Priming Non-Maximality
Summary of 16/09 + Experiment Proposal

Experimental items x Study

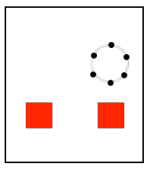
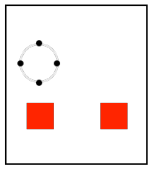
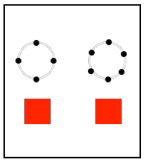
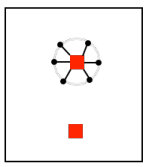
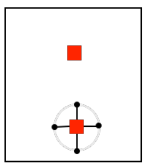
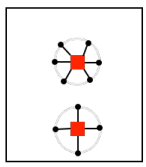
***Studies* (5, with different groups of subjects):** Each study is defined by the particular combination of **Predicate types (**Collective/Distributive/Baseline) in the 4 experimental items (+ Fillers, see next section).

- *Study 1* - **All Collective** – *How accessible are non-maximal readings of collective predicates*? Point to have into account: Priming effects of Collective predicates (i.e., accessing might become easier after seeing Max readings of Collective predicates).

- *Study 2* – **All Distributive** – *How accessible are non-maximal readings of distributive predicates*? (Follow-up of Marty et al 2015). Again: There could be priming effects (specially if there is an actual competition between Phantom and Maximal readings).

% True responses in targets: Study 1 vs Study 2 → Differences of accessibility of NM readings for different predicates.

Table 1

Picture Type		Picture type: 1			Picture type: 2		
Sentence example		*Between 5 and 7 dots are above the squares/form a circle*			*Between 5 and 7 dots are connected to the squares/surround the squares.*		
Condition		TRUE Maximal	FALSE Non-lower bounded	? Non-Maximal	TRUE Maximal	FALSE Non-lower bounded	? Non-Maximal
Examples for Group 1--2 of subjects	STUDY (group of subjects)						
	1	COLLECTIVE	COLLECTIVE	COLLECTIVE			COLLECTIVE
	2	DISTRIBUTIVE	DISTRIBUTIVE	DISTRIBUTIVE			DISTRIBUTIVE
	3	BASELINE	BASELINE	BASELINE			DISTRIBUTIVE
	4	COLLECTIVE	COLLECTIVE	COLLECTIVE			DISTRIBUTIVE
	5	COLLECTIVE	COLLECTIVE	DISTRIBUTIVE			DISTRIBUTIVE

- *Study 3* – **Baseline** (for NonMax Distributive) – *Is it possible to prime phantom readings?* Control for Study 2.

% True responses in targets: Study 2 vs Study 3 → Priming of NM readings of distributive predicates.

- *Study 4* – **All Collective Priming** – *Is it possible to prime phantom readings of distributive predicates by forcing all possible readings of collective predicates (maximal and non-maximal)?* Point to have into account: A priming effect here could be due strictly to non-maximal readings.

% True responses in targets: Study 2 vs Study 4 → Differences of priming between Distributive and Collective predicates. Priming specifically of Collective predicates (independently of the "type" of reading).

% True responses in targets: Study 3 vs Study 4 → Difference between priming by Collective predicates and not priming at all (get rid of some sort of effect due to non-maximal "readings" in general, independently of the predicates).

- *Study 5* – **Max Collective Priming**– *Is it possible to prime phantom readings of distributive predicates only by forcing maximal readings of collective predicates?*

% True responses in targets: Study 2 vs Study 4 vs Study 5 → Priming effects of maximal collective readings on non-maximal distributive readings. [Collective predicates by themselves might activate non-maximal readings. The similarity between 4 and 5 allow us to measure the existence of ambiguity]

Items can belong to 4 **Conditions** (False/Max/NonMax/NonMaxD), depending on the readings that the pictures make true. While the three first conditions share the **Picture type** (1 or 2), NonMaxD presents always a different Picture*Predicate combination.

The particular combination of **Picture type** across Conditions is controlled across subjects (some of them see 1-2 configuration, and some 2-1; see Table 2). Notice that the combination Predicate*Picture supposes particular predicates, such as "be connected to" or "form a circle".

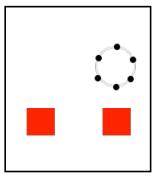
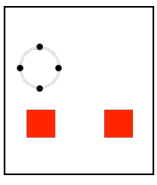
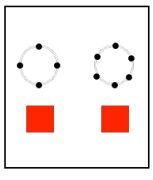
Table 2

Group	FALSE	TRUE	NonMax	NonMaxD
1--2	1	1	1	2
2--1	2	2	2	1

Notice that this design allows us to control for: Influences of predicate and image priming (by contrasting NonMax vs NonMaxD; see carefully: sometimes is indistinguishable).

Fillers

Fillers serve to control potential influences of the images in the performance (i.e. association between truth-values and particular images).

<table>
<tr><td></td><td>    </td></tr>
<tr><td>Experimental items</td><td>TRUE FALSE ?</td></tr>
<tr><td>Fillers</td><td>Changing the colors of the dots and squares.</td></tr>
<tr><td rowspan="2">Option 1</td><td>Although the contrast between maximal and non-maximal readings is present here (and it could potentially affect the results), the same sentences will be present in the different groups/experiments and the predicates used are different.</td></tr>
<tr><td>Exactly 4 dots are black. At least 5 dots are black. Exactly 4 dots are black.
FALSE TRUE TRUE FALSE
At least 5 dots are black
TRUE FALSE</td></tr>
<tr><td rowspan="2">Option 2</td><td>This alternative has the strenght of being unrelated from the relevant contrast. Moreover, it can easily serve as baseline for the experiment 3. However, the sentences are very different from targets and very easy, so they might not serve for control the image-truthvalue association.</td></tr>
<tr><td>There are black dots./There are red squares.
TRUE TRUE TRUE
There are red dots./There are black squares.
FALSE FALSE FALSE</td></tr>
</table>

Predictions

- Presentation of distributive predicates with images that make maximal readings true (priming) and false (anti-priming) could lead to an increasing of non-maximal readings in targets (phantom readings).> 2 vs 3
- Collective predicates by themselves activate non-maximal readings, even in the cases where maximal readings would also be true.