Gender agreement attraction in Hebrew comprehension

One of the core principles associated with subject-verb dependencies is grammatical agreement between the verb and the subject noun phrase. An interesting phenomenon which is a by-product of this requirement is agreement attraction: an “attractor” noun, which has matching agreement features with the verb, may erroneously get resolved as the verb’s subject, resulting in an ungrammatical sentence (e.g. “The key to the cabinets were rusty”). This finding was observed in various languages, both in production and comprehension. From a theoretical standpoint, cue-based retrieval (CBR) models were often invoked to explain agreement attraction experimental results, though these models fail to explain some non-trivial findings in past research.

The current study aimed to investigate gender agreement attraction in Hebrew and explore attraction configurations manipulating two features (number and gender). Two speeded grammaticality judgements experiments were conducted. The first experiment showed that gender attraction exists in ungrammatical, but not in grammatical sentences, as frequently shown in past studies on number attraction. Moreover, attraction was observed only in the presence of an attractor with a marked feature, also replicating previous research. The second experiment showed that only a fully matching attractor causes attraction; when the attractor matches the verb in one feature only, no attraction arises. These results point to necessary modifications in CBR models, such as assigning different weights to different features and further specification of the behavior of the parser in the retrieval of candidates in ungrammatical sentences.

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