
Processing of syntactic and morphological negation in English: form matters, but semantics matters too

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In predicative position, English adjectives can be negated in two main ways:

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| (1) a. They are <i>not married</i> . | b. They are <i>unmarried</i> . |
| (2) a. The system is <i>not just</i> . | b. The system is <i>unjust</i> . |

The difference between (a) and (b) is one between syntactic units and complex words. It is still unclear if processing these forms activates the same mechanisms. Some studies (Farshchi et al. 2021) suggest morphological negation can cause greater processing load in certain contexts, but the findings are inconclusive. This issue becomes more complex as morphological and syntactic negation are not always meaning equivalents. Whereas syntactic negation expresses meaning contradictory to the positive, morphological negation usually carries contradictory meaning with ungradable adjectives (1b), but contrary meaning with gradable adjectives (2b). It remains unclear how this meaning difference affects processing. Farshchi et al. (2019) argue that contrary meaning may facilitate processing, whereas psycholinguistic studies suggest a processing advantage for polysemous words (Rodd 2022), making contrary forms easier to process.

This paper presents an auditory lexical decision task to disentangle the effects of morphological/syntactic structure and contradictory/contrary meaning in processing English negated adjectives. 100 native speakers of English were exposed to recordings of 50 *un*- and *not*-negated adjectives each. A corpus-based measure was used to determine the meaning of negated forms. Results show a general processing advantage for morphological negation: *un*-negations are processed faster than *not*-negations, even accounting for lexical frequencies or stimulus length. There is also a facilitating effect of meaning for morphological negation: *un*-negated adjectives with contradictory meaning are processed faster than those with contrary meaning. No evidence suggests that the semantic richness of contrary negations facilitates processing. The interaction between meaning and reaction times for morphological negation, but not syntactic negation, even in isolated stimuli without context, suggests speakers rely on multiple sources when processing morphologically complex forms.

References. Farshchi, S., R. Andersson, J. van de Weijer, & C. Paradis (2019). Processing negation in a miniature artificial language. *Cognitive Science* 43(3), e12720. • Farshchi, S., A. Andersson, J. van de Weijer, & C. Paradis (2021). Processing sentences with sentential and prefixal negation: an event-related potential study. *Language, Cognition and Neuroscience* 36(1), 84-98. • Rodd, J. M. (2022). Word-meaning access: the one-to-many mapping from form to meaning. In A. Papafragou et al. (eds), *The Oxford handbook of the mental lexicon*. Oxford: Oxford University Press, 491-505.