Cumulative Reading

Plural DPs generally give rise to cumulative readings.

(1) Three copy editors caught 
   a. the mistakes 
   b. four mistakes 
   c. all the mistakes 

(2a) is true and (2b) is false in the same context.

(2) Three copy editors caught 
   a. every mistake 
   b. each mistake 

This suggests that every has a cumulative reading, but each doesn’t. Contrary to this, we argue that each can have a cumulative reading, but only when the Differentiation Condition is satisfied.

Differentiation Condition

Differentiation Condition (DC): (Tunstall 1998)

A sentence containing each NP can only be true of event structures where each individual in the restrictor of each NP is associated with a subevent that can be differentiated from the other subevents in some way.

The preferred way to differentiate the subevents is to have a one-to-one correspondence with the bearers of and overtly realized thematic-role distinct from that of each NP (a co-participant) (cf. Brasoveanu & Dotlačil 2015).

• With no quantificational co-participant, every individual in the restriction of each must have an event with a different location/time.

(3) Take 
   a. each 
   b. every 
   one of these apples.

DC accounts for the tendency for each to take wide scope (Ioup 1975, Brasoveanu & Dotlačil 2015).

(4) She knows a solution to 
   a. each problem 
   b. every problem 
   c. all problems 

DC predicts that the preferred reading of (2b) is one where each takes distributive scope over the co-participant three copy editors. Under the cumulative reading, DC is not satisfied.

Predictions

1. With another co-participant with which DC is satisfied, the cumulative reading should become available. 

(5) Three video games taught each quarterback two new plays.

2. The cumulative reading of (2b) should be judged true when each editor caught exactly one mistake (one-to-one situation).

Conclusions and Further Prospects

• Cumulative readings of each exist, but their availability is regulated by DC.
• The preferred way to satisfy DC is by assigning a wide distributive scope to each over a co-participant.

Further Issues and Prospects:

• Cumulative readings of each can be derived by extending an analysis of cumulative readings of every (Schein 1998, Kratzer 2000, Champollion 2010).
• What exactly does DC say? In particular, (9) does not seem to entail that the students all read different books.
• What is the nature of DC? It is not a presupposition, as it does not project out, e.g. it can be questioned:

(10) Did John give each girl a flower?

One possibility is to formulate DC as a presupposition in the sense of Henderson (2014) (see also Brasoveanu 2012).

• Towards the typology of universal quantifiers: Tunstall (1998) suggests that every is subject to a weaker condition than DC, which requires each subevent to be differentiated by at least one other subevent, rather than all of them.