

What happens to the literal meanings of metaphors? A review and a “minimalist” proposal

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Abstract. Expressions such as *my heart is broken* are likely to be understood metaphorically. Direct access models of metaphor comprehension [4] commonly assume that, to attain the speaker’s intended interpretation, there is no need to access the literal meaning of a metaphor’s constituents. Thus, reading *heart* and *broken* would not necessarily trigger the concept BROKEN, for “heart” makes the meaning of “broken” metaphorical by default. Conversely, the three-stage model of metaphor processing proposes that the literal interpretation is first accessed, then discarded, with a third stage being required to search for an alternative non-literal interpretation [1, 2, 3]. However, some authors have claimed that this model has been “quite conclusively rejected” [4]. Yet, most experiments taken to “reject” the three-stage model have relied on offline methods, which are potentially confounded with higher-cognitive processes and are “cognitively penetrable” [5], thus not tapping the microgenesis of early comprehension processes. When online methods are employed, processing differences between literal and metaphorical expressions are obtained [e.g., 11, 12]. Here, we examine the methodology taken to reject the three-stage model and discuss the role of online methods tracing the time-course of linguistic/semantic analysis of metaphor comprehension. We argue for a minimalist model of metaphor comprehension emphasizing early linguistic processing that yields a proposition compatible with a literal-first interpretation, which is further enriched by higher cognitive-pragmatic mechanisms.

Keywords: Metaphors, Three-stage model, Semantics-pragmatics interface, Sentence comprehension, Literal meaning, Propositions.

1 Introduction

The present paper has three main goals. First, we want to shed light on what the “three-stage” processing model of metaphors is vis-à-vis its commitments to the literal/nonliteral divide and the time-course of metaphor processing. Second, we aim to scrutinize the methods of experiments that have been taken to reject the three-stage model, focusing on some of the studies that have been taken to support the idea that the three-stage model has been “conclusively rejected” [4] on empirical grounds. While this mostly methodological discussion demonstrates that a “rejection” of the three-stage model is far too premature, we also propose some refinements to this classical model. Our third goal, then, is to advance a model bearing on the primacy of the literal interpretation—

a *minimalist* model. The focus of this minimalist model is on how a metaphor is initially structured, yielding a *literal* proposition that rapidly triggers a search for an alternative, enriched proposition, thus approaching the speaker’s intentions.

2 The three-stage model and its premature “rejection”

The so-called three-stage *processing* model, as it was first proposed by Clark and Lucy (1975) posits three main stages following a succession of transformations over a message *S* as conveyed by speaker *A* to comprehender *B*: (1) the literal interpretation of the sentence is derived, (2) tested against context for plausibility and then discarded if it violates the rules of conversation, leading to (3) an alternative non-literal interpretation [1]. Crucially, one of the main tenets of the three-stage model is that an expression requires longer processing time when the intended meaning, as calculated by the comprehender, is taken to differ from the literal one [1]. Thus, the crucial issue is to determine the initial input the listener uses to calculate at least part of the communicative intention of the speaker.

Rejecting this model [4] requires tapping the nature of the initial proposition built by the comprehender. Paraphrasing [7], categorization [8], sentence verification [9], meaningfulness judgment [10], and other techniques that allow participants to reflect on the content of the expression or use “world knowledge” are cognitively penetrable [5]. We argue that access to the literal meaning occurs at a very early stage of metaphor interpretation. Hence, differences between the processing time of literal and figurative statements might be masked in these offline tasks. Data from online methods such as self-paced reading [11, 12], cross-modal priming [13], ERPs [14], and eye-tracking [15] indeed reveal differences between metaphors and literal conditions. We [12, 13] recently examined whether the literal meaning of a conventional metaphor was accessed during the early stages of metaphor processing. Participants read sentences word-by-word (e.g., *Mike is a night owl and he ...*) followed by a two-word choice. Results indicated that when the appropriate word was paired with a literally-related distractor (*hates* versus *hunts*), participants took longer and were less accurate in comparison to the unrelated condition (*hates* versus *coins*). This effect lingers for 10-13 words between the metaphor and word choice. Altogether, these results suggested that the literal meaning is in fact accessed in the early stages of metaphor processing and can be triggered by a subsequent cue related to the literal meaning of the metaphor.

3 A minimalist proposal for metaphor interpretation

The proposal we advance relies on two basic postulates: (1) informational atomism: concepts—the building blocks of propositions—are *atomic*; (2) classical composition-

ality: propositions are initially built out of the denotational meanings of lexical constituents and their syntactically-determined modes of combination. Following these two postulates requires us to commit to a literal-first interpretation of a metaphorical expression. We assume that context plays a role in computing the metaphorical content of an expression—an approximation to the speaker’s intentions—only after a contextually-insensitive proposition has been initially built incrementally. Metaphorical content, according to this view, is built out of inferences that take into account both, (a) related *senses* of words and (b) propositions that constitute in part the common background between speaker and comprehender. A key difference between our proposal and the three-stage model is that the *literal* meaning is not “rejected” but lingers as a viable interpretation well after the enriched metaphorical proposition has been attained.

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