

## PRONOUNS AND POSSIBLE WORLDS

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The nature of the problem that I would like to deal with here can be seen in the following contrasts:

- (1) a. Mary is looking for a new book about semantics but she can't find it.  
b. Mary is looking for a new book about semantics but she can't find one.
- (2) a. Mary bought a new book about semantics but she doesn't like it.  
\*b. Mary bought a new book about semantics but she doesn't like one.
- (3) a. You must write a letter to your parents. I'm sure they'll be expecting to get one.  
\*b. You must write a letter to your parents. I'm sure they'll be expecting to get it.

As a summary glance at these sentences will show, we seem to have three possibilities regarding the use of anaphoric pronouns with indefinite antecedents. Assuming the asterisked sentences to be unacceptable, these three possibilities can be outlined as follows:

- (i) Contexts in which either the indefinite pronoun 'one' or a personal pronoun is possible. See (1) above.
- (ii) Contexts in which only a personal pronoun is possible. See (2).
- (iii) Contexts in which only the indefinite pronoun 'one' is possible. See (3).

While it will not be possible here to give a full analysis of all the determining factors involved in the resolution of these different choices, we will try to outline an approach to one of the major ones: the problem of specific and non-specific reference. It should be evident that our interpretation of (la) leads us to a reading in which there is some specific book that Mary is looking for. In (lb), on the other hand, it could be any one of a number of books which satisfy the relevant description 'new book about semantics'. In this case, then, the reading is non-specific. Obviously, if we could resolve the problem about when an indefinite NP can be given only a specific reading or only a non-specific reading, then we would be a long way on the road to the resolution of the problem that faces us. It is my belief, however, that this whole approach is mistaken, if not indeed insoluble, as witnessed by the numerous unsuccessful attempts to determine the nature of specific and non-specific reference. Let us look at another example:

- (4) a. Bill wants to buy a new house in the centre of town, but Mary doesn't like it.
- b. Bill wants to buy a new house in the centre of town, but he can't find one cheap enough.

As in (la), the first of these sentences must be given a reading in which the object can be said to exist already in some relevant sense. In (b), however, it does not exist in this relevant sense. What is this relevant sense of existence? It should be obvious that this is not a question of ontology. The objects that we can speak about in our everyday use of language need have no actual existence. So we can speak about unicorns and men from Mars, without believing for a moment that these objects actually exist. We can even speak about objects which could not possibly exist, such as square circles, etc. Before trying to solve this problem, however, if it can be solved, let us test further to see what evidence we can accumulate that the notion we need to analyse is, in fact, that of existence in some relevant sense.

Kiparsky and Kiparsky (1971) gave a detailed analysis of a class of predicates which they called factives, the defining characteristic of which is that, in independence of whether the factive predicates themselves are positive or negative, sentential complements embedded underneath them seem always to be presupposed to be true. So, in the following example, the complement 'that she left early' seems to be a felt implication of both sentences:

- (5) a. Mary regrets that she left early.
- b. Mary doesn't regret that she left early.

This being the case, we would expect that, where the predicate of the embedded sentence itself carries no implication to the contrary, an indefinite NP in these contexts could always be given a specific interpretation. As the following examples show, this expectation is, it seems, confirmed:

- (6) a. Mary regrets that she bought a new car because it's always giving her trouble.
- b. Mary doesn't regret that she bought a new car because now she drives it to work every day.

With the class of implicative predicates, on the other hand, a class first analysed in Karttunen (1971), an embedded sentential complement is only implied to be true when the implicative predicate in the matrix is positive. When a matrix implicative is negative, the implication of truth no longer holds. We would expect, then, that in the positive cases, an indefinite NP could be given a specific interpretation, but that the possibility would no longer hold where the implicative is negated. The following sentences seem to confirm this expectation:

- (7) a. I remember seeing a car parked on the corner. It was black, I think.
- \*b. I don't remember seeing a car parked on the corner. Its headlights were on and there was a man inside.

In actual fact, the specific / non-specific distinction is treated by logicians and philosophers as a difference in scope between the existential operator and other operators. Let us look at just one example:

- (8) Mary believes that a friend of mine is a busdriver.

Taken as it stands, this sentence is ambiguous. It could mean either that there is some specific friend of mine who is, Mary believes, a busdriver, or, on the other hand, that Mary believes that some friend of mine or other is a busdriver. The standard logical form for the two interpretations would read as follows:

- (9) a. There is a friend of mine *x* (Mary believes *x* is a busdriver).
- b. Mary believes (There is a friend of mine *x* and *x* is a busdriver).

Only (a), the specific reading, carries an implication that I actually have a friend. In (b), the non-specific interpretation, Mary believes I have a friend who is a busdriver, but, obviously, Mary's beliefs could be mistaken.

I will not enter here into the arguments that have been put forward by Greenberg (1976), Cole (1978), Fodor (1979) and others that a logical interpretation in the terms we have just examined is mistaken. Rather we will continue to assume that the notion of existence is relevant, provided we can constrain it sufficiently to account for the cases we are examining. The direction in which it needs to be constrained can be seen in the following:

- (10) a. John wants to marry a girl with green eyes, but she'll have to be very special if she's to be happy with a fellow like him.
- b. Mary is thinking of making a long-distance call to San Francisco, but it's going to cost her a lot of money.

What notion of existence is relevant here? Certainly it cannot be actual existence, however we may interpret 'actual'. Unfortunately for John, the girl of his dreams may never materialize, and Mary's long-distance call may never get beyond the realm of thought. There is, however, a notion of existence involved: existence in the discourse. By speaking of a girl with green eyes that John wants to marry and of a long-distance call that Mary wants to make, we are establishing in the discourse the existence of certain entities, mutually known to both speaker and addressee, and which can, therefore, be later referred to by means of personal pronouns. The question then becomes one of deciding the conditions under which these discourse entities are established.

It might be noticed now that the contexts we are dealing with here are contexts which are embedded under predicates such as 'want', 'believe', 'thinking of', etc., contexts in which we explicitly come face to face with a world which is, in some sense, a pure mental construct. We are entering, in logical terminology, into other possible worlds. These contexts, though commented on in various ways from the time of the classical Greeks onwards, were first analysed in depth by Frege (1892). Very roughly, they can be described as subordinated contexts, in the syntactic sense, in which the matrix verb expresses speaker attitudes or introduces reported speech. Frege also included modal contexts and conditionals. It is in terms of such contexts that the specific/non-

specific contrast has been especially examined. The problem, however, in my opinion, does not lie here. At least not directly.

We have said that personal pronouns can be used with an indefinite NP antecedent when the latter can be interpreted as establishing a discourse entity in the particular context of utterance. Even this relativized notion of existence is not, however, sufficiently constrained to predict the cases in which an indefinite NP antecedent can be used with an anaphoric personal pronoun. In order to arrive at a sufficiently constrained rule in this case, let us assume, first of all, that *all* referentially indefinite NPs establish a potential discourse entity (or entities in the case of plurals). We are eliminating, of course, indefinites in predicate nominals, since these are obviously non-referential. What we need to discover, then, are the reasons why these potential discourse entities are not, in certain cases, converted into actual discourse entities which can be referred to by means of anaphoric personal pronouns. Let us examine more carefully the type of failure that is involved:

- \*(11) a. I haven't got a car. It's red and can do 200 m.p.h.
- b. I can't find a book I'm looking for. Would you look at it, please?.

Karttunen (op. cit.) uses sentences such as these to make the claim that the relevant factor in determining the unacceptability of 'it' in these cases has to do with the failure of the antecedent sentence to establish a discourse entity. The antecedent context being negative, no referent is established. But, surely what we want to say in cases such as (11), and (7b) above, is not so much that it is the pronoun that is unacceptable as that the whole discourse is in some sense a little crazy. That it is, in fact, the whole context that must be analysed here, rather than the question of whether or not the antecedent sentence introduces a potential discourse entity, can be seen from the following:

- (12) a. I haven't got a car. It isn't red and it can't do 200 m.p.h.
- b. I can't find a book I'm looking for. Could you help me to look for it, please?.

The differences between (11) and (12) are obviously purely contextual.

Partee (1972), noting the failure of the existence hypothesis to explain specific references such as the following:

- (13) If Bill writes a paper that his teacher doesn't like, he will have to rewrite it

suggested that the appearance of the personal pronoun here could be explained by stipulating that the consequent presupposes the actualization of the hypothetical situation outlined in the antecedent. This solution, though heading perhaps in the right direction, is not sufficient. It fails to explain why cases such as the following cannot be explained on the same presupposition of actualization:

- \*(14) Mary is expecting a baby. It's name is either Tom or Susan.

A much more plausible solution, as far as I am concerned, can be found in the notion of movement from one possible world to another. In (14), the speaker is translating the baby that exists in the world of Mary's expectations into the world of actuality, in which it does not exist. The sentence is consequently unacceptable. In (13) we never move out of the hypothetical world in which Bill writes a certain paper. This sentence is acceptable. In (11a), we move, without any overt signal that we are doing so, from a world in which I haven't got a car into one in which I have one. Since the discourse remains all the time in one world, in this case the actual world, a contradiction is set up and the sentence is unacceptable. The same holds true for (11b), in which the contradiction lies between a world in which I have not got a certain book and one in which I have it. Again there is no overt signal in the discourse that I have changed from one world to another. In the sentences in (12), I never move out of the world in which I purport to refer to the entities 'a car' and 'a book I'm looking for' respectively. These sentences are acceptable.

We might postulate, then, that an indefinite referential NP can always introduce an actual discourse entity, unless a contradiction is set up between entities both existing and not existing, and where there is no overt signal that we have changed from one world to another. This rule would need to be elaborated on and developed. For instance, a change from one tense to another does not seem to constitute a boundary crossing between worlds:

- (14) a. Mary bought a new car yesterday. She's bringing it round now.  
b. Mary is getting a new car tomorrow. She's been saving for it for months.

By way of conclusion, I will just add a note about the unacceptability of (2b) above. The pronoun 'one' where it is not

accompanied by any overt determiner is always interpreted as indefinite, i.e. following Hawkins (1978) and Van Langendonck (1980), a type of reference in which there is always a direct implication that other exemplars of the same kind are being excluded from the reference. In (2b), however, there is only one book which has been bought by Mary introduced into the context. There is just one definite book, so there are not, in the context, other exemplars of the same kind which can be excluded. We cannot, therefore, use the indefinite pronoun 'one' in this case.

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