

## Contradiction

Contradiction is a semantic relationship between two statements where the truth of one statement necessarily implies the falsity of the other. In simpler terms, two contradictory statements cannot both be true at the same time and in the same sense. It's a fundamental concept in logic and semantics.

### How Contradiction Works

A contradiction exists when two propositions or sentences are in complete opposition to one another. If Sentence A is true, then Sentence B must be false, and if Sentence B is true, then Sentence A must be false.

Consider these two sentences:

1. "The car is red."
2. "The car is not red."

These two sentences are contradictory. If it's true that "The car is red," it is impossible for "The car is not red" to also be true. Similarly, if it's true that "The car is not red," then "The car is red" cannot be true.

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### Contradiction vs. Contrariety

Contradiction is often confused with **contrariety**, but they are different.

- **Contradiction:** Two statements cannot both be true and cannot both be false. They are exhaustive opposites. (Example: "alive" vs. "dead").
- **Contrariety:** Two statements cannot both be true, but they can both be false. They are not exhaustive opposites. (Example: "hot" vs. "cold"). A room can be neither hot nor cold; it could be warm. A person, however, cannot be neither alive nor dead.

This distinction is important in logic, as it defines different types of opposition.

### Semantic Contradiction

In semantics, a **semantic contradiction** is a sentence that is false by definition due to the meanings of the words themselves, regardless of any external facts. This is often an example of a statement that is "semantically anomalous."

- **Example:** "My father is a boy."

This sentence is a semantic contradiction because the meaning of **father** includes the semantic feature [+Adult] while the meaning of **boy** includes the feature [-Adult]. These two features contradict each other, making the sentence inherently false.