

**No effect of negation in counterfactual conditionals:
Evidence from eye-tracking studies**

Isabel Orenes (Universidad Nacional de Educación a Distancia)

Two visual world experiments are presented to examine how people process and represent affirmative and negative counterfactuals in an open context (Experiment 1: people heard a counterfactual directly such as ‘if she had arrived early, then she would have bought roses’) or after a binary context (Experiment 2: ‘She did not know whether to buy roses or carnations’ and then ‘if she had arrived early, then she would have bought roses’) while looking at four printed words on the screen: roses, carnations, no roses and no carnations, and the eyes were registered at the same time. Results showed that people looked at the conjecture ‘roses’ and its opposite, the factual possibility for affirmative and negative counterfactuals while for causal assertions such as ‘Because she arrived early, then she bought roses’ that were also presented, people only looked at the factual possibility ‘roses.’ They looked at the explicit negation “no roses” to represent the factual possibility for affirmative counterfactuals in Experiment 1 while they looked at the alternate ‘carnations’ in Experiment 2. In both experiments, causal assertions showed the classical effect of negation, that is, affirmative causal assertions were faster to be processed than negative causal assertions, while negative counterfactuals were faster than affirmative counterfactuals regardless the representation of the factual possibility (the explicit negation or the alternate). Negation has been associated with an increased processing cost; however, this is not the case for counterfactuals. I will discuss the implications of this novel finding for current views on the representation of dual-meaning operators like counterfactuals and negation.

Keywords: counterfactual; negation; representations; contexts; visual world paradigm.