

The Activation of Information on Grammatical Gender in Recognizing and Reading Italian Words

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Introduction

A large amount of research has been devoted to the study of representation and processing of gender information. Among the different models that have been proposed, there is a strong opposition between the serial model of the production processes proposed by Levelt (Levelt et al., 1999) and the Independent Network model formulated by Caramazza (1997). The debate focuses on the interpretation of the relation between syntactic representation of the gender information, which is represented at the *lemma* level, and the phonological information about words, which is represented at the *lexeme* level. Levelt's model predicts that information about gender is recovered by means of the syntactic representation of the word, at the *lemma* level. On the contrary, Caramazza's model predicts that for the activation of some syntactic properties of words, among which also gender is included, the activation of the phonological form of the word is necessarily required; thus, it would be superfluous to postulate a *lemma* level. The two models formulate different predictions for a series of linguistic tasks such as the production of bare nouns. According to the Levelt's model, since no syntactic operation has to be performed, an effect of gender should not be observed. According to Caramazza's model, instead, since also for the production of bare nouns gender information can be recovered by means of the phonological form of the word, an effect of gender might be expected. In this research, we exploited the properties of the affixes for gender of Italian nouns in order to test the predictions of the two models.

Experiments

A crucial role in determining effects of gender information in Italian is played by the transparency of gender affixes. In Italian, a rule assigns the masculine gender to the suffix *-o* and the feminine gender to the suffix *-a*. Some exceptions to this rule also exist, leading to a distributional asymmetry between nouns that follow the rule in gender inflection and nouns that do not follow the rule.

In a naming task (Experiment 1) and in a lexical decision task (Experiment 2) we compared noun forms in which the information about gender may be recovered on the basis of the final affix (feminine nouns ending in *-a*, e.g. *arena*, arena) and noun forms in which gender is completely blurred in the final affix (masculine nouns ending in *-a*, e.g. *aroma*, flavour).

We hypothesized that, if gender information affects processing of simple nouns, being equal a number of lexical parameters, an effect of facilitation should be observed in a condition of congruency between the suffix of the noun and its gender when compared with a condition of non-congruency between suffix and gender. On the contrary, if gender information does not have any effect on processing of bare nouns no differences at all should be observed between transparent and non transparent nouns.

The type of gender inflection (transparent vs. non transparent) constituted the independent variable. The two sets of experimental stimuli were matched for their average singular form frequency, average plural form frequency, length and imageability. The reaction times and the errors constituted the dependent variables.

General discussion

Results showed that transparent nouns were responded to faster and better than non transparent nouns in both experiments.

These results confirm the presence of an effect of the orthographic and phonological transparency of the gender suffix and show, in line with the predictions of Caramazza's model, the effect of gender information conveyed by the orthographic and phonological form of the word.

References

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