ESPP

Symposium Plurality

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**Plural Reference: Empirical Considerations**

Friederike Moltmann

CNRS/NYU

Reference to a plurality

(1) a. [*the children*]s = sum([*children*]s)

Plural Reference

(1) b. *The children gathered* is true iff *gathered* is true at once of all the xx of which

 *children* is true at once.

Philosophical motivations for plural reference:

* Avoid paradoxes
* Plural sentences involve no ontological commitment beyond that to individuals.

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Plural-specific predicates and readings of predicates

[1] Distributive reading

(2) a. The boxes are heavy.

 b. The collection of boxes is heavy.

(3) a. The team members lifted the piano.

 b. The team lifted the piano.

distribution over subgroups:

(4) a. John weighed the stones

 b. The students gathered.

distributivity operator:

(5) For a situation s, [D VP]([*the* N’plur], s) = 1 iff for all d, d <s [*the* N’plur], [VP](d) = 1.

[2] Part-related predicates: predicates making reference to the parts, but not the whole of an argument (Moltmann 1997, 2005):

(6) a. John compared the students.

 b. # John compared the class.

(7) a. John cannot distinguish the students.

 b. # John cannot distinguish the class.

(8) a. The students are similar.

 b. The class is similar.

(9) a. John counted the students.

 b. John counted the class.

(10) a. John has enumerated the students.

 b. # John has enumerated the class.

(11) a. The students are numerous.

 b. # The class is numerous.

Predicates that make reference not only to the parts of an argument, but also to the whole (its organization or overall structure) not subject to the requirement:

 (12) John organized / rearranged the collection of things on his desk.

Part-related predicates may take into account relevant subgroups as the parts of the plurality

(13) a. John compared the men and the women.

 b. John compared the students (in the different classes).

Constraint on distributivity and part-related predicates:

The *Accessibility Requirement* (Moltmann (1997, 1998, 2005)

The Accessibility Requirement not strictly a restriction to plural NPs, but may also be satisfied with singular count NPs of certain types.

[1] The adjectival modifier *whole* allows a singular count NPs to satisfy the requirement

(14) a. The whole collection is expensive.

 b. John has evaluated the whole class.

(15) John has counted the whole class.

[2] Special (singular) quantifiers can satisfy the reauirement:

(16) a. Even John has evaluated *something*, namely the paintings.

 b. There is *something* John is unable to count, namely the grains of sand.

(17) a. *What* did John evaluate? – The paintings.

 b. *What* can’t John distinguish? – The cups.

*several things* ranges over pluralities, allowing for both distributivity and part-related predicates:

(18) a. John has evaluated *several things*, the paintings, the sculptures, and the drawings.

 b. There are *several things* John cannot distinguish, the cups, the glasses, and the plates.

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Attributive readings of definite plurals

(19) a. Every year, John needs to evaluate the students.

 b. Every year, John needs to compare the students (in the various classes, whoever they

 may be).

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Constraints on part-related readings regarding subgroups:

(20) a. John compared the men and women.

 b. John compared the men and the women.

difference in the availability of higher-level plurality readings.

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Reference to a plurality and number-related predicates

(21) a. John counted the people.

 b. The stones are numerous.

 c. The students are twenty in number.

(22) a. John enumerated the students.

 b. John named the students.

(23) a. John counted the ten children – he counted one.

 b. John counted Mary – he counted one.

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Plural Reference and the Accessibility Requirement

Coercion, type shift

(24) a. John started reading the book.

 b. John started the book.

(25) a. John proposed watching a movie.

 b. John proposed a movie.

With predicates subject to the Accessibility Requirement, coercion is completely impossible:

(26) a. The collection is expensive.

 b. The class is similar.

(27) The Accessibility Requirement as a Condition on Plural Argument Places

 A predicate or semantic operation making reference to the parts, but not the whole of an

 argument in a particular argument position is a plural predicate with respect to that

 argument position.

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Plural Reference and higher-level plurality readings

(28) a. For a situation s,

 [D VP]([*the* N’plur], s) = 1 iff for all xx, xx <s [*the* N’plur] and INTs(xx), then

 [VP](d) = 1.

(29) b. For an individual d, a plurality xx, and a situation s, [*compare*](d, <xx, s>) = 1 iff

 [*compare to*](d, yy, zz) = 1 for any yy and zz such that yy < xx, zz < xx, INTs(yy), and

 INTs(zz).

Not just integrity conditions as conveyed by the content of predicates matter, but also metalinguistic integrity conditions, imposed by the use of referential terms, which will become an obligatory part of the content of the reference situation

 *The men and the women*: reference situation obligatorily specifies two pluralities as integrated wholes, on the basis of λx[Ref(x, *the* N’)] (property of being a referent of *the* N’).

*The men and women*: reference situation either specifies a single plurality as a maximal plurality falling under λx[man(x) v woman(x)] or two sub-pluralities as maximal pluralities falling under λx[man(x)] and λx[woman(x)] respectively

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Restrictions on collective readings

(30) a. The children are big.

 b. The grains are round.

 c. The short speeches were long.

Collective predication as derivative

[1] Plural predicates that alternate with a relational predicate such as *neighbors, roommates, equal (to), compare (with), similar (to), overlap (with), add (to)*

predicates are multigrade even with plural arguments involves the very same relation as is expressed by the explicit relational variant.

 [2] Event-related predicates such as *gather* and *lift the piano*

plural predicates on the basis of relations of participation of individuals in a collective event.

[3] Measure-related predicates such as *heavy*

if P(x1, d1) and P(x1, d2), then P(xx, d1+d2), for the plurality xx consisting of individuals x1 and x2 and degrees d1 and d2.

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Reference and references in:

‘Plural Reference and Reference to a Plurality. Linguistic Facts and Semantic Analyses’. To appear in M. Carrara / A. Arapinis / F. Moltmann (eds.): *Unity and Plurality. Philosophy, Logic, and Semantics*. Oxford University Press