

# I'm surprised to hear you say that: The use of *raised eyebrows* in oral and written contexts

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In this corpus analysis, we explored the role and meaning of *raised eyebrows* in oral and written contexts. Ekman (1979) discussed the role of raised eyebrows as expressions of human emotions, such as surprise, as well as their role in underlining important parts of speakers' speech (see also Bouvet 1996 for sign language). Tabacaru & Lemmens (2014) argued that raised eyebrows are used as "gestural triggers" in television shows such as *The Big Bang Theory* and *House M.D.* that facilitate the interpretation of humor in what was explicitly said. Gestural triggers in interaction come as helpers, marking and allowing the listeners to switch from a serious to a non-serious mental space (Fauconnier 1984, Brône 2008). However, would the phrase "raised eyebrows" in text, devoid of gestural triggers, also function in a similar way?

We analyzed examples in American media taken from the Corpus of Contemporary American English (COCA), which indexes magazines and newspapers, along with closed captioned-cable news programs from 1990 to 2017. We found a large number of examples of "raised" (n=379) compared to "raising" (n=56), which suggests a preference in the media's use of the simple past tense compared to the progressive form. Two raters independently coded the sentences in our "raised eyebrows" subcorpus using Ekman's (1979) scheme. First, we describe the number of semantic categories that we found in the corpus. Second, we show that while surprise tokens are most frequent, a significant amount of disagreement tokens are also found. We also tested Ekman's view that raised eyebrows would stand for surprise; inter-reliability was very low ( $k = -0,05$ ). In particular, 29% of the time when one rater would categorize the meaning as disagreement/questioning, the other rater would mark it as an expression of surprise.

Our data show that the most frequent meaning of the expression is surprise or disagreement, while in multimodal communication, it is mostly frowning that would stand for disagreement (or 'cognitive effort'; see Arndt and Janney 1987), rather than raised eyebrows. This shows that, when used in written texts, the phrase has a rather ambiguous meaning. In this talk we will discuss the implications of these results for theories of language comprehension and emotion.

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