RADICAL PRAGMATICS AND THE SCOPE OF NEGATION

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The aim of the paper is to verify the theoretical claims about the meaning of natural language negation against the analysis of cleft sentences performed by Atlas and Levinson (1981) within the framework of Radical Pragmatics.

Atlas and Levinson (1981:32) claim that "natural language negation always involves wide scope (also called external, sentential, or exclusion) negation, and the usually preferred interpretation — narrow scope negation (or choice, predicate, internal negation) is pragmatically induced". An internal negation reading is always pragmatically preferred due to the Principle of Informativeness, which creates the reading that is semantically absent. The Principle of Informativeness is stated by Atlas and Levinson (op. cit.: 40) as follows:

> Suppose a speaker S addresses a sentence A to a hearer H in a context K. If H has n competing interpretations A^{u1}, A^{u2} ... A^{un} of A in the context K with information contents $INF\ (A^{u1})$ ... $(INF\ A^{un})$ and G_A is the set of propositions that are noncontroversial in K, then the 'best' interpretation A^{ux} of A for H is the most informative proposition among the competing interpretations that is consistent with the common ground.
>
> Let A^{ux} be A^{uj} for the least j, $1 \leqslant j \leqslant n$ such that $INF\ (A^{uj}+G_A)=\mathbf{MAX}\ INF\ (A^{ui}+G_A)$, $1 \leqslant i \leqslant n$. The sentence A will tend to convey the pragmatic content PRON (A) to the hearer H: PRON (A)=INF $(A^{ux}+G_A{}^{ux})$ where $G_A{}^{ux}$ is the set of propositions that are noncontroversial in the context and that are 'about' what A^{ux} is 'about'.

According to this definition, interpretations do not pertain to sentences but rather to hearers, i.e. the hearer has n competing interpretations of a sentence, not the sentence itself. This distinction is very important, since it amounts to the claim that the output of grammar is not a range of interpretations or even a single interpretation. Atlas (1979:278) is very adamant about this:

> Understanding the speaker's utterance is not simply knowing a logical form that the context selects from the meanings of an ambiguous sentence. Such a view would have been congenial during the palmy days of Generative Semantics in the early 1970's when formal semantics was loved by linguists more fondly and less well than the subject deserved, and everything was cut and tailored to a logical form. On my view understanding the speaker's utterance is knowing a proposition that the context constructs from the 'meaning' of a universally semantically non-specific sentence.

Nevertheless, the account of clefts presented in Atlas and Levinson (1981) is based on logic, and negation is not semantically nonspecific but rather external (sentential). Logical form in their theory represents the sense of a sentence, which they explain as follows: (op. cit.: 8) "Philosophers have found it natural (after Frege) to identify the sense of a declarative sentence with its truth conditions... Two sentences that are logically equivalent can have different logical forms. Logically equivalent sentences have the same intension; they do not necessarily have the same sense." Logical form represents the level of semantic representation and it is at the same time the relevant level for explaining the conversational implicatures. On this analysis sentences that give rise to implicatures should differ in logical form from their corresponding implicature-less sentences. Cleft sentences, therefore, should differ in logical form from corresponding simple sentences, since their entailements and implicatures are different.

Atlas and Levinson analyse the following set of cleft sentences:

(1) It wasn't John that Mary kissed.
   a. Entails: "Mary didn't kiss John."
   b. Implicates: "Mary kissed someone."
   c. Does not implicate: "Mary kissed exactly one person."

(2) It was John that Mary didn't kiss.
   a. Entails: "Mary didn't kiss John."
   b. Entails but does not presuppose: "There is exactly one person that Mary didn't kiss."
   c. Entails: "There is someone Mary didn't kiss."

(3) It was John that Mary kissed.
   a. Entails: "Mary kissed John", the latter does not entail the former.
   b. Entails: "Mary kissed someone."
   c. Entails but does not presuppose: "Mary kissed (exactly) one person."

(4) It wasn't John that Mary didn't kiss.
   a. Entails: "Mary kissed John", the latter does not entail the former.
   b. Presupposes or its use implicates: "There is someone Mary didn't kiss."
   c. Does not presuppose: "There is exactly one person that Mary didn't kiss."

The logical form postulated by Atlas and Levinson (1981:31) for the positive cleft (3) is the following:[1]

I. $\lambda x(x=\text{John})\ (\gamma x\ \text{kiss}\ (\text{Mary}, x))$

where γ=collection operator — a singular term denoting a group, indifferent to the distinction between the plural and the singular.

The above formula is definitionally equivalent to:

$\vee x\ A(x)\ \&\ \wedge y(A(y)\rightarrow y=\text{John})$; from which follows:
$\vee x\ A(x)\ \&\ \vee x \wedge y\ (A(y)\rightarrow y=x)$; i.e. Mary kissed exactly one person.

The negative cleft (1) has the following logical form:

II. $\neg\lambda x(x=\text{John})\ (\gamma x\ \text{kiss}\ (\text{Mary}, x))$

By the Principle of Informativeness this sentence will be understood as involving internal negation, which is semantically stronger, and therefore more informative:

$\lambda x(x \neq \text{John})\ (\gamma x\ \text{kiss}\ (\text{Mary}, x))$

The internal negation reading is the conversational implicatum of saying a negative sentence, claim Atlas and Levinson.

Atlas and Levinson present the logical forms for two cleft sentences only, those given above. However, four cleft sentences are analysed in their paper, three of them containing negation. Moreover, each negative cleft has different entailments and implicatures, each must therefore have a different logical form. The only way in which they can differ is in regard to the position of negation in the semantic representation. It is a generally recognized fact that the position of negation in logical form corresponds to the scope it takes. Thus the negative cleft: "It was John and Mary didn't kiss" will have to have the following logical form:

III. $\lambda x(x=\text{John}) \neg (\gamma x\ \text{kiss}\ (\text{Mary}, x))$

When we compare the logical forms II and III it is apparent that the scope of negation is different in each case. It seems then that the claim that semantic negation is nonspecific as to scope does not go through, even within the authors' own framework. In general, their theory imposes mutually contradictory requirements on logical form, viz. 1) of vagueness, uninformativeness and nonspecificity of negation, 2) of expressing the relevant level for the calculation of implicatures, and 3) of representing the "sense" of a sentence. There is no possible way of reconciling these requirements, particularly in the case of nega-

[1] λ — abstraction is used to formulate a complex one-place predicate symbol.

tive sentences. In fact, when we take negative sentences with marked accent into account it is clear that the first of these conditions has to be abandoned. Atlas and Levinson claim that the sentences:

(5) Mary kissed JOHN.[2]
has the same meaning as its respective cleft and therefore must be assigned the same logical form. However, in the negative the sentence can have two distinct intonational contours:

(6) Mary didn'kiss JOHN.

(7) Mary didn't kiss JOHN.

(6) and (7) are synonymous to their respective clefts (1) and (2):
(1) It wasn't John that Mary kissed.
(2) It was John that Mary didn't kiss.

Therefore, they must be assigned different logical forms, which are respectively as follows:

$\neg\lambda$ x(x=John) (γx kiss (Mary, x))
λx(x=John) $\neg$ (γx kiss (Mary, x))

Atlas and Levinson's theory predicts then that a single sentence type is ambiguous between two senses, each having a distinct logical form with a different scope of negation. It seems that the claim of nonspecificity of negation is indifensible within the framework adopted by Atlas and Levinson.

Not only their analysis of clefts leads to this conclusion. Atlas and Levinson (1981: 13) also discuss the meanings of the sentence with a universal quantifier and negation:

(8) All of the arrows didn't hit the target.

They claim that the sentence is ambiguous and has two senses that can be described by the following logical forms:

IV. $\neg\ \wedge$x(Arrow(x)$\rightarrow$Hit(x, the target))
V. $\wedge$x(Arrow(x)$\rightarrow\ \neg$ Hit(x, the target))
IV may be paraphrased by "Not all of the arrows hit the target".

Again, the logical forms differ only in the scope of negation. It is interesting that a theory which arose out of criticism of Generative Semantics and

[2] Block capitals indicate heavy stress.

logical semantics appears to be their notational variant.[3] The Generative Semantics Theory assumed that sentences differing in sense have different semantic representations — the same assumption is present in the Radical Pragmatics Theory. Generative Semantics claimed that sentences that give rise to different presuppositions have different semantic representations — the same claim (concerning conversational implicatures) is present in Radical Pragmatics. Sentences differing in the scope of negation have different semantic representations — the same is true for Generative Semantics and Radical Pragmatics.

Nor is it possible to defend the Radical Pragmatics Theory on grounds of overall coherence and explanatory adequacy. First, in addition to having to postulate distinct scopes of negation for negative sentences differing in placement of contrastive stress, Radical Pragmatics must also postulate a different kind of negation, pragmatic negation, which in effect duplicates the internal negation reading. The internal negation reading is nothing other than a narrow scope reading. Since the claim of semantic nonspecificity or vagueness of negation cannot be defended in any case, a division of labour between the pragmatic and the semantic component in providing two distinct readings for negative sentences lacks motivation and moreover does not provide any explanation that could not be provided by assigning the sentences different scopes of negation in their semantic representation. Thus, the pragmatic "internal" negation becomes superfluous. Moreover, the pragmatic component itself does not stand up to the test of coherence. The pragmatic component is defined by Levinson (1983:12) as "having as its topic those aspects of meaning of utterances which cannot be accounted for by straightforward reference to truth conditions of the sentence uttered. Put crudely: Pragmatics=Meaning — Truth Conditions."[4] In other words, the pragmatic component adds aspects of meaning to weak and uninformative semantic representations by means of strengthening principles or the Cooperative Principle. On this view of the interaction of pragmatics and sematics, it should be impossible for the pragmatic component to weaken the semantic representation or to cancel entailments, i.e. to have truth conditions defined by the equation:Truth Conditions=Meaning — Pragmatics. And yet, the solution suggested by Levinson (1983:139n) for:

(9) John doesn't LIKE Martha, he LOVES her.

illustrates the above equation. Levinson suggests that the entailment relation

[3] Katz (1972: 397) explains that a theory is a notational variant of another theory "when both theories handle the same range of grammatical facts, no more and no less, and they handle those facts on the basis of the same principles. The only difference between the one theory and the theory of which it is a notational variant is a difference in the way these principles are formulated."

[4] Levinson adopts this definition of pragmatics after Gazdar (1977).

between John doesn't like Martha→ John doesn't love Martha, be "cancelled" by the pragmatic properties of the sentence: he claims that the verb "like" is mentioned rather than used in the above sentence. It seems, therefore, that the Radical Pragmatics Theory is no serious rival to standard Truth Condition Theories, or the Presuppositional Theories such as GS or IS.

However, this is not to reject all the methodological assumptions of Radical Pragmatics. The postulate of an "explanatory" logical form is very valuable for truth conditional semantics. Many linguists have expressed their dissatisfaction with classical truth conditional semantics as inadequately explanatory. Atlas and Levinson (1981:57) say: "Sole reliance upon a theory of truth and logical form manifestly fails. Classical semantics is inadequately explanatory, in either its extensional or intensional varieties." However, sole reliance upon the pragmatic component in "constructing" interpretations manifestly fails in the case of negative sentences.

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