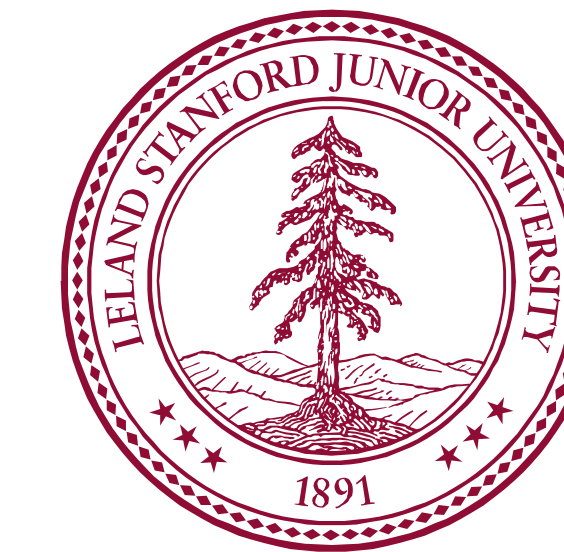


# Monotonicity of Measures in Pseudo-Partitives as a Consequence of Polysemy: Evidence from Romanian



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## The Phenomenon: Headedness and Monotonicity in Pseudo-Partitives

The two goals of this presentation:

- argue that the measure expression is the lexical head of the extended projection in Romanian pseudo-partitives like (1) below – much as the leftmost noun is the lexical head of true partitives like (2) below

- |  |   |
|--|---|
| (1) zece grame <b>de</b> brânză (de capră)   | (2) zece grame <b>din</b> această brânză (de capră) |
| ten grams of cheese (of goat)                | ten grams of this cheese (of goat)                  |
| ten grams of goat cheese                     | ten grams of this goat cheese                       |
| (3) #zece grame <b>din</b> brânză (de capră) | (4) #zece grame <b>de</b> această brânză (de capră) |

Pseudo-partitives: "pseudo" because, unlike true partitives, they do not refer to a part of a multi-part object / collection, but to a partition of a domain of individuals: *liters of water* partitions water into liters, *boxes of books* partitions books into boxes etc.

Romanian: the preposition **de** appears only with pseudo-partitives, which disallow referential, definite DP's – see (1) vs. (4)), while **din / dintre** appears only with true partitives, which allow only referential, definite DP's (Ladusaw 1982) – see (1) vs. (4).

- propose a semantics for pseudo-partitives that accommodates this syntactic generalization; in particular, we want to capture the observation in Schwarzschild (2006) that measure expressions in pseudo-partitives have to be used monotonically, e.g. *doi litri de apă* (two liters of water) vs. *#două grade de apă* (#two degrees of water) (cf. the felicitous non-pseudo-partitive: *apă de două grade* (two degree water))

Monotonic measure (e.g. volume): the measuring tracks the (contextually salient) part-whole structure of the underlying domain of individuals, e.g. if we put two amounts of water together, we get a larger amount of water that has a greater volume.

## The Analysis: Monotonicity as a Consequence of a Meaning Shift from Degree-based Denotations to Individual-based Denotations

### Measure Nominalizations: Degree-to-Individual Polysemic Shifts

- nouns denoting sets of individuals always associate a part-whole structure with these sets (see Schwarzschild 2006 and Climent 2001): for mass nouns, this is the material-part lattice structure introduced in Link (1983); for count nouns, the structure is trivial – every individual is a part of itself and of no other individual
- the primary denotations of measure expressions like *liter*, *degree* etc., are sets of intervals on the relevant scale of measuring (this is the only kind of denotation that measure expressions have in Schwarzschild 2006)

**The nominalization of a measure expression** is the degree-to-individual polysemic shift that applies to a domain of individuals and its associated part-whole structure, yielding a sub-domain and sub-structure that materially partition the initial domain of individuals; the resulting individuals measure exactly one unit according to the measure function involved in the original degree-based denotation.

Material partition: (i) any material part is a part of some individual in the original domain iff it is a part of some individual in the sub-domain and (ii) no two distinct individuals in the sub-domain have a common material part.

### Individuation by Measure

**The individuation by measure requirement:** if there are multiple partitions that could be the result of a measure nominalization, all such possible partitions have to have an equal number of partition cells.

Intuitive justification: the measuring has to be a sufficient criterion for individuation – given that any cell in the resulting partition measures one unit (one kilogram, one liter etc.), if all possible partitions have the same number of cells, we can just arbitrarily choose any partition.

Individuation by measure obtains only if the measure function associated with the primary denotation of the measure expression is **monotonic** relative to the part-whole structure of the underlying domain of individuals.

For example, *#două grade de apă* (#two degrees of water) is infelicitous because either (i) the temperature of the water in the universe of discourse is not uniformly one degree and we cannot build any measure-based partition or, if the temperature of the whole water is one degree, (ii) we can build multiple, non-equi-numerous partitions (one will have only one cell containing all the water, another one will have two cells etc.) – and this violates individuation by measure.

## The Basic Proposal: Measure Expressions are Polysemous

The main contributions:

- measure expressions are polysemous: they have degree-based and individual-based denotations; just as the noun *glass* can refer to both a container and its content – see (5) below, the nouns *meter*, *dollar* etc. can be used to refer to both a measure, i.e. an interval / set of degrees on a particular measuring scale (see Schwarzschild 2006 among others), and an actual individual – as in (7) and (8) below

- (5) [There was some lemonade on the table.] Linus picked up a glass and drank it in one gulp.  
(6) The city, which has 500.000 inhabitants, outlawed smoking in bars last year.  
(7) The cable's length was two meters, one of which Megan used to fix the car.  
(8) The milk was worth ten dollars, which Gabby tucked away safely in the inner pocket of her jacket.

- measure expressions in pseudo-partitives have individual-based denotations, systematically related to their degree-based denotations; the monotonicity of measure expressions in pseudo-partitives, postulated as a basic requirement in Schwarzschild (2006), is derived from this degree-to-individual polysemic shift

- syntactically and semantically, the measure expression (and not the other noun) is the head in pseudo-partitives – in contrast to Schwarzschild (2006), where the head / non-head categorization is reversed

- there is no need to assign measure nouns the questionable status of semi-lexical heads (as in Tănase-Dogaru 2007) to account for the syntactic and semantic properties of pseudo-partitives (in Rom., Eng. etc.)

### Lexical Blocking

Pseudo-partitives with singular count nouns as their second nominal, e.g. *#trei kilograme de copil / creion* (#three kilograms of baby / pencil), are infelicitous because either (i) there is at least one individual in the denotation of *baby / pencil* that does not weigh one kilo (pragmatically very likely) and we cannot construct a measure-based partition or, if each baby / pencil weighs one kilo, (ii) there can be only one partition, the same as the part-whole structure of the count noun *baby / pencil*. So, the measure-based partition is redundant, hence **lexically blocked**.

Lexical blocking: an expression formed by a relatively productive process is blocked by the availability of a more "lexicalized" alternative to that expression, e.g. *pale red* is lexically blocked by the availability of *pink*, despite the fact that *pale* can be combined with many other colors: *pale green*, *pale blue*, *pale yellow*.

However, if we run babies / pencils through Lewis's universal grinder, we obtain a non-redundant measure-based partition that is not lexically blocked – hence the gruesome interpretation of felicitous uses of pseudo-partitives like *trei kilograme de copil* (three kilograms of baby).

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