ALMOST: A TEST?

DORIS PENKA

Seminar für Sprachwissenschaft
Universität Tübingen
d.penka@uni-tuebingen.de

Modifiability by *almost* has been used as a test for the quantificational force of a DP without stating the meaning of *almost* explicitly. The aim of this paper is to give a semantics for *almost* applying across categories and to evaluate the validity of the *almost* test as a diagnosis for universal quantifiers. It is argued that *almost* is similar to other cross-categorial modifiers such as *at least* or *exactly* in referring to alternatives ordered on a scale. I propose that *almost* evaluates alternatives in which the modified expression is replaced by a value close by on the corresponding Horn-scale. It is shown that a semantics for *almost* that refers to scalar alternatives derives the correct truth conditions for *almost* and explains restrictions on its distribution. At the same time, taking the semantics of *almost* seriously invalidates the *almost* test as diagnosis for the nature of quantifiers.

1. Introduction

Modifiability by *almost* has been used in the literature as a test for the quantificational force of a DP. At the heart of this test lies the observation hat universal quantifiers can be modified by *almost*, whereas existentials cannot. The following examples illustrate this contrast.

(1) a. Almost every student passed the exam.
b. *Almost a / some student passed the exam.

Consequently, so the argument goes, if some DP whose quantificational status is unclear can be modified by *almost*, it must have universal force. So the *almost* test has been used as an argument in the discussion of elements for which it is notoriously unclear whether they should be analysed as universals or existentials. Carlson 1981 used modifiability by *almost* to distinguish between NPI *any* and Free Choice *any* and argued that, since Free Choice *any*, but not NPI *any* can be modified by *almost*, the former is a universal quantifier, whereas the later is an existential.

(2) a. Almost any student can solve this problem set. Free Choice
b. *I didn't see almost any student. NPI

Subsequently, the *almost* test has also been used to help decide the nature of so called n-words in Negative Concord languages. Zanuttini 1991 used the fact that n-words can be modified by *almost* to argue that n-words are universal quantifiers scoping over negation, rather than existentials in the scope of negation.

(3) Non ha detto quasi niente / *alcunche. (Italian)
not have said almost n-thing / anything
'He said almost nothing.'

However, as long as the meaning of *almost* is not explicitly stated and selectional restrictions derived from it, it remains unclear what *almost* is really sensitive to and whether the arguments based an modifiability by *almost* are valid.

The aim of this paper is to give a semantics for *almost* applying across categories and to evaluate the validity of *almost* as a diagnosis for universal quantifiers under this semantics.

2. The meaning of *almost*

As I argued in Penka 2005, existing analysis of *almost* by Sadock 1981 and Morzycki 2001 are insufficient. They both assume that *almost* applying to a proposition p is true if p is true in a world which is not very different from the actual world. But these accounts based on intensional similarity either give wrong truth conditions for VP-modifying *almost* or cannot derive the correct selectional restrictions.

I propose that the semantics of *almost* is analogous to that of similar expressions such as *at least, at most* or *more than*. Like *almost*, these expressions can modify elements of different syntactic categories, such as adjectives, VPs and DPs:

(4) a. John was almost / at least satisfied.
b. The alpinist almost / at least reached the base camp.
c. Almost / at least half of the candidates passed the exam.

McNally 1998 and Krifka 1999 argue that expressions such as *at least, at most* or *more than* have a cross-categorial semantics similar to the semantics Rooth 1985 gives for *only*, but crucially involve alternatives ranked on a scale. Krifka assumes that these alternatives are either introduced by focus, marked by accent, or come about from expressions that are part of a Horn scale, i.e. a scale ordered by the entailment relation such that an element of the scale entails all the elements ranked lower. To ensure that the relevant alternatives are available at the level where they are evaluated, he further assumes that the scalar ordering is projected along with the focus alternatives, so that the ranking of the alternatives having the type of the focus value carries over to the alternatives at the propositional level.

For the implementation of scalar alternatives, I follow Schwarz 2005 who assumes that operators evaluating scalar alternatives have a restrictor variable ranging over scales of propositions. In the case of *almost*, the relevant alternatives are the

ones which are close by on the ordered scale. I will use ≈ to signify the 'close by'-relation and as the corresponding restrictor variable.

Here are the truth conditions I propose for *almost*:

(5) $[\![\textbf{almost}_{\approx}]\!] = \lambda w.\lambda p_{<s,t>}.\ \exists q\ [\ q \approx p\ \&\ q(w)]\ \&\ \neg p(w)$

So *almost* applied to a proposition p is true iff p itself is false in the actual world but there is an alternative proposition that is close by to p and true. There is some debate whether the requirement that p be false in the actual world is an entailment or an implicature (as argued for a.o. by Sadock 1981). I do not want to go into this discussion and will simply follow Rapp and von Stechow 1999 in assuming that it is indeed part of the truth conditions.

Note that it is only required that the alternatives under consideration be close to p, but not that they are ranked lower than p. That only alternatives ranked lower can be true is ensured by the second conjunct in (5), which requires that p be false. Since p is logically entailed by alternatives ranked higher on a Horn scale, only alternatives ranked lower can be true.

To see how this semantics works, consider the sentence in (6a), in which the scale is given by the sequence of natural numbers. Let us assume that the values that count as 'close by' are the ones within a deviation of 10% of the original value. The restrictor variable ≈ then denotes the set of propositions in (6b). Applying the meaning of *almost* stated in (5) derives the truth conditions (6c), which in effect say that the number of people who died of the disease is somewhere between 90 and 99.

(6) a. Almost 100 people died of the disease.
b. $\{p \mid p =$ that n people died of the disease, $90 \leq n \leq 110\}$
c. n people died of the disease, $90 \leq n \leq 110$ & ¬(100 people died of the disease)

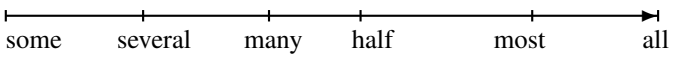
3. Implications for *almost* as a test

With this semantics at hand let us now see whether *almost* can indeed be used as a test for the force of a quantifier.

3.1. *almost* and quantifiers

As argued for by Horn 1972, quantifiers form a scale ordered by entailment:

(7)



Considering this quantifier scale we can explain why certain quantifiers cannot be modified by *almost*. We observe that vague quantifiers such as *several, many* and *most* are incompatible with *almost*, while *half* and *all* are fine:

(8) a. *Almost several / many / most students passed the exam.
b. Almost half / all of the students passed the exam.

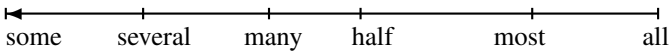
As argued by Hitzeman 1992, vague quantifiers do not correspond to precise values on the scale. Consequently it is not clear what part of the scale counts as 'close by', and so the semantics of *almost* is not compatible with vague quantifiers. In contrast, *half* and *all* have a precise location on the scale and are therefore fine with *almost*.

Furthermore, recall that existentials as in example (1b) cannot be modified by *almost*. This can be attributed to the fact that existentials form the bottom of the quantifier scale. There is thus no lower value which can be part of a true alternative as required by the semantics of *almost*.

3.2. n-words modified by *almost*

But the fact that existentials are at the bottom of the quantifier scale does not mean that they can never be modified by *almost*, as the *almost* test presumes. Under negation, the implication relations are reversed, leading to reversal of the direction of the corresponding Horn scale.

(9) Quantifier scale in negative contexts



Under negation, existentials are at the top of the scale. There are thus values lower on the scale which can be part of an alternative proposition that is true. Thus *almost* is not prevented from modifying existentials as long as they are in the scope of negation and *almost* operates on the negated proposition.

Since n-words in Negative Concord languages generally have an interpretation equivalent to existentials in the scope of negation, the fact that they can be modified by *almost* (cf. 3) does not imply that they are not existential quantifiers. To illustrate this consider the Italian example (10) (from Zanuttini 1991) under the proposed semantics of *almost* in combination with the assumption that *nessuno* is an existential quantifier.

(10) Non ha telefonato quasi nessuno. (Italian)
not has called almost n-person
'Almost nobody called.'

(11) {that it is not the case that a few people called, that it is not the case that a couple of people called, that it is not the case that several people called}

(12) $\exists p$ [$p \approx$ (that it is not the case that some people called) & p] & $\neg$(that it is not the case that some people called)

In this case the restrictor variable $\approx$ denotes the set of propositions explicated in (11). Assuming that *almost* operates on the whole negated proposition we get the

truth conditions in (12) which are satisfied if somebody called, but not more than a small number of people called. This covers the meaning of (10) correctly.

Thus modifiability by *almost* does not help to decide the nature of n-words.

3.3. Imcompatibility of *almost* and NPIs

This leaves the question why NPIs, which are assumed to be existentials occurring in negative contexts, are not compatible with *almost* (cf. 2b and 3). I propose that this incompatibility can be reduced to intervention effects, which are known since Linebarger 1980 to arise in the licensing of NPIs.

Beck ta argues that intervention effects (in wh-questions etc.) are due to focus interpretation, or more generally the evaluation of alternative sets. An intervention effect occurs whenever an alternative evaluating operator interferes in the evaluation of another operator involving alternatives. She states this as the General Minimality Effect, which claims that the evaluation of alternatives introduced by an XP cannot skip over an intervening $\sim$ operator (i.e. the operator evaluating focus alternatives). This excludes constellations of the form (13):

(13) *[$\mathrm{Op}_1 \ldots [\ \sim \mathrm{C}\ [\ldots \mathrm{XP}_1 \ldots]]]$

Beck proposes that intervention effects with NPIs are also caused by the General Minimality Effect since NPI licensing is also assumed to involve alternatives (see Krifka 1995).

Under this analysis of intervention effects in NPI licensing, *almost* is predicted to be an intervener, since its semantics involves the evaluation of an alternative set. The combination of *almost* and NPIs leads to a constellation as (13), which is excluded by the General Minimality Effect.

4. Conclusion

In this paper I proposed a cross-categorial semantics for *almost* that is analogous to that of other similar operators such as *only*, and in particular *at least* and *more than*. According to this semantics, *almost* refers to alternatives on a Horn scale and signifies that some alternative close by on the corresponding scale is true. I showed that this semantics derives the correct truth conditions and derives the selectional restrictions observed for *almost*. Under this semantics (un)modifiability of a DP by *almost* does not tell much about the quantificational nature of the DP. In particular, the *almost* test is not a valid diagnosis for universal quantifiers.

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