Two Types of *Most*

1. Partitivity and the Semantic Type of *Most*. Roberts 87 observed that *most* allows only distributive readings and van der Does (93 : 531) proposed the refinement in (1) illustrated in (2) :

(1) Non-partitive *most* is marginal ['a bit queer'] in examples where the collective use is forced, whereas partitive *most* is 'perfectly in order'.

(2) a. ??Most boys came together. b. Most of the boys came together

Van der Does is however not interested in the contrast and proposes an analysis that predicts equally acceptable collective readings for both partitive and non-partitive *most*. Crnic's (09) account relies on Matthewson 01: (i) both partitive and non-partitive *most* are Qs of type $<e, <et,t>>$; (ii) non-partitive *most* is built with a kind-referring complement, and kind-reference triggers distributivity. This solution cannot, however, extend to languages such as Romanian or Hungarian, which lack kind-referring bare NPs (Farkas & de Swart *+*), but nevertheless exhibit counterparts of the contrast in (2), which are not given here for lack of space.

The core assumption of my solution will be that partitive and non partitive *most*'s differ in semantic type:

(3) a. Partitive *most (most of DPpl)* is an entity-quantifier, which denotes the relation between two entities, in particular two pluralities.
b. Non-partitive *most* (*most* NP_{pl}) is a set-quantifier, which denotes the relation between two sets.

I assume (3)a-b to hold crosslinguistically (but note that certain languages lack non-partitive plural Qs, see Romance languages, to the exception of Romanian).

Given (3)a-b, the contrast in (2) can be captured by the generalizations in (4):

(4) a. The set-quantificational *most* ($Q_{<et, <et,t>>}$) is incompatible with collective Ps in its scope.
b. The entity-quantificational *most* ($Q_{<e, et>}$) allows collective Ps in its scope.

The goal of the presentation will be to explain (4)a-b.

2. The Set-quantificational MOST. According to the set-theoretical analysis of *most* [Hackl's (09) adjectival analysis of proportional *most* will be briefly discussed and rejected] examples of the type in (5) are true iff the set of students (in my class) for which the property denoted by the VP (*leave early*) is true has a greater cardinality than the set for which the VP-property is false:

(5) Most students in my class left early.

(6) $|\{x: student(x)\} \cap \{left\text{-}early(x)\}| > |\{x: student(x)\} \cap \{not\text{-}left\text{-}early(x)\}|$

This analysis straightforwardly yields a distributive reading: we compare the cardinalities of the sets of early-leaving atomic students and non-early-leaving atomic students. But why is it that an example like (2)a, built with a collective predicate in the nuclear scope is disallowed? The first, and simplest answer, is to say that the unacceptability is due to the impossibility of intersecting a set of *atomic* students with a set of meeting *pluralities* (Winter 02). But why is it that *most* cannot denote a relation between two sets of pluralities, the set of pluralities of students (denoted by *students*) and the set of early-leaving pluralities. The impossibility of this type of analysis can be attributed to the poor algebraic structure of sets of pluralities, more precisely to the fact that join semi-lattices are not closed under the meet operation (Szabolcsi & Zwarts 93). We may thus conclude that crosslinguistically, set-quantifiers, in particular the set-quantificational MOST cannot denote the relation between two sets of pluralities, which explains why the set-quantificational MOST cannot take collective predicates in the nuclear scope (see (2)a), nor can it allow collective readings with non-collective predicates (see (5)).

3. Entity-quantificational MOST. Turning now to the partitive *most* (as well as expressions of the form *the largest part of, the majority of*), I will assume an extension to plural quantifiers of the analysis of mass quantification proposed by Roeper 83, Lonning 87, Higginbotham 94: partitive *most* denotes a relation between two entities, in particular two pluralities (rather than two sets of pluralities), which are respectively supplied by the DP in the restrictor and by the maximal sum obtained by applying the maximality operator to the scope. Given this analysis, (2)b is true iff the condition in (7) is satisfied (because we are in a count domain, the measure function μ is the cardinality function):

(7) μ([[the boys]] ∩ σX.come-together(X)) > μ([[the boys]] - ([[the boys]] ∩ σX.come-together (X)))

The computation required by (7) is legitimate because in this case meet applies to two pluralities (type e) rather than to two join semi-lattices (type <e,t>).

When built with non-collective predicates, the entity-quantificational MOST also allows distributive readings, in particular with distributive predicates (*hard-working, tired*, etc.) or with 'mixed' predicates in those contexts that make it clear that a distributive reading is intended:

(8) a. Most of my students are hard-working/tired. b. Most of the architects designed a school.

The distributive reading of these examples can be analyzed as relying on the predicates in the nuclear scope functioning as pluralized atom predicates. More concretely, (8)a-b are true iff (9)a-b are true:

(9) a. μ([[my stud's]] ∩ σx.*h-working(x)) > μ([[my stud's]] - [[my stud's]] ∩ σx.*h-working (x))
b. μ([[the architects]] ∩ σx.*designed(x)) > μ([[the architects]] - [[the architects]] ∩ σx.*design (x))

Because **hard-working* is a pluralized atomic predicate, any sum of individuals that satisfies **hard-working* contains atomic individuals each of which is hard-working, which explains the distributive interpretation. A possible alternative would be to analyze distributive readings as relying on type-shifting the plural entity in the restrictor to the corresponding set of atoms and letting Q function as a set-quantifier (van der Does 93, a.o.). The data discussed in §4 below seem to favor the entity-quantificational analysis of the distributive readings of partitive *most*.

In sum, the proposal made here extends the Roeper-Lonning-Higginbotham analysis of mass quantifiers to collective quantifiers. But unlike Higginbotham, I crucially assume that the e-type denotation of the restrictor must be syntactically given as such, it cannot be obtained from a set-denoting restrictor via applying a default sigma-operator. If this were allowed, the contrasts examined here would not be accounted for. But it is precisely these contrasts that provide strong linguistic evidence in favor of the entity-quantificational analysis of the collective reading of *most*.

4. Scope. Kriz & Viola (13) have observed that the scope of *all* and *most* is not clause-bounded (more constraints will be discussed in the talk), which patterns with indefinites rather than with *each/every* : *If most of these girls make a mistake, they recover quickly* vs *#If every girl in this group makes a mistake, she/ they recover(s) quickly*. Note however that Kriz&Viola's examples are built with partitive *most/all*. Non-partitive *most* appears to behave on a par with *every/each* : *#If most girls in this group make a mistake, they recover quickly* [these judgments have been experimentally confirmed]. Under the proposal made here the difference between partitive and non-partitive Qs can be explained along the following lines: the scope of set quantifiers (*every, each*, set-restrictor *most*, i.e., non-partitive *most*) is clause-bound, whereas the scope of entity quantifiers (e.g., partitive *most* and *all*) is not.

Selected References. Crnic, L. (09). On the (non-) cumulativity of cumulative quantifiers. *SuB* 14; Hackl, M. (09). On the grammar and processing of proportional quantifiers: Most versus more than half. *NLS* 17(1); Higginbotham, J. (94). Mass and count quantifiers. *L&P* 17; Farkas & de Swart (07). Article choice in plural generics, *Lingua*, 117/9; Kriz, M. & V. Schmitt (13) Quantifiers and Pluralities, UCLA seminar presentation. Lønning, J.T. (87) Mass terms and quantification. *L&P* 10; Matthewson, L. (01). Quantification and the nature of crosslinguistic variation. *NLS*, *9*(2), 145-189. Roberts, C. (87) Modal Subordination, Anaphora and Distributivity, Ph.D. dissertation, Amherst. Szabolcsi & Zwarts 93. Weak islands and an algebraic semantics for scope taking. *NLS 1*(3); van der Does, J. (1993). Sums and quantifiers. *L&P*, 16:509–550. Winter, Yoad. 2002. Atoms and sets: a characterization of semantic number. *LI* 33: 493-505.