Processing metalinguistic negation: Evidence from eye-tracking experiments

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Abstract

This paper investigates the interpretative process of metalinguistic negation (MN), as opposed to descriptive negation (DN), by using eye-tracking experiments on negative sentences in Korean. It has been suggested that negation is interpreted as descriptive by default and that an MN interpretation is taken only after the DN interpretation turns out to be a semantic contradiction to the clarification clause (a semantic account). Another suggestion is that the type of negation is chosen by considering optimal relevance. That is, people take an interpretation that yields greater cognitive effects with less processing effort (a cognitive account). Eye-tracking experiments were conducted on MN–DN pairs that received similarly high ratings on sensicality: the first with external negation and the second with long-form negation. In each pair, the two negative clauses were followed by the same clarification clause. In the experiments, clarification clauses showed no significant differences in the processing time between MNs and DNs. The results provide no evidence of the semantic account that the participants interpreted negation as descriptive by default. We suggest that they decided on the type of negation when they read the clarification clause, so that their processing times at the clarification clauses were not different between MNs and DNs, which is consistent with the cognitive account.
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1. Introduction

Negation can deny not only the propositional content expressed by an utterance but also non-propositional meanings such as conversational implicatures and presuppositions and linguistic forms because of their pronunciation, morphology, connotation, and register, among others. A range of such cases, adapted from Horn (1985), is given as follows:

(1)   a.   I don't like [toumeiDouz]; I like [toma:touz].
        b.   The glass isn't half empty; it's half full.
        c.   I didn't meet a woman last night; I met my wife.
        d.   The king of France is not bald; there is no king of France.

According to Horn (1985), negation is interpreted to object to an utterance such as "You like [toumeiDouz]" in (1a) because of the pronunciation "[toumeiDouz]" and to an utterance such as "The glass is half empty" in (1b) because the focus of "half empty" is on the dark side of the state of affairs. In (1c), as Grice (1975) suggested, "a woman" in the utterance "You met a woman last night" may conversationally implicate that she is not the listener's wife, sister, or mother. If she were, the speaker would say so because it is more informative than "a woman." That is, the negation is used to

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object to an utterance because of the conversational implicature. In (1d), the negation is used to object to the utterance "The king of France is bald" because "the king of France" falsely presupposes that France has a king.

Horn (1985) collects such cases of negation and classifies them as non-truth-functional negation, which he refers to as metalinguistic negation (MN). He states that MN is "a device for objecting to a previous utterance on any grounds whatever, including the conventional or conversational implicata it potentially induces, its morphology, its style or register, or its phonetic realization" (Horn, 1989:363). According to his account, MN means that U is not assertable or "I object to U," in which U is a linguistic utterance, while the descriptive truth-functional negation (or DN) means that the proposition is not true.

Many studies have provided semantic and pragmatic theoretical accounts of MN (e.g., Horn, 1985, 1989; Burton-Roberts, 1989, 1999; Seuren, 1990; Foolen, 1991; McCawley, 1991; Dancygier, 1992; Van der Sandt, 1994; Chapman, 1996; Carston, 1996, 1998, 1999; Carston and Noh, 1996; Noh, 2000; Lee, 2005; Davis, 2011). One of the most important questions regarding MN is when and how the hearer interprets a negation as metalinguistic. Some researchers (e.g., Burton-Roberts, 1989, 1999) have claimed that negation is semantically descriptive truth-functional and that MN is derived from a pragmatic reanalysis when the DN interpretation results in a semantic contradiction to the subsequent clarification clause. Others (e.g., Carston, 1996; Carston and Noh, 1996; Noh, 2000) have claimed that, just like DN, MN is truth-functional but that the target is a metarepresentation (in the sense of Sperber and Wilson, 1986; Wilson, 2000) that has to be pragmatically enriched before it contributes to the propositional meaning. This process is constrained by the consideration of optimal relevance. These two accounts do not agree on what triggers the MN interpretation and when.[1]

As far as we understand, few psycholinguistic experimental studies have focused on processing MNs (see Noh et al., 2012). In this paper, eye-tracking experiments were conducted during reading by using negative sentences in Korean to investigate whether negation is interpreted descriptively by default or whether it is interpreted either descriptively or metalinguistically depending on the context. Section 2 addresses the two accounts in greater detail, and section 3 considers negative forms in Korean.

2. Two accounts of MN and DN

Burton-Roberts (1989) takes negation as semantically truth-functional such that the sentence in (2) is semantically contradictory:

(2)   Her husband is not either handsome or rich; he is both.

In his account, semantically, the first clause means that "her husband is neither handsome nor rich," which contradicts the subsequent clause "he is both." Based on Grice's (1975) cooperative principle, the hearer assumes that the speaker cannot have asserted such a contradiction and reanalyzes the negation as a non-truth-functional metalinguistic negation. In metalinguistic negation, the target is mentioned (sealed off), and therefore no semantic contradiction is induced.

In this account, negation is interpreted as descriptive by default. An MN interpretation is available only after the descriptively interpreted negation turns out to be semantically contradictory to the clarification clause. Therefore, it predicts that the clarification clause following an MN should take longer to process than that for a DN. This model can be referred to as the *semantic account*.

On the other hand, Carston (1996), Carston and Noh (1996), and Noh (2000:chapter 3) account for MN within the framework of relevance theory. According to this theory, when the hearer interprets an utterance, he or she may take the most accessible interpretation if it yields a cognitive effect. It is an optimally relevant interpretation, that is, the most relevant one, as long as the speaker is able and willing to do so.[2] Therefore, in their account, only if the speaker finds the metalinguistic interpretation optimally relevant will he or she take that interpretation. Consider (3) from Noh (2000:114) and (4) from Carston (1996:314):

(3)   [After proceeding just one mile in two hours, a driver sees a road sign which reads "ROADWORKS AHEAD, DELAYS POSSIBLE" and says:]
       Delays are not POSSible.

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[1] Recently, a new account has been presented that the target of an MN is an idiomatic expression (Davis, 2011). This account will not be covered in this paper.

[2] In relevance theory, the presumption of optimal relevance is given as follows:

Presumption of Optimal Relevance (in Sperber and Wilson, 1995:275)
   (a) The ostensive stimulus is relevant enough for it to be worth the addressee's effort to process it.
   (b) The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences.