

The presence of moved constituents in language necessitates contact with the memory system, whether it be for the purpose of maintaining displaced constituents or retrieving constituents no longer available to the language processor. Recent research in the memory domain suggests that the amount of information that can be actively maintained is quite small, perhaps only 1-4 items (McElree, 2006; Cowan, 2006). This has important implications for theories of language processing, as it necessitates a clear articulation of the mechanism by which constituents that may have moved out of active memory can be restored. Memory research has long recognized that *interference* is a prominent barrier to retrieving inactive information, and a number of studies have recently shown interference effects in language processing as well (e.g., Gordon et al, 2001; Van Dyke & Lewis, 2003). This paper will summarize a series of studies suggesting that processing difficulty arises in contexts where distracting elements share semantic features with the target. Measures of reading time and comprehension accuracy show that both (1) and (2) are more difficult to read and interpret when *man* is replaced by *seat*, despite the fact that this manipulation leaves the syntactic structure unchanged. This effect is expected if memory retrieval occurs using a global-matching method in which both syntactic and semantic cues are valued equally (e.g., Clark & Grunland, 1996). According to this approach, when the language processor seeks a subject for the verb *moaned*, it finds a match in the distractor *man* because it carries syntactic marking as a subject and is the type of entity that can moan. New evidence suggests that these effects may be mediated by the particular syntactic context of the distracting NP. For example, semantic interference effects have *not* been found with the same manipulation in the construction in (3), where the distracting NP occurs as a direct object.

One possible explanation for this pattern of results is that syntactic encodings vary in the distinctiveness of their memory representation. Most grammatical theories differentiate between *core* arguments (i.e., subject, object, sometimes indirect objects) and all other modifying—or *oblique*—arguments, including prepositional phrases (Bresnan, J., 2001; Chomsky, 1981; Culicover & Jackendoff, 2005; Frazier & Clifton, 1996; Perlmutter, D., 1983; Van Valin & LaPolla, 1997). In these formulations, a core argument, such as a direct object, plays a more prominent role at the interface between syntactic structure and semantic interpretation than an oblique argument because the former more directly specifies the thematic relationships that NPs play with respect to the meaning of the predicate (i.e. Agent, Patient, Theme, etc.) The additional import given to these grammatical functions may make the syntactic aspects of their memory representation more distinctive, producing a salient mismatch between the syntactic features of a direct object distractor and the subject features of the retrieval probe, and grounds to easily reject the semantically matching distractor. In contrast, if the syntactic encoding of a potential distractor is less distinctive, or contains features which are deemed less reliable for the sake of building interpretation, then these features will not provide a basis for rejecting a semantically matched distractor, and interference effects will occur. In this respect, distractors in the oblique role of prepositional object, as in the constructions studied in (2) may have little discriminating syntactic information associated with them—leaving them highly available to produce semantic interference. In this case, it would appear that different syntactic contexts have more or less potential to admit similarity-based interference, with these initial investigations suggesting that the most highly interfering contexts are those with a complete syntactic match, or else with little or no syntactic features. These results may provide a new perspective from which argument accessibility and island effects can be explored.

- (1) The pilot remembered that the lady who said that the [seat/man] was smelly yesterday afternoon moaned.
- (2) The pilot remembered that the lady who was sitting near the smelly [seat/man] yesterday afternoon moaned.
- (3) The attorney who the judge realized had rejected the [motion/witness] in the case compromised.