A Superlative Theory of Amount Relatives

Amount relatives are a heterogeneous class of relative clauses, including *there*-insertion relatives and some ACD relatives, that are assumed to involve degree quantification and share specific determiner and relativizer restrictions. This paper proposes that some amount relatives involve a covert superlative morpheme, which accounts for their properties.

The puzzle of *there*-relatives is that if we assume relativization to be over variables of type <e> we expect them to be ungrammatical because of the presence of a strong variable in an existential context, a prediction which is not borne out, as shown by the grammaticality of (1). Carlson (1977) and Heim (1987) propose that relativization is of a degree variable, which Carlson argues is strong by itself but weak inside the degree expression *d-many books*, on a par with the contrast between the strong definite DP in (2a), and a definite DP containing a degree expression, as in (2b). A degree variable in *there*-relatives, however, predicts that the interpretation of (1) should be as in (3b), rather than the observed (3a), as first discussed in Grosu and Landman (1998). This paper proposes that a covert superlative is responsible for the interpretation. I propose that relativization is over degrees and individuals (embedded in a larger expression, therefore in a "weak" environment, in keeping with Carlson's idea). One motivation for postulating a covert superlative in *there*-relatives comes from the observation that *only* removes the amount reading (shown in (4a)) from ACD relatives (see McNally 2006), which is also true of superlatives (and ordinals). Unlike (4), (5) contains a superlative and is not ambiguous. The second is the fact that superlatives rescue definite singulars in *there*-relatives, as shown by the contrast between (7) and (8). (7) is bad for the same reason a superlative such as *the tallest boy* is bad when the comparison set is a singleton set.

In order to explain the complete absence of the amount reading from the *there*-relative despite its degree semantics, I suggest that a covert superlative morpheme "absorbs" the degree and yields for (1) the individual reading in (9b). The semantics of the covert EST is the same as that of the overt superlative in (6), inspired by Heim (1999), except that it combines exclusively with numerical degrees in (9b). This degree does not correspond to the cardinality of Y, but is forced to be 1 by a) the quantification over atomic parts of y and b) by the monotonicity of R, crucially providing a plural individual rather than a set of degrees.

Some ACD relatives have the amount interpretation in (4a), in addition to the restrictive interpretation in (4b). Assuming a covert superlative in the semantics of ACD relatives leaves us without an explanation for the availability of an amount reading. Adopting the covert EST semantics for (4) yields (10a) with the interpretation in (10b), which is identical to that resulting from a purely intersective semantics. I propose that (4a) can be obtained without recourse to degrees from an E-type semantics for the past tense pronoun, as in (11), where f(x) is a relation between objects and the times they are put in the pocket.

The differences between *there*- and ACD-relatives have led to proposals that *there*-relatives are either special (cf. Grosu and Landman 1998) or not amount relatives at all (cf. McNally 2006). My proposal is of the former kind, but, unlike Grosu and Landman's, derives rather than postulates the distribution of the amount reading. Also, this proposal explains the absence of definite singulars from *there*-relatives, as in (7), which would be surprising if they are purely restrictive, as McNally suggests. Aside from the definite singular restriction, the determiner restrictions amount to Grosu and Landman's maximalization, while the relativizer restrictions are handled along the lines of Heim (1987).

(1)   I took with me every book that there was on the table.

(2)   a.   *There was *that* horse in the pasture.

       b.   There were *that many* horses in the pasture

(3)   a.   I took with me the largest plural individual consisting of books that were on the table. (individual reading)

       b.   # I took with me the plural individual consisting of d-many books such that there were d-many books on the table. (expected, but unavailable amount reading)

(4)   Marv put in his pocket everything he could.

       a.   Marv put in his pocket the maximal plural individual X such that the cardinality of X is the maximal degree d such that Marv could put d-many things in his pocket. (amount reading)

       b.   For all x such that Marv could put x in his pocket, Marv put x in his pocket. (restrictive reading)

(5)   Marv put in his pocket the nicest marbles that he could.

       a.   Marv put in his pocket the unique sum X, such that $\forall x \leq X$, $x \in C$, x is d-nice and $\forall y \nleq$, $\neg$[y is d-nice], where C={x:x is an atomic individual}

(6) $-est$(X,R,**C**,d) $\Leftrightarrow$ for all atomic x, $x \leq X$, R(x,d) & for all atomic y, $y \in C$, $y \nleq X$, $\neg$ R(y,d) , where (i) R is monotonic, (ii) C is a set of atoms, (iii) d is a standard supplied by the context, and (iv) for all atomic $x \leq X$, $x \in C$

(7)   #I took with me the (long) book that there was on the table.

(8)   I took with me the longest book that there was on the table.

(9)   a.   [the [EST-C-d] λd'.λx.there were d'-many books x on the table]

       b.   The maximal plural individual Y such that for all atomic $y \leq Y$, there were d-many books y on the table, and for all atomic z, $z \in C$, $z \nleq Y$, it is not the case that there were d-many books z on the table.

(10)   a.   [the [EST-C-d] λd'.λx.Marv could put d'-many things x in his pocket.]

       b.   Marv put in his pocket the maximal Y such that for all atomic y, $y \in Y$, Marv could put d-many things y in his pocket and for all atomic z, $z \nleq Y$, $z \in C$, it isn't the case that Marv could put d-many things z in his pocket.

(11) $\forall$x such that Marv could put x in his pocket at a time f(x), Marv put x in his pocket at the time f(x) (when he could put x in his pocket)

Carlson, G. 1977. Amount relatives. *Language* 53:520-542. **Grosu, A. and F. Landman** 1998. Strange Relatives of the Third Kind. *NALS* 6: 125-170. **Heim, I.** 1987. *Where does the definiteness restriction apply?* In The representation of (in)definiteness, eds. Reuland & ter Meulen, 21-42. MIT Press. **Heim, I.** 1999. Notes on Superlatives. Ms., MIT. **McNally, L.** 2006. Properties, entity correlates of properties, and existentials. To appear in *QP structure, nominalizations, and the role of DP*, eds. A. Giannakidou & Rathert, M. OUP.