

## Sentence-Internal Readings of *Same / Different* as Quantifier-Internal Anaphora

**The phenomenon.** The goal of the paper is to provide a unified account of the sentence-external and sentence-internal readings of *same / different*, exemplified in (1) and (2). These readings have been known to exist at least since [4], but no unified account for them has been proposed (see [1] for a recent discussion). The interpretation of *different* in (1b) is sentence external in the sense that it is anaphoric to a discourse referent (dref) introduced in the previous sentence (1a). Thus, in (1), *different* relates two drefs and requires their values, i.e. the actual entities, to be distinct. In contrast, the sentence-internal reading in (2) seems to relate values of only one dref, introduced by the narrow-scope indefinite *a poem*. These values, i.e. the recited poems, co-vary with the values of the dref introduced by *every boy* – and *different* requires the poems to be distinct relative to distinct boys.

**The main proposal** is that sentence-internal readings are parallel to the sentence-external ones in that they also relate two drefs, requiring their values to be distinct (for *different*) or identical (for *same*). In the system adopted in the paper, a DP can make available two drefs only when it is in the nuclear scope of a distributive quantifier or a distributively interpreted plural (see the examples in (3)). This is how we derive the generalization in [4] that sentence-internal readings are only licensed by *semantic distributivity*. The unified account is made possible by a suitable notion of quantificational distributivity that temporarily makes available additional drefs – to the independent motivation of which we now turn.

**An outline of the account.** The availability of multiple drefs in the scope of distributive DPs has been noticed at least since [6] and [7]. E.g., the pronoun *they* in sentence (4) can have a collective interpretation (John thinks John and Mary will win \$100 and Mary thinks that too) or a distributive one (John thinks he will win \$100 and Mary thinks she will win \$100). Similarly, even when the VP *hire a secretary...* in (5) is distributively interpreted, the pronoun *they* can still have a collective reading (each secretary was liked by all lawyers) in addition to a distributive reading (each secretary was liked by the lawyer that hired her). The simultaneous availability of plural and singular drefs is also necessary for cross-sentential anaphora to quantificational structures, as shown by example (6) (based on [9]): in (6b), we can refer back to the narrow-scope indefinite *a poem* either with *it*, in which case (6b) says that each boy recited the poem he chose, or with *them*, in which case (6b) says that each boy recited all the poems under consideration.

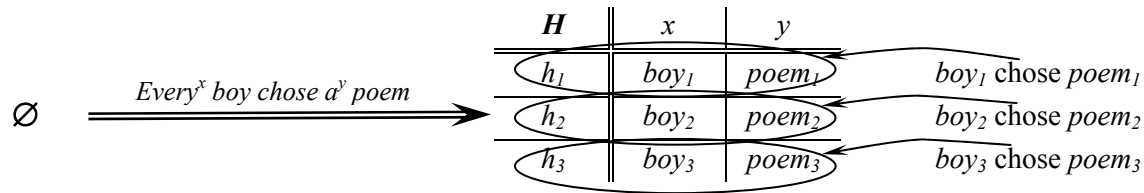
Following [5], [9] analyzes discourse (6) within a dynamic semantics system that updates sets of variable assignments (instead of single assignments, as DRT / FCS / DPL would have it). Sentence (6a) updates the initial empty set of assignments  $\emptyset$  with two drefs  $x$  and  $y$  that store all the boys and their respective poems, as shown in (7). The output set of assignments  $H$  stores the association between boys and poems in a row-wise (i.e. assignment-wise) fashion, e.g. assignment  $h_1$  associates  $boy_1$  (the value of  $x$  relative to  $h_1$ ) with the poem he chose, namely  $poem_1$  (i.e. the value of  $y$  relative to  $h_1$ ). In (6b), the distributive operator **dist** introduced by *each* updates  $H$  by temporarily introducing one boy at a time as the value of a new dref  $x'$  and his corresponding poem as the value of a new dref  $y'$ , as shown in (8). Now, relative to each boy  $x'$ , we can access both his corresponding poem – stored in dref  $y'$  and accessed with the singular  $it_{y'}$  – and all the poems under consideration – stored in  $y$  and accessed with the plural  $them_y$ .

Crucially, the cross-sentential availability of multiple drefs in (6) is made possible by the fact that distributivity operators temporarily introduce new drefs. We can now take advantage of this at the intra-sentential level too – and this is how [9] accounts for the multiple readings of (4) and (5).

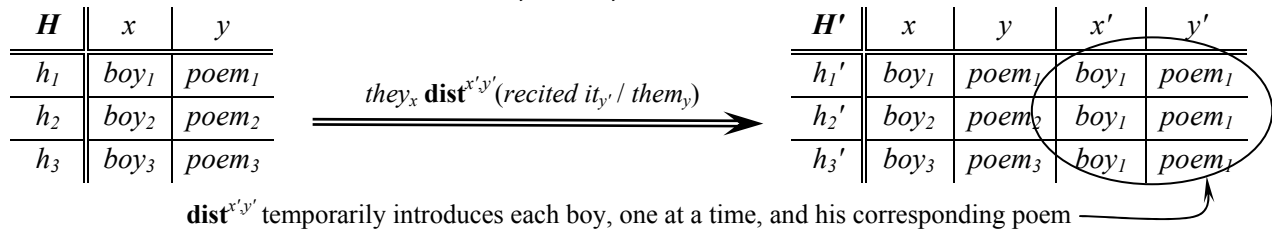
I propose that distributivity-based updates also make possible the sentence-internal readings of *same / different*. As shown in (9), quantifiers like *every boy* have a **dist** operator over their nuclear scope, which temporarily introduces a new dref  $x'$ . The indefinite *a poem* within the scope of **dist** also introduces a new dref  $y'$  storing the corresponding poem (by the end of the entire update, all poems will be collected under a dref  $y$ , just as in (7)). Then, as (10) shows, *different* can, internally to the quantification, refer to the drefs  $x'$  and  $y'$ : *different* moves out of the indefinite (we therefore capture the observation in [4] that sentence-internal readings are subject to island constraints) and adjoins to the **dist** operator. Finally, *different* checks that, for any boy  $x''$  other than  $x'$ , any poem  $y''$  recited by  $x''$  is distinct from the poem  $y'$  recited by boy  $x'$ . The analysis of *same* is parallel. The paper provides the full definitions and, unlike [9], the resulting dynamic system is couched in classical type logic (along the lines of [3]), so that Montague-style compositionality at sub-clausal level can be obtained by the usual methods. The paper ends with a brief discussion of how the two kinds of readings are expressed in several other languages, namely French (see [8]), German (see [2]) and Romanian, and how the proposed analysis generalizes cross-linguistically.

1. **Sentence-external readings:**
  - a. Mary recited *The Raven*. b. Then, every boy recited a different poem. [different from *The Raven*]
2. **Sentence-internal readings:**

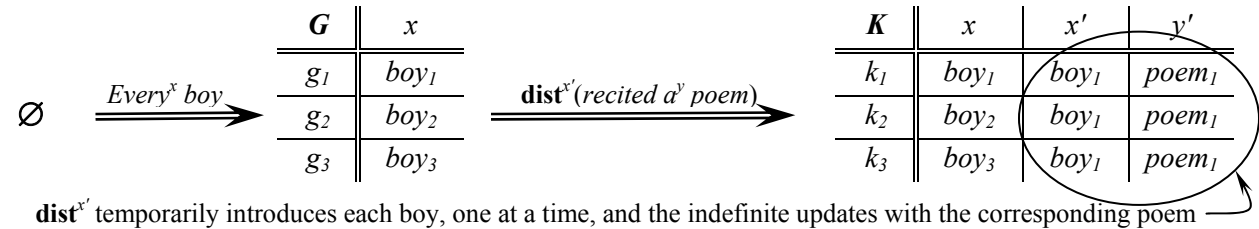
Every boy recited a different poem. [for any two boys *a* and *b*, *a*'s poem is different from *b*'s poem]
3. **Sentence-internal readings are licensed only by distributively interpreted pluralities:**
  - a. The boys (each) recited different poems. (Carlson 1987)
  - b. #Mary recited a different poem. [no sentence-internal readings with singulars]
  - c. #The boys gathered around different fires. [no sentence-internal readings with collective plurals]
4. John and Mary (each) think they will win \$100. (Heim et al 1991)
5. The lawyers (each) hired a secretary they liked. (Kamp & Reyle 1993)
6. a. Every boy chose a poem. b. Then, they each recited it / them. (Nouwen 2007)
7. The update for *Every<sup>x</sup> boy chose a<sup>y</sup> poem*:



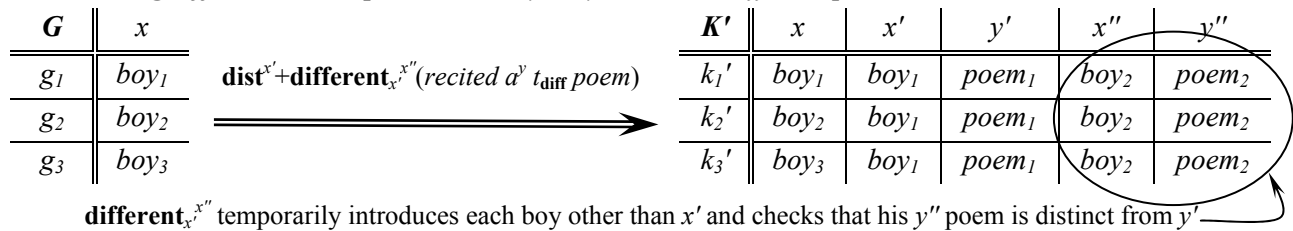
8. The update for *They<sub>x</sub> each<sup>x',y'</sup> recited it<sub>y'</sub> / them<sub>y</sub>*:



9. **Quantifier-internal distributivity:** breaking the update for *Every<sup>x</sup> boy recited a<sup>y</sup> poem* into pieces



10. **Adding different** – the update for *Every<sup>x</sup> boy recited a<sup>y</sup> different poem*:



**References:** [1] Barker, C. 2007. Parasitic Scope, to appear in *L&P*; [2] Beck, S. 2000. The Semantics of *Different*, *L&P* 23; [3] Brasoveanu, A. 2007. *Structured Nominal and Modal Reference*, PhD diss., Rutgers; [4] Carlson, G. 1987. Same and Different, *L&P* 10; [5] van den Berg, M. 1996. Some Aspects of the Internal Structure of Discourse, PhD diss., Amsterdam; [6] Heim, I., H. Lasnik & R. May 1991. Reciprocity and Plurality, *LI* 22; [7] Kamp, H. & U. Reyle 1993. *From Discourse to Logic*, Kluwer; [8] Laca, B. & L. Tasmowski 2003. From Non-Identity to Plurality, *Romance Languages & Ling. Theory* 2001; [9] Nouwen, R. 2007. On Dependent Pronouns and Dynamic Semantics, *J. of Phil. Logic* 36.