Subject-verb agreement and the structure of cognitive representations

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Subject-verb agreement is a typical example of grammatical dependency: the form of one element in a sentence is dependent upon the form of another. In predominant psycholinguistic models of how speakers produce agreement (Eberhard, Cutting & Bock, 2005), it is assumed that grammatical features of the subject noun phrase are copied onto the verb. Semantic features of the subject noun phrase have limited influence on the agreement relationship; agreement production is taken to be primarily a syntactic process. Such models exclude the possibility that agreement morphology serves a semantic function as described by Talmy (2006). It is argued here that agreement morphology in part reflects the structure of the Cognitive Representation of the message to be communicated, specifically, whether speakers construe referents as singular (uniplex) or plural (multiplex) (Talmy, 2006). This paper presents findings from corpus and experimental studies supporting the claim that variations in agreement morphology reflect speakers' abilities to flexibly construe referents as either uniplex (reflected by the use of singular agreement) or mulitplex (reflected by the use of plural agreement) in language production.

Consider the following attested examples of a subject-verb agreement mismatch:
(1)   *One thing I thought about the other day were batteries.*
(2)   *The area I work in primarily have maybe a hundred people or so.*

In both of these examples, the verb displays the number of the post-verbal nominal rather than the subject. But in the equative construction in (1), the plural post-verbal nominal is co-referential with the singular subject while in (2), the subject and object have separate referents. If such errors are merely a case of the speaker mistakenly copying the features of the post-verbal nominal to the verb rather than the subject, the rate of mismatch should be the same across both construction types. If, however, the conceptual relationship between the subject and post-verbal nominal influences speakers' choices in the production of agreement morphology, they should be much more likely to produce mismatch in utterances similar to (1) than to (2).

A logistic-regression analysis of 4964 utterances from the Switchboard Corpus (Godfrey et al., 1992) demonstrates that one variable exemplified in (1) was significantly correlated with the likelihood of speakers to produce subject-verb agreement mismatches: the interaction of the equative construction with a post-verbal nominal that does not match the subject in number.

Experimental work based on the corpus study investigates the role of construction type and of grammatical number of the post-verbal noun in agreement production. Twenty-four participants were asked to describe scenes by completing sentences with either an equative or transitive construction, and with a singular or plural noun in the predicate. All sentences contained singular subject noun phrases. Participant responses were scored according to whether they produced singular verb agreement morphology ("match") or plural ("mismatch"). Results indicate that speakers produce mismatch more often when producing an equative construction with a plural noun in the predicate than when producing a transitive (91.6% of equative constructions with a plural post-verbal nominal contain mismatches, compared to 29.3% of transitives).

The patterns of mismatch seen in the corpus study and speakers' behaviors in the experimental study cannot be explained by a feature-copy account of agreement. A more likely explanation is that the grammatical form reflects conceptual structure of speakers' utterances: in cases where the subject is equated with a nominal in the predicate, and the two elements are not matched in grammatical number, speakers are able to flexibly shift between uniplex and multiplex representations of the subject referent as indicated by the agreement morphology.

References

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