

for-adverbials and the distributive scope generalization

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This paper proposes a solution to a two-part puzzle about the distribution of *for*-adverbials described by S. Zucchi (p.c.) as quoted in van Geenhoven (2004). The puzzle is shown in (1-2).

- (1) John hit a golf ball into the lake for an hour.
 - i. There is a golf ball such that for an hour John hit it into the lake repeatedly.
 - ii. #For an hour, John hit repeatedly a different ball into the lake.
- (2) John hit a golf ball into the lake every five minutes for an hour.
 - i. There is a golf ball such that for an hour John hit it into the lake every five minutes.
 - ii. For an hour, John hit a different ball into the lake every five minutes .

Example (1) shows that indefinites in the immediate syntactic scope of *for*-adverbials must be semantically given wide scope. This is a puzzle for traditional accounts like Krifka (1998) and Dowty (1979). These accounts analyze *for*-adverbials as distributive quantifiers over subevents or subintervals in order to explain why they are incompatible with telic (quantized) predicates such as *build a house*, while they are compatible with atelic (homogeneous) predicates like *build houses*. The problem that these accounts face in the case of (1) is that there should be no need to give the indefinite wide scope. The low-scope reading is not only pragmatically more plausible since it doesn't require imagining that one golf ball can be thrown multiple times; it should also be available since the predicate involved is atelic, as is shown by the paraphrase in (3).

- (3) John hit different golf balls into the lake for an hour.

The second part of the puzzle is shown in (2), which shows that indefinites do not always have to raise from underneath *for*-adverbials. This is unexpected on an account that stipulates or derives wide scope of singular indefinites with respect to *for*-adverbials (Zucchi and White, 2001).

Analysis. Concerning (1), it is well known that certain distributive items are intermediate between full collectivity and full distributivity. (Gillon, 1987) For example, the only true reading of (4) is neither strictly collective nor strictly distributive: the three composers never collaborated, and neither one ever wrote a musical on his own. Rather, they form overlapping pairs who wrote musicals.

- (4) Rodgers, Hammerstein, and Hart wrote musicals.

The **distributive scope generalization**, observed in van der Does (1993) and Landman (1996) and formulated here in extended form, states that intermediate distributivity cannot take scope over a quantifier, except for bare plurals and mass nouns. For example, (5) can be understood collectively (two tables were lifted), or distributively (six tables), but it lacks a reading in which the boys form overlapping pairs or other subsets that each lifted two tables. But (6) is compatible with intermediate distributivity.

- (5) Three boys lifted two tables.
- (6) Three boys lifted tables.

The crucial observation is that (1) can be subsumed under the distributive scope generalization. *for*-adverbials are intermediate distributive, not fully distributive. This is so because they do not quantify over minimal intervals, as shown by the minimal-parts problem: E.g. *waltz for an hour* is OK despite the existence of subevents of less than 3 steps, which do not constitute waltzing (Dowty, 1979). For this reason, it is expected that *for*-adverbials are not able to have any quantifiers in their scope, even nonquantized ones (Zucchi and White, 2001). The only exceptions to this rule are bare plurals and mass nouns, as expected.

Concerning (2), the narrow scope reading is available here because *every* fixes the level of distributivity and prevents overlap, so (2) does not fall under the distributive scope generalization anymore.

Independent evidence. For distributive operators that allow for intermediate distributivity, pragmatic factors can set the level of granularity and override the distributive scope generalization. Given that shoes typically come in pairs, *The shoes cost fifty dollars* has a reading in which the price is attributed to each of these pairs (Schwarzschild, 1996). For this reason, we should expect that pragmatic factors should also be at play in the level of distributivity in *for*-adverbials. And this is indeed the case: (7) improves in a context where it is pragmatically understood that the topic is what John eats for breakfast.

- (7) John ate two pancakes for a month.

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