Realtime sentence comprehension is an incremental process, involving the rapid establishment of a syntactic representation and dependencies over that representation. This requires previously encountered linguistic material to be retrieved from memory. Following much recent work, we assume a content-addressable retrieval mechanism: constituent encodings are retrieved based on their inherent features (e.g. [+PL]), rather than relations between encodings, such as c-command (McElree et al., 2003). Recent research has shown that the outcome of this retrieval is not always sensitive to the syntactic representation and, so, not grammatically appropriate. For instance, during subject-verb attachment, subjects outside of the current clause make retrieval more difficult ((1); Van Dyke and Lewis (2003)). There are also cases where only the grammatically appropriate dependency is formed, arguing for structure-sensitive search (Sturt, 2003; Wagers and Phillips, 2009). However, within content-addressable retrieval, the properties of encodings that serve to guide retrieval can yield grammatical outcomes, without reference to structural information. Thus, if there is content-addressable retrieval, we need a theory of retrieval cues.

These issues can be addressed by probing the extent to which the presence of subjects within the nominal domain makes subject-verb dependencies more difficult. Subjects in the nominal and clausal domain are similar along some dimensions: they c-command other DPs within their domain, and they are the DPs to which the external argument is linked. They are dissimilar in that they occur in different domains and are assigned Case by distinct heads. In particular, the prediction is that if cue-based search targets features these elements share, the parser will be unable to distinguish between subjects in the nominal and clausal domain. By comparing subject-verb attachment in the presence of nominal interveners, we are testing the set of retrieval cues the parser uses in the face of a number of choices.

**Method:** In order to test these predictions, we created sentences in which the subject of the clause and the verb were separated by a bi-clausal relative clause containing a process nominalization, (2). We manipulated the position of the nominalization (subject, object) and whether or not a possessor was present. A low interference control included a bi-clausal RC with a raising predicate, so that there were no overt subject phrases. The critical region was the matrix predicate (*was mentioned*). The sentences were presented in a self-paced reading task, with a moving window display (Just et al., 1982). An increase in the difficulty of the subject-verb dependency will be reflected as an increase in reading time at the critical region.

**Results:** The results (n=40) show that processing difficulty in these constructions is not correlated with the presence on a subject within the nominal domain. The parser must thus distinguish between subjects within the nominal and clausal domain. This indicates that either structure-sensitive search must be deployed, or that the features targeted by retrieval are shared only by those elements in Spec,TP.
The secretary forgot that the student who thought that the exam was important was standing in the hallway.

Materials

(2)  
(a) NOMINALIZATION:SUBJECT,POSSESSOR:YES  
Unofficially, the farmer who claimed that the soldier’s deliberate destruction of the village prompted the rebellion was mentioned in classified documents.

(b) NOMINALIZATION:SUBJECT,POSSESSOR:NO  
Unofficially, the farmer who claimed that the deliberate destruction of the village prompted the rebellion was mentioned in classified documents.

(c) NOMINALIZATION:OBJECT,POSSESSOR:YES  
Unofficially, the farmer who claimed that the rebellion prompted the soldier’s deliberate destruction of the village was mentioned in classified documents.

(d) NOMINALIZATION:OBJECT,POSSESSOR:NO  
Unofficially, the farmer who claimed that the rebellion prompted the deliberate destruction of the village was mentioned in classified documents.

(e) CONTROL  
Unofficially, the farmer who appears to have recorded the deliberate destruction of the enemy village was mentioned in classified documents.

References


