

The effect of repeated presentation and aptness of figurative comparisons on preference for metaphor forms

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Introduction

Figurative comparisons consisting of two nouns (a target and a base) can be expressed in two grammatical forms, i.e., in simile form (X is like Y), or in metaphor form (X is Y).

Recently, many studies have shown that there are substantial differences between metaphors and similes. In particular, much evidence has been found for people's grammatical preference for figurative comparisons (e.g., Chiappe & Kennedy, 1999). Among hypotheses proposed for explaining this grammatical form preference in relation to figurative comparisons, we focused mainly on the career of metaphor hypothesis, proposed by Bowdle & Gentner (1999). The career of metaphor hypothesis suggests that the repeated use of a particular base term, as intending a certain metaphorical sense, will result in lexicalization of the metaphoric sense as a secondary meaning to that of the base term, and that this conventionalization process causes the metaphor form preference. In contrast, Chiappe & Kennedy (1999, 2001) have claimed that the metaphor form might be preferred when a comparison is highly apt, because the metaphor form implies that the target will inherit almost all the features of the base term. In other words, the metaphor form implies the category assertion.

In this study, we conducted an experiment to test the career of metaphor hypothesis, based on Bowdle & Gentner's (1999) "in vitro conventionalization". In addition, we observed the interaction between the aptness of comparisons and the repeated presentation of the base terms.

Method

Design Aptness of comparisons (High/Moderate) X The number of repetition of base terms in the study phase (0 /5 times). Both were within subject variables.

Participants Thirty-six undergraduates participated in the experiment. All were native Japanese speakers.

Materials and Procedures The experiment consisted of two phases; the study and the test phase.

For the test phase, we prepared 16 comparisons as the test items in the test phase. Half of the test items were rated as highly apt, and the other half as moderately apt in a preliminary study ($M=3.52$ and 2.39 on a 5-point scale, respectively). We defined the aptness according to Chiappe & Kennedy (1999). For each comparison, two grammatical forms, a metaphor and a simile, were prepared.

For the study phase, we prepared five target terms for each base of the comparison in the test phase. For example, for the test "An encyclopedia is (like) a goldmine", the new target terms such as {library, book...} were selected. These

terms were combined with the base (goldmine) and made up the comparison in simile form. Filler statements were prepared for both phases: 40 comparisons for the study phase, and two category-pairs (e.g., elephant-animal) and two literally-similar-pairs (e.g., lemon-orange) for the test phase.

In the study phase, the participants were presented with the study items in random order and required to write down their interpretation of the comparison in a few words; they were also required to rate the comprehensibility on a 5-point scale. After a five-minute delay, they were asked to rate which grammatical form (metaphor or simile) was more natural or reasonable for each target – base pair, on a 7-point scale.

Results and Discussion

The mean grammatical preference rating for the comparisons in the test phase are shown in Table 1, transformed so that higher numbers indicate a preference for the metaphor form over the simile form. Table 1 shows that previous repetition of the base term increased the participants' preference for the metaphor form. Moreover, a tendency emerged, in that the effect of the repetition differs by the aptness of the comparisons. A 2×2 repeated measures analysis of variance on the subject means showed that the main effect of repetition was significant ($F(1,35)=11.52, p<.01$). The interaction between repetition and aptness was marginally significant ($F(1, 35)=3.03, p<.10$).

Table 1. Mean metaphor form preference ratings (and standard deviations) as a function of repetition

Aptness of comparison	Repetition in Study Phase	
	None	5 times
High	3.13 (.86)	3.77 (1.41)
Moderate	3.17 (.82)	3.35 (1.03)

In summary, these results support the career of metaphor hypothesis. Furthermore, they suggest that the aptness of a comparison promotes the conventionalization of the base term. The implication of this interaction is that the newly created metaphoric meaning is more likely to be lexicalized when it is highly apt, that is, when it has more metaphoric implications.

References

- Bowdle, B. F., & Gentner, D. (1999). Metaphor comprehension: From comparison to categorization. In M. Hahn & S. C. Stoness (Eds.), *Proc. of the 21st Annual Conference of the Cognitive Science Society* (pp.90-95). Mahwah, NJ: Lawrence Erlbaum Associates.
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