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Abstract

Naming a picture is more difficult in the context of a taxonomically-related picture. Disagreement exists on whether non-taxonomic relations, e.g., associations, have similar or different effects on picture naming. Past work has reported facilitation, interference and null results but with inconsistent methodologies. We paired the same target word (e.g., cow) with unrelated (pen), taxonomic

Abdel Rahman, Melinger and colleagues tested the predictions of the swinging lexical network model using a cyclic blocked naming paradigm, in which participants repeatedly named a small set of items in taxonomically related, associatively related, and unrelated blocks. The logic was that, compared to picture word interference paradigms, repeated naming of multiple items should lead to interference even for associatively related items. This was indeed what was found (Abdel Rahman & Melinger, 2007; 2011; Aristei, Melinger & Abdel Rahman, 2011). De Zubicaray et al. (2014) criticized these studies by pointing out that the associative relations were contaminated by taxonomic features. When they redesigned the study with materials that were better controlled in this respect, no evidence of interference was uncovered in the associative condition. Instead, de Zubicaray et al. (2014) found that such relations generated a transient facilitation effect compared to the unrelated condition. This finding casts doubt on the explanation offered by the swinging lexical network account. More generally, it remains unclear whether different types of semantic similarity have fundamentally different effects on word production, because at least two main issues have been overlooked in the designs of prior studies.

The more prominent of these issues is the absence of a definition of "associative" relations, beyond a general description of occurring in a common setting or theme (hence the alternative label, "thematic"), without belonging to the same category. It is difficult, however, to measure the strength of such associations. For example, the associative category "United States" in Aristei et al. (2011) contains items like "prairie", "hamburger", and "cap". But in the absence of explicitly linking them together with a label "United States", these items are not highly associated in the language network. In keeping with this, some of the interference effects found for associative relations were only present when participants were explicitly presented with a verbal label (Abdel Rahman & Melinger, 2011). Similarly, de Zubicaray et al.'s (2014) materials include blocks such as "Roman" with members such as "lion" and "shield" which are not otherwise strongly associated, which may be the reason for their null effect. The second issue is that none of these studies have controlled for phonological similarity which is documented to induce interference effects (e.g., Nozari et al., 2016). It is thus possible that some of the interference stems from sources other than the hypothesized one. The current study aimed to investigate the effect of taxonomic and associative relations on picture naming in a design that avoided The mo

double dissociation in their taxonomic and associative relations to the target. For example, for the taxonomic condition, target “cow” was paired with “bear”. This pair had a high Resnik and low PMI and LL scores. For the associative condition, target “cow” was paired with “milk”. This pair had high PMI and LL and low Resnik scores. The unrelated competitor (e.g., “pen

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