed culturally defined groups of human beings – local Backgrounds.”⁴ (Carston, 2002: 68)

Putting it informally, the Background includes assumptions and practices which are always available to the individual but seldom very salient. Some of these assumptions are presumed shared by all human beings, while others are presumed shared only by the members of the same social-cultural group. I do not think that the concept of the Background has a special theoretical place in the framework of Relevance Theory, but it is a useful technical term in that it identifies a subset of the interlocutors' presumed shared beliefs which play an important role in communication. For example, if any of the Background assumptions do not hold in a given situation of communication, the speaker should indicate this clearly. Failure to do so inevitably goes against the Principle of Relevance. Consider (36):

(36) Mary: I saw Peter yesterday.

Given our Background knowledge about people, it would not be rational for Mary to say: *I saw Peter yesterday* in order to convey the idea that she saw parts of Peter scattered round the room, or that Peter's body was completely transparent apart from his head, and so on. The hearer is entitled to treat certain assumptions about the physical properties of people as taken for granted. According to Relevance theory, these Background assumptions are not communicated, because they are already (presumed) held at maximal strength. Consequently, when a relevant completion of the incomplete Logical Form of an utterance is available in the Background, then the hearer should use it, following the path of least effort. To do

otherwise would inevitably involve the hearer in expending more processing effort than is necessary for deriving an interpretation consistent with the Principle of Relevance.

In the light of these observations, the interpretation of utterances with *believe NP* seems reasonably straightforward. For example, the logical form of (32) (outlined in (33)) is incomplete. The speaker of (32) indicates that its logical form should be completed by some assumptions about representations relating to Peter which are relevant in the context of *believe*. Background includes the following (as well as many other) assumptions about people: a person is a locutionary agent, communication is the most relevant source of new representations, representations typically spread through communication. Therefore, (37) is the type of interpretation of (32) that the hearer is likely to consider first:

(37) Mary believes what Peter communicates/communicated.

Of course, if other relevant information is available in the immediate context, there aren't any syntactic or semantic mechanisms which would preclude it from being built into an explicature of (32), such as (38) or (39):

(38) Mary believes what Peter communicated when he said he would buy a salad on his way back from work.

(39) Mary believes what Peter communicated when he said the car had broken down.

However, the derivation of the conceptually much richer explicatures of (32), such as (38) and (39), is ruled out on pragmatic grounds. According to the Principle of Relevance, the hearer should derive an explicature which is the minimal propositional representation specific enough to yield an adequate range of effects when integrated with the context. It follows from this that the informationally rich representations in (38) and (39) are unlikely to be explicatures of (32), because an explicature like (37) is specific enough to lead to the derivation of implicatures about what the NP referent has communicated, in any context in which such assumptions would be available for inclusion in the explicature.

On this account, a completion of (34) in which Peter is not construed as a locutionary agent would be implausible, because it would contradict some assumptions in the speaker's and the hearer's Background which become rather manifest in the context of *believe* (that is, that the objects of beliefs are propositions or propositional representations). This point seems most obvious in utterances whose interpretation depends on Background assumptions about perceptible physical properties of human beings. Thus, (36) would not be taken to mean: *Mary saw parts of Peter scattered round the room*, not even with the continuation in (40) whose literal (non-conventionalized) meaning might suggest this interpretation:

(40) Mary: I saw Peter yesterday. He was all over the place.

In the light of these observations, it would be surprising if a propositional attitude predicate, such as *believe* did not constrain the interpretation of its complement by drawing on the pool of universal (and cultural) knowledge, termed the Background. In sum: just as *see* creates the expectation that the referent of its direct object has certain physical properties of visible things, *believe* indicates that its logical complement is a representation, and it creates an expectation that this representation comes from a typical source: a locutionary agent (a person) or a communicative product (a book, a film, etc.). Therefore, there is no reason to assume that the linguistically encoded meaning of *believe NP* is more specific than: *believe some propositional representation sourced by the NP referent*. Nor is it necessary to posit a semantic mechanism which takes us from the prototypical properties of *believe*, *representation* and *book/person* to *what X [person/book] communicates/has communicated*.

In section 3, I made a case for characterizing the linguistic meaning of *believe in NP* as: *hold a belief about a property of the NP referent*. If this suggestion is correct, it should provide the basis for a plausible relevance-theoretic analysis of the way (3) to (5), repeated as (41) to (43), are interpreted.

(41) Mary believes in the Loch Ness monster.

(42) Mary believes in aspirin

(43) Mary believes in Peter.

The sentences in (41) - (43) map onto the logical forms (41') - (43'):

(41') [[_{SOMEONE}Mary] [_{HOLDS A PROPOSITIONAL ATTITUDE} believes [_{SOMETHING ABOUT SOMETHING}
[_{THEME}the Loch Ness Monster]]]]

(42') [[_{SOMEONE}Mary] [_{HOLDS A PROPOSITIONAL ATTITUDE} believes [_{SOMETHING ABOUT SOMETHING}
[_{THEME}aspirin]]]]

(43') [[_{SOMEONE}Mary] [_{HOLDS A PROPOSITIONAL ATTITUDE} believes [_{SOMETHING ABOUT SOMEBODY}
[_{THEME}Peter]]]]

How are the logical forms of utterances with *believe in* (illustrated by (41') - (43')) pragmatically developed into the fully-fledged propositional representations which comprise the explicit content, such as (44) - (46)?

(44) Mary believes that the Loch Ness Monster exists.

(45) Mary believes that aspirin is an effective medicine.

(46) Mary believes that Peter is a reliable/trustworthy person.

The linguistic meaning of the utterance and immediately accessible contextual assumptions provide the inputs to this pragmatic inference process, which is guided by the Principle of Relevance: the hearer tries to derive the interpretation that the communicator intended to be optimally relevant to him.

The main difficulty for an account along these lines is that, given the vague meaning of *believe in*, one might expect that it could be pragmatically

enriched in many different ways depending on the context. This expectation does not seem to be borne out. For example, (43) (repeated below) would not be taken to mean any of (47a) - (47d) in any readily conceivable context, although each of these could describe Mary's belief about a (stable) characteristic of Peter.

(43) Mary believes in Peter.

- (47)
- a. Mary believes that Peter is a liar.
 - b. Mary believes that Peter is unhealthy.
 - c. Mary believes that Peter is stupid. [unless used ironically]
 - d. Mary believes that Peter likes pistachio nuts.

How can these facts about (43) be explained pragmatically? Consider the following unlikely scenario: the hearer does not know the typical interpretation of the expression *believe in NP-person*; the hearer also does not know anything about the person that the speaker is talking about, beyond what she says in (48):

(48) Mary: I know Peter quite well and I believe in him.

In this situation, the hearer would most likely conclude that Mary is saying she believes Peter has some positive characteristics. In general, we tend to hope that people (will turn out to) have positive characteristics and we tend to expect that they should have them, so that their behaviour meets/will meet certain standards. (see

Sperber and Wilson, 1981). Assumptions about desirable states of affairs and outcomes are highly accessible. Therefore, they are presumed to be communicated in the absence of other specific contextual assumptions about the situation of communication (including encyclopaedic knowledge that the participants have about each other). So, the use of *believe in* will make positive assumptions more accessible than negative ones. The speaker who intends to communicate a negative belief should indicate this explicitly. Therefore, there may be no need to include *positive* in the linguistic meaning of *believe in*.

The view that humans are generally oriented towards positive outcomes is independently supported by a well-known puzzle about irony. Consider (49) and (50):

- (49) a. How clever!
b. How stupid!
- (50) a. How graceful!
b. How clumsy!

As Sperber and Wilson (1981) observe, (49a) and (50a) are interpreted as ironical more readily than their pejorative counterparts (49b) and (50b) because the speaker is entitled to presume that standards or rules of behaviour are part of the interlocutors' Background. Therefore, such standards and rules may be echoed in ironically used utterances relatively freely, even when the interlocutors' mutual cognitive environment is restricted to their deep and local (i.e. cultural)

Background. Now, utterances which, when used literally, describe states of affairs that are widely regarded as positive, are also used ironically more readily than their negative counterparts. Compare (51) and (52):

(51) What terrible weather! (said on a pleasantly warm sunny day)

(52) What a beautiful day! (said on a cloudy rainy day)

The ironical interpretation of (52) depends on the availability of some assumptions specific to the situation of communication (e.g. it is mutually manifest to the speaker and to the hearer that the latter had predicted with great conviction that the weather would be bad). In contrast to (51), (52) is readily interpreted ironically even in the absence of any contextual assumptions specific to the situation of communication (beyond the interlocutors' mutual awareness of the weather being bad). In Relevance Theory terms this could be accounted for on assumption that the interlocutors' Background includes expectations that things are, or will turn out to be, as is generally desirable. In relation to the weather, such an assumption might be: *It is normal to expect or, at least to hope, that the weather will be nice*, and this assumption is available in the interlocutors' Background.

The orientation of human cognition towards positive beliefs and outcomes should account for the typical interpretations of (3) and (4) (repeated below as (53) and (55)) in a fairly straightforward way. Consider (53):

(53) Mary believes in the Loch Ness Monster.

The set of widely held beliefs (more technically, beliefs which can be presumed to be in the mutual cognitive environments of many people) about the Loch Ness Monster includes the following:

- (i) There have been a number of alleged sightings of the Loch Ness Monster.
- (ii) Some of the sightings are known to be frauds.
- (iii) None of the sightings are clear enough to provide conclusive proof of the creature's existence.
- (iv) It is uncertain whether the Loch Ness Monster exists.
- (v) If the Loch Ness Monster does exist, it is a reclusive and probably docile creature.

In the context of (i) - (v) (and other assumptions which are consistent with (i) - (v)) the most positive belief about the Loch Ness Monster is that it might exist.

Therefore, (53) is optimally relevant if taken to express a proposition like (54):

- (54) Mary believes that the Loch Ness Monster exists.

A more specific assumption (say, *Mary believes that the Loch Ness Monster brings good luck to those who catch sight of it*) would not be consistent with the Principle of Relevance in the context of (i) - (v), because a rational communicator would not be entitled to presume that it is adequately evidenced by (54) in this context.

When the belief in the existence of the NP referent is held at maximal strength, it is not relevant enough to be worth communicating. In such a case, the complement of *believe in* is typically developed into a proposition about the causal efficacy of the NP referent, because of the general orientation of human cognition towards cause-effect relations, which play a key role in shaping our understanding of the world (see articles in Sperber, Premack and Premack, 1995). Therefore, it is to be expected that beliefs/assumptions about the causal properties of an entity should generally be fairly manifest and readily available in utterance comprehension. Consider (4) (repeated as (55)):

(55) Mary believes in aspirin

The most likely context for the interpretation of (55) includes some assumptions like the following:

- (vi) aspirin is a well-known traditional medicine;
- (vii) some people think aspirin is less effective than antibiotics;
- (viii) some people believe that aspirin may relieve the symptoms of some minor illnesses;
- (ix) some people believe that aspirin has a powerful curative effect;
- (x) some people believe that aspirin is good for the heart;
- (xi) some people believe that, if taken in large doses, aspirin is bad for the kidneys.

In a context which includes (vi) - (xi) the most salient belief about aspirin communicated by (55) would be, roughly, (56):

(56) Mary believes that aspirin is an effective medicine.

On this account, positive orientation is clearly a distinct aspect of the interpretation of *believe in* from causal efficacy. The contrast between (57) and (58) lends support to this view:

(57) Mary does not believe in aspirin.

(58) Mary does not believe in euthanasia.

Intuitively, (57) denies the therapeutic effects of aspirin, rather than that they are desirable, whereas (58) denies that euthanasia is ethical, without denying that it is causally efficacious as a method of precipitating the death of a dying person.

Even when the interpretation of an utterance with *believe in* is more complex, it builds on the notion of causal efficacy. Consider (59):

(59) I hoped that in walking around after dark I might witness a murder, but for the most part our neighbours just sat in their living rooms, watching TV. The only place that seemed truly different was owned by a man named *Mr. Tomkey, who did not believe in television*. This was told us by our

mother's friend, who dropped by one afternoon with a basketful of okra.

The woman did not editorialize – rather, she just presented her information, leaving her listener to make of it what she might.

...

To say that you did not believe in television was different from saying that you did not care for it. Belief implied that television had a master plan and that you were against it. It also suggested that you thought too much.

When my mother reported that Mr Tomkey did not believe in television, my father said, “Well, good for him. I don't know that I believe in it, either.” [italics VŽ] (from: David Sedaris, *Dress Your Family in Corduroy and Denim*, p.4)

In (59) the author attributes to the characters in the novel the interpretation on which *not believing in television* involves *not believing that television's (secret) plan to have particular effects on its viewers is desirable*. This richer interpretation is available only to people whose mutual cognitive environment includes a lot of assumptions about their ways and habits. That is why the author's description of what *not believing in television* meant for the local people creates the impression of a close-knit community.

Predictably, when the context includes doubts about both the existence and the functional efficacy of the NP referent, the utterance with *believe in* is likely to be understood as communicating explicitly (and, therefore, as entailing) that the

subject believes in both the existence and the causal efficacy of the NP referent. For example, (60) could communicate both (61a) and (61b):

(60) Mary believes in God.

(61) a. Mary believes that God exists.

b. Mary believes that God is causally efficacious in a positive way.

Therefore, in this situation (62) would be somewhat odd, but not contradictory:

(62) I do not believe in God, although I believe that God exists.

because this utterance could be taken to mean that God is not causally efficacious or is not a force for good. In contrast to (62), (63) would express a contradiction in any context (with the unlikely exception of that available to a person who believes that existence is not a prerequisite for causal efficacy):

(63) ?I believe in God, but I do not believe that God exists.

It follows from the Communicative Principle of Relevance (and the operation of the comprehension strategy licensed by it) that, if both the existence and the positive causal efficacy of God have been doubted, the logical form of (60) should be pragmatically enriched to include both existence and positive causal efficacy, because this explicature will yield extra cognitive effects at no extra cost.⁵

To sum up: I have tried to make a case for a very general linguistic meaning of *believe in* and to account for the restricted range of its interpretations in terms of a couple of general constraints built into human cognition:

- the orientation towards positive events and outcomes, and
- the orientation towards causal efficacy.

It is worth noting that this account is more plausible than alternative analyses on which the linguistic meaning of *believe in* is more specific. Thus, it may seem reasonable to take the view that the linguistic meaning of *believe in X* is: *believe in the existence of X*. All other interpretations could then be explained by a process of pragmatic enrichment (see Carston, 2002). However, there are two serious problems with this idea. First, the word *existence* may be used within the NP in the complement of *believe in*, as in (64):

(64) Mildred believes in the existence of life on Mars.

If *existence* were a part of the linguistic meaning of *believe in*, then utterances like (64) should be pleonastic, which is not the case. Second, there are many examples in which the inferential route which would take the hearer from *believe in the existence of X* to the intended interpretation seems difficult to explain pragmatically.

(65) Mary believes in Peter.

(66) Meredith believes in working early in the morning, rather than staying up late at night.

On the view that *existence* is a part of the linguistic meaning of *believe in X*, the interpretation of utterances such as (65) and (66) ought to include some hypotheses about the speaker's reasons for using an expression with one linguistic meaning to communicate some propositional representations of which this meaning is not a part and to which it is (intuitively) not related.

Another possibility might be that *causal efficacy* is (a part of) the lexical meaning of *believe in* and to explain the existential interpretation of this expression pragmatically, in terms of loose use/conceptual loosening (see Carston 2002).

However, it is entirely unclear how such an analysis might be motivated, as the examples which it would need to account for are not instances of approximation or metaphor. A pertinent feature of utterances whose interpretation involves pragmatic loosening is that they (often) give rise to conflicting judgements about their truth.

(67) France is hexagonal.

When asked whether (67) is true or false, some people will say: "True" and others will say: "False". As Carston (1996: 85-6) observes, these answers are comments on different things: (a) the proposition the speaker intended to communicate by the utterance (*true*), and (b) the linguistic meaning of the utterance (*false*). As far as I

am aware, existentially interpreted utterances with *believe in NP* generally do not give rise to such conflicting judgements.

The pragmatic analysis of the meaning of *believe in* outlined here has a number of advantages over an alternative account of this sort. On this account, the linguistic meaning of *believe in* is: *hold a belief about a property of the NP referent.*⁶

5. Conclusion

The analysis I have proposed here for the meaning of *believe in* - one with a lean semantics and rich pragmatics - is an example of the general importance of pragmatics for the study of lexical meaning. That is why I like to think that this paper makes a small contribution to the bold vision expressed some years ago by Neil Smith:

“... I suspect that once one has a theory which trades on the maximisation of relevance and the minimisation of processing cost, then some of the problems of natural language which have motivated complex semantic analyses evaporate. Just as the development of formal theories of meaning in the 60's and 70's revealed that problems previously thought to be syntactic were better treated semantically, so I believe that the development of theories of performance in the 80's will reveal that problems previously thought to be semantic are better treated pragmatically.”

(Smith 1983: 15)

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Notes

1. Explicature is a relevance-theoretic term denoting “an ostensively communicated assumption which is inferentially developed from one of the incomplete conceptual representations (logical forms) encoded by the utterance” (Carston, 2002: 377). Communicated assumptions which are not explicatures are termed (conversational) implicatures.

2. Note that *believing (in)* is treated in the philosophy of language as (semantically) a three-place relation, between an individual, a proposition and a mode of presentation.

3. The idea that all constituents of the propositional content of an utterance are articulated seems to be descriptively inadequate. For example, Breheny (2002: 183-

4) discusses examples in which the dependent interpretation of bound variables cannot be accounted for in terms of a covert syntactic element.

4. The following definitions may be useful:

manifestness (of an assumption to an individual): the degree to which an individual is capable of mentally representing an assumption and holding it as true or probably true at a given moment.

cognitive environment of an individual: the set of assumptions that are manifest to an individual at a given time.

mutual cognitive environment: a cognitive environment which is shared by a group of individuals and in which it is manifest to those individuals that they share it with each other; every manifest assumption in a mutual cognitive environment is 'mutually manifest'.

(taken from Carston 2002: 376-8)

5. Note that if the existence of the NP-referent is in doubt, and if the encyclopaedic entry for the NP-referent includes assumptions about its negative causal efficacy, the utterance may easily be found relevant only on the existential interpretation. Thus, *Mary believes in Satan* is likely to be taken to mean: *Mary believes in the existence of Satan*, rather than, say, *Mary believes in the existence of and worships Satan* (unless Mary is known to be a worshipper of dark forces, in which case the utterance has a slightly humorous, ironical, overtone).

6. The linguistic meaning of *believe (in)* may be even less specific. Let me assume that the NP in *believe NP* has the thematic role SOURCE, and the NP in *believe in NP* the thematic role THEME. This seems plausible in view of some basic facts

about these predicates. Thus, *believe NP* readily appears in passive sentences, whereas *believe in NP* does not.

- (i) a. Mary always believed Peter.
b. Peter was always believed by Mary.
- (ii) a. Mary always believed in Peter.
b. *Peter was always believed in by Mary.

This seems to me to suggest that my pragmatic account of the way utterances with *believe (in)* are interpreted is perfectly consistent with the view that *believe* takes a proposition as its logical complement, with the thematic role of the NP being the only semantic difference between *believe NP* and *believe in NP*.