

# Types of Ambiguity in NLP

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# 1. Lexical Ambiguity

- Occurs when a word has multiple meanings.
- Example: “Bank” → financial institution OR river bank.
- Why ambiguous: Word sense is unclear without context.

## 2. Syntactic Ambiguity

- Occurs when a sentence has multiple possible parse structures.
- Example: “I saw the man with the telescope.”
- Ambiguity: Who has the telescope? The speaker or the man?

### 3. Semantic Ambiguity

- Occurs when meaning is unclear even with fixed syntax.
- Example: “Every student read a book.”
- Ambiguity: One common book OR different books for each student?

# 4. Pragmatic Ambiguity

- Meaning depends on context, intent, world knowledge.
- Example: “Can you pass the salt?”
- Ambiguity: Literal capability vs. polite request.

# 5. Referential Ambiguity

- Occurs when pronoun reference is unclear.
- Example: “Ravi told Rohan that he won the prize.”
- Ambiguity: Who won? Ravi or Rohan?

# 6. Scope Ambiguity

- Occurs due to unclear quantifier or operator scope.
- Example: “All that glitters is not gold.”
- Ambiguity: None are gold OR not all are gold?

# 7. Attachment Ambiguity

- Occurs when a phrase may attach to different parts.
- Example: “She saw the boy with a drone.”
- Ambiguity: Does 'with a drone' describe the boy or the seeing?

# 8. Ellipsis Ambiguity

- Occurs when omitted words can be filled multiple ways.
- Example: “John likes tea, and Mary coffee.”
- Ambiguity: Mary likes coffee? Or something else?

# 9. Anaphoric Ambiguity

- Pronoun chain unclear.
- Example: “When the dog chased the cat, it was scared.”
- Ambiguity: Was the dog scared or the cat?