

# Toward a comprehensive view of structural priming: What gets primed when

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## 1. Introduction

- **Structural priming:** tendency to repeat aspects of structure across sentences (Bock, 1986)
- Originally argued to be a **syntactic phenomenon** (Bock, 1986; Bock & Loebell, 1990)
- In production, priming potentially also **sensitive to semantic representations**, specifically **thematic roles** (Hare & Goldberg [HG], 1999; Chang et al. [CBG], 2003; Salamoura & Williams [SW], 2007; Cai et al. [CPB], 2012; Köhne et al. [KPB], 2014)
- But these studies all suffer from important limitations, including **confounds** with:
  - Animacy (HG/SW/CPB; cf. Bock et al., 1992)
  - Morphology (CPB/KPB)
  - Mass/count distinction (CBG)
- Motivating questions:
  - **Can thematic role ordering truly be primed at all?**
  - **When and under what circumstances is structural priming sensitive, uniquely, to syntactic vs. semantic factors?**

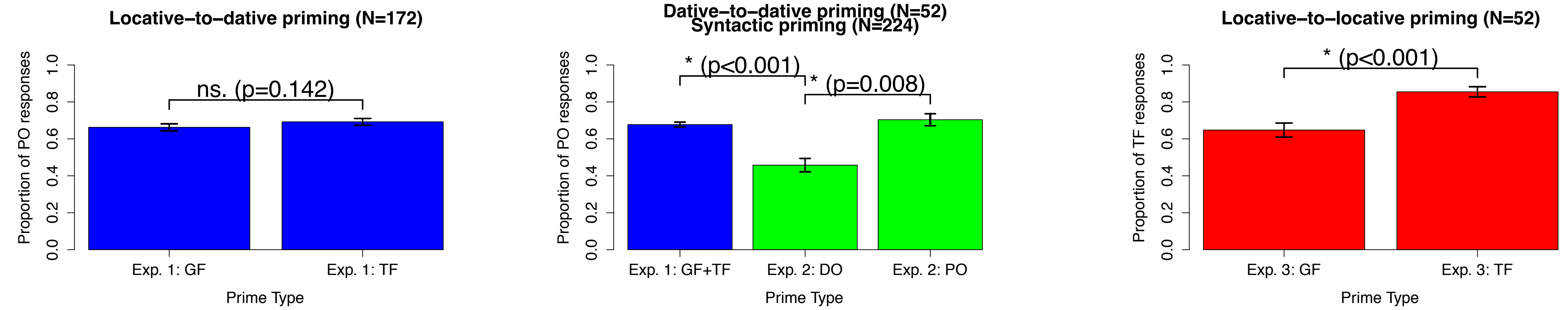
## 2. Methods

- **Dative confound:** **different syntax,** **different thematic structure**

pass [a cup] <sub>NP</sub> [to the lady] <sub>PP</sub>	pass [a cup] <sub>THEME</sub> [to the lady] <sub>GOAL</sub>	(=PO)
pass [the lady] <sub>NP</sub> [a cup] <sub>NP</sub>	pass [the lady] <sub>GOAL</sub> [a cup] <sub>THEME</sub>	(=DO)
- Why **locatives?** Isolate **thematic structure:**

<b>same syntax,</b>	<b>different thematic structure</b>	
load [hay] <sub>NP</sub> [onto the truck] <sub>PP</sub>	load [hay] <sub>THEME</sub> [onto the truck] <sub>GOAL</sub>	(=TF)
load [the truck] <sub>NP</sub> [with hay] <sub>PP</sub>	load [the truck] <sub>GOAL</sub> [with hay] <sub>THEME</sub>	(=GF)
- Animation description task on Mturk
- **Exp. 1 (N=172): Priming from locatives to datives**
  - Predictions:
    - **Thematic priming:** TF locatives → more PO datives, GF locatives → more DO datives
    - **Syntactic priming:** both TF+GF locatives → more PO datives (all same syntax)
- **Exp. 2 (N=52): Priming from datives to datives**
  - Baseline for purely syntactic priming in Exp. 1
- **Exp. 3 (N=52): Priming from locatives to locatives**
  - Verify *within*-construction thematic priming, without mass/count confound (cf. CBG)

## 3. Results



- **Exp. 1: No thematic priming from locatives to datives**
  - Suggests that thematic roles cannot be primed *across* different constructions, even with the syntax held constant
- **Exp. 2: Standard dative-to-dative priming effect**
  - Could be due *either* to **syntax** or **thematic role ordering** (cf. Bock & Loebell, 1990)
- **Exp. 1 vs. Exp. 2: Pure syntactic priming**
  - **Higher proportion of PO datives** following both TF and GF locatives (Exp. 1), relative to the proportion of POs following DO datives (Exp. 2)
  - Evidence for pure **syntactic priming across** constructions
- **Exp. 3: Pure thematic priming within a construction**
  - Significant **locative-to-locative** priming effect, consistent with previous work
- Suggests that **thematic roles can** be primed after all, though *only within* but *not across* constructions

## 4. Discussion

- Evidence for **both purely semantic and purely syntactic priming**, though in **different environments**
  - **Syntactic priming** both *across* and *within* constructions (locative-to-dative, dative-to-dative)
  - **Thematic role priming** *only within* the same construction (locative-to-locative)
- Predicts purely thematic priming within datives, but how to isolate?
- Implications for grain size of semantic and syntactic representations
  - **Parallel syntax** between datives and locatives (coarse-grained)
  - **Differentiated semantics**
    - → Finer-grained semantic roles (cf. Pappert & Pechmann, 2012)
    - → Richer event structures (Pinker, 1989; Levin & Rappaport Hovav, 2005)
- What about prior instances of priming *across* different constructions (e.g., Pappert & Pechmann, 2012)?
  - Either purely syntactic priming or more similar semantics than generally assumed (cf. Goldberg, 1995)