On-line Processing of Verbal Agreement in French

Nicole Wicha and Michèle Kail
Laboratoire de Psychologie Expérimentale
URA 316, CNRS, Université de Paris-V
28 rue Serpente; 75006 Paris France
nwicha@cogsci.ucsd.edu,
kail@idf.ext.jussieu.fr

The purpose of this study with native French speaking adults was two-fold: (1) to investigate the factors that affect the detection of verbal agreement violations in the auditory modality, in French sentence processing, and (2) to explore a recent technique of auditory sentence processing, using what we call "cued grammaticality", intended to improve detection times. Though focusing on the French language, this study was designed with a crosslinguistic perspective and follows the Competition Model (CM) in its general hypotheses (MacWhinney, 1987). CM proposes that in processing sentence information, each language assigns differing weights to language cues. Research in French has lead to important changes in the model, revolving around the competition of cues across modalities and across different stages of development in children (Kail, 1989). French adults in the auditory modality tend to rely on verbal agreement more than other sources of information (e.g. word order). Kail and Bassano (1995) in an on-line study of French sentence processing, predicted that verbal agreement violations would be detected significantly faster than word order violations. However, this finding was affected by temporal distance, which can be manipulated by placing a set of words between the noun and verb in the subject-verb (SV) target. Consider the following example:

#1 Sur la piste, le jongleur, avec prudence, ont
On the stage, the juggler, with caution, had [*pl.*]

lancé les couteaux deux par deux.
thrown the knives two by two.

Surprisingly, subjects responded quicker to an agreement violation when a distance was interposed, than when the SV target was contiguous. This was possibly due to a confound between distance and the position of the target word in the sentence. In order to isolate the effect of distance on verbal agreement violation detection, the target word in this study remained in a constant position. We also introduced a new technique, that cues the subject about the point at which a decision must be made, by splicing in a gender change of the speaker's voice (Liu et al., in press). The general hypotheses were as follows: first, it was expected that a temporal distance between a subject and its verb would slow error detection in sentences with verbal agreement violation; second, cued grammaticality judgment was expected to elicit faster detection times than we typically find in error detection studies, maximizing our ability to detect effects of variables. In addition, there were two other variations in the material: SV number mismatch and verb form (*aller/avoir*). The results of this study showed that distance had a significant main effect on violation detection, consistent with the original hypothesis. Other differences in the material had significant main effects as well, but did not interact with distance. Finally, cued grammaticality judgment elicited faster response times than those reported by Kail & Bassano (1995), using a different error detection technique. These results are relevant to current controversies revolving around the effects of timing and short-term memory load, on sentence processing in an inflected language.

References

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