

INCOMPLETE DESCRIPTIONS: PROBLEMS OF ELLIPTICAL ANALYSIS, SITUATION SEMANTICS AND RELEVANCE

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Introduction: the Problem

The problem of incomplete descriptions was first raised by Strawson (Strawson, 1950, pp. 14–15). Consider the following sentence with a definite description in any normal use.

1. The table is covered with books.

The expression *the table* seems to refer to some unique table. The expression contains a definite article which appears to indicate the uniqueness of the noun which follows it. From a Russellian perspective, a phrase, *the so-and-so*, is used in the event of there being one unique *so-and-so* and no more. The above expression is innocently Russellian on the face of it. However, as Strawson has remarked, it is obviously false that the phrase *the table* in the sentence, used normally, will only have an application for one unique object which satisfies it. When the speaker utters this sentence, he is not committed to the idea of the existence of one and only one table in the world. Unlike the sentence, *the murderer of Smith is insane*, the definite description in the sentence picks out one unique referent which satisfies it. Yet, the puzzle is that we often use definite descriptions with such imprecise descriptive content for expressing a definite proposition. Let's call this kind of expression, a definite description with insufficient descriptive information, an *incomplete description* or an *incomplete quantified noun phrase* (hereafter, both will be used interchangeably). There is no standard, commonly agreed-upon terminology for such a description in the literature. It is sometimes also called indefinite definite description or incomplete definite description. The debate on this problem concerns how one is to account for the fact that a sentence with an incomplete description often expresses a determinate proposition.

Recanati (Recanati, 1996) proposes a well-known treatment of incomplete descriptions (1996) according to which, approaches to the problem correspond to *four different levels of interpretation of an utterance*:

- (1) The sentence itself qua syntactic object,

- (2) The linguistic meaning or ‘character,’
- (3) The Kaplanian ‘content,’ i.e. the proposition expressed,
- (4) The Implicature level — what the utterance [with incomplete quantified noun phrases] conveys via Gricean mechanisms (Recanati, 1996, p. 448).

All approaches to incomplete descriptions do no more than furnish a reading of them — at each of the above levels — with an explanation of how the incompleteness of the quantifiers’ reading is to be accounted for and to be supplemented with a complete reading.

In this paper, we discuss Recanati’s classification scheme and his remarks on various approaches. Recanati favors an approach that treats the problem of incomplete quantified noun phrases at level (3), the proposition expressed. Specifically he advances a domain delimitation strategy, an approach that utilizes situation semantics in Barwise and Perry and is supplemented with domain indexing in Kuroda. We shall expand on this strategy by sharpening his objection to the elliptical analysis at level (1) and the objection to the Gricean treatment at level (4); and by showing that a domain delimitation strategy can be theoretically re-enforced with relevance theoretic principles.

I. The Sentence Level Treatment: Various Problems of Ellipsis Theory

A common approach, treating incomplete quantified noun phrases at the sentence level, is ellipsis theory. Typically, instances of bare ellipsis consist in leaving out an expression or expressions in such a way that they can be recovered from the context, such as e.g. in:

- 2. John wants chicken for lunch and Peter, veal, or
- 3. John has two cars and Peter, four.

In 2) the speaker fails to pronounce the complete sentence, “Peter wants veal for lunch” while the speaker of 3) omits “has” and “cars,” information which is, however, recoverable from the previously used “cars.” With incomplete descriptions something analogous may happen, e.g.:

- 4. I saw a colleague of mine kissing a woman in the park. The woman was his wife.

Now, clearly, the description “the woman” can be called shorthand for “the woman I saw being kissed by a colleague of mine in the park,” and this information is recoverable from the discourse alone. But with incomplete descriptions things are not always that easy. Donnellan’s famous example

(hinted at in 1)) “the murderer of Smith is insane” shows that there is nothing in the discourse itself to complete the description. Faced with problems as these, Recanati summarizes the shortcomings of this approach as follows (Recanati, 1996, pp. 448–449):

a. It multiplies ambiguity without necessity. In all ellipsis approaches, it is suggested that the sentence uttered is elliptical for a longer sentence. It is this longer sentence which should be targeted for semantic evaluation. For instance, the sentence, ‘The burglar took everything’ can be construed in two ways: either as an instance of the complete sentence ‘The burglar took everything’ or as an elliptical version for a longer sentence ‘The burglar took everything in this house.’ So, one may say this ambiguity objection from Recanati is a *sentential* ambiguity. That is, the sentence uttered is ambiguous among choices of sentences available for semantic evaluation.

However, one wonders if this sentential ambiguity is no more than propositional ambiguity. The sentence uttered is whichever sentence comes out of the speaker’s mouth. There is nothing ambiguous about what is overtly presented. What is really in question is what the sentence is supposed to express. That which is expressed is a proposition, which is also the object of semantic evaluation. Hence, the two ways available to construe the sentence, ‘The burglar took everything’ is tantamount to the two propositions which can be read off the sentence uttered. Thus, the sentential ambiguity is really just a propositional ambiguity.

b. The elliptical material cannot be said to be recoverable on syntactical ground as in traditional elliptical analysis. Consider a typical elliptical sentence such as 5).

5. Bush is a decorated war veteran and Clinton, a draft dodger.

The elliptical material, ‘is,’ which follows Clinton is recoverable on syntactical grounds. This is not the case with incomplete quantified noun phrases. The sentential ambiguity is also a give away for the fact that incomplete quantified noun phrases are not cases of syntactical ellipsis because syntactical recovery is exact and without ambiguity.

c. It is indeterminate which sentence (or proposition for which the sentence is uttered) is elliptical.

This is the well-known objection from Wettstein (Wettstein, 1981) which has been thoroughly discussed in the literature on the present topic. There is a plurality of equally denoting but non-synonymous and non-equivalent descriptive contents to complete the incomplete quantified noun phrase, which results in different propositions being expressed. It is indeterminate which proposition a speaker intends.

On the basis of what Recanati has presented, we can summarize the shortcomings of the ellipsis theory as follows:

- *Sentential/Propositional ambiguity*

A sentence uttered becomes ambiguous for other sentences if its semantic evaluation can be construed as other sentences.

- *Syntactically groundless for recovery*

There are no syntactical grounds for recovering elliptical material as in normal elliptical analysis of an elliptical sentence. If the recourse is to a semantic elliptical analysis instead of a syntactical one, then this recourse admits to semantic ambiguity. Such a recourse suggests that the expression of an incomplete quantified noun phrase is semantically elliptical for a completed version. So, the incomplete quantified noun phrase expressed can be construed as an incomplete version as well as a complete version(s) corresponding to the speaker's intention. This suggestion goes no further than admitting to a semantic ambiguity of the incomplete quantified noun phrase.

- *Propositional indeterminacy*. This shortcoming of the ellipsis theory comes in two versions, depending on the choice of completing materials:

Descriptive contents version.

If the choice of completing material is additional descriptive material for the incomplete quantified noun phrase, Wettstein's objection applies. That is, there is a plurality of equally appropriate but non-equivalent and non-synonymous descriptive contents for completion, which results in a plurality of equally appropriate propositions. It is indeterminate which proposition the speaker intends. Wettstein (Wettstein, 1981, 246) writes: "When one says, e.g., 'the table is covered with books', the table the speaker has in mind can be more fully described in any number of ways.... Since these more complete descriptions are not synonymous, it follows that each time we replace ... 'the table' with a different one of these Russellian descriptions, it would seem that we obtain an expression for a different proposition." In other words, what seems to be lacking is an 'algorithmic completion' of an incomplete description.

Referential component version.

Neale (Neale, 1990) has advanced an approach according to which the completing material can be a referential term which contributes to a hybrid expression — a definite description with referential terms. Reimar replies that there can be a plurality of non-equivalent but co-denoting descriptions resulting from a plurality of non-equivalent referential terms that equally secures reference (Reimar, 1992, pp. 352–352). For instance, 'The murderer of Smith' can be completed by a spatial indexical 'over there,' which produces the proposition, 'The murderer *over there* is insane' or by a proper name 'Smith,' which produces the proposition 'The murderer of *Smith* is insane.' The choice of referential terms again contributes to choices of different but equally appropriate propositions. So, we have a version of propositional indeterminacy with the referential component version.

- *Completion-material-type indeterminacy.*

This point was also made by Reimar (Reimar, *Ibid.*). It is indeterminate what the completion material type is because the speaker's communicative intention may be under-determined as to what completion material type that he has in mind for completion. The completion material can be additional descriptive contents, a referring expression or a hybrid of the latter two.

In summary, it is important to draw attention to the idea that the problem of propositional indeterminacy and the problem of completion material type indeterminacy feeds on each other in ellipsis theory. The ellipsis analysis purports to complete the interpretation of incomplete quantified noun phrases by some completion materials. The proposition in such an approach is indeterminate because it is indeterminate what the proper completing material for a given completing material type (descriptive or referential) is as it is also indeterminate what the completing material type itself is. But, the latter problem arises because it may well be the case that the speaker's communicative intention is underspecified as to what form the completing material should take. It is precisely because of this under-determination that the propositional indeterminacy problem arises for ellipsis analysis. This shows that any attempt to feed completion materials into incomplete quantified noun phrases must encounter head on with the possibility of the under-determination of the speaker's communicative intention and, hence, lead to the unwanted problem of propositional indeterminacy. The upshot is that, in order to avoid an encounter with propositional indeterminacy, one must avoid introducing completing materials to derive an interpretation for incomplete quantified noun phrases. This is tantamount to abandoning the whole ellipsis analysis approach.

II. The Implicature Level Treatment: a Violation of the Modified Grician Razor

This treatment, which furnishes a completed reading of incomplete quantified noun phrases at the implicature level, can be regarded as a Grician approach. In this treatment, an incomplete quantified noun phrase in the proposition expressed is given a literal reading. For instance, 'the burglar' in the sentence, 'The burglar took everything in the world' is read as the only unique burglar there is in the world. A Grician implicature process takes us from the proposition expressed in the latter to the intended interpretation 'the burglar who came to my house' in a proposition conveyed.

The obvious weakness according to Recanati is that this approach suggests that the participants of the speech situation are unaware of 'what is said' even though they fully understand the utterance. That is, the speaker is unaware of the quantification domain of what he literally says. So, he always needs an implicature to complement the meaning of what he says. Let

us sharpen this objection with two further points. The first is that though what is said depends on context-sensitivity together with a speaker's intentions and not just the literal conventional meaning of the words uttered; a speaker, while being fully aware of what he *wants to say* with the words he uses (his communicative intentions), may not always be aware of the *meaning of the words* he uses. For instance, if an old lady, who is a perfectly competent English speaker but with no technical knowledge of linguistics, says 'The burglar took everything in the house.' She is then asked whether or not she is aware of the literal meaning of her words. Most likely, she would respond by saying that she is not consciously aware of the domain of quantification of her exact words. But, she would certainly be aware of her own *intended* domain and of what she wants to say. So, though she is aware of what she wants to express, she may not be consciously aware of the linguistic meaning of what is literally said. But, this does not denigrate Recanati's thesis according to which it is counter-intuitive that a speaker is not aware of what is said or expressed. We are only raising the point that a speaker may not always be fully conscious of the literal meaning of the words. This latter point is not the same as not *knowing* the meaning of the words uttered. If that were so, it would pose a problem for our whole concept of linguistic competence according to which a competent speaker of a natural language has tacit knowledge of language whose object is a pairing of sound (phonemes) and meaning (morphemes) onto syntactical structure.

Secondly, what is even more counter-intuitive about the implicature treatment is the suggestion that we often have an implicature introduce the completed versions of the incomplete quantified noun phrases without being aware of it. On the implicature approach, two propositions are involved, the proposition expressed and the proposition conveyed. The incomplete quantified noun phrase appears at the level of the proposition expressed and the completed version, at the implicature level. This treatment suggests that, being not aware of what is said, we introduce an implicature, of which we are also unaware. So, there are two things we are not aware of: what we expressed and an implicature being introduced inadvertently. This idea is not only counter-intuitive. It also violates what we would like to call the *modified Gricean razor*:

Propositions are not to be multiplied beyond necessity

This principle (coined after Grice's modified Occam razor) says that, in a given speech situation, we should not employ more propositions in an explanatory account than is necessary because the introduction of more propositions leads one to assume more thought contents in the mind of the speaker. The implicature level treatment proposes not only more propositions than is necessary but also propositions which we are not aware of. Therefore, if

there is an account which offers an explanation that employs fewer propositions and a more direct account of a speaker's communicative intention, we should opt for this other account.

III. The Proposition Expressed Level: Domain Delimitation Treatment

From the rejection of the treatments at the sentence level and implicature level, we are pushed down to the propositional level in seeking a solution.

Though we are pushed down to the propositional level, it is obvious that the proper treatment is not to be found at the linguistic meaning or 'Kaplanian Character' level. We would not want to suggest that the utterance of the sentence, 'Most students came to the party' has two linguistic meanings; the absolute reading, 'Most students in the world came to the party' and the restricted reading, 'Most students in my class came to the party.' This approach suggests that the restricted reading is derived by the mandatory pragmatic process of disambiguation of the sentence from two possible linguistic meanings. Such an approach would again multiply semantic ambiguities without necessity and violate a modified version of Occam's razor. So, with this consideration, we are left with the thesis that the process for restricted interpretation is 'pragmatic' in the sense that it leaves the linguistic interpretation of the utterance unchanged.

Hence, prohibited from using linguistic meaning to furnish a restricted reading, what we are left with is a treatment at the level of the proposition expressed or the 'Kaplanian Content.' This is the level at which Recanati advances a restricted reading treatment using the notion of a *Domain of Discourse*. A Domain of Discourse in Recanati is the same notion as the notion of a *Situation* in the *Situation Semantics* of Barwise and Perry. On this approach, we view the Domain of Discourse as a 'situation' tacitly referred to in a discourse. The situation in situation semantics is a partial situation (Barwise and Perry, 1999, xxv):

'Partiality. Situations are contrasted with worlds; a world determines the answer to every issue, the truth value of every statement. Situation corresponds to *limited parts of reality* [italics ours] we in fact perceive, reason about, and live in. What goes on in these situations will determine an answer to some issues and the truth value of some statements, but not all.'

The appeal of the idea of partial situations is the ability to treat utterance interpretation with context-sensitivity since utterances in daily conversation, especially those that contain indexical terms, often make reference to things in a specific domain of quantification and not the entire world. Partial situations make the domain of quantification more manageable by focusing on

only a portion of the world and, hence, renders a clearer and simpler procedure for utterance interpretation by having less to take into account.

The use of situation semantics furnishes a *relational theory of meaning* ‘*The Relational Theory of Meaning*. The meaning of an expression ϕ is conceived as a relation between situations, namely, between an utterance u and a described situation s , written:’ (Ibid., xxvi)

$$u[\phi]s$$

where u just represents the situation of the discourse (context) and s , the real situation referred to by the utterance. Consider the sentence ‘I am sitting.’ ‘Its meaning is, roughly, a relation that holds between [the situations of] an utterance u and a situation s just in case there is a location l and an individual a such that in u , a is speaking at l , and in s , a is sitting at l ’ (Ibid., p. 19).

$u[\text{I am sitting}]s$
 iff there is a location l and an individual a , such that
 in u : at l : speaks, a ; yes
 in s : at l : sits, a ; yes

An interesting outcome of this relational theory of meaning is that, as Recanati notes, in situation semantics or Austinian semantics (as situation theorists often call their position), utterance interpretation is coupled with a situation slot(s) *which add(s) a further contextual parameter for the primary pragmatic process of saturation*.

‘The Austinian theory precisely is an account in terms of ‘saturation’. Austinian semantics adds a further contextual parameter to those associated with standard indexicals: the situation talked about [or situation described in Barwise and Perry]. The absolute and the restricted [limited domain] interpretations result from different ways of filling out the situational slot in semantic structure. On this theory the linguistic meaning of the sentence is fixed; what varies is the value of a contextual parameter’ (Recanati, 1996, p. 452).

So, on this approach, the primary pragmatic process of saturation does not only assign values to indexicals and demonstratives but also to the situational slots (discourse situation and situation described). In fact, the situational slots value assignment is determinative of the values of the indexicals and demonstratives. The indexicals and demonstratives receive their values as a result of the situations selected by the speaker to fix his intended domain delimitation.

With regard to definite descriptions in situation semantics, the meaning of a definite description, The π , is a relation between a discourse situation d ,

speaker connection c , situation e and object a where the above utterance situation u is unpacked into d and c (Recanati, o.c., p. 149).

$$\begin{aligned} & d, c[\text{The } \pi]a_\sigma, e \\ & \text{iff} \\ & d, c[\pi]a_\sigma, e; \\ & \text{and there is at most one } b \text{ such that } d, c[\pi]b_\sigma, e \end{aligned}$$

A discourse situation d is that element of the context which determines the values of the indexical elements for the information to be conveyed in an utterance in a given context (Ibid., pp. 32–34). This can be illustrated as follows. An utterance must be made by someone, someplace, and sometime, in a discourse situation. If I were to utter the sentence ‘Jackie is biting me,’ my utterance would describe a discourse situation about me, now. The indexicality pertains to *me* and *now*. Similarly, if I were to say, ‘Today is 2 Feb 03’ while being mistaken that today is really 10 Feb 03, the use of the indexical ‘today’ still picks out 10 Feb 01 regardless of how firmly I believe what today’s date is. Speaker connection is a *partial function* from referring words α to their referents $c(\alpha)$ on the basis of the intended use of those referring words by the speaker in the discourse situation (Ibid., p. 125). It is this partial function which links the utterance u to the described situation e . So, in the previous two utterances $\text{me} = c(\text{me})$ and $\text{today} = c(10 \text{ Feb } 03)$.¹ The individual a is the placeholder for that unique individual which fits the description and the event e is just the real (partial) situation in which the individual is supposed to be situated.

With this conception of definite description, utterances of sentences containing incomplete descriptions are interpreted within the delimited domain of the situation described. So,

6. The table is covered with books.
7. The murderer is insane.

are interpreted as:

- 6a. $e: l$: covered with books, $d, c[\text{The table}]a, e$; yes
 iff $d, c[\text{The table}] = \text{The one and only one table } a \text{ perceived in } e \text{ at } l$
 which is predicable of the property of being covered with books

¹ Barwise and Perry note: ‘In general, a speaker’s perceptual experience (past and present), gives him connections to objects, properties, places, and times, connections that he can exploit in referring to these things’ (Barwise and Perry, 1999, p. 34). So, it is worthwhile to note that the *perceptual experience* greatly affects how a speaker exploits the relation between the objects of reference and the speaker himself in a discourse situation and, hence, how he assigns referring terms to his intended referents.

7a. $e: l$: insane, d, c [The murderer] a, e ; yes

iff d, c [The murderer] $e =$ The one and only one murderer a mentioned in e at l who is predicable of the property of being insane

Under this interpretation scheme, no descriptive contents need to be introduced in order to supplement the incompleteness or qualify any semantic content since the uniqueness claim is only within the partial situation e at location l .

Two distinctive features of the situation theorist's handling of definite description are worth mentioning. They both pertain to the notion of a *resource situation*. A resource situation is a situation of a certain type which a speaker exploits as his situation described to identify his referent. The first is the speaker's freedom to exploit various resource situations as his situation described. The second is that an utterance can accommodate as many resource situations as there are noun phrases in the utterance. Beginning with the first feature, the idea is that, though a speaker cannot choose the discourse situation he is in,² he has freedom to choose the resource situation he wants to exploit and to serve as the situation referred for his definite description (Ibid., pp. 146–149). Situations can become resource situations for exploitation in a variety of ways. The most common ways are by being perceived by the speaker, by being built up in an earlier part of the discourse, and by being the object of common knowledge about some part of the world. The variability of resource situations also highlights what Barwise and Perry call the perspectival relativity of language (Ibid., p. 39). This is the idea, when applied to resource situations, that different people have different resource situations available to them and, hence, may use different descriptions to represent a real situation.

The second feature of a resource situation is that an utterance can feature in more than one resource situation. To put it in a different way, the individual noun phrases in an utterance can each have different resource situations other than the resource situation of the utterance.

Barwise and Perry say that 'there is no reason to suppose that there is at most one resource situation per utterance any more than there should be only one thing around referred to by it in a given utterance' (Ibid., p. 153).

For Recanati and Kuroda, there can be as many resource situations as there are constituents in the sentence. Kuroda has developed a whole index predicate calculus to keep track of different domains in a sentence and the corresponding domain shift in an utterance. In his framework, sentential

² A speaker is just simply in whatever discourse situation he is in with its corresponding speaker connections. For instance, when I utter 'Jackie is biting me', the indexical values of the discourse situation are still about me and the 21st century even if I am deluded about myself as Napoleon in 1789. I am simply in the discourse situation or context in which I found myself.

constituents are indexed and the indices refer to the domains with respect to which those constituents are to be interpreted. Consider the following example of this, often referred to by situation semanticists (Kuroda, 1982, p. 46).

8. (Since it was so stuffy in (the house)_{*i*}, Mary went up to (the attic)_{*j*} and opened (the window)_{*k*})_{*i*}

This sentence would have been an interpretive nightmare if one uses an absolute interpretation (quantification with respect to the whole world) for the three incomplete quantifiers in the sentence. Using partial situations (mini-worlds in Kuroda's terminology) and an index predicate calculus, Kuroda comes up with the following. The described situation of the global utterance is about Mary and a particular house. Let's index this described situation or domain with the subscript (*i*). So we isolate a *portion of the world* as the partial situation (*i*). The house is interpreted with the domain (resource situation) (*i*). The attic mentioned is not the attic of the world but of the house in the domain (*i*). *The house* itself is then a different and smaller domain. We can further index the house of which the attic belongs (*j*). Lastly, the window mentioned is not just any window in the house but the one in the attic: a yet different and smaller domain. Let's label *the attic* itself as the domain (*k*). Thus, we have three resource situations to serve as domains in one utterance: *i* the described situation in the global utterance, *j* the house, and *k* the attic. Recanati adds that, in Kuroda's example, we have domain focalization and domain shift (Recanati, 1996, pp. 454–455). The domain is shifted from the initial domain of the global utterance to a different domain when another domain is tokened in the utterance. Such shift is also a domain focalization since the shifted domain is a restricted portion of the initial domain.

IV. Objections to the Domain Delimitation Strategy

Introducing the idea of the freedom to exploit resource situation and the idea of domain/resource situation shift helps answer a number of well-known objections to Situation Semantics. We shall discuss two of them here.

One objection is alerted by Soames who questions the ability of Situation Semantics to handle the attributive use because the situation described manages to introduce the actual referent of the incomplete quantified noun phrase (Soames 1986, pp. 355–356). Consider once again the utterance, 'The murderer is insane' with 'The murderer' used attributively. Let's suppose that it is Smyth who killed Smith, though the speaker does not know it. In Situation Semantics, the utterance interpretation is about a *real* partial situation *s* in which Smyth killed Smith and is insane. The analysis will then maintain that the proposition asserted by the speaker consists of the interpretation of the utterance *plus* the real situation (or relative to that real situation described).

But, in this case, Smyth would be a constituent of the speaker's utterance as much as Smith since both are in situation s . This, according to Soames, can not be right. Since in an attributive use, the speaker's utterance is not about Smyth, the actual referent, who is insane but is about whoever the murderer of Smith is who is insane. That is, had a different insane murderer, Jones, killed Smith, the speaker's utterance would still have the same interpretation and truth value. Yet, in Situation Semantics, a *different* murderer would correspond to a *different* real situation and hence a *different interpretation*. This cannot be right since the interpretation of the attributive use of an incomplete quantified noun phrase does not depend on who the actual referent is. According to Soames, the root of the problem is that using real situations as a parameter for interpretation inadvertently introduces the actual referent into the interpretation. In order to answer this objection, situation theorists need to include in the situation described only the general fact that *someone* killed Smith but not the atomic fact that Smyth or Jones killed Smith.

Recanati offers a solution by introducing an additional parameter, a mode of presentation. In the Fregean tradition, there is no reference without a mode of presentation. Situations are referred to under modes of presentation which the speaker conceptualizes. According to Recanati (Recanati, 1996, p. 439):

'Once we construe the real situation as referred to, we must bring a mode of presentation of it into the picture, and this gives us all we need; for the mode of presentation under which a real situation is referred to determines a type of situation, viz. the type of situation the situation referred to is believed to instantiate.'

On this approach, of using a mode of presentation, the situation theorist does not need to stop referring to real situations but only to sharpen the referring act to include a mode of presentation, under which real situations are apprehended. This notion of a mode of presentation is introduced as a parameter to be paired with a real situation. Instead of $[s, T]$ where s is the situation referred to and T the type of situation it is said to instantiate, Recanati introduces a new Austinian proposition:

$$[[s, m_s], T]$$

where s is a real situation, m_s , a mode of presentation of s and T the type of situation it is said to instantiate (Ibid., p. 461). Again, the mode of presentation m_s is the type of situation the speaker believes s instantiates, i.e. the way s is presented. So the interpretation of a definite description under this framework becomes

$$d, c[\text{The } F]a, (s, m_s)$$

where the resulting interpretation ϕ is relative to s under m_s .

In the attributive use of an incomplete quantified noun phrase, though the speaker is referring to the real situation s , it is characterized or represented as a type of situation which only includes the general fact that Smith is murdered by some unique killer but not the atomic fact in which Smyth or Jones killed Smith.

This modification of Situation Semantics, however, does not help the situation theorist to extract the actual referent out of the proposition expressed. Recanati was ingenious to allow the attributive use of definite description to be presented as a mode of presentation of the actual referent, the murderer, so that one can still keep the given real situation as the domain for the interpretation of the utterance. But, as Recanati admits, the real situation still includes the atomic fact of Smyth or Jones murdering Smith. In attributive use, it is merely presented under the mode of presentation which does not include the actual murderer but only the general fact of some unique murderer. In direct reference theory, of which Situation Semantics is a version, modes of presentation are truth-conditionally irrelevant. It only makes a difference in a speaker's cognitive significance. For instance, in Recanati's example, he says 'Cicero is a great writer' and 'Tully is a great writer' are both true iff Cicero (=Tully) is a great writer. The previous two utterances are both *about Cicero* but only under different modes of presentation. To illustrate, an utterance of 'Cicero is a good writer' can be represented as the quasi-singular proposition 9):

9. [\langle Cicero, '*Cicero*' \rangle , the property of being a good writer]

where the expression in the italic type stands for a truth-conditionally irrelevant mode of presentation. Similarly, if 'The murderer is insane' is interpreted in the real situation s in which, say, Smyth murdered Smith, the incomplete quantified noun phrase is still *about the actual referent Smyth*, though under a mode of presentation which does not identify him. The quasi-singular proposition is represented as 10:

10. [\langle Smyth, '*The murderer*' \rangle , the property of being insane]

The utterance 'The murderer is insane' is true iff Smyth murdered Smith and is insane. We have again the same problem: the actual referent is not absent from the proposition expressed. But, despite this outcome, it is sufficient for Recanati's purpose since, on a neo-Fregean notion of a quasi-singular proposition, the mode of presentation of the actual referent figures in the proposition expressed such that the proposition expressed is the *truth conditions under a mode of presentation*. It is possible for a speaker to hold the propositional belief that 'The murderer is insane' in the partial situation

s without holding the propositional belief that ‘Smyth is insane.’ It is also possible for the speaker to hold the propositional belief without contradiction that ‘Smyth is sane’, given that the speaker does not hold the propositional belief of Smyth being insane under the mode of presentation which includes Smyth in *s*. So, in the end, the *odd result* is that situation semantics manages to present a workable version of the attributive use of definite descriptions without solving what Soames thinks to be the real problem, namely, that the use of a real situation as a parameter for interpretation introduces the actual referent into the picture.

The second objection to Situation Semantics was raised by Lepore. Lepore believes that a Domain Delimitation strategy has its own version of semantic ambiguity due to quantifier scope indeterminacy (Lepore, 2000, pp. 13–16). Accordingly, sentences with more than one quantifier often are ambiguous, depending on which quantifier has wide scope over the other. Consider 11):

11. In every photo, the red sign stands out.

Domain Delimitation strategy accommodates two readings for the incomplete description ‘the red sign.’ On the wide scope reading, the same contextually salient red sign stands out *in* every photo. On the small scope reading, a speaker means that, in every photo, there is no more than one red sign, perhaps a different one in each photo, but whichever red sign it is, it stands out. ‘The red sign’ is bound by a higher quantifier ‘every photo’ due to a quantifier dependency relationship: ‘the range of the smaller scope quantifier ‘the red sign’ is partially determined by the range of the one with wide scope, i.e. ‘every photo’ ’ (Ibid., p. 14). The relationship can be seen as follows.

11a. [Every *i*: photo (*k*)*i*][the *y*: red sign in (*i*)*y*](*y* stands out in *i*)

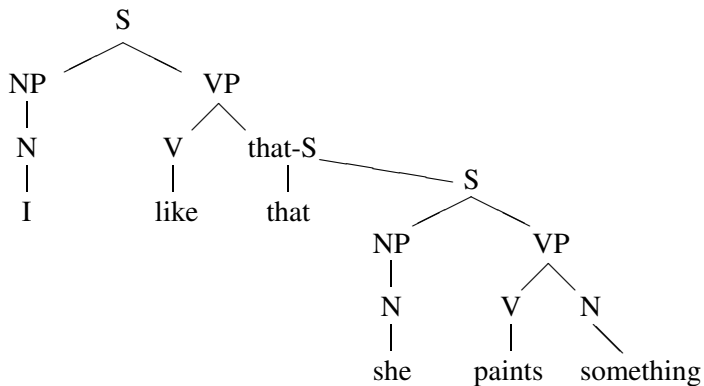
11a) Cannot be assigned a wide scope reading because of the restriction created by ‘in (*i*).’ The (*i*) in the red sign (*i*) becomes a variable bound by its initial quantifier every photo (*k*). Due to this quantifier restriction by the initial quantifier, the expression ‘the red sign’ is enriched to mean ‘the red sign *in*.’ To get the wide scope reading, all we need do is drop the ‘in’ which makes the range of the interior quantifier no longer depend on the exterior one. Lepore finds it odd that ‘the red sign’ has its meaning (extension) in a linguistic context dependent upon the meaning of expressions seemingly (syntactically and semantically) independent of it and to be dependent upon if and how it is embedded within the relationship of the quantifiers. If a quantifier dependency relationship exists, the meaning of ‘the red sign’ is enriched to mean ‘the red sign *in*.’ If there are no other quantifiers, presumably, that very same quantifier ‘the red sign’ would contribute a different meaning

in the Domain of Discourse. This meaning dependency and indeterminacy is the sort of semantic non-innocence that semantic theories should reject.

First, it would seem that the fact that the syntactical relationship of the quantifiers in a sentence can generate two possible semantic representations only shows that the sentence offers two deep structures from two different transformations. There is nothing semantically controversial about it in terms of linguistic coding. Consider the following string (12). The surface structure can generate two different deep structures as seen in the structural description represented by the phrase markers (12a) and (12b) in which (12a) represents 'I like that she paints something' and (12b), 'I like what she paints'.

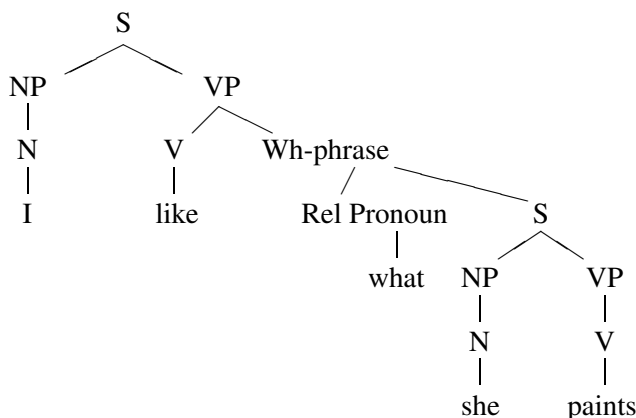
12. I like her painting.

12a.



Chomsky, Katz and many who work on generative grammar have shown that syntax and semantics can interact in such a way that different semantic representations can be generated from different syntactic transformational processes. So, when different interpretations of 'the red sign' can be derived due to modalities of syntactical structure, it presents no alarming semantic ambiguities to the meaning of the incomplete quantified noun phrases themselves but only shows a natural outcome of the interaction of syntax and semantics. Quantifier dependency relationships within the sentence may cause the whole sentence to be semantically ambiguous due to its two possible deep structures but *does not cause the quantified noun phrases in themselves to be ambiguous*. Therefore, quantifier dependency does not cause semantic non-innocence for incomplete quantified noun phrases.

12b.



There are, however, three significant issues which are worth considering that directly bear on situation semantics and quantifier dependency. The first one is whether Situation Semantics can help us disambiguate the two different readings. In some discourse situations it can and, in some others, it cannot. One may derive the wide scope reading or the narrow scope reading in a discourse situation in which the same red sign or different red signs are interpreted relative to a resource situation that builds up the distinction in the *earlier part of the discourse*. For instance, in a safety briefing. A man may say 'For safety reasons, we have placed a red sign in all areas with hazardous materials.' Then, if the speaker utters 11) this would correspond to a narrow scope reading. In a different discourse situation, a speaker may be talking about a tour of a show he went on and that he always hangs the same red sign on stage which presents the name of the group. Then, while showing the photos of the tour, if he utters 11) this would be taken with wide scope reading. Yet, with no proper resource situations to distinguish the possible readings, one may not be able to make the distinction. For example, if you just show the photos out of the blue and utter 11), it may not be known which reading is intended.

The second issue concerns how the completion materials that figure into the interpretation of the incomplete descriptions in a domain delimitation strategy. If the completion materials do not factor into the logical form of the proposition expressed, one cannot say that domain delimitation strategies do not avoid semantic ambiguity. With regard to this issue, we should remind ourselves that the completion materials are originally for the purpose of *qualifying* the uniqueness claim in incomplete noun phrases if the phrases are interpreted with respect to the global domain. If the phrase is, however, interpreted relative to a limited domain, it is already understood that any

uniqueness claim only pertains to the limited domain. So, the unarticulated constituents which are normally intended for the completion or supplementation of the phrases do not need to be figured or introduced in the phrases in the proposition expressed. When a speaker utters, 'The murderer is insane' using the incomplete quantified noun phrase attributively, the proposition expressed is just that the murderer is insane as interpreted in the delimited domain. The situation slot as a parameter specifying the delimited domain already provides the qualification for the incomplete quantifier. Any supplementation is redundant. Since, if there are no completion materials figuring in the proposition expressed, one cannot say that domain delimitation strategy does not avoid semantic ambiguity.

The third issue concerns the interpretation of sentences like 13) (Stanley, 2002, pp. 272–273).

13. The tallest person is nice.

Suppose 13) is uttered relative to a context in which the domain comprises the students of the University of Leuven. Suppose, furthermore, that in this context, the tallest student is indeed nice. Then, clearly, the proposition expressed by 13) would be true. But in the Domain Delimitation strategy 13) might in such a case come out false; since, in the supposition that no domain index is on 'person' its denotation would be the set of all people in the universe. So, in this case, the function of the superlative 'tallest' would be to select the tallest member of the set denoted by the head noun. Suppose Peter, who is a philosopher in Australia, is in fact the tallest person in the world. The result of applying 'tallest' to 'person' would be the singleton set containing Peter. The interpretation of 13) would, in combination with the intended domain (the students of the University of Leuven) result in a false (or perhaps truth-valueless) proposition, since Peter is, *ex hypothesi*, not at the University of Leuven. One may, of course, remark here that in the example given in 13) the interpretation of the superlative is effectuated in its entirety. A different approach can be imagined in which superlative constructions are interpreted by means of a superlative operator which is detached from the adjective and may take either scope over the whole (indexed) noun phrase or be incorporated within the determiner, giving either some kind of wide scope reading and narrow scope reading of a sentence like 13). This would seem to avoid the problem mentioned in that now we could make a choice in the interpretation of 13) and interpret it in such a way that now there could be a domain index on 'person.' This, however, would then take us back to our first remark as to whether situation semantics can help us to disambiguate the two different readings of sentences like 13).

V. *Relevance-theoretic Considerations and Situation Semantics*

So far in this essay, we have considered a presentation and defense of the treatment of incomplete descriptions by a domain delimitation strategy in Situation Semantics. This domain delimitation strategy can be strengthened on a theoretical level if one considers how this strategy is supported by relevance-theoretic principles (Sperber and Wilson, 1986). Specifically, we want to describe three ways in which certain notions and theoretical constructs in Situation Semantics find parallels and explanations in Relevance Theory. First, a resource situation in Situation Semantics is a situation which is selected for exploitation from those facts manifested in an individual's cognitive environment. The relevance-theoretic notions of manifestness and cognitive environment will be further explained. Second, the choice of a resource situation is determined by an individual's cognitive environment. Third, situations are selected as resource situations because those situations represent contexts which meet the condition of optimal relevance.

As to the first: a resource situation is a situation which is selected for exploitation from among those facts manifested in an individual's cognitive environment.

The notions of cognitive environment and manifestness are key concepts in the Theory of Relevance. These concepts are used to articulate how facts about the world are represented in the mind of a speaker. They are defined in the theory as follows (Sperber and Wilson, p. 39–40). A fact is *manifest* to an individual at a given time if and only if he is capable, at that time, of representing it mentally and accepting its representation as true or probably true. A *cognitive environment* of an individual is a set of facts that are manifest to him. On this approach, for a fact to be manifest to an individual is for it to be perceptible or inferable to him. It is important to emphasize the *weak* condition according to which manifestness of a fact does not require an individual's actual apprehension of it but only that he is capable of representing it. An individual's cognitive environment consists, then, not only of the facts of which he is aware but also those of which he is capable of becoming aware.

In the same way, in Situation Semantics a situation or fact can be exploited as a resource situation through perceptibility or inferability (via the earlier part of the discourse or object of common knowledge in some part of the world). Different individuals have different resource situations available to them. The availability is contingent upon the situations' perceptibility and inferability. A situation is available for exploitation when a speaker is cognitively capable of exploiting it in a discourse situation. From this, one sees that a resource situation used to interpret an expression is no more than a

fact which is manifest to an individual in his cognitive environment. Furthermore, an individual's cognitive environment consists of types of situations (represented as modes of representation) which are available to him for exploitation as resource situations for interpreting utterances. When a real situation is represented in an individual's cognitive environment, the real situation is depicted in a certain mode of representation which is a type of situation in the individual's cognitive environment.

As to the second: the choice of resource situations in a discourse situation is determined by a speaker's cognitive environment.

Wilson and Sperber claim that 'an individual's total cognitive environment' is a function of his physical environment and his cognitive abilities. But, at the same time, our cognitive environments can be different even if we share the same physical environment. This is due to differences in our personal physical environment and in our cognitive abilities. Perceptual ability, inferential ability and memories vary from one individual to the other. These differences in cognitive environment explain how, in situation semantics, speakers exploit different situations as resource situations. Recall that situations are selected as resource situations because of perceptibility, of having been built up in the earlier part of the discourse and of being common objects of knowledge. Relevance-theoretic accounts of differences in cognitive environments explain how those factors which lead to a speaker's choice of resource situation are no more than the factors of perceptibility and inferability which contribute to the differences of cognitive environments. Thus, we can see that the freedom in exploiting different situations as resource situation is supported by the recognition of differences in our cognitive environments in relevance theory.

As to the third: Situations are selected as resource situations because those situations represent contexts communicated under conditions of optimal relevance.

It is useful to first restate the relevance theoretic principles (Wilson and Sperber, p. 158):

Presumption of Optimal Relevance

- (a) The set of assumptions I which the communicator intends to make manifest to the addressee is relevant enough to make it worth the addressee's while to process the ostensive stimulus.
- (b) The ostensive stimulus is the most relevant one the communicator could have used to communicate I.

Principle of Relevance

Every act of ostensive communication communicates a presumption of its own optimal relevance.

According to the Presumption of Relevance, the relevance of an ostensive stimulus (e.g. an utterance) is determined by two factors: the effort to process it optimally (as in (a)) and the cognitive effect this optimal processing achieves (as in (b)). The principle of relevance suggests that every act of such ostensive communication communicates in an optimally relevant manner. That is, each ostensive stimulus is such that the level of effort in processing it is warranted for the cognitive effect it can achieve. Further, it is the *first interpretation* consistent with the principle of relevance which is the interpretation of the stimulus that the communicator intends to convey.³ So, one could say that the whole relevance-theoretic interpretative process amounts to following a path of least resistance in looking for an interpretation which satisfies one's expectation of relevance and then stop at the first hypothesis which meets such an expectation.

With this summary of relevance theoretic principles in mind, we want to suggest that the process of selecting a situation as a resource situation for interpreting incomplete quantified noun phrases is the same process as context selection in Relevance Theory. This is a process according to which utterance interpretation involves, as a preliminary step, a search through encyclopedic space, short term memory and perceptual environment for an appropriate context of interpretation which features optimal relevance.

To begin this sketch, we suggest that selecting a *situation* as a resource situation to interpret an expression is the same as selecting a *context* for interpreting the expression. So, by considering how a context is selected, we can see how a situation is selected as a resource situation. There is a view in pragmatic literature which suggests: first, context is determined, then the interpretation process takes place and, finally, relevance is assessed. But, in Relevance Theory, we have a complete reversal of events. In relevance theoretic principles as shown above, the theoretical starting point is that if a communicator produces an ostensive stimulus, the relevance of the token stimulus is assumed. So, relevance is presumed up front. The interpretive process involves identifying the appropriate context which meets the expectation of relevance. Sperber and Wilson say: 'in verbal comprehension in particular, it is relevance which is treated as given, and context which is treated as a variable' (pp. 141–142). In the same way, if a communicator expresses an incomplete description, one can safely assume that the resource situation or context intended as the domain for interpreting the incomplete

³ According to Sperber and Wilson, if the addressee has to move onto further interpretative hypothesis beyond the first interpretative hypothesis to find the most relevant one, the second bit (b) of the presumption of optimal relevance is falsified, namely, that the communicator did not select the most relevant ostensive stimulus (See Sperber and Wilson, pp. 167–69). Sperber and Wilson hold that a communicator respects tacitly the principle of relevance in the communicative process. We just simply select the most relevant ostensive stimulus.

description has relevance. The task for the addressee is to find the resource situation which meets that condition of optimal relevance as intended by the communicator. This also shows that the *criterion* for context selection is optimal relevance.

The way in which a context can meet the expectation of optimal relevance is evaluated in terms of its *accessibility*. First, consider that a communicator has at his disposal a particular set of accessible contexts. This set is also the set of facts which are made manifest to the communicator in his cognitive environment. This set has the following structure (Sperber and Wilson, *ibid.*):

‘This set is partly ordered: each context (apart from the initial context) contains one or more smaller contexts, and each context (apart from the maximal contexts) is contained in one or more larger contexts. The set of accessible contexts is thus partly ordered by the inclusion relation. This formal relation has a psychological counterpart: order of inclusion corresponds to order of accessibility. The initial, minimal context is immediately given; contexts which include only the initial context as a sub-part can be accessed in one step and are therefore the most accessible context; contexts which include the initial context and a one-step extension as subparts can be accessed in two steps and are therefore the next most accessible contexts, and so on.’

What is interesting about this structure is that each context contains a smaller context and each context can be contained in a larger context. They are related to each other by an inclusion relationship. Extension to another context from the initial context can be done by moving inward to a smaller context or outward to a larger one. This contextual structure parallels a situational structure in Situation Semantics in that a partial situation can contain smaller partial situations and be contained in a larger situation. The movement from the initial context to a smaller or larger context is similar to the domain shift in Recanati and Kuroda. Given this parallel, one might say that the set of facts which a communicator has at his disposal is just a set of situation dossiers.

In terms of the interpretative process in this set of contexts and its possible extension, interpreting something within the initial, minimal context is immediately accessible and, hence, the most accessible. Any extension beyond the initial context is less accessible. Extensions which require more steps to access are less accessible and involve more processing effort. Hence, such extensions should be warranted by their resulting cognitive effect. Conversely, a context which is easier to access (fewer steps) involves less processing effort.

This set of contexts, as mentioned, is just a set of situation dossiers. Each context represents some partial situation. But, this set is not just the internal long term encyclopedic memory, but, also, short term memory and the environment, if, that is, relevance theory has it right that the train of human thought is steered by the search for optimal relevance. A communicator searches through this set of context, situation dossiers of long term encyclopedic memory, of short term memory and of perceptual environment, to select the proper context which meets the expectation of optimal relevance in the process of producing an ostensive stimulus. Let us illustrate how context selection works with 8) from above.

8. Since it was so stuffy, Mary went up to the attic and opened up the window.

The Initial context (situation described) has the following descriptions.

- a. It was stuffy in Mary's house.
- b. If the house is stuffy, Mary would open up a window in her house.
- c. Mary opened a window in the attic.

When a communicator utters 8) in the discourse situation, he might have the following chunks of information which consists in the set of facts accessible to him.

Chunk 1. Encyclopedic information about Mary's house, including that her house has an attic and more than one window.

Chunk 2. Encyclopedic information about Mary's attic, including that it has a window.

Chunk 3. Encyclopedic information about there being more than one attic and one window in the world.

From superficially considering the utterance 8), it is evident that the communicator has selected the partial situation in which Mary's house situates as the context or the situation described in an earlier part of the discourse. So, the partial situation which includes Mary's house is the initial, minimal context of 8). With this as the initial context, it is not difficult to show why an addressee would not interpret the two incomplete descriptions with respect to the whole world as the intended domain of the communicator. Interpreting 'the attic' with respect to the whole world would take the train of human thought first to information chunk 3 before arriving at chunk 1. This interpretative process might further involve the gratuitous analysis of recognizing the false hypothesis that if 'the attic' has the whole world as domain, it would falsify chunk 3. That is, the addressee would need to go to chunk 3, then chunk 4 (which should be a sub-dossier of chunk 3) and finally chunk 1. Chunk 4. It is false that 'the attic' refers to the unique attic in the world.

This is an unnecessary processing effort which makes the correct domain of interpretation for the incomplete description to be accessible in 3 steps. It

makes more sense that the correct domain is arrived at in a one-step extension access by immediately considering chunk 1, featuring a context within the initial context, which is the context or domain that meets optimal relevance: minimal processing effort with maximal cognitive effect. Accessing chunk 1 in a one-step extension also agrees with the relevance-theoretic principle that an interpreter stops at the first interpretation which has optimal relevance. For interpreting 'the window,' once an addressee achieved the domain/context shift from the initial context of a situation containing Mary's house to a smaller context of Mary's house's, he can correctly select the intended context of the communicator, Mary's attic, with a one-step extension by exploiting information chunk 2 to yield the domain/context for interpreting 'the window' (namely, it is not any window in Mary's house but the window in the attic of Mary's house).

This previous illustration of context selection shows that once an initial context has been made known by the communicator, the interpretative domains of other expressions in the utterance should be those that are most readily accessible because they are the domains which involve less processing effort to arrive and are likely to be the most relevant. The latter two combinations contribute to optimal relevance. The illustration also shows that a communicator is in control of selecting the proper context and exploiting domain shift. Again, it confirms the idea that contexts are not given but selected.

This previous sketch of context selection shows how locating a situation as a resource situation is a matter of context selection with the feature of optimal relevance. A communicator uses the optimal relevant contexts as the contexts of interpretation for the expressions in the utterances he produces.

Conclusion

In defending the situationist approach to the problem of incomplete descriptions, we used the idea of treating the problem at four levels of interpretation of an utterance as suggested by Recanati. Recanati's criticism of the sentence level treatment *via* Ellipsis Theory is expanded with an analysis which shows that the shortcomings of the theory appear at both a syntactical and a semantic level. On a syntactical level, Ellipsis Theory furnishes insufficient syntactical grounds for the recovery of unarticulated constituents and exhibits sentential ambiguity. On a semantic level, Ellipsis Theory shows semantic ambiguity resulting from propositional indeterminacy. That is, the choice of completing materials for the proposition expressed is indeterminate not only at the level of the token materials for completion but also at the level of the material type for such purposes. To avoid semantic ambiguity, we would avoid treating the problem at the level of linguistic meaning but,

instead, work on an interpretation at the level of the proposition expressed. The Domain Delimitation strategy with the use of Situation Semantics is advocated because it offers the advantages of keeping interpretative windows within a discourse of interest. Delimiting the interpretative domain makes life easier for determining the proposition expressed because we no longer require a qualification of how unarticulated constituents figure in the proposition expressed.

In the last part of the essay, we provided further theoretical support for Situation Theory *via* Relevance Theory. Many notions of Situation Theory find their parallel in Relevance Theory. Resource situations in Situation Theory are merely situations which are facts manifested in an individual's cognitive environment for exploitation as seen in Relevance Theory. Further, speaker's choices of resource situations in his speech acts are determined and explained by the factors of perceptibility and inferability that contribute to the differences in cognitive environments. While taking into account how various factors contribute to differences in cognitive environments, it is suggested that resource situations are selected by the speakers on the basis of optimal relevance. Using the Domain Delimitation strategy to treat the problem of incomplete quantified noun phrases meets the condition of optimal relevance because the strategy delimits the scope of quantification to a more relevant and manageable domain for the interpretative process. When domains are purposely selected and limited, they yield more cognitive benefits and take less effort to process. Thus, domain delimitation for treating quantifiers is basically a pragmatic process carried out under the condition of optimal relevance.

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