EL1101E - The Nature of Language

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1 Semantics

Semantics is the study of meaning in language.

First, we define some terms related to *entailment*.

> **Definition 1.1** (Entailment)
> Let A and B be sentences. A **entails** B if whenever A is true, then B must be true.

> **Example 1.2**
> Let A be the sentence "She has a poodle" and B be the sentence "She has a dog". Then, A entails B.

Note that the converse may not hold. That is, B may not entail A even if A entails B. However, if the converse is true, then we have a *paraphase*.

> **Definition 1.3** (Paraphrase)
> Let A and B be sentences. A and B are **paraphrases** of each other if A entails B and B entails A.

Remark 1.4. *Paraphrases are not to be confused with synonyms. Synonyms are pairs of **words** with the same meaning. Paraphrases are **sentences** that entail each other.*

> **Definition 1.5** (Contradiction)
> Let A and B be sentences. A **contradicts** B if whenever A is true, then B must be false.

Observe that contradiction is a symmetric relation. That is, if A contradicts B, then B contradicts A.

1.1 Presuppositions

Notice that a pair of contradictary sentences may still share some backgrounded and implicit assumptions. We call these *presuppositions*.

> **Definition 1.6** (Presupposition)
> Let A be a sentence. A **presupposition** is a background assumption in A that holds even A is negated.

> **Example 1.7**
> Consider the sentence "He is the current Prime Minister" and its negation "He is not the current Prime Minister". In both sentences, the implicit assumption "There is a Prime Minister" holds and thus, is a presupposition.

Observe that presuppositions are entailed by both a sentence and its negation. This means that we can determine if a sentence is a presupposition or an entailment using a *negation test*.

> **Example 1.8** (Negation Test)
> Let A and B be sentences such that A entails B. Consider the negation A'. If A' entails B, then B is a presupposition of A. Otherwise, B is an entailment of A.

There are various constructions (i.e. words or syntactic patterns) that *trigger* certain presuppositions.

> **Example 1.9** (Factive Verb)
> Consider the sentence "I realized she was a doctor". The **factive verb** "realized" triggers the presupposition "She was a doctor".

> **Example 1.10** (Cleft)
> Consider the sentence "It was my phone that burst into flames". The **cleft** triggers the presupposition "something burst into flames".

> **Example 1.11** (Temporal Clause)
> Consider the sentence "She called me before she went to dinner". The **temporal clause** "before" triggers the presupposition "She went to dinner".

> **Example 1.12** (Change of State)
> Consider the sentence "It has stopped raining". The sentence implies **change of state** and triggers a presupposition "It was raining at some point before".

The study of presuppositions and what trigger them is part of *pragmatics* which is covered in a later section.