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# The effect of knowledge about topic on metaphorical meaning

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## Introduction

Recent research on metaphor interpretation stands out from the dominant models based in the serial processing of metaphor. These latter have proposed that the literal meaning of the metaphor is processed first, and by the figurative meaning in a second step. The more recent research generally shows the effect of conceptual structures in the processing of metaphorical statements. It is the reason why a person's level of conceptual development can influence metaphorical comprehension: the pattern of metaphorical understanding among children appears to parallel their semantic development. According to Glucksberg et al. (1997), two types of contextual information are activated in making sense a metaphor: information on the topic and information on the vehicle. Information about the topic allows the subjects to select those features which are consistent with the particular context of the statement. Information about the vehicle allows the subject to select attributional categories represented in this context. Metaphors consisting of ambiguous vehicles can be easily understood when the topic contains dimensions of relevant attributions and is reasonably limited in scope.

We conducted an experiment to study the effect of knowledge about topic on interpretation of animal metaphors of the form "P (a person) is an A (an animal)". We expect, therefore, that context-phrases presented before metaphorical statements will have an effect on their interpretation when we subsequently ask research-participants whether they agree or disagree with an interpretation of the metaphor provided in a target-phrase presented after the metaphorical statement. More specifically, we predict that:

(i) a neutral context (N) will not encourage the activation of either of the two interpretations proposed to the participants;

(ii) a context related to one of the two interpretations (X or Y) of the metaphor will contribute to decrease in ambiguity and will encourage the interpretation (X or Y) provided in the target-phrase;

(iii) in the same way, depending upon the context, there will be a clear difference in the time required by participants to interpret the metaphor provided with the target-phrase.

Research-participants were asked to indicate whether they agreed or disagreed with the content of a Target-sentence providing an interpretation of the metaphor. A Context-sentence of the kind "Everyone knows that 'P' possesses the

property p1" is presented before the metaphor itself, followed by the Target-sentence of the form "Does that mean that 'P' has the property p2 ?". Possessing property p1 can be either neutral, congruent or incongruent with property p2, which is one of two properties known about animal A.

## Results

We found a powerful Context-effect in our results. When the context-phrase was compatible with the target-phrase, participants agreed the interpretation of the metaphor given in the target-phrase. In the conditions where the target was neutral in a context compatible with one of the two metaphor interpretations, the level of agreement with the neutral target-phrase is very low. Reaction-time to the "YES" was shorter when the ambiguity of the metaphor was eliminated by the context-phrase.

## Conclusion

These results are interpreted in the light of models developed by Glucksberg & Keysar (1990) and Wolff & Gentner (1992), according to which the interpretation of the metaphor is seen as inherent in the vehicle-category. The attribution of a property to the topic involves choosing, among categories superordinate to the vehicle, a property compatible with what one already knows about the topic. The two mechanisms of categorial attribution and matching of properties are those of the Dynamic Allocation Model of Meaning which we have already used for modeling the understanding of jokes (Tijus & Moulin, 1997).

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