

Possessive Plurals and Their Readings

The Data Just as plural DPs allow for distributive, collective, and cumulative readings when used as sentential arguments, complex DPs that include a plural DP do as well. For example, both (1) and (2) allow for the three readings (4a)-(4c):

- (1) These three cats belong to two linguists.
- (2) These are three cats of two linguists.
- (3) These are two linguists' three cats.
- (4)
 - a. **Distributive:** Each of the three cats is co-owned by a (possibly different) pair of linguists.
 - b. **Cumulative:** Two linguists own three cats between them. For example, two cats belong to one linguist, and a third belongs to another linguist.
 - c. **Collective:** There is a pair of linguists that co-owns three cats.

However, sentence (3), which differs from (1) only in that it contains the Saxon genitive *two linguists' three cats*, does not allow for all three readings. Indeed, of the three readings listed above, only the collective reading (4c) is available.

This fact on its own is not entirely surprising. Landman (2000) argues that there are two ways to achieve distributivity: a scopal mechanism, and by using a pluralizing operator *. Since in a Saxon genitive the possessee cannot interact scopally with the possessor (for example, in *their children's teachers*, the possessee *teachers* cannot bind into the possessor to let the DP mean “people who teach their own kids”), the first mechanism is unlikely. Similarly, the syntax of possessives may rule out the * operator, especially if Beck (2000) is correct in arguing that it is not a type-shifter but rather a functional syntactic element. Likewise, if a ** operator (Krifka 1986; Beck 2000) is used to derive cumulativity, similar considerations could prevent it from occurring within possessives blocking reading (4b).

However, while quantized plurals in possessives only get collective readings, this is not the case for bare plurals:

- (5) These are two linguists' cats.

(5) can be true if each of the cats in question is owned by exactly one of the linguists. Furthermore, it is true if either linguist only owns one cat. Thus, this is a case of dependent plurality, similar to the well-known example in (6):

- (6) Unicycles have wheels.

The fact that dependent plurals are possible within possessives but cumulative readings are not is evidence against the view (Roberts 1987; Beck 2000) that dependent plurals are just a sub-case of cumulativity. Rather, dependent plurality must arise by a mechanism other than a * or ** operator.

The Proposal Based on previous work by the author and others, I take existential bare plurals to be denotationally number neutral, and that their plurality arises from an implicature that makes reference to events. Dependent plural readings arise as a consequence of this interaction. For example, (7a) gets its meaning through the interaction of the assertion

and the implicature in (7b):

- (7) a. All linguists have cats.
 b. *assertion*: $\exists E \forall y [\text{LINGUIST}(y) \rightarrow \exists e \exists x [e \in E \ \& \ \text{HAVE}(e) \ \& \ \text{AGENT}(e)(y) \ \& \ \text{THEME}(e)(x) \ \& \ \text{CAT}(x)]]$
implicature: $|\{x: \text{CAT}(x) \ \& \ \exists e \in E [\text{HAVE}(e) \ \& \ \text{THEME}(e)(x)]\}| > 1$

However, just plugging in a possessive semantics as offered in Barker (1995) to this analysis will not provide the correct semantics given for (8a), even if we allow for a distributive reading of the possessor:

- (8) a. I saw two linguists' cats.
 b. *assertion*: $\exists E \exists e \in E [\text{SEE}(e) \ \& \ \text{EXP}(e)(i) \ \& \ \exists x \exists Y [\text{CAT}(x) \ \& \ * \text{LINGUIST}(Y) \ \& \ |Y| = 2 \ \& \ * \text{OWN}(x)(Y) \ \& \ \text{THEME}(e)(x)]]$
implicature: $|\{x: \text{CAT}(x) \ \& \ \exists e \in E [\text{SEE}(e) \ \& \ \text{THEME}(e)(x)]\}| > 1$

Note that (8b) can be paraphrased as “I saw multiple cats, each of which was owned by two linguists”. Instead, the availability of a dependent reading in (8a) shows that the possessive itself must contain event quantification:

- (9) *assertion*: $\exists E \exists e \in E [\text{SEE}(e) \ \& \ \text{EXP}(e)(i) \ \& \ \exists E' \subseteq E \exists Y \exists e' \in E' [* \text{LINGUIST}(Y) \ \& \ |Y| = 2 \ \& \ \text{OWN}(e') \ \& \ * \text{POSS}'\text{OR}(e')(Y) \ \& \ \exists x [\text{CAT}(x) \ \& \ \text{POSS}'\text{EE}(e')(x) \ \& \ \text{THEME}(e)(x)]]]$
implicature: $|\{x: \text{CAT}(x) \ \& \ \exists e \in E' [\text{OWN}(e) \ \& \ \text{POSS}'\text{EE}(e)(x)]\}| > 1$

(9) correctly states that there are multiple cats, each of which is owned by one of the two linguists, and was seen by me.

Thus, the semantics for 's must be modified from (10a) to the neo-Davidsonian (10b):

- (10) a. $[[s]] = \lambda R \lambda x \lambda y [R(x)(y)]$
 b. $[[s]] = \lambda R \lambda x \lambda y \exists e [R(e) \ \& \ \text{POSS}'\text{OR}(e)(x) \ \& \ \text{POSS}'\text{EE}(e)(y)]$

This analysis also accounts for the lack of a dependent reading in sentences such as (11), which cannot mean that each boy saw a single cat owned by a different girl:

- (11) Three boys saw a girl's cats.

Summary In this paper, I have shown that while possessives do not allow distributive or cumulative readings, they do allow for dependent plural readings. This argues against views that take dependent plurals to be cases of cumulativity. It has also shown that the semantics of the possessor must be modified to be able to accommodate dependent plural readings, and a neo-Davidsonian account has been proposed.

References

- Barker, C. 1995. *Possessive Descriptions*.
 Beck, S. 2000. Star operators. Episode 1: defense of the double star. In *UMOP 23*.
 Krifka, M. 1986. *Nominalreferenz und Zeitkonstitution. Zur Semantik von Massentermen, Pluraltermen, und Aspektklassen*. PHD Thesis.
 Landman, F. 2000. *Events and Plurality: The Jerusalem Lectures*.