Evaluating comparatives with superordinate mass nouns

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Nouns like *furniture* figure prominently in debates about whether mass syntax per se carries any implications re: individuation (see **G12**). Like any mass noun, nouns like this resist combination with number words (*one furniture) and plural marking (*furnitures), but unlike (e.g.) *mud*, support number-based evaluation in comparatives like (1). **BB** tie this last property to the independently-motivated hypothesis that *furniture*'s extension is formally like that of a plural NP (cp. *more pieces of furniture*). Recently, **GL** propose that the lexical semantics of *furniture* additionally involves events, e.g. (minimal) furnishings with pieces of furniture as participants. GL's strongest evidence for this is drawn from their experimental results that suggest sentences like (1) support more dimensions for comparison than (e.g.) BB's semantics for *furniture* and **W18**'s for *more* otherwise expect (cf. **BS5**). GL's hypothesis is interesting and potentially impactful, but methodological limitations lead us to doubt the evidence in its favor. Our experimental paradigm thus tests the semantic hypotheses sketched in (2) with a design that avoids those limitations. To preview: we find uniform evidence for number-based evaluation (like Bs5), but none for size- or function-based (unlike GL).

(1)   Ann has <u>more furniture</u> than Bill does.

(2) $[\![\text{more}_\mu \text{ thanP}]\!]^\sigma = [\lambda d\lambda\alpha(\sigma(\mu)(\alpha) > d)]([\![\text{thanP}]\!]^\sigma) = \lambda\alpha(\underline{\sigma(\mu)(\alpha) > d_b})$ [W18]

    a. $+ [\![\text{furniture}_{BB}]\!]^\sigma = \lambda x(\textbf{furniture}(x) \,\&\, \underline{\sigma(\mu)(x) > d_b})$ [≈BB individ.]

    b.   i. $+ [\![\text{furniture}_{GL}]\!]^\sigma = \underline{\lambda x}(\textbf{furnishing-by}(e, x) \,\&\, \underline{\sigma(\mu)(x) > d_b})$ [≈GL individ.]

       ii. $+ [\![\textsc{e } \text{furniture}_{GL}]\!]^\sigma = \lambda e\, \underline{\exists x}(\textbf{furnishing-by}(e, x) \,\&\, \underline{\sigma(\mu)(e) > d_b})$ [≈GL eventive]

If (2a)/(2b-i) were the only available parse of (1), it should be evaluated by μ_{number} (BB, W18). If (2a) and both of (2b) are available, other μ_Δ should be possible. GL find evidence for (2), but (i) their critical dataset consists of 10 judgments each for only 2 scenarios, (ii) these scenarios were biased in favor of the predicted effect, and (iii) they didn't involve manipulating a factor deemed diagnostic of the eventive reading - the heterogeneity of furniture types in the compared sets. In a fully crossed design involving ratio-matched (but orthogonal) contrasts for two sets (counterbalancing which 'wins' along dimensions Number, Size, and Type), we tested 20 adults (Ex1), 10 preschoolers (4;0-5;6-Ex2) on sentences like (1), and the same design with a contextual manipulation testing adults (Ex3). In Ex3, NEUTRAL contexts were intended to have no biasing effect, while SIZE and TYPE were intended to bias size- and type-based evaluation (if available). We found uniform evidence for number-based evaluation, but none for size- (like BS5) or function-based (unlike GL; see Figs.2-4). (LMEM analyses and further probes of the data are presented in the paper.)

These results so far militate against adopting GL's semantics, and bolster support for BB's. However, it is still possible that how the furniture is arranged could be important to highlight the 'functional role' of the furniture (**W96**; not tested by GL). We are presently testing this factor.

Sample stim | **Ex1-Adults** | **Ex2-Children** | **Ex3-Adults**
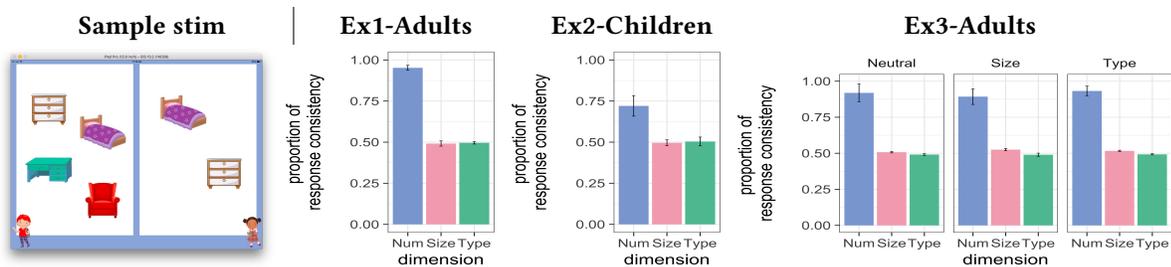
References

BB Bale & Barner 2009, The interpretation of functional heads.

BS5 Barner & Snedeker 2005, Quantity judgments and individuation.

G12 Gillon 2012, Mass terms.

GL Grimm & Levin submitted, *Furniture* and other artifactual aggregates.

M75 McCawley 1975, Lexicography and the mass-count distinction.

W18 Wellwood 2018, Structure preservation in comparatives.

W96 Wisniewski, Imai & Casey 1996, On the equivalence of superordinate concepts.