**Meeting 09-10-2015**

**To see on Monday- Priming Non Maximality**

1. **Priming experiment (PAPER)**

Our claim in the paper is that we’re priming asymmetrically distributive interpretations (the D-operator). This was based on the results of Experiment 1, where Distributive condition behaves differently than both Cumulative and Control conditions. The lack of difference between both Cum and Ctlr conditions seems to suggest that in “normal” (not explicitly biased) conditions, people are at 50/50.

However: our best sample for preference patterns when there is no priming is Experiment 2, where the three conditions are at 70% of distributive readings, suggesting that people prefer this reading in “normal conditions”.

**🡪 So, Distributive rate is actually decreasing only after cumulative and control primes.**

One possibility is to think that things are the other way around: when people are not biased, they choose distributive readings, and when they’re primed they choose more cumulative readings. This would explain the results in Experiment 2.

How could we explain Control results in EXP1?

* Control primes force attention on the number of shapes in the images (i.e., trials are true when number in the image maps the number in the sentence), just as in Cumulative primes. Could this strategy explain the decrease of distributive readings in both conditions in Exp1?
* Control condition seems to be very sensitive to overall situations. For example, in Exp3 the overall cumulative priming also affects Control condition. Something similar in less extent could be happening in Exp1.

Follow-ups for this:

1. Use controls that don’t focus the attention on the number of shapes.
2. Doing a similar experiment as Exp3 but the other way around (overall distributive priming) to see what happens.
3. **MOUSE-TRACKING and PLURALS**
4. Discussion about the properties of images and the low amount of distributive readings – Influence of predicates
5. How to explain the high amount of deviation in both experimental conditions?

**Some ideas to continue**

Step 1: **Discard predicate effects** (present in our experiment) 🡪 Inclusion of two different predicates (eg. “be connected to” and “be above to”), one of them gives 50-50 of distributive-cumulative readings, while the other one involves a prominence of cumulative readings (75-25). Observation: We don’t know whether what was driven the effect was the predicate itself of the picture. We need to be sure that we are using the same pictures.

Step 2: **Discard task effects.** It could be the case that, on top of predicate effects, we also have an extra difficulty driven by the task. Notice that both Tomlinson et al. and Dale and Duran don’t use pictures in the truth-judgment task, using common knowledge. This can be particularly difficult for the distributive-cumulative contrast (but see example). However, we can use a short story as context and then present sentences that could be more or less plausible in the particular context (See: the context could be presented by pictures *before* doing the task).

*Examples (very preliminary ideas)*

* with common knowledge (in the context of, for example, a game for kids to learn math or sth like that): Two elephants have two trunks/Two bats have two wings
* with short story (we can put pictures of people doing different actions in two groups and after that propose the truth-judgment task) Ex:

Picture: Paul danced with one girl and Thomas danced with one girl.

Target Distributive reading: Two boys danced with a girl.

Target Cumulative reading: Two boys danced with two girls.

Step 3: **Generalizing to locally and non-ambiguous sentences**. In all our experiments we used ambiguous sentences and rely in forcing one reading to see what happens with the other one. We could also do a follow-up of Frazier el al. (1999) and Brasoveanu and Dotlacil (2015) experiments using temporally ambiguous sentences.

What they have shown? Using contrasts such as “Two boys have **each/together** three balloons **each/together**”, these studies have shown that phrasal collectivity is preferred over phrasal distributivity and the decision is taken after reading the object (higher reading times in late distributive disambiguation).

However, none of these studies has focused on the incrementality issue: (1) when exactly the decision is being made?; (2) are the two options still competing even when one of the options is preferred?; (3) how the overt presence of the collective-distributive adverbs makes a difference in the processing?

In our original MT study, the main question was whether it is necessary to derive cumulative representations even when we are finally deriving distributive ones. Comparing sentences in (i-iii) would give us an idea of the answer to these questions, as well as measuring to which extent cumulative representations are derived in the processing of distributive readings (if it’s only when there is a global ambiguity or even in cases where the ambiguity is local).

1. Two boys have three balloons.
2. Two boys have three balloons each/between them.
3. Two boys have each/between them three balloons.

Last week, in total…

Last week, in each day …

Importantly: This experiment would require a self-paced presentation for the sentence (to replicate Frazier et al results). Since this is very difficult to combine with a classical self-paced reading with MT and see the effects online, I propose: (a) presenting word-by-word at a fixed pace while the subject has to move the mouse; (b) use oral presentation and then track where the mouse were at each moment (this can be easily combined with eye tracking if we need a finer measure).

Step 4: **Dissociating parallel from two-steps accounts in derivation.** Speed-Accuracy trade-off.

Step 5 (maybe before): Explain noise patterns and high deviation associated to both conditions (deviation due to ambiguity + extra deviation for distributive readings). Modeling.

1. **MOUSE-TRACKING and SCOPE**

Recap: Our results in English went in the opposite direction from what it was found in the literature (however, the task wasn’t exactly the same one).

* Can we explain this effect as a consequence only of the images? If yes, how we understand our pilots.

To-explore (Ewan- Alexis Wellwood, influence of images in semantic tasks) 🡪 Possibility of doing it without images (see point 3).

* Exploit results in French. Using “tous” (all), we got the trend in pilots. Is it worthily to do a whole experiment in French? Maybe it’s interesting to explore the cross-linguistic differences + the potential differences between quantifiers and their scope properties (cf. wide-scope preferences for Every in certain dialects of English)
* Some relevant bibliography about this?

1. **PRIMING SCOPAL REPRESENTATIONS between QUANTIFIERS**

March 2015: Pilot experiment (N=10) following the priming experiment by Chemla & Bott but testing the priming effect between quantifiers (i.e., 2-most, a-every and every-a). We also included different image types. In the results we observed a tendency of priming between representations for certain directions and we decided to do an experiment including only one type of image[[1]](#footnote-1).

I programmed that experiment in that moment[[2]](#footnote-2), including also fillers, but then we didn’t run it because we were with too many things (I think).

Note: Complement of MT?

Other ideas for the future (not very thought, only if there is time):

1. **Acquisition: Cumulativity, Distributivity and Collectivity**

Syrett and Musolino (2013): Distributive vs. Collective (In terms of preference, they don’t behave like adults). What about cumulativity? Why it could go in the opposite direction? How children deal with non-maximality issues?

Ambiguity with negative concord. Personne n’a vu personne.

1. **Preference by cumulative/distributive readings under negation (English vs Spanish)**

Context: There is a party and everyone is supposed to bring something to drink. Paul, Ann, Mary and John come.

Ex. (SP) Nadie trajo dos cervezas // (EN) No one brought two beers. – No boys brought two beers.

Ningunos chicos empujaron un piano juntos.

Ningún chico empujaron un piano juntos.

Winter Reciprocity – completely symmetrical predicates

They felt in love vs. with each other

Different situations where the sentences would be true:

1. (Distributive TRUE and Cumulative TRUE) Ann brought one beer, and the others brought nothing.
2. (Distributive TRUE and Cumulative FALSE) Ann brought one beer, Mary brought one beer and John and Paul brought nothing.

Even though dissociating the readings is difficult, in Spanish the straightforward interpretation is (b) while in English apparently is (a) and (b) is difficult to get. See whether an experiment where participants have to decide how much information do they need to make the sentence true or false.

1. Exploring contextual and pragmatic influences in both priming and preference effects between distributive, cumulative and collective readings. For example, using big numbers can strengthen a cumulative interpretation (counting strategy for Distributive).

1. Interestingly, when I was looking again at the results of this pilot experiment, I can see in primes a “trend” as the one that we found in our MT experiment; i.e., Inverse > Surface [↑](#footnote-ref-1)
2. 192 trials, 144 experimental trials (72 primes+72 targets) and 48 fillers with sentences such as "There is a star in the middle" and "There is a square at the bottom" that reverse the responses expected for targets. [↑](#footnote-ref-2)