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Pragmatics at its Interfaces

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1 Introduction

The present volume is a collection of selected papers from the 6th International Conference on Intercultural Pragmatics and Communication that was held at the University of Malta in June 2014. Forming part of the theoretical session of the conference, the papers selected for this volume report on recent, cutting-edge research within the area of linguistic pragmatics, broadly construed. Apart from the obvious aims of motivating further discussion on topics of central importance for pragmatics, however, another main objective of this volume is to show how research in this field can and does substantially inform research in various related areas of scholarly interest.

In order to better understand the diverse array of topics that the study of meaning in context carries implications for, a brief historical overview of the field of pragmatics is in order. The person that is credited with introducing pragmatics in the modern academic plateau is Morris, who, back in the 1930s, defined pragmatics as the "study of the relation of signs to interpreters", which along with syntactics that studies "the formal relation of signs to one another" and semantics that studies "the relations of signs to the objects to which the signs are applicable" outlines the shape of the theory of signs, i.e. semiotics (1938:6–7). In the years following Morris' distinction, however, the subject-matter of pragmatics proved notoriously difficult to practically delineate. A possible reason for this could have been the overwhelming fascination with formal semantic theory, which left pragmatics at a relative standstill, gradually leading it to be considered a "wastebasket" of linguistic information, with linguists resorting to it only when they needed to address phenomena that they could not explain within the remit of semantics. For a while, this left the field inherently unstructured with respect to its specific goals and subject-matter;

Acknowledgement: I would like to express my deepest gratitude to all the contributors for entrusting me with their work, for their patience during an unexpectedly eventful reviewing process, and for their friendly attitude and smooth collaboration during the final stages of putting the volume together. I would also like to thank Istvan Kecskes, the general editor of the Mouton Series in Pragmatics, for his sound advice and continuous guidance, as well as Polychronis Chatzoglou and Rebecca Vella Muscat for helping me out with numerous practicalities in the process. Naturally, this volume would never have reached its present form, if it were not for the careful reviewing of all the originally submitted papers by several colleagues, many of whom were willing to jump in and provide reports at very short notice.

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yet, the need for "some order into the contents of this wastebasket" (Bar-Hillel 1971:405) was becoming increasingly apparent.

It was not until the 1970s that pragmatics started shaping up as a mainstream discipline in its own right, most notably after the uptake and further development of Austin's original theory of speech acts (1962) by Searle (1969) and the systematic investigation of the inferential communication of nonnatural meaning in everyday conversation by Grice (1975). From then on, all the more scholars started working in pragmatics, with this surge of interest inevitably bringing a diversification of the topics that pragmatic theory would eventually encompass. Clearly, as most of the papers in this volume demonstrate, the most prolific direction in which research in pragmatics has flourished is the description of meaning-related phenomena to which the study of language use in context can offer novel insights. That said, however, there have also been quite a few occasions when the investigation of meaning in context found a useful application in other directions.

Among the numerous such directions, there are, in the context of the present volume, two areas that have provided particularly fruitful ground for the development of pragmatic theory over and above its original aims. The first one is the study of human cognition. The most important contribution in this vein has most probably been that of relevance theorists, and more specifically, Sperber and Wilson, who, in their seminal work (1986), departed from the predominantly philosophical orientation of traditional pragmatics theorising and readdressed inferential reasoning as a cognitive capacity. As some contributions in this volume attest, the (originally relevance-theoretic) requirement of psychological plausibility has had a long-lasting effect in the development of the field, and has also helped pave the way for new explorations in diverse domains, such as experimental cognitive or even evolutionary psychology. Another area that has received a lot of interest among researchers of pragmatics in the past few decades is that of conversation analysis. Following the pioneering work of Sacks, Schegloff and Jefferson (1974), conversation analysts use ethnomethodological tools to study the structure and processes of naturally-occuring mundane conversation. Given the robust findings about the *in situ* organisation of talk-in-interaction that this fully data-driven approach has generated through the years, it had to also be represented in this volume.

The papers included in this volume have been grouped together on the basis of their orientation with a view to showcasing how research in pragmatics has far-reaching implications for discussions in philosophy, cognitive science, linguistics, as well as conversation analysis. Obviously, given the breadth of the topics that are addressed by this volume's contributors, there are bound to be cases where a paper will transcend the relative boundaries of the area under

which it is categorised; yet, this should not be considered a problem. If anything, it shows that research that is informed by pragmatics can cross over disciplinary boundaries, offering new insights to issues that have been traditionally approached from a singular perspective.

All in all, as will become evident in the brief volume synopsis that follows, apart from this often interdisciplinary outlook, each one of the papers in this volume makes a novel – and often bold – proposal in relation to the question(s) that it seeks to address.

In the first paper of part I of this volume, which comprises contributions dealing with topics of a predominantly philosophical nature, *Jacques Moeschler* challenges Horn's classical analysis of logical quantifiers in terms of scalar implicature, arguing instead for a treatment at the level of explicature through a meticulous analysis of the notions' semantic and pragmatic meaning. Then, *Richard Vallée* revisits Travis' famous discussion of colour sentences, offering an alternative account, which does not compromise truth-conditional semantics or semantic compositionality, on the grounds of multipropositionalism. Relying on a comparable notion of content-pluralism in relation to the propositional content of predictions, *Kepa Korta* reassesses, in his paper, his earlier conviction that, in speech-theoretic terms, assertions about the contingent future have an upward direction of fit. Finally, *Etsuko Oishi* concludes the section with a novel approach that seeks to connect the notions of conversational implicature and presupposition with Austin's category of expositive illocutionary acts.

Conversational implicatures and presuppositions are also the focus of the first paper of part II of the volume, which includes contributions with more of a cognitive orientation. In it, *Anne Reboul* puts forth a proposal about the origins of these manifestations of implicit communication, arguing that their adaptive benefit lies in their ability to evade mechanisms that we have developed to avoid deception and manipulation. In keeping with the evolutionary outlook, *Thanh Nyan* attempts in her contribution to account for the structure of utterance meaning in neuro-cognitive terms, by linking Anscrombe and Ducrot's constraint on the act of utterance to the structure of intentional action, as approached in Jeannerod's account of motor cognition. In the final paper of this section, *Márta Szücs* and *Anna Babarczy* report on an experimental study which challenges the widespread assumption that performance in false-belief tasks and enhanced grammatical competence are reliable indicators of children's ability to comprehend irony, while suggesting at the same time that the development of a metapragmatic awareness of the requisite skills for the task can make a dramatic difference in irony comprehension.

The third part of the volume comprises papers that deal with the treatment of particular linguistic expressions, focusing on analyses that can be crucially enriched or even completely overturned by taking into account the way in which

the relevant expressions are interpreted in context. In the first paper, *Enikö Németh T.* provides an overview of her extensive research on implicit arguments in Hungarian, with a view to showing that a full explanation of the said phenomenon can only be reached through the combination of insights from syntactic, lexical-semantic and pragmatic approaches to the phenomenon, as well as through the integration of data from various sources over and above introspection. Then, *Thorstein Fretheim* develops a pragmatic account of single response word utterances, such as '*Yes*' or '*No*', thereby refuting Holmberg's corresponding analysis on the grounds of the response words' syntactic complexity. In turn, *Michael Chiou* extends the standard approach to the future tense in Modern Greek, by suggesting that the preferred future prospective interpretation of the relevant construction, which semantically encodes only epistemic possibility, effectively arises at the level of what is communicated as a generalised conversational implicature. In the last paper of this section, *Sonja Müller* provides a novel, empirically informed account for the occurrence of '*halt eben*' and '*eben halt*' in German, according to which, the two modal particle combinations have a difference in markedness, with '*halt eben*' being the unmarked, and thus preferred option, as it is the order that respects the non-reinforcement of entailments criterion.

The fourth and last part of this volume comprises two papers that fall within the domain of conversation analysis. In the first one, *George O'Neil* reports on a novel study that combines conversation analytic and IPA transcription with the aim of examining pronunciation miscommunications in the interaction of English as a Lingua Franca speakers at the segmental level. In his analysed corpus, the author identifies two relevant repair strategies, that is, preemptive and reactive segmental repair. In the final paper of the volume, *Zsuzsanna Németh* explores the interactional functions of recycling, replacement, insertion, and aborting in a sizeable corpus of interactions among native speakers of Hungarian, revealing that different repair operations may not only share the same kinds of interactional functions, but may also be used in combination to fulfil a single interactional task in the same turn.

In closing this short introduction, it has to be noted that, even though the contributions in this volume represent four major fields of research with which pragmatics interfaces, there are several other perspectives of central interest for scholars working in pragmatics. Perhaps one such perspective that needs to be mentioned, especially given the venue in which all of the papers in the present volume were originally presented, would be the socio-cultural one, which has motivated a huge amount of research and is increasingly gaining in popularity. Since, however, both this and the equally popular discourse-analytic perspective formed part of a different session of the conference, the publication of papers pertaining to them has been pursued in a separate volume (Kecskes and Assimakopoulos in press).

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I Pragmatics and philosophy

Jacques Moeschler

2 Back to negative particulars: A truth-conditional pragmatic account

Abstract: The traditional analysis of the quantifiers *some* and *some … not* is customarily given *via* the concepts of scalar implicature, Horn's scales and the logical relations implied by the logical square. In this contribution, I challenge this view by arguing that the pragmatic relation between these particulars is not an *implicature*, but rather an *explicature*, that is, a pragmatic development of an utterance's propositional form. To this end, I provide a Boolean semantics and pragmatics for the particulars at hand, and discuss the consequences of my account for pragmatic analysis, especially in relation to the properties of calculability and cancellability that implicatures are associated with. In closing, I propose a possible answer to Horn's conjecture about the well-known issue of the non-lexicalisation of negative particulars (the O vertex in the logical square).

1 Introduction

In many of his papers Horn (Horn 2004, Horn 2012, Horn 2014) gives an interpretation of scalar implicatures triggered by logical words (and mainly quantifiers) which is based on the logical square, also known as the Aristotelian square. His analysis crucially involves pragmatic relations between subcontraries (where each subcontrary implicates the other) and the unilateral entailment relation between universals and particulars. In this setting, the recovery of implicatures is explained by a Horn-scale, where the positive (I) and negative particulars (O) are upper-bound with respect to their corresponding universals (A and E), and implicate their negation, which is logically equivalent to their converse particular (O and I respectively).

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In this paper, I wish to challenge the implicature analysis based on the logical square and Horn-scales (Horn 1976, 1984, 1989), by using a more radical Gricean argument: implicatures are *calculable*, as well as the result of the *enunciation* of a sentence (i.e. an utterance), which leads to specific truth conditions. More specifically, the scalar implicatures communicated by the particulars at hand cannot be true unless both particulars are true, which essentially makes their defeasibility property vacuous.

The proposed analysis favours a pragmatic enrichment process at the level of explicit meaning, that is, an explicature in relevance-theoretic terms (Sperber and Wilson 1995). To this end, a precise Boolean semantics and pragmatics will be given for the quantifiers *some* and *some … not*,[1] and the consequences for the alternative analysis at the level of explicature will be discussed. Finally, I will offer a positive proposal to one of the most intriguing puzzles of the logic-language interface that I have previously (Moeschler 2007) addressed as 'Horn's conjecture' (for a historical perspective on the puzzle, see Horn 2012). In relation to this, I will argue that the absence of lexicalised expressions of O in natural language is not only a question of complexity, which is Horn's position, but also a question of calculability at the level of semantics. In this respect, I will demonstrate that the semantics of O quantifiers (*some … not*, *not all*) is the result of the combination of two Boolean operations (intersection and complement), which leads to a complex and costly computation. The upshot of this analysis is that the partition of domains between particulars at the level of pragmatics ensures a more efficient and less costly processing.

Against this backdrop, this paper is organised as follows. Section 2 presents the classical pragmatic analysis of quantifiers within the logical square. Section 3 is devoted to the specific issue of negative particulars, with regards to their implicated meaning. In section 4, I discuss the logical properties of particulars, and present a new approach, based on entailment. Section 5 capitalises on this new approach and gives a detailed analysis of the semantics and pragmatics of positive and negative particulars. Then, in section 6, I present the way a procedural analysis for particulars could lead to a sound account of logical words within the remit of the semantics-pragmatics interface. Section 7 provides a general explanation of the pragmatics of particulars, based on communicative and cognitive principles (à la Grice and Relevance Theory). Finally, section 8 gives a last argument against the implicature analysis, based on the possible

1 I consider *some … not* a quantifier because of its position in the logical square.

denials of negative universals, while section 9 draws the implications of the proposed analysis for pragmatics.

2 The (augmented) logical square

In the logical square, there are four logical relations that are defined between the four vertices: the positive ones (AffIrmo), which are called A and I, and the negative ones (nEgO), which are called E and O. While A and E are universals, I and O are particulars. In this picture, the following definitions arise:

1. *Entailment*: universals unilaterally entail particulars: A → I, E → O.
2. *Contradiction*: A and O are contradictory, as are E and I (in the sense that only one of the two in each pair can be true), which is logically signalled by the presence of a negation operator: that is, ¬∃x (E) is contradictory to ∃x (I), and ∀x (A) is contradictory to ¬∀x (O).
3. *Contrariety*: A and E are contrary, in the sense that they cannot both be true. So, they can either be both false or only one of them can be true.
4. *Subcontrariety*: I and O are subcontrary, in the sense that they can either be true together, or one can be true and the other false, but they cannot be false together.

As regards quantifiers (*all, none, some, not all*), it has been long proposed that particulars Q-implicate the negation of their corresponding universals (cf. Gazdar 1979; Horn 1976, 2004). So, whereas their logical meanings include the corresponding universal (*at least some if not all*, *at least some … not if not none*), their pragmatic meaning is obtained by implicature (e.g. *not all* for *some*, *not none* for *some … not*) arising from the Gricean maxim of quantity – 'Try to make your contribution one that is true' – and, more specifically, its first submaxim – 'Make your contribution as informative as is required.' From a neo-Gricean perspective, limited to general Q-Principles and I- or R/M-Principles (Horn 1984, Levinson 2000), universals and particulars constitute a semantic scale (<*some, all*>, <*some … not, none*>) where the weaker term is unilaterally entailed by the stronger term, and implicates its negation, as in (1):

(1) a. A → I, E → O

b. I +> ¬A, O +> ¬E

In this setting, the logical square can be represented as follows:

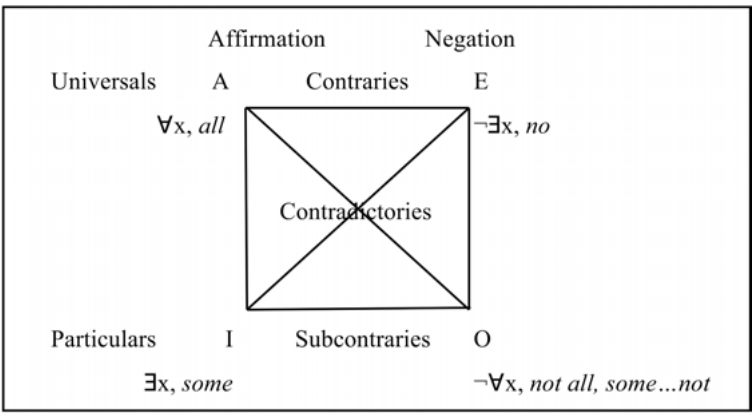


Figure 1: The logical square

This representation raises two main questions, namely: 1) Why is there no linguistic realisation of the O vertex and 2) why is the relation between particulars and universals an implicature?

The first question is closely linked to what I call *Horn's conjecture*:

> Given that languages tend not to lexicalize complex values that need not be lexicalized, particularly within closed categories like quantifiers, we predict that *some … not* will not be lexicalized, and this is precisely what we find. (Horn 2004: 11)

Horn correctly predicts that *O is not lexicalised in natural language. In English, there are no lexical items such as **nall, *nalways, *noth, *nand*., but the relevant meanings are rather communicated using complex syntactic clusters, such as *not all, not always, not both, not … and*. The same asymmetry is found in French, where *pas tous* ('*not all*'), *pas toujours* ('*not always*'), *pas les deux* ('*not both*'), *pas … et* ('*not … and*') are used instead of **nitous, *nitoujours, *nideux, *niet*. To my mind, a main (empirical) question that arises from Horn's conjecture is whether the complexity answer is sufficient. As I will argue later on, it is not, since the absence of O is essentially a question of calculability: that is, negative particulars are the result of the combination of (at least) the two Boolean operations of intersection and complement, and can therefore not be translated into a single linguistic marker.[2]

2 Note that complexity and calculability are not directly visible in logical translation: ¬∃x[P(x)] is not complex, since it means "there is not an *x* that is a *P*", whereas ∃x[¬P(x)] means that you identify an *x* outside the set defining the *x* ("there is an *x* such that it is not a *P*").

Then, the implicature story is also problematic. In order for each particular to implicate the relevant other particular, it just needs to be true, which effectively makes the property of being true the result of the implicature (*some* meaning *not all*). This circularity of the implicature analysis opens up the possibility that the restricted interpretation of *some* and *some … not* is in fact an explicature of the logical form of the utterance containing them, rather than an implicature. If this is correct, it follows that each particular, with its restricted explicature, actually entails the relevant other particular. This analysis is akin to the one pursued by Noveck and Sperber (2012); albeit with a different argumentation:

> (…) linguistic expressions serve to indicate rather than encode the speaker's meaning, and […] the speaker's meaning is quite often a narrowing or broadening of the linguistic meaning. Taking 'some' to indicate not *at least two and possibly all* but *at least two and fewer than all* is a common narrowing of the literal meaning of 'some' at the level of the explicature of the utterance. (Noveck and Sperber 2012: 314)

Even though I will provide a different rationale for the proposed explicature reading in Section 4, the output of my analysis will be the same: the pragmatic meaning of particulars is a specification (that is, a narrowing) of their encoded meaning. Against this backdrop, in what follows, I will be using the term semantic meaning to refer to encoded meaning, and the term pragmatic meaning to refer to the relevant explicature output. Before arguing along the aforementioned lines, however, it is necessary to outline the negative particulars issue and its analysis by Horn.

3 The problem of negative particulars

Horn's explanation of scalar implicatures can be found to face two main issues, the first of which lies in the requirement that a Horn-scale should apply to *expressions* of the same type (cf. the *Lexicalization condition*, Atlas and Levinson 1981). While positive quantifiers satisfy this condition (*all* and *some* are, after all, single lexical items), negative quantifiers do not (since *some … not* and *not all* are not single lexical items). Also, since, as we have seen, O is never lexicalised, O and E should not in principle belong to a semantic scale.

A possible answer to this objection is that the relevant condition is not a condition on scales by itself, since a lot of expressions that belong to scales are not one-word expressions; in French, for instance, the quantifier *un peu* ('*a little*') is not a one-word expression, and neither is *la plupart de* ('*most*') or others with a nominal head (*une floppée de* = '*a slew*', *une myriade de* = '*a myriad*', *un tas de*

= '*a lot*', *une chiée de* = '*a shitload*', etc.). However, the important issue here is not the one-word condition, but rather the one-meaning condition: if two expressions are connected by a relation of entailment and scalar implicature, they need to be associated to a single meaning. In what follows, I will show that *not all*, as well as *some … not*, are not associated to a single meaning because their meanings are compositional.

The second, more serious, issue has to do with the computability of scalar implicatures with a negative trigger. For example, the scalar implicature (3) is drawn from (2), because it is calculable – a well-known property of conversational implicatures (cf. Grice 1975) – even if it not automatic, as it has been abundantly demonstrated in the relevant literature. Similarly, it can be easily calculated how the true evaluation of (4) is compatible with the *all* interpretation provided in (5) (cf. Noveck 2001):

(2) *Some of my students passed.*

(3) Not all of my students passed.

(4) *Some elephants have trunks.*

(5) All elephants have trunks.

However, the situation is not the same with negative quantifiers. Consider, for example, the interpretation of (6):

(6) *Some of my students did not pass.*

In this case, are we to draw the scalar implicature in (7)? And if yes, is it accessible?

(7) It is not the case that none of my students passed.

Before giving a possible answer *à la Horn*, let us have a look at the possible contexts in which both (2) and (6) can be uttered. Suppose that one of my colleagues asks me:

(8) *How was your pragmatics exam?*

By answering (8) with (2) – i.e. *Some of my students passed*, I implicate that *some students did not pass* (= *not all*). My answer here has a positive orientation: I may, for instance have prepared a very difficult pragmatics exam, and expect only a few students to pass it. So, in this case, the results are consistent with

my expectation. But suppose that I think that the pragmatics exam was easy enough for all students to pass. In this case, giving answer (6) – i.e. *Some of my students did not pass* – would be negative, and it could not be contrasted to either the maximal interpretation of *some … not*, given in (9) below, or its positive counterpart; the relevant point being that *not all of my students passed*, and not that *some of them passed*.

(9) None of my students passed.

So, can the identification of my intended implicature in the latter context be addressed from a Hornian perspective? It surely can, since by following Horn's logical analysis, one can see that the negation of a universal is equal to its opposite particular: I +> not-A = O and O +> not-E = I, so I +> O and O +> I. Thus, by identifying the logical relation of contradiction that holds between the positive universal and the negative particular and between the negative universal and the positive particular, the computational challenge can be met. To put it more simply, the logical interpretation of the scalar implicature analysis leads to a short-circuited process: *some* directly Q-implicates *some … not* (*not all*), and *some … not* (*not all*) Q-implicates *some*. What follows then, is that that there is a very accessible pragmatic relation which prevents the emergence of an incomputable relation between *some … not* and *not … none*.

However, this analysis also has the non-trivial consequence that utterances with different truth conditions implicate their subcontraries. So, returning to our familiar scenario, in uttering (2) I implicate (6), and in uttering (6) I implicate (2). This is obviously problematic, since as we have just shown, the contexts of utterance for (2) and (6) are not the same. Apart from that, if one admits this circular implicature relation between I and O, where I implicates O, and O implicates I, how could one account for the difference in meaning between I and O? Clearly, the relevant quantified utterances (2) and (6) have different truth conditions, as their logical forms in (10) show:

(10) a. $\exists$x [x is a student and x passed]

b. $\exists$x [x is a student and x ¬passed]

The only answer to this question that is explicitly given by Horn, refers to what Grice (1975) called *conveyed meaning*, which consists in *what is said + what is implicated* and which Horn correspondingly calls *communicated meaning*. In this picture, I and O may make different contributions to what is said and what is implicated, but they have an identical communicated meaning, consisting in

their addition. In other words, what both subcontraries communicate is their conjunction (11):

(11) a. I ++> I & O

b. O ++> O & I

In light of this, a question that immediately arises is the following: Why choose a positive or a negative description if the communicative meaning of both particulars is the same? Obviously, Horn's analysis cannot provide an answer to this question, nor can it give a reason as to why a scalar implicature is derived or not.

4 The logical meaning of particulars

As we have already seen, in the logical square, particulars are *subcontraries*. By definition, subcontraries can be true together, but cannot be false together. (12) and (13) below show how subcontraries can be true together:

(12) *Some of my students passed: Marie, Suzanne and Louise.*

(13) *Some of my students did not pass: Marc, Luc and Paul.*

We, therefore, have three logical possibilities with subcontraries:

a. (12) and (13) are true together, as illustrated in (14), where each particular does not only implicate the other, but also communicates their conjunction:

(14) Some of my students passed: Marie, Suzanne and Louise; and some did not pass: Marc, Luc and Paul.

b. If one of the particulars is false, then the meaning of the relevant quantifier includes the universal, i.e. *some* means *all*, and *some not* means *none*. Yet, in this case, the implicature becomes false and the speaker may be accused of deceiving her addressee by providing too weak a statement, even if it is essentially true.

c. If (12) and (13) are both false, it follows that both all students and none of the students passed, which obviously cannot be the case, as (15) shows:

(15) # All of my students passed and none of them passed.

So, what are the consequences of these three possible situations, if one follows the standard definition of particulars? The answer would be that in order for one particular to implicate the other, the other must be true as well. And if the converse particular cannot be false, the truth conditions for particulars cannot be those of inclusive disjunction (*or*), but need to be those of conjunction (*and*), as Table 1 below shows:

Table 1: Truth conditions for particulars

P	Q	P or Q	P and Q
1	1	1	1
1	0	1	0
0	1	1	0
0	0	0	0

This means that the particulars *some* and *some … not* are not pragmatically tied by means of implicature, but are rather logically tied by means of *entailment*; in other words, in order for it to be true, a particular must entail its subcontrary:

(16) a. If I is true, then I → O

b. If O is true, then O → I

This, in turn, leads one to wonder whether particulars are still cancellable under this analysis, given that cancellability is a basic property of conversational implicature (cf. Grice 1975; Sadock 1978). In order to test this, one can follow Grice (1989) and use a *but*-contrast clause. Examples (17) and (18) below are classic examples of implicature cancellation: in unmarked contexts, *and* triggers a cancellable conversational implicature, as in (17), while *but* communicates a non-cancellable conventional implicature, as in (18):

(17) a. *Mary got angry and Peter left, but nobody knows what happened first.*

b. Cancellable conversational implicature: Mary got angry *and then* Peter left.

(18) a. *# Peter has three castles but only one car, but there is no contrast between these two facts.*

b. Non-cancellable conventional implicature: there is a *contrast* between having three castles and only one car.

As (19) below shows, the *but* test cannot be used with the alleged scalar implicatures communicated by particulars, and the only way in which the relevant meanings can be cancelled is by resorting to a connective such as *in fact* (or *en fait* in French), as shown in (20); yet, this connective leads to semantic and pragmatic effects which are markedly different from those yielded through standard implicature cancellation:

(19) a. # *Some of my students passed, but all passed.*

b. # *Some of my students did not pass, but none passed.*

(20) a. *Some of my students, in fact all, passed.*

b. *Some of my students, in fact none, did not pass.*

c. *Quelques étudiants, en fait tous, ont échoué.*

d. *Quelques étudiants n'ont pas échoué, en fait aucun n'a échoué.*

The implicature test is meant to give us "cancellation without contradiction," in the sense that an assertion (*P*) which triggers a scalar implicature can be true while its implicature is false. If this assertion is false, however, its implicatum (*Q*) cannot be true either. Table 2 below presents all possibilities, showing that a true utterance may or may not trigger an implicature, while a false one cannot really trigger an implicature:

Table 2: Truth conditions for conversational implicatures (cf. Moeschler 2013a)

P (assertion)	Q (implicatum)	P implicates Q
1	1	1
1	0	1
0	1	0
0	0	1

As we saw in (19), Grice's test for implicature cancellation cannot be used for quantifiers such as *some* and *some … not*. One could argue that the reason for this is mainly syntactic, but, upon closer inspection, it turns out to be semantic. As (21) below shows, the only possible sequencing on a scalar implicature is a confirmation of the implicature, while cancellation with *but* is not possible, as (19a), repeated in (22), demonstrates, and a continuation compatible with the lower-bound reading of *some*, as in (23), is odd:

(21) *Some of my students passed, so not all passed.*

(22) # *Some of my students passed, but all passed.*

(23) # *Some of my students passed, so all passed.*

The upshot here is that the *not-all* meaning communicated by *some* is effectively not an implicature. So, in the case of the cancellation in (20a), it is actually not the implicature that is cancelled, but rather the subcontrary (I) that is declared to be false. That is why, when no such correction occurs, the subcontrary *some* still yields the enriched reading *only some*.

(24) Only some of my students passed.

In relevance-theoretic terms (Sperber and Wilson 1995; Wilson and Sperber 2012; Noveck and Sperber 2012; Carston 2002), this meaning would qualify as an *explicature*, that is, as a part of an utterance's explicitly-expressed content, as defined below:

(25) An assumption communicated by an utterance *U* is *explicit* if and only if it is a development of a logical form encoded by *U*. (Sperber and Wilson 1995, 182)

5 The semantic and pragmatic meaning of particulars

Given the argumentation up to this point, in order to solve the problem of the meaning of particulars, we have to face two main challenges. The first one concerns the status of the pragmatic meaning of particulars, which I have already addressed in the previous section by giving a general argument in favour of an analysis along explicature rather than implicature lines. This argument will be further supported by the way in which I will now approach the second challenge, that is, the challenge of identifying the semantics and pragmatics of *some* and *some … not*. To this end, I will explore three hypotheses:

1. There is a strong connection between both particulars, which can be expressed by a complement operation.
2. Their semantics can be approached in terms of their truth-conditional incompatibility: *some* is semantically (i.e. logically) incompatible with *no*, as *some … not* is with *all*, since both pairs are contradictory.
3. Their pragmatics is given in terms of their incompatibility with their corresponding universals.

In my view, the solution to the issue of positive and negative particulars lies in the distinction between the semantics and pragmatics of *some* and *some … not*. If we can argue for a semantic content consistent with an upper-bound meaning, and a pragmatics accounting for the restriction on truth conditions, I believe that we will be on a good path to solve the problem.

So, let's start by approaching the semantics of *some* from a set-theoretic perspective:

(26) The semantics of *some X are Y*:
  a. the intersection between the sets denoted by *X* and *Y* is not empty, and
  b. *some X are Y* is semantically incompatible with *no X is Y*;
  it is the case that $(X \cap Y) \neq \varnothing$.

The semantics of *some* states that, all things equal, *some X are Y* cannot denote a situation where *no X is Y*. The simplest way of expressing this in set-theoretic terms is by noting that the intersection between sets *X* and *Y* is not empty:

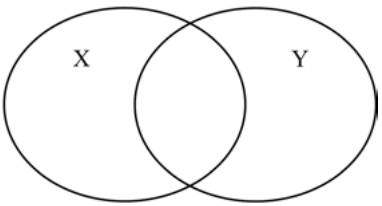


Figure 2: A set-theoretic account for *some X are Y*

This effectively means that what is excluded at a semantic level is the contradictory meaning *no X is Y*, which can in turn be represented as follows:

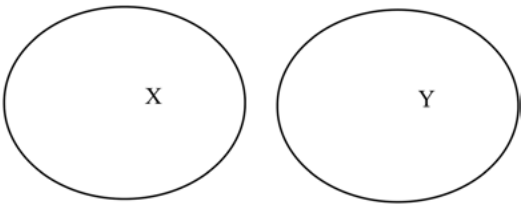


Figure 3: A set-theoretic account for *no X is Y*

Now, the pragmatics of *some X are Y* will restrict the intersection condition, deterring *some X are Y* from denoting that *all X are Y*, as represented in Figure 4:

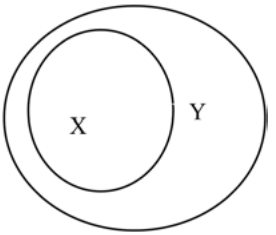


Figure 4: A set-theoretic account for *all X are Y*

So:

(27) The pragmatics of *some X are Y*
   a. *X* is not included in *Y*, because there must be a sub-set of *X* which is not in *Y*, and
   b. *some X are Y* is pragmatically incompatible with *all X are Y*; it is the case that $X \not\subset Y$.

As a result, the pragmatic meaning of *some X are Y* is the explicature *only some X are Y*.

With this in mind, we can now easily tackle the issue of identifying the semantics of *some … not*. What we need is a way of specifying a situation where the complement of the intersection of the sets X and Y is not empty, as represented in Figure 5 below:

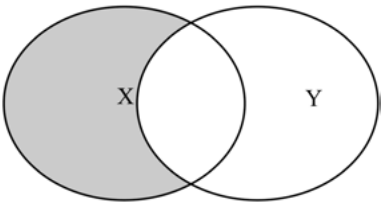


Figure 5: A set-theoretical account for *some X are not Y*

In this setting, the semantics of *some … not* can be approached as follows:

(28) The semantics of *some X are not Y*
   a. The complement of the intersection between *X* and *Y* (i.e. the sets denoted by *X* and *Y*) is not empty, and
   b. *some X are not Y* is semantically incompatible with *all X are Y*;
   It is the case that $\complement (X \cap Y) \neq \varnothing$.

Similarly, the pragmatics of *some … not* can also be easily computed, since, rather than being incompatible with *all*, as its semantics predicts, it is now incompatible with *no*:

(29) The pragmatics of *some X are not Y*
   a. the intersection between *X* and *Y* is not empty, and
   b. *some X are not Y* is pragmatically incompatible with *no X are Y*; It is the case that $(X \cap Y) \neq \emptyset$.

As a result, the pragmatic meaning of *some X are not Y* is the explicature *only some X are not Y.*

All in all, the analysis presented here, can be summarised as follows:

Table 3: The semantics and pragmatics of *some* and *some … not*

	Semantics	**Pragmatics**
some X are Y	$(X \cap Y) \neq \emptyset$	$X \not\subset Y$
some X are not Y	$\complement (X \cap Y) \neq \emptyset$	$X \cap Y \neq \emptyset$

From this analysis, the following general conclusions can be drawn:

a. *Some X are Y* is semantically incompatible with *no X is Y* (i.e. they are contradictory).
b. *Some X are not Y* is semantically incompatible with *all X are Y*, i.e. they are also contradictory.
c. *Some X are Y* is pragmatically incompatible with *all X are Y.*
d. *Some X are not Y* is pragmatically incompatible with *no X is Y.*
e. With *some X are Y* and *some X are not Y*, both I and O are true.
f. With *all X are Y*, O is false.
g. With *no X is Y*, I is false.

Against this background, some further comments are still in order.

For one, the proposed account, in which the semantics of *some X are Y* is the pragmatics of *some X are not Y*, and vice-versa, is radically different from the traditional analysis in terms of conversational implicature. In effect, in line with the argument pursued in the previous section, it predicts an enrichment of the propositional form of the utterance containing the particular, rather than an implicature relation. So, if we take the case of *some X are Y*, all that is required for the quantifier to denote the intended meaning is that the intersection between sets *X* and *Y* is not empty, which eradicates the need for an implicature, like *not all*, to be triggered. Another prediction that this account makes is that,

the *only some* reading will be triggered if *some* is pragmatically incompatible with *all*. Once again, this output is an explicature, as it determines the conditions under which a relevant truth-conditional meaning can be assessed.

Notably, the present analysis does not depend on any maxims of conversation, nor does it appeal to any general principles, like the communicative principle of relevance put forth by relevance theorists. Furthermore, it supports the position that *some … not* is not only syntactically complex, but also – and maybe even to a greater extent – semantically complex, as it requires the simultaneous use of two Boolean operations: complement (∁) and intersection (∩). In this respect, it is not surprising that there is no single lexical item encoding *some X are not Y* in natural language, as it carries the complex meaning: first, intersect two sets of individuals; then, compute the complement of the restrictor (*X*).

The final issue that needs to be addressed in the context of the present account concerns the nature of the semantic and pragmatic computation required by positive and negative particulars.

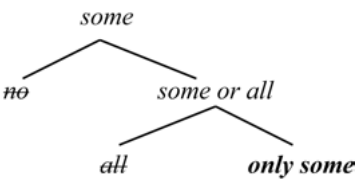
6 A truth-conditional pragmatics proposal: the role of explicature in utterance comprehension

The proposal pursued so far is that the interpretation of particulars is directly dependent on their truth-conditional meaning. This inevitably means that the choice of a positive or a negative particular is dependent on the situation described by the utterance. On the other hand, as we have already seen in section 4, the meaning of particulars is context-dependent; that is, the *not-all* and *not-none* interpretations may or may not be triggered, depending on the utterance context. Nonetheless, there seems to be a general mechanism leading to the appropriate contextual interpretation, which corresponds to the *exclusion condition*. In a nutshell, at both the semantic and the pragmatic level, the procedure for interpreting *some* and *some … not* is guided by what is incompatible with (that is, what is excluded by) the quantifier. The exclusion condition can thus be formulated as follows:

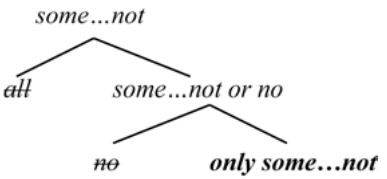
(30) Exclusion condition:
   a. Exclude the incompatible semantic meaning.
   b. Exclude the incompatible pragmatic meaning.
   c. Enrich the explicitly-expressed pragmatic meaning.

This procedure leads to a specified reading by narrowing the semantics of the particulars, as illustrated in (31) and (32):

(31) Procedure for *some*



(32) Procedure for *some … not*



At first glance, this explanation seems to be more structural than contextual, but this is not the case. In fact, the first step is truly semantic, since no contextual import is required: *some* leads to an alternative between *all* or *some*, and *some … not* leads to an alternative between *no* and *some … not*. The context, therefore, intervenes at the pragmatic level, which is exactly what a pragmatic interpretation predicts. But what is additionally required is a semantic step, which, in this picture, is not equivalent to any type of literal interpretation. What is checked, instead, is whether the derived description is on the right track, and whether the encoding allows for all possible interpretations compatible with the logical properties of *some* and *some … not* to be made.

One side question that arises here concerns the status of the type of meaning represented in (31) and (32). Although this issue is crucial in some frameworks of pragmatics, such as Relevance Theory, I am not going to address it at length here, but will rather only give a general description on how it could be handled in this approach. The type of representation given in (31) and (32), resembles what relevance theorists call a *procedure* (cf. Escandell-Vidal et al. 2011) with input conditions and outputs. In this picture, the targeted meaning is the outcome of a procedure, representing the *procedural meaning* of positive and negative particulars respectively.

From this perspective, quantifiers are prototypical examples of conceptual and procedural information being semantically encoded in tandem, as in the case of tenses and connectives (for tenses, see Grisot and Moeschler 2014; and for connectives, see Moeschler 2016a). From a relevance-theoretic view-

point, procedural meaning is often contrasted with conceptual meaning mainly because it is not accessible to consciousness, it is paraphrasable with difficulty, and it is not associated to any particular (representational) concept in the Language of Thought (cf. Blakemore 1987; Wilson and Sperber 1993; Wilson 2011). Clearly, quantifiers also encode conceptual content; *some*, for example, is associated with entailment conditions, which are represented, in the present account, as meaning *all or some* at the semantic level of the relevant procedure. Quantifiers, such as the particulars at hand,[3] are thus examples where conceptual and procedural meaning are mingled together, with conceptual meaning representing input conditions and procedural meaning indicating the path to the target-restricted meaning. And even in this setting, the hypothesis that the output of the procedure is a development of the logical form, that is, an explicature, is not exceptional either, since there are connectives, such as *parce que* ('*because*' in French), which encode procedural information yielding explicatures too (cf. Moeschler 2016b).

7 A general explanation

I am now in a position to give a general explanation of the observed phenomena, that is, the readings that come about through the specification of particulars (*only some*, *only some … not*) in the way discussed above. This explanation will be two-fold, as it will relate to both the cognitive and the communicative levels.

To begin with, a speaker using a sentence with a particular would violate the first maxim of quantity if she were to say *some* while meaning *all*. So, when no contextual import allows the lower bound reading, the quantifier would end up being specified in a restricted meaning. Now, the entailment relation from *some* to *some … not*, as well as from *some … not* to *some*, makes the procedure given in (31) and (32) efficient enough to obtain the expected interpretation. Interestingly, the restricted meaning of *some* and *some … not* can receive another explanation from a relevance-theoretic point of view: saying *some* while meaning *all* would allow the addressee to make unjustified inferences, leading to false conclusions, which would give rise to unsuccessful communication and therefore weaken the relevance[4] of the utterance at hand. So, from a com-

3 There is no empirical reason that this entrenchment of levels of meaning is only restricted to logical words, like *some*: other quantifiers in a semantic scale, such as *many*, *a few*, *most* etc., could also be analysed in this way.

4 From a relevance-theoretic perspective, the relevance of an utterance depends on a balance between the positive cognitive effects that its processing offers and the effort expended in processing these effects.

municative point of view, the specification I have provided at the explicature level receives a sound explanation, both from a Gricean and a post-Gricean perspective.

Then, the restricted interpretation at the level of explicature can also receive a cognitive explanation: the partition reading for *some* and *some not* should allow for an efficient and rapid processing, avoiding useless cognitive processing. In effect, the *only some* vs. *only some … not* readings yield a straightforward partition of the domain of the restrictor *X*. What is thus targeted by both quantifiers leads to a defined meaning which explains the accessibility to different communicated meanings. Figure 6 showcases what this partition can be for the examples given in (33):

(33) a. *Some linguists know logic.*

b. *Some linguists do not know logic.*

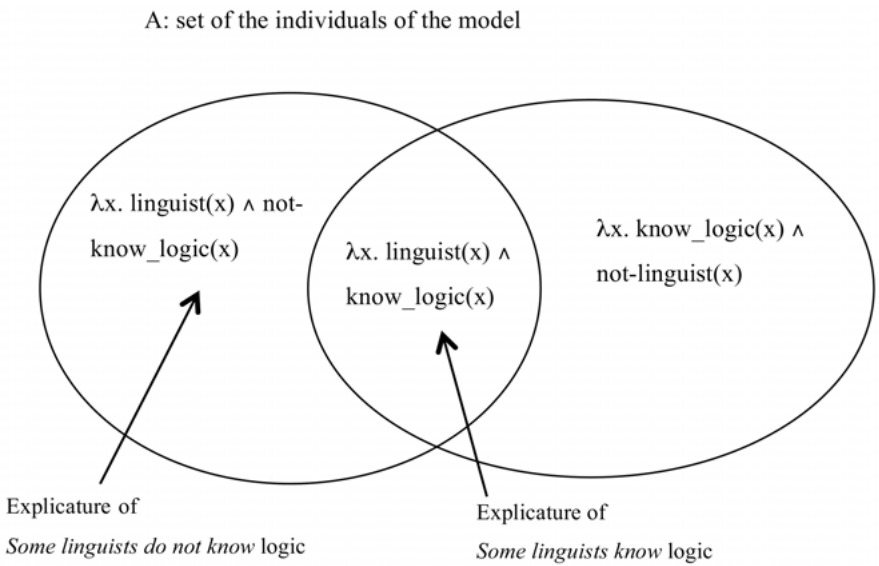


Figure 6: Denotation of (33)

What Figure 6 further shows is how the choice between (33a) and (33b) makes sense. For one, what is targeted as a denotation is not the same subset. Moreover, when each subset is obtained, through the procedures (31) or (32), no additional processing, such as the one involved in the computation of costly conversational implicatures, is required. In this respect, the prediction of this

analysis is that negative particulars are not costlier than positive ones in processing terms.

8 A final argument against the implicature analysis: implicature and denial

In an attempt to support the proposed account even further, I would like to provide a further, empirical this time, argument in favour of the explicature analysis, on the basis of the possibility of denial *via* the negative particular. The point here is that the negative particular (*some … not*) cannot be used to refute the universal *none*.

Let's imagine the following situation: Mary claims that no linguist knows logic. In this case, the best way to refute Mary's claim is to use the contradictory of *no*, which yields the *not all* reading:

(34) Mary: *No linguist knows logic.*
Jacques: *No, I know some linguists who know logic.*
Entailment: it is false that no linguist knows logic.

Now suppose that I want to indirectly refute Mary's claim by using a negative particular assertion containing *some … not*. The prediction of the implicature analysis it that O implicates not-E, that is, the negation of Mary's claim. But in reality, this is not what happens, as can be seen in (35):

(35) Mary: *No linguist knows logic.*
Jacques: *No, I know some linguists who do not know logic.*
Non-inferable conversational implicature: it is false that no linguist knows logic.
Non-inferable entailment: I know some linguists who know logic.

(35) is clearly not a refutation, since its meaning is not the contradictory statement of E, that is, I.

This example shows that the classical analysis makes a false prediction, and cannot indeed explain why an implicature cannot be contradictory to the universal expression that unilaterally entails the triggering sentence. That is because its implicature 'some linguists know logic' is not inferable here and as a consequence, the negative particular cannot be a refutation of the negative universal.