Title: Is a speaker-based pragmatics possible? Or how can a hearer infer a speaker's commitment?

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Cover letter
Is a speaker-based pragmatics possible? Or how can a hearer infer a speaker's commitment?

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1. Introduction

In this paper, I defend a speaker perspective based on one of the main outcomes of pragmatics, defined as a theory of utterance interpretation (Sperber & Wilson 1986), that is, a theory of meaning. Without making a distinction between comprehension and interpretation¹, I will argue that one way to access the speaker’s perspective is to account for the set of meaning relations her utterance triggers, such as entailment, presupposition, explication and implicature. Although the output of my proposal is not new – I will introduce a classical division of labor between semantic and pragmatic meaning – its originality lies in connecting a layered theory of semantic and pragmatic meanings with

¹ For Wilson (2012), a theory of comprehension has as main object the construction of the speaker’s informative and communicative intentions, whereas a theory of interpretation has as main object the way an audience makes sense of the speaker’s utterance, and thus includes weak implicatures, which are under the responsibility of the hearer.
a speaker’s perspective. In doing so, I intend to contribute to disentangling pragmatics from a pure interpretation issue, escaping the objection raised by pragmatic approaches focused on the speaker.\footnote{For instance, classical structuralist approaches to communication and language use are focused on the speaker, as they started from the ego origin issue, implying a speaker, a time of utterance and a place of utterance (see Benveniste 1966).}

This paper is organized as follows. Section 2 addresses the general issue dealing with the conditions of possibility for a speaker’s perspective in pragmatics: I will argue that pragmatics is not neutral relative to meaning, and that pragmatics has mainly focused on the interpretation side, for technical and empirical reasons. Section 3 is about speakers’ commitments and propositional attitudes: higher-order explicatures in Relevance Theory, that is, the type of inferred meaning that can be made explicit but is non-truth-conditional. Whereas basic explicatures are the result of the development of a full proposition, higher-order explicatures are by definition speaker-oriented: they are about the speaker’s illocutionary point and his propositional attitude. Section 4 introduces the core section of the paper, which deals with the different levels of meaning: a layered approach to meaning is proposed, which will be consistently connected with a specific type of commitment. Finally, section 5 deals with metalinguistic negation, because negation will be used as one of the tests in distinguishing four different layers of meaning.

2. Is a speaker perspective possible in pragmatics?

It is not surprising that pragmatics has been mainly devoted to describe, explain, and predict how utterances are understood in context. The main reason is that a speaker perspective in pragmatics would imply answering to issues that mainly concern psycholinguists (cf. Levelt 1989), that is, the way in which thought is translated into words and sentences. By addressing the interpretation issue, pragmatics has radically reduced the scope of one of the most mysterious facts about natural languages: speakers do not explicitly communicate their intentions, and addressees have the hard task of inferring what the speaker means from his utterance (overt information) and some contextual assumptions (covert information) necessary to get the right and intended interpretation. However, even though this reduction process is not an easy task, addressing the production side of linguistic communication does not make the issue simpler. In effect, investigating linguistic communication from the speaker’s perspective implies answering the following questions: i) Can an interpretive perspective predict anything about the speaker? and ii) Is pragmatics neutral concerning the speaker’s and the hearer’s perspectives?
Let us start by answering the second question. If pragmatics is neutral, then linguistic communication should be symmetrical. In other words, what an audience does in interpreting an utterance would be just the reverse process of an information encoding process by the speaker, that is, a decoding one. But this is only possible within a code model approach. Because pragmatic processes are mainly inferential, the neutral perspective is elusive. So the first conclusion is that, from a pragmatic point of view, linguistic communication is an asymmetrical process.

What does an asymmetrical perspective on communication imply? An asymmetrical perspective presupposes that production and interpretation processes are not identical. This is not totally surprising since the publication of Relevance (Sperber & Wilson 1986), which introduced the concept of ostensive-inferential communication. This is not totally odd either, for two reasons. First the speaker’s intention is to bring about her informative intention by making her audience recognize her communicative intention (Grice 1989, Sperber & Wilson 1986). In doing so, she needs to make two types of choices: first, the right linguistic encoding, that is, an encoding which will not mislead her audience or require unjustified cognitive costs in processing; second, the right contextualization of her utterance, in order to make her informative intention as accessible as the presumption of optimal relevance requires. The second reason is that the hearer has to trigger two types of processes while interpreting the speaker’s utterance: accessing the right contextualization and launching the appropriate procedures associated with linguistic expressions.

Now, it must be made explicit why we do not face here a symmetrical perspective, that is, why interpreting linguistic expressions and contextualizing the speaker’s utterance is not just the symmetrical process of the choice by the speaker of some expressions and contexts. The answer takes into account the claim that producing as well as interpreting an utterance is a risky job. First, the speaker can be mistaken in her contextualization: she can erroneously choose linguistic expressions triggering unjustified inferences in that context. Second, the hearer can have partial or erroneous access to the relevant contextual assumptions. For instance, he can invoke unjustified contextual assumptions and trigger unwarranted conclusions.

Let us now try to answer the first question: Can an interpretive perspective predict anything about the speaker? In an interpretive perspective, utterances are defined as giving cues on the

3 This is a claim we assume and it will not be demonstrated here. See Sperber & Wilson (1986) for an extended demonstration.

4 At a conceptual level, we can imagine a situation where some strong or weak implicatures are easily accessible; at a procedural level, the erroneous choice of connectives, tenses, referential expressions are typical of this situation.
speaker’s informative and communicative intentions. These cues can be therefore linguistically marked or contextually inferred. So the reason why an interpretive perspective can make some predictions about the speaker is because a fine-grained analysis of linguistic cues is a good way to access the speaker’s intentions and attitudes. For instance, in order to access the speaker’s commitment, it is necessary to access the illocutionary force and the propositional attitudes of his utterance, that is, higher-order explicatures (Carston 2002).

3. Speakers’ commitment and propositional attitude

Speakers’ commitment and propositional attitudes are classical topics mostly investigated by speech act theory (Searle 1969, 1979, 1983). As a matter of fact, speech acts involve different types of speakers’ commitment. For instance, a promise engages a speaker to do something, an assertion bounds the speaker to the truth of the proposition expressed, a request implies the speaker’s attempt to get the hearer to accomplish the action requested for, etc. All these commitments are generally described in terms of semantic conditions on speech acts – the essential condition in Searle (1969) – or in meaning postulates correlated with conversational postulates (Gordon & Lakoff 1975). In more general terms, accessing the speaker’s commitment is equivalent to accessing his mental state.

Now, from an interpretive perspective, such as the classical speech act theory (Austin 1962, Searle 1969), the speech act uptake is mainly a linguistic issue, and receives a precise answer. For instance, Searle’s principle of impressibility predicts that there is no thought that cannot be linguistically expressed, which implies that the relation between the speaker’s meaning and the sentence meaning is transparent. One consequence is that in speech act theory, communication is not asymmetrical, since the access to the speaker’s commitment is ensured through conventional means. In other words, there are conventions connecting utterances and speech acts, for example, general communicative principles ‘à la Grice’ augmented by more specific procedures of interpreting indirect speech acts (Searle 1979).

What about propositional attitudes? Propositional attitudes are the description of the speaker’s mental states such as belief, intention, desire, etc. For any type of speech act, the uptake of the corresponding propositional attitude is crucial. This can be seen in the difference between assertion and lies for declarative sentences, genuine and rhetorical questions for interrogative sentences, and order and threat for imperative sentences, as (1) to (3) show:

(1) HE broke the vase!
(2) Is the EU not responsible for the current crisis in Greece?
Contrary to accessing the speaker’s commitment, inferring the propositional attitude is not a sole linguistic process: it is mainly a contextual one. If it were a simple linguistic process, there would be no means to understand that the speaker is lying in (1), not asking a question in (2) and threatening his addressee in (3). But we can give a more contextual approach to the speaker’s commitment too: accessing the speaker’s commitment, in a Gricean perspective, is by no means a decoding process, but an inferential one. If the speaker’s commitment is closely connected to what Grice defines as non-natural meaning, the access to the speaker’s meaning cannot be triggered by a linguistic convention any more: it is a strict inferential process, which is a non-demonstrative one.

So, for any type of speech act, the access to the speaker’s commitment and his propositional attitude is crucial for accessing his informative intention. In an inferential framework, such as Relevance Theory, both the speaker’s commitment and propositional attitude belong to higher-order explicatures, in other words, to the non-truth-conditional aspect of meaning.

What conclusion can we draw? Even if we assume that linguistic communication is fundamentally asymmetrical, and implies more than a decoding process following linguistic conventions, it appears that both illocutionary force and propositional attitudes are levels of meaning which focus on the speaker’s perspective. So, a pragmatic approach focusing on the speaker can capitalize on an inferential perspective since higher-order explicatures are good cues of the speakers’ intentions.

Other questions remain: How can a hearer access the speaker’s commitment and propositional attitude? What are the principles that are efficient in order to confirm some involvement by a speaker to a proposition or any other type of content? As soon as pragmatic content is taken into account, such as basic explicatures and implicatures, the picture seems to be radically different and more complex for higher-order explicatures. If a basic explication is defined as a development of a logical form, it means that basic pragmatic processes, such as disambiguation and pragmatic enrichment, are implied in any kind of inference about the speaker’s commitment on any propositional content as well as any illocutionary act. The ability for the hearer to infer a full propositional form allows him to infer the speaker’s commitment and propositional attitude as soon as the relevant higher-order explicatures are accessed. As for implicatures, the picture is much more complex because an implicate can be strong or weak, that is, attributed to the speaker or to the hearer (Sperber & Wilson 1986). In the case of strong implicatures, the main issue is the reliability of the accessed contextual assumptions, because basic explicatures are required for inferring the relevant implicated premises.

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5 The case of weak implicatures will not be developed in this paper.
Whatever the nature of pragmatic contents is, the main issue in interpreting utterances is the strength or the force with which an assumption, either explicit or implicit, can be inferred as being entertained by a speaker. What is interesting is that Sperber & Wilson (1986, chapter 2) gave an explicit answer to this question by distinguishing two possible approaches: the logical vs. the functional view.

The logical view gives subjective probability values to representations. In the logical view, every factual assumption consists of two representations, given in (4a) and (4b):

(4)  
a. Jane likes caviar.  
b. The confirmation value of (a) is 0.95

In other words, the assertion of a propositional form gives rise to a confirmation value, which crucially depends on several pragmatic parameters. If (4a) is uttered by Peter, Jane’s husband, the confirmation value will be much higher than if the speaker is one of Jane’s office colleagues, who saw, for instance, Jane eating caviar in a party, ignoring she is a polite guest who did not want to offend her host. But other parameters can be evoked, for instance the context of utterance, which can add information on the reliable vs. unreliable character of the utterance. On another perspective, it is clear that the confirmation value can be strengthened or lowered by means of linguistic cues, as in (5)-(7):

(5)  
Everyone knows that Jane likes caviar.
(6)  
Jane should like caviar: she eats much seafood.
(7)  
Peter told me that Jane likes caviar.

In the logical view, the force of the confirmation value in based on a set of contextual assumptions and linguistics cues. But whatever the confirmation value is, the principle is the same: a propositional form receives a value between 0 (false) and 1 (true), and this value is a good cue of the strength of the speaker’s commitment. For instance, (5) uttered in an ironical tone is a good cue for attributing a very weak confirmation value to (4a).

However, there is an unsolved issue for the logical view: if the context and linguistic markers are good cues for inferring its confirmation value, what about the speaker’s degree of commitment? We could imagine a situation in which a speaker pretends to make believe that Jane likes caviar by uttering (5), whereas she perfectly knows that it is not the case. Can the functional view solve this problem?

For Sperber & Wilson, on the functional view, a factual assumption consists of a single assumption: its strength is simply proportional to its accessibility, which means that the strength of an assumption is relative to a context. Even if both (8) and (9) are descriptions of true propositions,
(8) is more accessible, and thus stronger, than (9), because it is not obvious for an audience to be able to check whether Thebes was truly the capital of Egypt under the 20th and not under the 19th dynasty.

(8) Cairo is the present capital of Egypt.

(9) Thebes is the capital of Egypt under the 20th dynasty.

Thus, the way a hearer can trust the speaker is a function of the strength of the assumption communicated, that is, its accessibility.

The functional view seems to be a much more compatible perspective within an inferential framework of meaning. However, beside the general correlation between contextual accessibility and the strength of an assumption, the functional view gives rise to a serious problem: How can a context $C_i$ be said to be more accessible than a context $C_j$? And how is a hearer able to access the right contextual assumption? Is it a simple question of manifestness of information (Relevance Theory) or a question of sharing background information (Theory of Generalized Conversational Implicatures, Levinson 2000)?

The answer this paper wants to give is of another kind. It is assumed in the next section that the strength of an assumption is a function of its semantic or pragmatic nature. The strength of the assumption depends on whether it is a by-product of semantic or pragmatic inferences: assuming that the semantic inferences are stronger than pragmatic ones, we claim that semantic entailments and presuppositions yield stronger propositions than pragmatic explicatures and implicatures. Figure 1 summarizes the relation between the nature of the content communicated and its strength.\(^6\)

![Figure 1: type of content and strength of content](image-url)

\(^6\)We make here the strong assumption that the nature of inferred meaning is correlated with its accessibility, and that context does not interfere. This reduction is only possible if implicatures are restricted to what Grice called generalized conversational implicature.
In other words, the stronger the inferred content is, the more confident is the audience about the speaker’s commitment. So my claim is that, from a speaker-based pragmatics, whereas a speaker cannot deny a semantic inference without contradiction, in the case of a pragmatic inference, she can correct her explicature, and also deny her implicature without contradiction.

If the connection between the nature of the inferred content and the type of commitment is relevant, then the condition under which those contents can be true is crucial for a speaker-based pragmatics. In other words, I hypothesize in the next sections of this paper that the speaker’s degree of commitment vis-à-vis her utterance depends on the nature of the inference is gives rise: a speaker is more committed to a semantic content than to a pragmatic one.

4. Levels of meaning and degrees of commitment

In this section, we examine four levels of meaning that are relevant to infer the speaker’s degree of commitment to her utterance. This conception of meaning as a set of structured representations implies that meaning is defined as a complex layer of representations, including truth-functional meaning as entailment and presupposition, and a set of pragmatic meanings, that is, explicatures and implicatures.

4.1. Entailments and presuppositions

Traditionally, entailments and (semantic) presuppositions are associated to truth-functional values. (10) and (11) give the classical definitions for entailments and semantic presuppositions:

(10) \( P \) entails \( Q \): a. If \( P \) is true, then \( Q \) is true; b. If \( P \) is false, then \( Q \) is true or false.

(11) \( P \) presupposes \( Q \): if \( P \) is true or false, then \( Q \) is true.

Traditionally too, semantic presupposition is defined through the entailment relation (Gazdar 1979, Levinson 1983):

(12) \( P \) presupposes \( Q \) iff
   a. \( P \) entails \( Q \)
   b. not-\( P \) entails \( Q \)

The examples in (13) illustrate all possible entailment relations:

(13) a. Nath has a Chow. He bought a new dog.
    b. Nath does not have a Chow; he bought a Labrador.
    c. Nath does not have a Chow; he bought a cat.

In (13a), the negation of Nath has a Chow does not entail that Nath does not have a dog, since (13b) shows that the entailment \( Q \) of \( P \) can be true, whereas in (13c) − a marked case −, \( Q \) is false.
when $P$ is false. In (14), the positive (a) and negative (b) sentences all entail (c), that is, they presuppose it.

\begin{align*}
\text{(14)} & \\
\text{a. Sam knows that he failed.} \\
\text{b. Sam does not know that he failed.} \\
\text{c. Sam failed.}
\end{align*}

Such classical definitions allow to give truth tables for entailment and presupposition, as in table 1 and 2:

<table>
<thead>
<tr>
<th>$P$</th>
<th>$Q$</th>
<th>$P$ entails $Q$</th>
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<tbody>
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Table 1: truth table for entailment

<table>
<thead>
<tr>
<th>$P$</th>
<th>$Q$</th>
<th>$P$ presupposes $Q$</th>
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Table 2: truth table for semantic presupposition

As we can see, the semantics of an entailment is the semantics of the conditional relation \textit{(if...then)}, which gives a very interesting view of the logic-semantics interface since the sets of entailments receive a formal foundation.

On the other hand, there is a strong impact of entailments and presuppositions on the semantic content of an utterance: entailments and presuppositions are semantic contents that can be neither made explicit nor denied under descriptive negation, as illustrated in (15) and (16):

\begin{align*}
\text{(15)} & \\
\text{a. } \text{? Nath has a Chow, so he has a dog.} \\
\text{b. } \text{?? Nath has a Chow, but he has no dog.}
\end{align*}

\begin{align*}
\text{(16)} & \\
\text{a. } \text{? My daughter is in Japan, so I have a daughter.} \\
\text{b. } \text{?? My daughter is in Japan, but I have no daughter.}
\end{align*}

The only possibility of making explicit a presupposition is in epistemic uses of \textit{because} (Sweetser 1990), as in (17a). Notice that the epistemic use of \textit{because}, which means that the second
proposition is inferred from the first one, is not possible with an entailment in the *because*-clause (17b):

(17)  a. My daughter is in Japan, because I have a daughter.
    b. ?? Nath has a Chow, because he has a dog.

What is the consequence of this analysis? The truth values of an entailment and a presupposition – and therefore the strength of their assumptions – depend on the truth value of the utterance. In a nutshell, the speaker’s commitment can be represented as a function of her commitment to the entailment and presuppositions of her utterance, and in consequence reduced to its entailments and presuppositions. This means that a speaker cannot in the same utterance assert and deny an entailment or a presupposition that her utterance conveys. (15b) and (16b) show that such utterances are semantically inconsistent, and that they cannot be accommodated by any supplementary contextual assumptions.

For instance, suppose the following context. I, as a speaker, have reasons to believe that Jacques’ daughter is in Japan, and that Nath bought a Chow. If I entertain these beliefs, then I automatically entertain, with the same strength, the belief that Jacques has a daughter, and that Nath bought a dog. Now suppose that I strongly believe that Jacques has a daughter and Nath bought a dog. In these situations, I cannot infer that Jacques’ daughter is in Japan, nor that Nath bought a Chow: I must have some independent reasons for entertaining such beliefs, and if it is false that Jacques’ daughter is in Japan, this does not affect the truth of my belief that Jacques has a daughter. In the dog situation, the situation is the same: if I strongly believe that Nath bought a dog, I cannot infer what breed he bought without any other information. I will examine later cases in which entailments and presuppositions are false.

### 4.2. Explicatures

Pragmatic contents as explicatures and implicatures are also strong cues of the speaker’s commitment. Explicatures are enriched logical forms (i.e. propositional forms) and are truth-functional: an explicature is true or false iff the proposition expressed by the utterance is true or false.

Let us take a classical case of propositional enrichment, the saturation of temporal [t] and spatial [l] variables, which has been called *unarticulated constituents* (Carston 2002, Récanati 2010): (18), for example, will be enriched in (19):

(18)  It’s raining [l] [t].

(19)  It’s raining [at Sainte-Cécile] [on Sunday, March 18].
If the sentence is false (20), it is because its enriched proposition (21) is false:

(20) It’s not raining.
(21) It’s not raining [at Sainte-Cécile] [on Sunday, March 18].

As (18) cannot be true when its explicature is false, and the explicature cannot be true when the proposition is false, the truth conditions for explicature are those of a bi-conditional relation (table 3):

<table>
<thead>
<tr>
<th>P</th>
<th>Q</th>
<th>P is made explicit by Q</th>
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Table 3: truth conditions for explicatures

This definition entails that (18) has as pragmatic meaning (22):

(22) *It’s raining* IS TRUE IFF It’s raining [at Sainte-Cécile] [on Sunday, March 18].

One strong difference between entailment and presupposition on the one hand, and explicature, on the other, is that an explicature can be made explicit, either basic (propositional) as in (23a), or higher-order (23b-c):

(23) a. It’s raining, I mean, here in Sainte-Cécile, right now.
    b. Can you take down the garbage? It’s not a question; it’s an order.
    c. Frankly, John is an idiot.

However, explicatures, if they can be made explicit, cannot be denied. Suppose that (24) has as an explicature (25):

(24) Abi and Félicie climbed the Roche de Solutré.
(25) Abi and Félicie climbed the Roche de Solutré [together].

Now, if (26), which corrects the enrichment in (25), is acceptable, it is not because (25) can be denied as an explicature of (24): it is because it is not the right explicature. So if (26) is possible, it is because (24) has as explicature (27) and not (25):

(26) Abi and Félicie climbed the Roche de Solutré, but not together.
(27) Abi and Félicie climbed the Roche de Solutré [alone].

So, the conclusion is that the speaker is very strongly committed to the explicature of her utterance. The uptake of the right explicature is a necessary condition for inferring the right
propositional form (23a), as the right illocutionary force (23b), and the right propositional attitudes (23c).

### 4.3. Implicatures

What about conversational implicatures? Traditionally, conversational implicatures are defined as non-truth-conditional meanings (Moeschler 2012 for a synthesis). This means that conversational implicatures can be true or false if the utterance is true, and true or false if the utterance is false.\(^7\) They do not have truth-functional contents, but differ from presuppositions: (i) They are not background information; (ii) They correspond to what the speaker means, that is, wants to say. (iii) They are not equivalent to what is communicated, that is, what is said plus what is implicated.

Let us take the example of scalar implicatures. Scalar implicatures are triggered by quantitative scales, such as \(<4 \text{ children}, 3 \text{ children}, 2 \text{ children}\>\). In such a semantic scale, two relations are involved: a semantic relation of entailment (ENT) and a pragmatic relation of scalar implicature (SI), as exemplified in (28):

\[
\begin{align*}
(28) & \quad \text{a. ENT: } 3 \text{ children } \rightarrow 2 \text{ children} \\
& \quad \text{b. SI: } 3 \text{ children } \leftrightarrow \text{not-4 children}
\end{align*}
\]

(30a) gives the entailment and (30b) the scalar implicature of a positive sentence like (29):

\[
\begin{align*}
(29) & \quad \text{Anne has three children.} \\
(30) & \quad \text{a. Anne has two children.} \\
& \quad \text{b. Anne does not have four children.}
\end{align*}
\]

The scalar implicature can now be cancelled without contradiction, as in (31):

\[
\begin{align*}
(31) & \quad \text{Anne has three children, and even four.} \\
(32) & \quad \text{a. Anne has four children.} \\
& \quad \text{b. not [Anne does not have four children]}
\end{align*}
\]

(32a) is the entailment of (31) and (32b) is the negation of the scalar implicature of the positive utterance (29).

Now, what happens with a negative sentence? Without a corrective sentence, (33) triggers a downward entailment, and the SI (30b) of the positive sentence (29) seems to be irrelevant in such a negative context:

\[
\begin{align*}
(33) & \quad \text{Anne does not have 3 children.} \\
(34) & \quad \text{Anne has 2 children.}
\end{align*}
\]

---

\(^7\) I discuss cases of metalinguistic negations scoping over implicatures in section 5.
Indeed, triggering (30b) as a SI is counter-intuitive in that context: a speaker uttering (33) does not want to communicate the SI (30b) *Anne does not have four children*, because the possible consequences of the positive sentence (29) *Anne has three children* are now under negation. Put otherwise, a situation where it would be false of Anne to have three children and true of her not to have four children is excluded by the SI *three children +> not-four children*. But even when the proposition and the implicatum are both false, this does not imply that the implicature relation is ruled out. On the contrary, a situation where Anne does not have three children (P = 0) and a situation where she has four children (Q = 0)\(^8\) can be true under descriptive negation, as shown in (35):

(35) Anne does not have 3 children... so she does not have 4 children.

However, if the utterance is true and the implicatum true or false, the implicature relation is true, as shown in Table 4:

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<th>P</th>
<th>Q</th>
<th>P implicates Q</th>
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Table 4: truth conditions for implicatures

On the other hand, the implicature relation is only false when the implicatum is true (Anne does not have four children) and the proposition false (Anne does not have three children). This is mainly because the entailment of the implicatum and the negated proposition are not the same, and are only partially intersecting, as (36) shows:

(36) a. Anne does not have four children $\rightarrow$ Anne has less than four children

b. Anne does not have three children $\rightarrow$ Anne has less than two children

In other words, the situation where Anne has three children, which is an entailment of the SI, is contradictory to the negated proposition, and thus excluded.

Two issues are illustrated by examples of scalar implicatures and negative utterances with scalar operators. First, as it will be shown in section 5, negation of scalar operator gives rise, when followed by a corrective upward utterance, to metalinguistic negation (cf. 37). Second, the implicature cases rise a very crucial issue: implicature being a non-truth-conditional content, that is, a content that can be denied, what is the role played by any implicature on the speaker’s commitment? In a nutshell, if

\(^8\) P is the proposition *Anne has three children* and Q its scalar implicature *Anne does not have four children*. 
an implicature can be cancelled without contradiction, as in the next example (37), it means that it is a weak content, which can only been supported by contextual assumption.

The next section focuses on metalinguistic negation and its effect on truth-functional properties.

5. Metalinguistic negation, implicature and presupposition

What about an example like (37), which is a classical case of metalinguistic negation? In (38a), its entailment is made explicit (the entailment equals the corrective sentence) and the scalar implicature of the corresponding positive sentence (38b) is false under metalinguistic negation since it is contradictory to its entailment:⁹

(37) Anne does not have three children; she has four.

(38) a. Anne has four children.
    b. not [Anne does not have four children]

It seems, therefore, that if the explicature is false (Anne does not have three children), the SI is false under metalinguistic negation (38b), but in this case, the implicature relation still holds since the entailments (39) are true propositions: it is because the implicature (38b) is false under metalinguistic negation that the relation between a positive utterance (Anne has three children) and its implicature (Anne has not four children) holds:

(39) a. Anne has four children.
    b. Anne has three children.

What are then the main differences between descriptive and metalinguistic negation? What is noticeable is that descriptive negation does not need to be completed by a corrective clause, whereas metalinguistic negation requires a corrective clause, as the contrast between (40) and (41) shows:

(40) Anne does not have three children (she has two).

(41) Anne does not have three children *(she has four).

There is, of course, a crucial difference in the scope of negation: in (40), negation has narrow scope, as illustrated in (42), whereas in (41), it has wide scope as shown in (43):

(42) Anne has not[three children] & Anne has two children
(43) not[Anne has three children] & [Anne has four children]

⁹ We accept here the hierarchy of inference proposed by Gazdar (1979): entailment > implicature > presupposition.
In the narrow scope interpretation, the positive proposition is false, and the negative proposition is therefore compatible with its downward entailments. In the wide scope interpretation, on the other hand, what is focused by negation is not the proposition itself, but its scalar implicature. What has to be explained in the difference between (40) and (41) is the necessary presence of the corrective clause with metalinguistic negation. One possible explanation is the identity vs. difference between entailments and scopes of negation: in descriptive negation, there is strict identity between the set of entailments and the scope of negation (meaning ‘less than’), whereas the set of entailments with metalinguistic negation includes the scope of negation, which is restricted to the scalar implicature. Figure 2 is an illustration of such a difference applied to (40) and (41):

```
Descriptive negation
children

5
4
3
2
1

scope of negation

set of entailments

Metalinguistic negation
children

5
4
3
2
1

Figure 2: scope of negation and entailments
```

Is the difference between descriptive and metalinguistic also productive for the presupposition issue? In section 4.1, I gave the truth conditions for presupposition, which was restricted to descriptive negation. As it has been well known since Gazdar (1979), the problem with the semantic definition of presupposition is that a presupposition cannot be false, as the following reasoning shows (Levinson 1983, 175):

(44) a. P presupposes Q
    b. Therefore P entails Q and ¬P entails Q
    c. i. Every proposition P has a negation ¬P
        ii. P is true or P is false (bivalence)
        iii. P is true or ¬P is true (negation)
    d. Q must be always true
Manifestly, the conclusion in (44d) is false, because of the use of metalinguistic negation in presupposition constructions: in that case, the presupposition is defeated by a corrective clause as (45) shows:

(45)  a. The king of France is not bald, because there is no king of France.
     b. Abi does not regret having failed, since she passed.
     c. Mary did not stop smoking, since she never smoked.

What happens in (45)? In the case of metalinguistic uses of negation, we are in situations where the proposition P is false and its presupposition Q is false, too. What about, in that case, the relation of presupposition? Can we claim, as table 2 does, that when P and Q are false, the presupposition relation is false? Manifestly, a speaker uttering (45) does not want say that a definite description the N no more entails that N is unique and exists, that X regrets P does not presuppose P, nor that the construction X stopped P cannot entail P. In all these cases, what is communicated is that the conventional relation of presupposition associated with these constructions does not hold in that particular context. So, the only way to include the effect of metalinguistic negation is to change the fourth line of the truth table for presupposition, as in table 5:

<table>
<thead>
<tr>
<th>P</th>
<th>Q</th>
<th>P presupposes Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>1 v 0</td>
</tr>
</tbody>
</table>

Table 5: truth table for semantic presupposition (second version)

It seems that metalinguistic negation has an effect on presupposition, but not on implicature. In the case of an implicature, when the proposition asserted is false and its implicatum is also false, the implicature relation remains true, as an implicature cannot be true when the proposition is false and the implicatum is true. The application of a metalinguistic negation on an utterance triggering in its positive form a scalar implicature changes the truth values of the propositions: the corrective sentence is entailed, as well as the positive proposition, and both the implicature and the negative proposition are suppressed.

Thus, metalinguistic negation has two main effects: the pragmatic effect is not equivalent when negation cancels a presupposition or an implicature. The consequence is that metalinguistic negation is a complex concept that should be divided in two. Table 6 summarizes these differences:
### Table 6: Descriptive Negation and Metalinguistic Negations

<table>
<thead>
<tr>
<th>Type of Negation</th>
<th>Assertion</th>
<th>Entailment</th>
<th>Presupposition</th>
<th>Implicature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive negation</td>
<td>¬P</td>
<td>Q ∨ ¬Q</td>
<td>Q</td>
<td></td>
</tr>
<tr>
<td>Metalinguistic negation 1</td>
<td>¬P</td>
<td>Q</td>
<td>¬Q</td>
<td></td>
</tr>
<tr>
<td>Metalinguistic negation 2</td>
<td>¬P</td>
<td>P ∧ Q</td>
<td>¬Q</td>
<td></td>
</tr>
</tbody>
</table>

We see that within metalinguistic negation 1, both the assertion and the presupposition are negated, whereas with metalinguistic negation 2, both the negative assertion and the implicature are cancelled, and both positive contents are entailed. Table 7 gives a more precise illustration:

---

In Moeschler (2012), this general picture is made more precise in terms of entailments, scope, connective, discourse relations and contexts. To make a long story short, the entailment relations in these three types of negation are the following (POS stands for the positive counterpart of the negative e-sentence NEG and COR is the corrective sentence):

**Descriptive negation:** COR $\rightarrow$ NEG

**Metalinguistic negation 1** (presuppositional negation): COR $\rightarrow$ NEG (P) & NEG (Q)

**Metalinguistic negation 2** (implicature): COR $\rightarrow$ POS

These three types of negation are inferred from a set of criteria or features: (i) entailment; (ii) scope, (iii) discourse relation, (iv) connective, (v) contextual assumption, (vi) contextual effect, as shown in the following table:

### Table

<table>
<thead>
<tr>
<th>Type of Negation</th>
<th>Entailment</th>
<th>Scope</th>
<th>Discourse Relation</th>
<th>Connective</th>
<th>Contextual Assumption</th>
<th>Contextual Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive negation</td>
<td>COR $\rightarrow$ NEG</td>
<td>equals the set of the utterance entailments</td>
<td>Correction</td>
<td><em>au contraire</em> (on the contrary)</td>
<td>POS</td>
<td>POS</td>
</tr>
<tr>
<td>Metalinguistic negation 1</td>
<td>COR $\rightarrow$ NEG (P &amp; PP)</td>
<td>wide</td>
<td>Explanation</td>
<td><em>parce que</em> (because)</td>
<td>a. POS &amp; PP</td>
<td>a. POS &amp; PP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>b. NEG &amp; PP</td>
<td>b. NEG &amp; PP</td>
</tr>
<tr>
<td>Metalinguistic negation 2</td>
<td>COR $\rightarrow$ POS</td>
<td>restricted</td>
<td>Contrast</td>
<td><em>mais</em> (but)</td>
<td>POS</td>
<td>POS+</td>
</tr>
</tbody>
</table>

where P stands for the proposition expressed, PP for its presupposition, POS for the suppression of POS, POS+ for the reinforcement of POS.
What can we conclude from this analysis? First, metalinguistic negation is a way through which the speaker cannot commit herself to the assertion of the propositional form. In fact, (46) below makes explicit what the negative part of the utterances in (45) means:

(46)  a. I cannot affirm that the king of France is bald, because there is no king of France.
     b. I cannot affirm that Abi regrets to have failed, since she passed.
     c. I cannot affirm that Mary stopped smoking, since she never smoked.

The effect of the speaker’s refusal to commit herself by asserting P entails the suppression of the presupposition, as shown in tables 5 and 6. When a metalinguistic negation applies to an utterance triggering a scalar implicature, like (37), its meaning resembles (47):

(37)  Anne does not have three children; she has four.

(47)  I cannot affirm that Anne has three children, since she has four.

(47) shows in a very precise manner that what negation scopes over is some property of the positive propositional form (Anne has three children), that is, its scalar implicature. (48) is a much more precise explication of (37):

(48)  I cannot affirm that Anne has no more than three children, since she has four.

What happens with utterances containing a descriptive negation? It is interesting to see that in this case all the presuppositions are preserved, but the entailments are not. Does this mean that no conclusion can be drawn when no corrective clause is made explicit? In other words, what are the conclusions that can be drawn from utterance (49)?
Is the meaning (49) underdetermined between (50a) and (50b)?

(50)  a. Nath did not buy a dog.
      b. Nath bought a dog (but not a Chow).

It seems that the only possible accessible reading is (50a). (50b) is a marked reading, and as such, it must be made explicit by a corrective sentence. But we are no more in the same situation as with metalinguistic negation because negation has a narrow scope, as (51) shows it, and figure 3 makes it explicit:

(51) Nath bought not[a Chow] & Nath bought [another kind of dog].

In such a conceptual hierarchy (see Reboul 2007 for a cognitive justification), it is easier to get the entailment (50b), because the scope of negation is restricted to a subcategory. In order to get the (50a) reading with a change of category, negation must go a step further to the DOG category. What is interesting is that the default reading is not the specific one, but the unspecified one.

6. Conclusion

At the end of section 3, I proposed an order of meaning relations, from entailment to implicature. In giving truth conditions of four meaning relations, I tried to point under which conditions a speaker’s utterance commits herself to a set of ordered propositions.

The general picture is two-fold: on one hand, the hierarchy entailment > presupposition > explicature > implicature should represent a strength order, the idea being that an entailment is stronger than a presupposition, a presupposition stronger than an explicature, and an explicature stronger than an implicature. On the other hand, the criterion is not strength, but accessibility. At this point, the hierarchy should not be identical: entailments and presuppositions are not foregrounded, they are backward semantic contents, and even if a speaker is committed to the truth
of the entailments and the presuppositions of her utterance, because of their truth-conditions, they are not contents that the addressee has to evaluate. If we come back to the Relevance-theoretic proposal for evaluating assumptions, the functional view clearly states that strength equals accessibility. With this argument, we predict that explicatures are stronger because they are more accessible than implicatures.

A summary of strength is given in Table 7. The test is truth conditions: when P is true and Q is false, only the implicature gives a true proposition, which means that the commitment of the speaker is not as strong as with the other relations. When the asserted proposition is false, the commitment to the truth of the relation is safe in case it is grounded (i.e. with entailment and presupposition), but not safe with implicature and explicature, which do not accept P to be false and Q to be true, this being consistent with a pragmatic interpretation.

<table>
<thead>
<tr>
<th>P</th>
<th>Q</th>
<th>Entailment</th>
<th>Presupposition</th>
<th>Explicature</th>
<th>Implicature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>1 v 0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 7: order of strength

Entailment is stronger than presupposition because it gives only one possibility when both P and Q are false; presupposition is stronger than explicature because it allows the relation to be true when P is false and Q is true; explicature is stronger than implicature because it rules out a logical constraint semantic relations also do: the impossibility to accept the relation to be true when P is true and Q false.

Finally, the accessibility order is given by the explicit/implicit distinction and the pragmatic/semantic one: what is semantic is a deeper content than a pragmatic and an implicit one less accessible than an explicit one. Table 8 summarizes these relations.

<table>
<thead>
<tr>
<th></th>
<th>Explicature</th>
<th>Implicature</th>
<th>Entailment</th>
<th>Presupposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantic</td>
<td></td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Pragmatic</td>
<td>√</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Explicit</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implicit</td>
<td></td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

Figure 8: order of accessibility

Therefore strength and accessibility can converge: semantic relations are less accessible, but stronger; pragmatic relations are more accessible, but lighter.
In short, the task of inferring the speaker’s commitment has to take into account all these features which, in certain contexts, can receive a specific load when expectations of relevance are not met.

References


**BIONOTE**

Jacques Moeschler is Professor of French Linguistics in the Department of Linguistics since January 2005. He is a specialist in semantics and pragmatics, his research focuses on the temporal reference, connectors pragmatic, causality, logical words and arguments. He is currently the president of the Swiss Society of Linguistics, and responsible for the organization of the 19th International Congress of Linguists, to be held in Geneva from 21 to 27 July 2013. He published 30 books, including translations, and more than 150 scientific papers, including 38 in refereed journals.