



iii) Thematic roles are provisionally assigned to argume

Placing the source of parall

representation? In light of the growing evidence for multiple code activation in lexical processing, for strong lexical effects in parsing, and for on-line serial commitment and rapid local garden-path recovery, it seems reasonable to seek a mechanism whereby lexical structures can help to

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affirming that

(Baker 1986, Marantz, 1984), exemplified by the verb "load". This verb, ha





as those in (9) cannot have a Beneficiary role on their grids since no Beneficiary ever appears as a subcategorized element, we tentatively assume there are no open Beneficiary roles in such examples as "John bought a book."

Much the same can be said about English instrumentals, which have been occasionally regarded as within the thematic domain of the verb (we construe, for instance, Fillmore (1968) and Bresnan (1982) as making such a claim). Instrumentals, like benefactives, show an adjunct-argument alternation, illustrated in (10):

10. a. John sliced the salami with the razor-sharp knife.

b. The razor-sharp knife sliced the salami with ease.

Since "with a knife" in (10a) is not a subcategorized PP, it is only necessary for the verb to assign Agent to John and Theme to salami for an interpretation, an Instrument role being unnecessary. In (10b), though, the verb must assign an Instrument role to the subject as that argument is in the thematic domain

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verb itself does not entail, or strongly imply, the presence of an instrument; entailed participation is a necessary but not a sufficient condition for the presence of a thematic role.

Summing up

sense. This should take time and processing resources. However, when the wrong thematic assignment is initially made, then thematic reassignment should be relatively cost-free because: (a) the core meaning of the verb remains constant, and hence the verb's lexical entry need not be reopened,

The sentences were disp

Table 2

Afterwards, he commanded their respect.

17. John packed the books in the morning.

John crated the books in the morning.

Then he packed the truck.

18. John hurried the kids off to school.

John rushed the kids off to school.

Then he hurried off to work.

When different senses of an ambiguous verb are used in adjacent sentences, as in (16), the second occurrence seems awkward ("The general commanded the troops in battle. ? Afterwards, he commanded their respect."). The awkwardness seems to go away, though, when the priming occurrence is replaced by a close synonym (e.g. "The general led the troops in battle. Afterwards, he commanded their respect."). But thematic ambiguities behave differently. Using the same verb with different thematic assignments, as in (17) and (18), the second occurrence seems awkward.

In one experiment they used causative/'ergative' verbs such as "stopped." Used transitively ("Frank stopped the car"), the subject is Agent and the object is Theme; used intransitively ("The car stopped") the subject is Theme. These verbs were placed in subordinate clauses preceding



should be found for other semantic distinctions that may affect thematic assignment.

We caution that this issue remains controversial. It will be important to replicate the Stowe and Holmes results with a task that does not involve an explicit decision on each word. This is particularly important because Ferreira and Clifton (1986) report results that appear

Consider by way of example a sentence like "John loaded the truck." In understanding this sentence, not only are John and a truck introduced into the discourse, but so is an unspecified entity playing the role of the Theme (i.e. whatever

21. a. Mary put dinner on the table.  
a'. Mary served dinner.  
b. The guests were complimentary.  
c. Dinner was delicious.  
c'. It was delicious.

(21a) does not introduce an open Goal role, whereas (21a

sending a gift; so situational plausibility offers no straightforward account of this contrast. Similar results may be obtained by filling the role in the second sentence, so no open goal occurs, but there is still the inference of some entity involved. For instance, "give away" and "donate" mean roughly the same thing, but we would analyze "give away" as having the Goal role "filled" (by "away", it appears):

25. a. The Salvation Army was having a Christmas drive, so...

b. John donated some toys. (open Goal)

b'. John gave away some toys. (no open Goal)

We perceive

verb "raced" in (26), which is ambiguous between a transitive and an intransitive form (we set aside consideration of the directional PP), where the transitive version (the past participle) has two roles associated with it--an Agent and a Theme--while the intransitive version has but a Theme for subject. Two things are of importance here. First, in the confusion between the transitive passive participle and a simple past tense, the role assigned to the horse is Theme in both cases. Secondly, on the (mistaken) intransitive analysis, there is no remaining role available. Contrast this situation with a case where there is an open role available on the main verb reading, as in (27).

27. a. The girl sent the b20 0 Tm /F2.0 1 Tf 65 50 0 0 67046 0 Tm (.) Tj ET Q Q q 12m.76 :

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phrases can take place *in toto* without unduly taxing computational resources. Consider, for example, a case of a conversation in which two people think they are discussing the same person, but the listener is mistaken about the identity of the person under discussion. Upon finding the error, the listener transforms all the information formerly believed to be



35. a. The district attorney found out which witness the reporter asked \_\_\_ about the meeting. (early)

b. The district attorney found out which witness the reporter asked anxiously about \_\_\_\_\_. (late)

There were two groups of verbs. Half favored the expectation of a transitive reading over the corresponding possible intransitive reading, while the other half led to the expectation of the intransitive over the transitive. An example of an early and a late gap sentence with the intransitive expectation verb "raced" is illustrated in (36).

36. a. The sheriff wasn't sure which horse the cowboy raced\_\_down the hill.

b. The sheriff wasn't sure which horse the cowboy raced desperately past\_\_.

Finally, we had plausible and implausible fillers. Plausibility was defined solely with respect to the direct object position of the verb. The plausible and implausible fillers were equally plausible as objects of the preposition. This contrast is illustrated in (37):

37. a. The district attorney found out \_\_\_\_\_ the reporter asked \_\_\_ about the meeting. (plausible)

b. The district attorney found out \_\_\_\_\_ the reporter asked \_\_\_ about the meeting (implausible)

Altogether then, there were eight conditions, depending on whether the gap was early or late, whether the verb had a transitive or intransitive expectation, and whether filler was a plausible or implausible filler with respect to the object position of the verb.

The logic behind this experiment was the following. When subjects posited and filled a gap with an implausible filler, sentences would become implausible at that point. Thus, plausibility effects could serve as a diagnostic for when gaps are posited and filled. In our first experiment, the sentences were presented one at a time to the subject on a CRT. The subject's task was to decide whether or not the sentence presented was comprehensible. It turned out that sentences with intransitive preference verbs are judged comprehensible significantly more often with late gaps (as in (36b)) than with early gaps (as in (36a)). Moreover, the plausibility of the filler at the possible early position did not affect judgment to late gap sentences. These results suggest that readers were not initially positing a

postverbal gap for the intransitive preference verbs. In contrast, the transitive preference verbs show a preference for the positing of an early gap, suggesting that readers were initially treating the filler as the direct object of the verb. Somewhat surprisingly, the penalty for missing an early gap was larger than the penalty for having to reassigning a previously assigned filler.

gap is identified as the object of the preposition, the reassignment of the filler from the thematic role of the verb to the preposition (in (35b), from the Goal of "ask"

preferred animacy, markedness of passives vs. actives, the relative  
predominance of transitives and intransitives vs. other subcategories

we have not undertaken a systematic comparison of implicit arguments and what we are here calling open thematic roles.

6. This with phrase is not an instrumental. It may, for instance, cooccur with a true instrument phrase ("Bill loaded the truck with hay with his new pitchfork") even though in general two instrumentals may not cooccur (??"John ate the meal with a fork with a spoon").

7. If one replaces the article "the" with a possessive in these examples (e.g. "His suitcases were very heavy") the contrast is much less clear. Since the pronoun makes explicit reference to something already introduced into the discourse model, it may bring into play potentially quite different mechanisms of reference assignment for the whole NP.

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