

### 3.

**Uli Sauerland - University of Tübingen**  
***Intermediate cumulation***

[uli@alum.mit.edu](mailto:uli@alum.mit.edu)

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In this snippet, I will describe a new case where overt wh-movement leads to additional scope possibilities.

Scenario: Imagine we're organizing a conference together. We send out the abstracts to reviewers. But some reviewers write back that they think they got an abstract written by a student of theirs, which they therefore don't want to review. The organizers have another meeting to deal with this problem.

Examples (1a) and (1b) are inappropriate in such a situation.

- (1) a. #These five reviewers believed that those eight abstracts had been written by a student of theirs.
- b. #These five reviewers believed that a student of theirs had written those eight abstracts.

The examples in (1) would only be appropriate in a situation where the reviewers believe that they have a student who on his own wrote eight abstracts, thereby violating the restriction to maximally submit one individual and one joint abstract.

The sentences in (2), however, are appropriate in the situation described at the outset.

- (2) a. Which eight abstracts did those five reviewers believe that a student of theirs had written?
- b. These are the eight abstracts that those five reviewers believed that a student of theirs had written.

The data in (1) are expected from the observation of Sauerland (1998), Beck (2000), and Beck and Sauerland (2000) that cumulative interpretations of numeral are subject to the same locality restrictions as quantifier raising, in particular the clause boundedness condition. The data in (2) show that overt movement can obviate the clause boundedness condition. This is expected if an intermediate trace of the moved plural can be the argument of the cumulativity operator \*\* as defined in (3a). The LF-representation I propose for (2a) is shown in (3b).

(3) a.  $[[**]](P^{ect}) = \lambda X \lambda Y [[\forall x \in X \exists y \in Y P(x)(y)=1] \& [\forall y \in Y \exists x \in X P(x)(y) = 1]]$

b. which eight abstracts  $\lambda X [ [ \text{those five reviewers} ] [ X [ ** [ \lambda x \lambda y \text{ y believed that a student of y had written x} ] ] ] ]$

My hope is that people interested in the syntax and semantics of questions will find this contrast to be a useful addition to their toolbox to investigate further questions: How does wh-in-situ behave? What does (2b) tell us about relative clauses?

It is worth noting that there is another known case where overt wh-movement leads to additional scopal possibilities. Namely the contrast in (4) with movement of a cardinal NP allowing for scope over the subject of a higher finite clause.

- (4) a. Someone demanded that I read three books on logic.  
 b. How many books on logic did someone demand that I read?

So a further question that arises is: can these contrasts receive a unified explanation?

### References

- Beck, S. (2000) "Star Operators. Episode One: Defense of the Double Star", in K. Kusumoto and E. Villalta eds, *UMOP 23: Issues in Semantics*, GLSA (University of Massachusetts, Amherst), Amherst MA.
- Beck, S. and U. Sauerland. (2000) "Cumulation is needed: a reply to Winter (2000)", *Natural Language Semantics* 8:4, 349-371.
- Sauerland, U. (1998) "Plurals, Derived Predicates and Reciprocals", in U. Sauerland and O. Percus eds, *The Interpretive Tract: MIT Working Papers in Linguistics 25*, MITWPL (Dept. of Linguistics and Philosophy, MIT), Cambridge MA, 177-204.