*The Ontology and Semantics of Parts and Wholes*

Friederike Moltmann

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BCL, Université Côte d'Azur

Handout 5

**Mereological and Integrity-Based Approaches to the Mass-Count Distinction**

**1. Diagnostics of the mass-count distinction – for English and similar languages**

**1.1. Plural category**

Mass nouns: do not come with the plural

Count nouns: come with the plural

**1.2. Agreement**

Generally do not trigger plural agreement with the verb and with anaphoric pronouns

(1) The stuff was / \* were sold. It was cheap /\*They were cheap.

Generally, trigger plural agreement of the verb and with pronominal anaphora

(2) The things were / \* was sold. They were / \* It was cheap.

**1.3. Determiner and quantifier selection**

Mass nouns:

(3) a. much, little, less water / \*pople

 b. a great / small amount of stuff / \*things

Singular count, plural nouns:

(4) a. a, one

 b. two, three , .., few, many,

 c. a great / small number of people / \* stuff

**1.3. Anaphora**

Mass:

(5) a. it, that

 b. some of it / that

Count:

(6) a. them, she, he

 b. one of them, one by one, one at a time

(7) a. John sold the things / \* stuff. One of them was expensicve.

 b. John destroyed the things / \* stuff one at a time

**1.4. Semantic selection of predicates**

Number-related predicates

Morphologically derived erived from number (?)

(8) a. numerous, outnumber, exceed in number

 b. Those things are numerous / outnumber the other things / exceed the other things is

 number

 b. \* The stuff / furniture is numerous / outnumbers the gold coins

Lexically number-related

(9) a. count, enumerate, list

 b. John counted / enumerated / listed the students.

 c. ?? John counted / enumerated / listed the fruit in the bowl.

 d. ?? John counted / enumerated / listed the class.

**1. 5. General issues about the mass-count distinction**

Fact

The mass-count distinction is a syntactic distinction, but it seems to come with a semantic content.

Issues

Does it have a semantic content?

Can all the mass-count diagnostic be accounted for in the same semantic / syntactic way?

Syntactic views of the difference between mass and count

Mass NPs and count NPs have different syntactic structures (Borer)

Mass NPs and count NPs are of different semantic types (Rothstein)

Are the diagnostics of mass count to be accounted for syntactically or semantically?

Three possible views:

1. The diagnostic of mass NPs and count NPs are all just phenomena of syntactic agreement (like gender in German) (Gillon/Bale)

2. The diagnostics of mass NPs and count NPs are in part phenomena of syntactic agreement, in part a matter of semantics, the content of the mass-count distinction

3. The diagnostics of mass NPs and count NPs are all a matter of semantics.

But is a single semantic level involved?

The lexical (conceptual)-functional divide

1) The semantics of the functional part of grammar

2) The semantics of lexical items

1) and 2) may display mismatches.

Functional expressions:

*Determiners, quantifiers, number, amount*

Number and amount are light nouns (in Kayne(s sense)

Lexical expressions:

*Count, list*

Semantic content of the mass-count distinction

Two views:

1. Based on prototypes:

no strict semantic conditions associated with mass and count

2. General semantic content:

Schematic criteria (Langacker)

Mereological criteria

Integrity based criteria

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**2. Mereological views of the mass count distinction**

Version 1 (Link 1983)

(10) a. N is a singular count noun, then for any x, N(x), then x an atom with respect to the

 part relation of the domain of pluralities (Dplur, <plur)

 That is, for no y, y < x and x. y, y. Dplur

 b. N is a mass noun, then for any x, N(x), then x not an atom with respect to the part-

 relation of the domain of quantities / individuals (Dplur, <plur). That is, there is a y,

 y < x, y x, y (D, <)

Version 2 (Quine and others following him)

(11) a. N is a singular count noun, then for any x, N(x), then x is an atom in the extension of

 N (ext(N)) with respect to the part-relation applying to individuals.

 That is, there is no y, y ∈ ext(N), y < x, and y ≠ x.

 b. N is a mass noun, then for any x, N(x), then x is not an atom in the extension of N with

 respect to the part-relation applying to quantities / individuals. That

 is, there is an y, y < x, y ≠ x, y ∈ ext(N)

Different predictions?

Version 2:

Body: a leg, a proper part of the body, is not a body again.

Version 1

Body – leg, a problem? No: the body is not a plurality!

Atomicity holds relative to plural-specific part relation!

The leg is an individual-specific part of the body; but the body is still an atom with respect to the plural-specific part relation.

Problems for version 2, but not version 1

1. Sequence-type nouns

(12) a. sequence, chain, line, fence, wall, region, location, place

2. Entity-type nouns

(12) b. entity, amount, quantity

 c. collection, sum, group

Rothstein’s (2017) version of atomicity

Count nouns involve a contextually given set.

Atomicity only holds relative to that contextually given set.

A sequence is an atom relative to a contextually given set that does not contain proper parts of the sequence.

An entity is an atom relative to a contextually given set that does not contain proper parts of the entity.

Count nouns and mass nouns re of different semantic types:

Count nouns: of type <<<e, t>, e>, t>

Mass nouns: of type <e, t>

Syntactic explanation of diagnostics for the mass-count distinction:

Why can numerals not apply to count nouns?

Numerals select nouns of type <<<e, t>, e>, t>

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**2. The mass-count distinction and the notion of an integrated whole**

**2.1. Langacker (1987)**

Points of departure

Unified cognitive content of syntactic categories

Based on the notion of a schema:

Categorization by schemas (rather than prototypes and their perceived resemblances):

A schema is an integrated concept in its own right, it is simply characterized with less specificity and detail than its instantiations

All nouns instantiate abstract noun schema (as opposed to verbs)

All count nouns instantiate an abstract noun schema

All mass nouns instantiate an abstract noun schema.

Meaning in the realm of cognitive processing:

Example: spatial distribution of stars:

Constellation - cluster of stars - specks of light in the sky

Alternative cognitive construals of te very same scene.

Expressions invoke same domain, but may contrast semantically by choosing alternative profiles for the base

Base: domain of predication

Primary and secondary domains

Profile: the entity elevated from the base that is designated

Example: island – water near the island – shoreline.

(13) a A noun designates a region in some domain

 b. A count noun designates a bounded region in some domain.

 c. A mass noun designates a homogenous region in some domain.

Region:

more general notion than object

Examples

Moment, period: bounded regions in time

Pointe, line, circle, arch: bunded regions in two-dimensional space

Sphere, cube: bounded regions in three-dimensional space

Streak, spot, blur: visual configurations in limited expanse:

Primary domain: extensionality of the visual field

Combination of basic domains:

Beep: involves time and pitch, bounded in both domains

Flash: involves time and visual field: bounded in time, need not be bounded in visual field.

Arc:

Bounded region within a conceived circle (= primary domain), mediated part of the spatial domain.

No problem dealing with sequence-type nouns:

*Line, stripe, horizon, road, rover, edge, boundary, shore*:

bounded along one axis of a two-dimensional space

Visual field as the cope of predication

Boundary must be included in the scope of the visual field.

(14) I see a red sport.

 b. ??? I see red.

No objective basis needed for a boundary:

1. spot on the rug: as region of discoloration has an objective boundary

2. spot as location boundary is merely virtual, imputed rather than observed.

Closure phenomena for completing boundary that is only partially suggested by objective factors:

1. *Archipelago, forest, swarm*

2. Container nouns: *jar, tub, …*

More challenging:

Team, committee, TV set with remote control

Merely conceived boundary?

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**References**

Langacker, R. 1987): ‚Nouns and Verbs‘. Language 63.1.

Rothstein, S. (2017): *Semantics for Counting and Measuring*, Cambridge UP.