ADVERBS AND SEMANTIC INFERENCES

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1. L. Karttunen (Karttunen 1970, 1971) demonstrated that in English there exist six classes of predicates that differ as for the relationships holding between the predicate and its sentential complement: factives, positive and negative two-way implicatives, positive and negative one-way implicatives, and non-determinatives. H. Ņim (.chomp 1974) validated the classification for the Estonian language. K & N drew their evidence from verbs and adjectives. Now a question poses itself: do the principles underlying their classification hold also for adverbs, and if yes, do they exhibit any differences in comparison with verbs and adjectives.

According to Karttunen the relationship between the predicate and its sentential complement is determined by the semantics of the predicate, and it can always be computed if the semantic class of the predicate is known. Together with presuppositions semantic inferences form a subclass of inferences with two distinct characteristics (Joshi, Weischedel 1976):

i) they are inferences that need to be made when analyzing a sentence, i.e. the problem of when and where to make what kind of inferences does not arise in case of them;

ii) they do not exhibit a "chain" reaction so characteristic of other kind of inferences the reason being that they stem from either the semantic structure of individual words or
the particular syntactic constructs of the sentence, and the relationships hold within the corresponding sentence.

The problem of making inferences has always been a "sore" point in natural language understanding systems. The mechanism of inferences discussed in this paper enables to reduce the amount of computation needed and to make the interpretation of sentences more reliable.

2. With respect to their influence on the relationship between the predicate and its sentential complement three classes of adverbs may be differentiated: manner adverbs, sentence adverbs and complement-oriented adverbs.

2.1. The behavior of manner adverbs (MA) and sentence adverbs (SA) in the sentence is widely different:

1) MA presuppose the truth of the embedded sentence without the corresponding MA:

(1) John quickly ordered the boy to leave
(2) John ordered the boy to leave

Some SA (like "wisely") have the same faculty, some (like "probably") do not:

(3) Wisely, John ordered the boy to leave
(4) Probably John ordered the boy to leave

2) MA are within the scope of the sentence negation while SA have the negation always within their scope:

(5) John did not answer the question quickly
(6) John answered the question
(7) Shortly, John did not answer the question
(8) John did not answer the question

Thus it can be seen that MA always behave like factives, whereas each SA must have an entry specifying whether it behaves like a factive or like a non-determinative.
2.2. Complement-oriented adverbs (COA) do not function only to mark the truth value of the compliment (Lehrer 1975) but also to change that truth value. If from the sentence (9) Bill accused John of stealing the car it cannot be inferred whether John really did so or not, then from (10) it follows that he did so, and from (11) that he did not:

(10) Bill **rightly** accused John of stealing the car
(11) Bill **erroneously** accused John of stealing the car

COA are mostly used with non-determinative predicates changing the non-determined relationship into a determined one: COA like correctly and rightly function as positive one-way implicatives presupposing the truth of the complement, COA like erroneously and wrongly behave as negative one-way implicatives presupposing the falsehood of the complement.

It must be noticed that not always COA trigger the change of relationship: triggering depends on the semantic structure of the predicate (selection restrictions) and should be given for every predicate separately.

3. To wind up it must be said that adverbs do not possess all the features characteristic of verbs and adjectives: they may function as factives (MA and some SA) or as positive or negative one-way implicatives (COA), and even as such their paradigm is defective, e.g. as one-way implicatives they do not have any "neutral" form as the corresponding verbs and adjectives have.

References:

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