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Just A Dream?

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1 In this short essay[1] I would like to consider one aspect of a group of verbs like *dream, imagine*, etc., which have sometimes been included under the rubric "world-creating predicates" in the practice of some semantically oriented linguists [2], as it pertains to the semantic entailments of certain argument types. The purpose of the following discussion is to show that these verbs, while they are assigned a type-theoretically identical denotation with a verb like *think* in the current formal semantic analysis, especially Montague Grammar (MG), must be interpreted differently from verbs like *think* if their entailment pattern is to be captured. In what follows general familiarity with MG is presupposed.

2 Consider the following arguments.

(1) a. John thinks he is a famous star. John thinks he is adored by everyone.
Therefore, John thinks he is a famous star and that he is adored by everyone.

b. John dreamed that he was a famous star. John dreamed that he was adored by everyone.
Therefore, John dreamed that he was a famous star and that he was adored by everyone.

While (1a) seems to be a valid argument, (1b) seems to fall through.
Why is this so? Note that compared with (1b) the argument in (2) below does appear to go through.

(2) John dreamed that he was a famous star. And in his dream he was adored by everyone.
Therefore, John dreamed that he was a famous star and that he was adored by everyone.

Using the obvious abbreviations for the propositions involved, the arguments in (1) can be informally represented[3] as follows.

(3) a. think (j, ^ F)
think (j, ^ A)
∴ think (j, ^ (F & A))
b. dream (j, ^ F)
dream (j, ^ A)
∴ dream (j, ^ (F & A))

Thus assuming both *think* and *dream* to be the verbs of semantic type ⟨⟨s,t⟩, ⟨e,t⟩⟩, i.e., a function from propositions to a set of individuals[4], will fail to formally distinguish the arguments. Since part of the business of doing formal semantics is to capture the entailments in natural language, (1) and (3) together indicate the inadequacy of MG treatment of these verbs. There is in fact another type of argument involving the same pair of verbs that also seem to indicate the same inadequacy. Observe the following.

(4) a. John thinks he is rich. And he thinks he is not rich.
Therefore John thinks he is rich and he thinks he is not rich.
b. John dreamed that he was rich. And he dreamed that he was not rich.
Therefore John dreamed that he was rich and he dreamed that he was not rich.

While the conclusion in (4a) indicates that John is being contradictory, John seems perfectly sane and normal with the conclusion in (4b). Using again the obvious abbreviations, the conclusion in each argument may be given the following informal representation.

(5) a. think (j, ^ R) & think (j, ^ (~R))
b. dream (j, ^ R) & dream (j, ^ (~R))

Again the representations fail to predict any difference there is between *think* and *dream.*

3 One may think that the difference we have observed above all boils down to the problem of tense. Indeed the examples so far have *think* and *dream* in the present and the past tense respectively. But this cannot be the case, for note that the following, where *think* appears in the past tense, also indicates the contradictory nature of John's belief.

(6) John thought that he was rich and he though that he was not rich.

Or note that (1a), when put in the past, is still a valid argument.

(7) John thought he was a famous star. John thought he was adored by everyone.
Therefore, John thought he was a famous star and that he was adored by everyone.

4 The key to the whole problem, it appears to me, is to be found in the logically valid nature of an argument like (2) as opposed to (1b). Their general patterns may be schematically represented as follows.

(8) a. (=(1b))
... dreamed ... ... dreamed ...
Therefore ... dreamed ...
b. (=(2))
... dreamed ... ... in his dream ...
Therefore ... dreamed ...

In (8b) the anaphoric *his dream* in the second sentence"guarantees", so to speak, that one is still talking about the same dream John had. In other words there is something like the quantificational binding between the preceding *dreamed* and *his dream, dreamed* in this case functioning like an existential quantifier. (8a) on the other hand is like having two separate existential quantifiers appear in the premises in the form of *dreamed* . That is why the argument is not valid, for recall that the following is not logically valid in general.

(9) $(\exists x)Px \ \& \ (\exists x)Qx$
$\therefore (\exists x)\ [Px \ \& \ Qx\ ]$

Thus both the premises and the conclusion of (8b) are informally comparable to having the quantificational structure like (10).

(10) $(\exists x)\ [Px \ldots\ldots Qx]$,

where the existential quantifier binds the whole formula[5].

But why the existential quantifier? This is where the notion "world–creating" is really crucial. It appears that every use of a world–creating verb like *dream* "creates" or "declares that there is" a possible world accessible through the dreamer where the content of the dream holds. So whenever the verb is used, a new dream world is created. That is why the conclusion of (4b) is not contradictory. It is just that different dream worlds are involved. Different things can happen in different possible worlds. A verb like *think* on the other hand does not have this kind of property. Its use only dictates a certain attitudinal relationship between an individual and a proposition as is usually represented in MG (Cf. (3a) and (5a) above). And that is why the conclusion of (4a) is contradictory; it says John maintains the same "think" attitude toward two contradictory propositions within the same world the whole proposition is evaluated at, say the real world.

5 How can we effect the semantic interpretation noted above with respect to *dream* within the framework of MG semantics? One can think of two alternatives, both of which will have to do with the special lexical properties of the verb.

First, one could make a by–fiat declaration, saying that verbs like *dream* belong to a special class, say V_{dream}, and add a truth condition to the effect that *dream* $(j, {}^{\wedge}p)$, for instance, is true if and only if there is a possible world (possibly different from the current index the whole formula is evaluated at) in which p is true and that j stands in a dream–relation to that world. This is essentially a meaning–postulate method. You code in the special properties in the form of a meaning postulate, and then adjust the whole system to work according to that postulate.

Or alternatively one could take a lexical decomposition approach, where a verb like *dream* would receive a special translation in such a way that it would be made semantically equivalent to *have a dream* with the needed existential quantifier meaning built in. With this translation there is an obvious sense in which we can say why a verb like *dream* is world–creating. It further tells you that there is a quantification involved whenever this verb is used and that the quantifier in question is always existential in nature.

Notes

1. The following is an outline of what appears to be a possible semantic treatment of the world–creating verbs. I have not worked out the details yet; hence the style of presentation is deliberately informal. Hopefully a more formal and enlarged version of it will appear in the near future.
2. See for instance McCawley (1981: 326ff) and other works by generative semanticists in the late sixties and the early seventies.
3. Part of the "informal" representation has to do with tense.
4. Following the suggestion of Bennett (1975), I take intransitive verbs to semantically denote a set of individuals, not a set of individual concepts (cf. Montague (1974)); In

general the framework the present discussion is based on is the one expounded in Dowty et al (1981).

5. Strictly speaking this is of course not correct since *dreamed* and *his dream* appear in separate clauses in (8b) or (2). The intention of the remark is that coreference of the "two" dream-worlds obtains in these examples, which is, in effect, representable as (10).

References

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