Commentary on target article “An experimental approach to linguistic representation,”
by Holly Branigan and Martin Pickering

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Structural priming can inform syntactic analyses of partially grammaticalized constructions

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Abstract: Branigan and Pickering (B&P) argue successfully that structural priming provides valuable information for developing psychologically plausible syntactic and semantic theories. I discuss how their approach can be used to help determine whether partially grammaticalized constructions which have undergone semantic change have also undergone syntactic reanalysis. I then consider cases where evidence from priming cannot distinguish between competing syntactic analyses.

Branigan and Pickering (B&P) argue that evidence from structural priming informs our understanding of abstract linguistic representations in ways that traditional acceptability judgments do not, thus providing a valuable tool for developing psychologically plausible theories of syntax and semantics. I agree with them on this point, and believe their approach can shed light on tricky cases of grammaticalization in progress, as suggested below. However, I maintain that evidence from structural priming can be ambiguous with respect to the influence
of syntactic structure alone vs. syntax-semantics mappings, and therefore cannot by itself
distinguish between competing syntactic analyses.

Examining data from dozens of published studies that have used structural priming to
investigate language processing, B&P propose a theoretical approach similar to Culicover and
Jackendoff’s (2005) Simpler Syntax. According to B&P’s approach, syntax consists of a “shallow”
constituent structure without any movement transformations and minimal null constituents;
the thematic roles, event structure, and quantificational information are included only in
semantics. Supporting this view, they cite evidence showing that speakers are sensitive to
shallow syntax even when the semantic argument structure differs between prime and target
(Bock & Loebell 1990; Flett 2006; Wittenberg 2014). I suggest that B&P’s approach can also be
fruitfully applied to cases in which nouns, verbs, or adjectives have undergone partial
grammaticalization. Such cases are notoriously challenging for synchronic theories of syntactic
representation because the items in question show mixed properties of lexical and functional
categories (Denison 2010). Francis and Yuasa (2008) argued based on evidence from English,
Japanese, and Cantonese that at least some such cases involve semantic change in the absence
of syntactic reanalysis—a phenomenon they captured synchronically using a parallel-
architecture representation (Culicover & Jackendoff 2005; Sadock 1991). For example, English
quantificational nouns (e.g. lot, bunch, ton) display mixed properties of collective nouns (e.g.
bundle), and quantifiers (e.g. many), with the quantifier-like properties due entirely to
semantics. Thus, quantificational NPs (e.g., a lot of sticks), share a syntactic representation with
collective NPs (e.g., a bundle of sticks), despite differences in meaning. In both types of NP, the
first noun (*lot, bundle*) acts as the syntactic head of the phrase. This analysis relied on attributing some patterns of acceptability judgments to syntax, and others to semantics. Following B&P’s proposal, one could test whether collective NPs would prime the production of quantificational NPs when speakers are asked to describe a set of objects in terms of quantity. Such a priming effect would support Francis and Yuasa’s proposal that quantificational nouns really do act as head nouns in syntax, while the absence of any priming effect would suggest that quantificational NPs and collective NPs differ syntactically. More generally, at least for cases in which the source construction continues to exist in the language alongside the grammaticalized form, priming tasks could help determine whether a lexical item or construction which has undergone semantic change has also undergone syntactic reanalysis.

It is less clear, however, how to interpret situations in which priming effects appear in *different degrees* for different types of primes. B&P cite studies showing an enhanced priming effect when the prime and target share not only the same (shallow) syntactic representation but also the same abstract syntax-semantics mapping (Griffin & Weinstein-Tull 2003; Raffray et al 2014). Raffray et al (2014) found that sentences with a coerced (missing) predicate (e.g. *The celebrity began the champagne*) primed target responses with a coerced predicate more effectively than did syntactically similar sentences with an event NP (e.g. *The celebrity began the speech*). However, these two types of NP-V-NP sentences were alike in failing to prime NP-V-VP responses (e.g. *The celebrity began drinking the champagne*). B&P take the latter fact to mean that the missing predicate of a coerced sentence is not represented in the syntax. But what, then, do we make of the fact that coerced predicate sentences primed coerced predicate
responses more strongly than event NP sentences did? Raffray et al (2014: 97) propose that speakers were sensitive to particular syntax-semantics mappings, in addition to being sensitive to shallow syntax. It seems, however, that one could plausibly interpret the different degrees of priming to signal some subtle difference in the syntactic representations.

Similarly, Griffin and Weinstein-Tull (2003) found that object-raising infinitives (e.g. John believed Mary to be nice) primed object-raising responses (as opposed to finite paraphrases) more effectively than object-control infinitives did (e.g. John persuaded Mary to be nice). Griffin and Weinstein-Tull (2003: 549) interpreted these findings to mean that language users are sensitive to the similarity of abstract syntax-semantics mappings between prime and target, since object-control infinitives have an additional argument role. As an alternative to this explanation, B&P (note 6) suggest that perhaps the additional argument role in object-control sentences is associated with a distinct syntactic representation, meaning that reference to syntax-semantics mapping is not necessary to explain the results. While Griffin and Weinstein-Tull’s explanation is compatible with parallel-architecture theories such as Simpler Syntax (Culicover & Jackendoff 2005) and Construction Grammar (Goldberg 2006) which do not permit null constituents in the syntax, B&P’s alternative requires a null constituent in the syntax. Thus, B&P’s explanation is more compatible with the standard generative account of object control, in which the infinitive subject is a null pronoun (PRO) (Chomsky 1981). As B&P acknowledge, the evidence does not distinguish between these two possible syntactic representations.
Evidence from priming is useful for showing speakers’ sensitivity to structural similarity. As such, it can indicate which elements must be included in syntactic representations (e.g. syntactic categories, constituent ordering) and whether historically related constructions continue to share a constituent structure. However, it cannot tell us whether differences in structure, as reflected in differences in degrees of priming, are due to differences in syntactic representation alone, or to syntax- semantics mappings. While structural priming provides valuable evidence for linguistic theory building, the abstract representational basis for any particular facilitation effect remains subject to interpretation. A psychologically plausible theory of syntactic and semantic representation must therefore take into account many different types of evidence, each of which has its own advantages and limitations.


