

**Title:** Key phenomena in conditional reasoning.

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**Abstract:** There are many puzzles in conditional reasoning, generally called cognitive bias: matching bias and negative antecedent bias in truth table tasks, negative conclusion bias and antecedent premise bias in syllogistic reasoning task, and matching bias in Wason's selection task. These biases have so far been explained bias by bias or task by task, as if they were caused by quite different reasoning processes though these tasks are all concerned with conditional reasoning. However, key phenomena in conditional reasoning are enough to explain these biases. We propose that conditional statements "if (not) p then (not) q" are represented as follows.

If p then q : the case pq is (the most secure) verifying case.

If p then not q: the case pq is the only falsifying case.

If not p then q: the case pq is the only falsifying case.

In this account, it is critical to note that "If p then not q" and "If not p then q" are both framed in the similar manner. In this poster presentation, the biases in conditional reasoning will be explained, succinctly and systematically, under these representations.

**Key words** : conditional reasoning, reasoning bias, negative conclusion bias, affirmative premise bias, matching bias

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