

A Critical Assessment of L1 Idiom Comprehension and Processing Models

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Abstract

When faced with the issues of idioms and idiomaticity, one inevitably stumbles over their comprehension and processing. That is, perhaps, the case because both the concepts of idiom-comprehension and processing are inextricably linked with idiom meaning. The aim of the present paper is to critically discuss the most influential views that have been put forward with regard to L1 idiom-comprehension as well as to provide a critical overview of the L1 idiom-processing models that have been proposed so far. In doing so, an effort will be made to provide a more holistic view to the issue of idiom comprehension and processing, thus pinpointing to all those concerned with such issues, that there is no 'default' model of idiom comprehension and processing and that, when trying to decipher idiomatic meaning, the literal and figurative aspect of idioms always interplay one way or another.

Keywords: critical assessment, idiom comprehension, processing models

L1 IDIOMATIC COMPREHENSION AND PROCESSING

The role and exact nature of literal meaning in research on idiom comprehension has been vigorously debated by linguists and psycholinguists alike. Traditional models have overemphasized the role of literal meaning in figurative language understanding whereas more current processing views have shed light on the short-circuited procedures people employ in deciphering what an idiom is intended to communicate in a given context. In fact, idiom processing has been the focus of a growing body of psycholinguistic research over the past five decades. Given the inadequacy of ordinary models of language comprehension to explain the way in which idiomatic expressions are understood, special idiom processing models have been developed. In the literature review on L1 idiom processing models that follows, it will be shown that models fall into three categories.

In particular, the first category of models, the non-compositional ones, assumes that the prime defining feature of an idiom is its non-compositionality and holds that idiom comprehension is similar to word-sense retrieval (Bobrow & Bell, 1973). On the other

hand, compositional models oppose the absolute claim that literal and figurative processing are mutually exclusive in trying to decode an idiom's meaning and espouse the view that that an idiom's individual components do have a say to the meaning of an idiom (Cacciari & Tabossi, 1988; Cacciari & Glucksberg, 1991). Lastly, hybrid models of idiom comprehension and processing reject this ongoing competition of figurative and literal meaning, thus trying to combine non-compositional and compositional aspects of idiom processing.

NON-COMPOSITIONAL ACCOUNTS OF IDIOMATICITY

The Idiom List Hypothesis

More specifically in the early seventies, the highly-influential theory of conversational implicature by the philosopher Paul Grice (1975, 1989) gave rise to the standard pragmatic view that assumed the priority of literal over figurative meanings (Searle, 1979). This sequential, three-stage model originally proposed by Clark and Lucy (1975) made three important psychological claims, namely, the unconditional priority of literal interpretation, secondly, the realization of its defectiveness and thirdly, extra processing effort and inferential work to derive non-literal meanings that are contextually appropriate. With regard to idioms, the first to propose such model were Bobrow and Bell (1973) with their *idiom-list hypothesis* or as often referred to *their literal-first hypothesis* (Vega-Moreno, 2001). They assumed priority of the literal reading and suggested that idioms are fixed expressions stored in a special idiom-lexicon which is different from our own mental lexicon. Such hypothesis predicted a three-step comprehension model where one must first process the literal meaning of the idiom, then realise its defectiveness and, finally, seek the correct meaning from the idiom list. Their literal processing model was also supported from Brannon's (1975) experimental findings which indicated extra processing time of idiom strings compared to the non-idioms.

The Lexical Representation Hypothesis

The major implication of the previous processing model, namely, the optional activation of non-literal meaning, was questioned by a number of researchers belonging to different disciplines. For example, in the field of pragmatics, Sperber and Wilson – the “parents” of relevance theory (1995) – have argued that comprehenders always search for the most relevant context, thus clearly ruling out the literal interpretation of a non-literal utterance. Moreover, Swinney and Cutler (1979, p. 525-526) have criticised Bobrow and Bell for using an off-line measure of idiom comprehension to draw conclusions about idioms' on-line processing. Departing from the idiom-list hypothesis, Swinney and Cutler (1979) have proposed *the lexical representation hypothesis* or *the simultaneous processing hypothesis* (Vega-Moreno, 2001) which holds that both figurative and literal interpretations are accessed simultaneously when processing an idiom string. In particular, Swinney and Cutler's parallel processing model does not entail a special processing mode which assumes priority of the literal interpretation. In such model, idioms are still represented and processed as lexical items but are

considered to be stored in the normal mental lexicon rather than in a special idiom lexicon. Swinney and Cutler's lexical representation hypothesis seems to be further reinforced by Glass' (1983), Schweigert's (1986) and Estill and Kemper's (1982) experimental findings.

The Direct Access Hypothesis

Another even more radical idiom processing model which is known as the *direct-access hypothesis* or the *figurative-first hypothesis* (Vega-Moreno, 2001), was developed by Gibbs (1980, 1986). From a psycholinguistic point of view, Gibbs (1983, 1994) has shown the inadequacies of the traditional Gricean view and has put forward his direct view. As the name itself denotes, such view predicts that the intended meanings of non-literal utterances can be comprehended directly without analyzing the complete literal meaning of linguistic expressions. This theoretically attractive view was fostered by empirical findings based on equal reading times of utterances used in literal and non-literal biasing contexts (Gibbs, 1986; Ortony et al., 1978) and on shorter reading times for utterances embedded in idiomatically as opposed to literally biased contexts (Gibbs, 1980; Needham, 1992).

According to this hypothesis, idioms are considered to be lexical items whose idiomatic meaning is directly accessed without an analysis of the phrase's literal meaning. More analytically, when people encounter an idiom in discourse, they do not compute its literal meaning but automatically comprehend its figurative one. What is so radical about Gibbs's proposal, is that "*the literal processing is not only not prior to the figurative one, but it can be completely bypassed*" (cited in Vega-Moreno, 2001, p. 76). Such claim, no matter how radical it seems, was supported by Gibbs' experiments in 1980 and 1986 where it was shown that an idiom's literal meaning is not activated by default during comprehension. Furthermore, Mueller and Gibbs' (1987) findings supported the automatic activation of idiomatic meaning when an idiom is presented in contexts biasing towards such an interpretation whereas Schweigert and Moates' (1988) experimental findings indicated that the literal meaning of idioms is not accessed by default.

Although the direct access model of idiom processing seems very appealing, it has been undermined by various experiments which report that literal meanings are primed in metaphorical contexts. In particular, using a word fragment completion task, Giora and Fein (1999) found that both literal and metaphorical meanings were activated in the comprehension of familiar metaphors. Also, using the cross-model priming technique, Blasko and Connine (1993) reported that lexical decisions for target words related to figurative meaning were just as fast as those for targets related to literal meanings. Moreover, in the processing of unpredictable idioms, Cacciari and Tabossi (1993) reported priming for literal meanings immediately at the offset and for both literal and non-literal meanings 300ms later. It is of theoretical interest here to note that, although Gibbs still defends the priority of figurative processing, he later acknowledges that people may examine the literal meanings of individual words in idioms (Gibbs, 1985, 2002).

Gibbs in his later article (2002) is careful to clarify that the direct access view does not hold that people never access something about the literal meanings of the individual words nor does it claim that “*people never take longer to process a figurative meaning than to understand a literal one*” (2002, p. 460). According to Gibbs’ view, however, this extra processing time maybe due to people’s difficulty in integrating the figurative meaning with the context rather than analyzing the literal meaning of an entire phrase. Either way, there are two points of major importance that we should bear in mind: firstly, we should be extra cautious when defining what constitutes “literalness” at both the word and sentence level and, secondly, we probably have a long way to go before figuring out how the analysis of literal meaning may actually contribute to figurative language comprehension.

COMPOSITIONAL ACCOUNTS OF IDIOMATICITY

Clearly, none of the three aforementioned models has stood out as the best idiom processing model probably because of their absolute claim of literal and idiomatic processing as being mutually exclusive. In fact, the new generation of idiom comprehension models has taken into account that idiom features largely affect their processing and that such features vary among idioms. In fact, there are a number of factors affecting L1 idiom comprehension and processing. One very important factor is familiarity. Schweigert (1986) has shown that sentences containing less familiar idioms required more reading time than those containing familiar ones. These results as well as Schweigert and Moates’ (1988) findings are interpreted as support for the idiomatic processing model of idiom comprehension which supports that the figurative meaning of the idiom is the first to be processed whereas the literal one comes in the spotlight when the inappropriateness of the figurative one is revealed (1988, p. 281).

Other equally crucial factors in determining idiom processing are *context bias* and *idiom predictability*, which refer to how early an idiom is understood as such, instead of as a literal expression. In particular, Cacciari and Tabossi (1988) have shown that in neutral context an unpredictable idiom will be processed literally until after the last word has been integrated in the sentence’s interpretation. This finding is not consistent with Swinney and Cutler’s and Gibbs’ models which hold that idiomatic meaning is activated from the idiom’s onset. Contrary to the previously-mentioned non-compositional models of L1 idiom-processing, the compositional ones, which will be analyzed below, treat an idiomatic expression as a normal expression, thus assuming normal language processing.

The Configuration Hypothesis

One such model which takes into account the individual idiom components was proposed by Cacciari and Tabossi (1988) in the late eighties. In particular, Cacciari and Tabossi (1988) have proposed that the meanings of idioms are associated with configurations of words, hence, the name of their model *the configuration hypothesis*. In other words, the aforementioned hypothesis states that idioms are stored as configurations of words and are recognized when the key word in the configuration is

encountered. In order to assess their hypothesis, Cacciari and Tabossi (1988) carried out three cross-modal lexical decision experiments whose findings indicated that in these idioms in which the key was the first content word, meanings were already active after that word, whereas for late key idioms, idiomatic meanings were not activated until after the second content word (Tabossi & Zardon, 1993, p. 151). Exploring further the role that the notion of key plays in determining idiomatic meaning activation, Tabossi and Zardon (1993) provided evidence that idiom processing largely depends on “*people recognizing a key part of the idiom and accessing its figurative meaning at that point in comprehension*” (cited in Gibbs, 1994, p. 288). In addition to that, Titone and Conine’s three cross-modal priming experiments (1994) showed that the idiomatic meaning of high-predictable idioms was retrieved before the end of the phrase regardless of literality, thus lending further support to the configuration hypothesis.

It is worth mentioning that Cacciari and Tabossi’s model has not been seriously criticised, except for Colombo’s (1993) experiments that have indicated how the experimental methods used, affect the results we obtain.

The Phrase-Induced Polysemy Model Hypothesis

The basic tenet of the phrase-induced polysemy model, proposed by Glucksberg (1997a, 1997b, 1999, 2001) is the polysemous nature of words in a given string. In other words, for Glucksberg, in the idiom *spill the beans* the word *spill* has an extra sense, that of REVEAL, and *bean* conveys an extra sense, that of SECRET and that understanding an idiom such as *spill the beans* rests on “*our selecting the appropriate sense of each idiom constituent depending on the context*” (2001, p. 78, cited in Panou, 2008, p. 77). In fact, Glucksberg goes a step further by arguing that:

The constituents of the idiom *spill the beans* map directly onto the components of the idioms’ meaning. After learning the idiom’s meaning, the words *spill* and *beans* might well acquire their idiomatic meanings as secondary, literal senses. (Glucksberg, 2001, p. 74)

Similarly, he argues that the literal meanings of quasi-metaphorical idioms such as *skate on thin ice* “*are intimately related to their idiomatic meanings*” (Glucksberg, 2001, p. 72). Thus the implication drawn from Glucksberg’s theory of idiom comprehension is that *skate* bears the meaning of *engage* and *thin ice* the meaning of *risky activity*. According to my view, however, Glucksberg’s hypothesis is not valid “*because the engagement into a risky activity is the implication that one draws from the whole phrase and not just from the specific idiom constituent*” (Panou, 2013, p. 472). Moreover, his claim (2001) that idioms involve the same kinds of linguistic and pragmatic operations used for literal language has been challenged by Panou (2008) who has shown that “*the degree of semantic productivity and syntactic flexibility of idioms does not depend on linguistic and pragmatic operations that govern literal language but on the formal characteristics of idiom type*” (2008, p. 83). Furthermore, the judgements obtained from Panou’s substitution test (2008) seem to disconfirm Glucksberg’s claim that the constituents of compositional-transparent idioms can be mapped onto the components of the idioms’ meaning to a large extent. Put crudely, in their effort to perform compositional analyses

of idiom strings, "*people assign independent but not necessarily literal meanings that contribute to the overall figurative meanings of the idioms in question*" (Panou, 2008, p. 84).

The Conceptual Metaphor Hypothesis

The conceptual metaphor hypothesis, proposed by Gibbs, is based on Lakoff and Johnson's (1980) conceptual metaphor theory. Examining more analytically the figurative basis for decomposition in idiom processing, Gibbs (1992, 1994) has proposed that pre-existing conceptual metaphors affect immediate idiom comprehension. Following Lakoff and Johnson's (1980) account of metaphor, Gibbs (1994) has argued that idiom comprehension mainly relies on two mental processes: "*(a) understand with respect to conceptual knowledge and (b) understand with respect to common ground*" (cited in Marmaridou, 200, p. 256). In fact "*contexts that provide access to appropriate conceptual information facilitate figurative language comprehension*" (Gibbs, 1994, p. 13). Addressing the issue of idiom comprehension within this theoretical framework, Gibbs maintains that idioms such as *get hot under the collar* and *flip your lid* are motivated by two conceptual metaphors: MIND IS A CONTAINER AND ANGER IS A HEATED FLUID IN A CONTAINER. These pre-existing metaphors convey information about the causation (internal pressure), intentionality (unintentionality) and manner (forceful) of the action (Gibbs, 1996, p. 47).

Furthermore, in acknowledging the role of context in the interpretation of idioms, Gibbs has observed that the appropriateness of idiom expressions in various discourse contexts largely depend on people's knowledge of the temporal structure of a concept. Such view implies that "*idioms are linked in the mental lexicon on the basis of the temporal stage of the concept to which each idiom refers*" (Gibbs, 1994, p. 297). Moreover, the pragmatic conditions determining the use of idioms are heavily based on the conceptual metaphors underlying these idioms. Thus, conceptual metaphors provide an additional source of information which facilitates people's judgements about the appropriateness of an idiom's use in a given discourse context. Another important consequence of the conceptual metaphor hypothesis is that idioms are not equivalent in meaning to the actual idiomatic phrases. In other words, the literal paraphrase of the idiom *spill the beans* does not provide any information concerning the cause of the revelation, the intentionality of the act, or the manner in which it is done.

Even though Gibbs's conceptual view of idioms provides an attractive alternative to the traditional dead-metaphor view of idiomaticity, it is not free from criticism. In particular, Keysar and Bly (1999) and Keysar et al. (2000) have criticised Gibbs' thesis that conceptual analogical mappings provide the basis for metaphor and idiom comprehension. Instead, they argue that idioms do not reflect conceptual structure since people's knowledge of the meaning of the idiom constrain the way they 'motivate' the idiom. According to their view "*the relative transparency of an idiom's real or opposite meaning is primarily a function of what we believe the actual meaning of the idiom to be*" (Keysar & Bly, 1999, p. 1567). Consequently, idioms are not windows but

function like mirrors which “*reflect structures that are projected onto them by the native speaker*” (Keysar & Bly, 1999, p. 1572).

Questioning further the role that the notion of conceptual metaphor plays in reasoning and understanding, Mc Glone has challenged Lakoff’s position that “*our knowledge of abstract concepts is quite literally subsumed by our knowledge of concrete concepts*” (2001, p. 105). Such conceptual system, according to Mc Glone’s view, is incapable of differentiating the literal from the metaphorical, thus being unable to appreciate the literal-metaphorical distinction.

Moreover, addressing the issue of idiom classification, Gibbs has argued that we can distinguish between decomposable and non-decomposable idioms. In his treatise *The Poetics of Mind* (1994) he claims that “*we are aware of the meaning of some decomposable idioms because the literal meanings of their parts contribute to their overall figurative meanings*” (1994, p. 278). According to his view, we are able to know the meaning of the idiom *lay down the law* because we can process that *lay down* refers to the act of invoking the law and *the law* refers to a set of rules. Even though I am not an English native speaker, I cannot think of a meaning of *lay down* similar to *invoke*. In addition to that, I do not see why it is necessary to process the literal meanings of the idiom’s components before processing the meaning of the idiom. Although, I do not believe that the literal meanings of the idiom’s components are irrelevant to or independent of the meaning of the idiom, I am not willing to accept an idiom comprehension model which predicts that we first have to go to the mental lexicon to check the “base meaning” of each idiom component before processing a given idiom. In my view, the commonness or frequency of an idiom plays a vital role in processing that idiom since especially common and frequent idioms may be processed as a whole without, of course, disregarding the influence that the literal meanings of the idiom’s components may have on people’s decipherment of the idiom’s meaning.

HYBRID ACCOUNTS OF IDIOMATICITY

The hybrid model of idiom processing is an improved version of the previously-mentioned L1 idiom-processing models because it claims that idioms can be processed as words in certain cases. In more detail, adopting Nunberg et al.’s (1994) idiom categorization in terms of transparency, compositionality and conventionality, the proponents of the hybrid model, make three major claims, firstly, that literal meaning is computed only for decomposable, not for non-decomposable idioms, secondly, conventional idioms are understood faster as opposed to unconventional ones and thirdly, direct idiomatic meaning retrieval can take place for both decomposable and non-decomposable idioms (cited in Skoufaki, 2006, p. 49-50).

The Graded Salience Hypothesis

Carefully contemplating both non-compositional and compositional models of L1 idiom-processing, one might assume that researchers seem to have a difficult time in deciding which meanings are obligatory, the literal, the non-literal or the conventional ones. So,

some of them tend to adopt the hybrid version. Giora (1997, 1999) for instance, has proposed *the graded salience hypothesis* according to which the meaning that will always be accessed initially is the most salient one (1997). In her words, “*the degree of salience of a meaning of a word or an expression, is a function of its conventionality, familiarity or frequency*” (1992, p. 921). In the case of idioms, Giora has shown (1999) that the salient idiomatic meaning of familiar idioms is activated in both literally and idiomatically biasing contexts (1999, p. 923). Moreover, in processing less familiar idioms, the salient literal meaning is highly activated in both types of contexts, whereas in the literally biased context, it is almost the only one activated. Giora’s findings significantly minimise the effect of context on selective access, thus indicating that salient meanings are not so easy to bypass even when context shows us the other way round.

The Syntactic-Conceptual Interface Model

Assuming that idiom comprehension mainly rests on the interplay of syntax and lexicon, Cutting and Bock (1997) put forward their syntactic-conceptual interface model. Based on Levelt’s speech production model (1989), Cutting and Bock suggest that idioms are not just large single words but have their own entries, meaning that they have their own syntactic and semantic structure. Such proposal is based on their findings from a speech error test (1997) where both literal and structural information are activated during idiom processing. In other words, idioms are represented as phrasal frames in the lexical-conceptual layer of the lexicon, thus implying that idioms as words with internal structure are not only associated with the conceptual content but also with a structural representation. For instance, the idiomatic expression *kick the bucket* is represented as a verb phrase in the syntactic part of the system and in the lexicon part, the activation of literal *bucket* may in turn result in activating semantically related lemmas such as *buck* and *pail* (Holsinger, 2011, p. 34).

The Superlemma Theory

Proposing a slightly revised model, Sprenger, Levelt and Kempen (2006) put forward their superlemma theory in which an idiomatic expression is instantiated and represented in the lexicon as a superlemma that is grounded on a specific lexical concept which, as a result, activates the single lemmas that consist of the superlemma (cited in Havrila, 2009, p. 6). Such theory, assumes that during the production phase, these super lemmas will compete with other lemmas, meaning that the idiomatic construction *kick the bucket* and its literal counterpart, namely, *die* will compete at the same level of the lexicon. Another advantage of the superlemma theory is that “*the syntactic relationships and idiosyncratic constraints that characterize an idiom are directly applied to the lemmas involved; no additional operation is required*” (cited in Kuiper et al., 2007, p. 325). Thus, lemmas do not come with syntactic troubles that Cutting and Bock’s phrasal frames tend to have since they are said to be able to depict the syntactic sensitivity of idioms in a better way.

CONCLUSION

In conclusion, it was shown that several lines of research have recently attempted to demonstrate what aspects of literal and figurative meaning people analyse when understanding idioms. In fact, it can be seen that the focus on L1 idiom processing has brought about a number of psycholinguistic models of L1 idiom comprehension which may differ in important aspects, but all share in one way or another the assumption that some relationships can exist between an overall idiomatic meaning and the individual meanings of idiomatic components. Despite the different stances adopted by researchers, it seems safer not to assume that “literal” or “figurative” processing of words during on-line utterance interpretation constitutes the default mode of linguistic understanding since a strict dichotomy between literal and figurative meanings cannot adequately account for idiom processing. Hence, there is much theoretical work and experimental research left to be done on how literal and figurative aspects of meaning shape idiom understanding.

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