ENG 236: Semantics and Pragmatics ❖ Spring 2006: TUE & FRI 9.00-10.30 @ E 002
Linguistics Section ❖ Department of English Studies ❖ University of Cyprus
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CLASS 3: TRUTH-CONDITIONS

TRUE AND FALSE

Consider a simple and innocent sounding statement such as the following:

(1) The circle is inside the square.

If you then think of possible scenarios that feature a circle and a square, you will see that the statement is either TRUE or FALSE, depending on the relation between the circle and the square. Let's investigate *truth-conditions* in meaning.

Terminology: truth-conditional semantics
model-theoretic semantics
possible worlds semantics
situation semantics
formal semantics (and some combinations thereof)
(possible) world / situation
proposition ("a sentence expresses / denotes a proposition")

THE SEMANTICS OF LOGICAL WORDS

"logical words": *and*, *or*, *not* (but also: *if…then* and *if and only if*/*iff*)

(2) a. [The circle is inside the square] and [the square is shaded].
b. [The circle is inside the square] or [the square is shaded].
c. It is not the case that [the circle is inside the square].
d. John is [a teacher] and [an APOEL fan].

Logical words (or *logical connectors*) can be represented by (logical) symbols:

(3) a. conjunction (*and*): & / ∧
b. disjunction (*or*): ∨
c. negation (*not*): ¬ / ~
d. implication (*if…then*): → / ⊃
e. equivalence (*iff*): ↔ / ≡

The study of this type of "semantics" is known as *propositional logic*.

DEFINITIONS OF INTUITIVE SEMANTIC RELATIONSHIPS

synonymy 'sameness' — Two linguistic expressions are synonymous if they have the same meaning, in other words: a case of *mutual hyponymy*. (NB: For some expressions, this depends on context; cf. *near-synonymy*.) An illustration from PHP:

(4) a. The square is bigger than the circle.
b. The circle is smaller than the square.

antonymy 'opposition' — Opposition can be expressed through *complementary opposites*, *binary opposites*, or *contradictories*. (Gradable antonyms are *contraries*; contradictories are generally interpreted as contraries.) Consider some examples:

(5) a. The square is bigger than the circle.
b. The circle is bigger than the square.

(6) It is raining and it is not raining.

(7) My cat died last week but it is still alive.

(8) for all x and for all y (if R(x,y) then R'(y,x))

entailment 'inclusion' — One linguistic expression entails another if the meaning of one is contained in the other (cf. *hyponymy*, used for lexical items). An alternative formulation (from PHP) is that a sentence *p* entails another sentence *q* if the truth of *p* guarantees the truth of *q*.

(9) a. The circle is inside the square.
b. The square is bigger than the circle.

tautology 'truism' — Linguistic expressions that are necessarily true are tautologies:

(10) a. Bertrand Russell is Bertrand Russell. [*a priori*]
b. He will come or he won't come. [*a priori*]
c. Whales are mammals. [MAMMAL contained in WHALE]

The truth or falsity of many *analytic sentences* is *a priori* (as opposed to *a posteriori*), those of *synthetic sentences* is not. But not all analytic sentences are *a priori*.

(11) a. The Morning Star is the Evening Star. [requires knowledge of the world]
b. Whales are mammals. [*a posteriori*]

> "The truth of analytic sentences can be predicted from their form called the *logical form*. Logical form is the form of a proposition in a precise, unambiguous, logically perfect language." (Jaszczolt 2002: 55)

(12) a. If he likes wine and cheese, then he likes wine.
b. All black cats are cats.

(13) If *p* and *q*, then *p*.

NB: The semantico-philosophical *logical form* is not to be confused with the syntactic level of representation known as *Logical Form* (lower caps for our purposes: *lf* vs. *LF*).

Summary: A sentence is a *contradiction* if, based on its meaning, it can never be true.
A sentence is a *tautology* if, based on its meaning, it must be true.
Two sentences are *compatible* if they are not contradictory.

Exercise: 1. Express the summary in a Venn diagram (PHP's set diagrams).

2. Provide a semantics for *p and q*, *p or q*, and *It is not the case that p*.

3. Using the Venn diagrams (for exercise 2), show:

a. *p* entails *p or q*.
b. *p* and *It is not the case that p* are contradictories.
c. *p and q* entails *p*.
d. If *p* entails *q*, and *q* are *r* are contradictory, then *p* and *r* are contradictory.

Meaning And Action

• from meaning as truth-conditions to usefulness of language in daily life

> "If we think that the fundamental function of language is to help us share information and so make better decisions about what actions to take, it seems that truth-conditional meaning is the kind of meaning which underlies language's fundamental function." (PHP: 22)

Non-Declarative Sentence Types

But at this point, we face an important question: not all linguistic expressions (more specifically, sentences) can be described as true or false — so, what to do with these?

(14) a. What did John read ?
b. Which match did John watch ?
c. Who kissed John ?
d. When does the match start ?

(15) a. Draw a circle inside the square .
b. Stop talking now (, class) !
c. Pass me the salt (, please) .

• ignore at this point pragmatic factors (context and so on — end of the semester)

Interrogative:

> "[A] question is a request for information, and … the form of the question … tell[s] the hearer what sort of information is being looked for." (PHP: 23)

(16) a. John read (item / book) x.
b. John watched match x.
c. x kissed John.
d. The match starts at x (time).

Hamblin (1973): The meaning of a question is the set of propositions which are possible answers to it.

Imperative:

> "Imperative sentences, like declarative sentences, categorize worlds into two kinds … the 'satisfactory' worlds and the 'unsatisfactory' ones." (PHP: 23)

(17) a. "satisfactory": addressee draws a circle inside the square (action)
b. "satisfactory": addressee (class) stops talking (action)
c. "satisfactory": addressee passes the salt (action)

SEMANTIC MEANING VS SPEAKER'S MEANING

The meaning a speaker has in mind when he utters a sentence ("speaker's meaning") need not correspond to the literal meaning of what s/he says ("semantic meaning"). PHP's example taken from Saul Kripke's (1977) work is a very nice illustration:

(18) The following conversation takes place at a party.
A: Most of the people here are pretty glum.
B: Not everybody. The man drinking champagne is happy.
A: Where?
B: That guy! (pointing)
A: He's not drinking champagne. He's drinking sparkling water. The only person drinking champagne is crying on the couch. See?
B: Well, what I meant was that the first guy is happy.

REFERENCES

Hamblin, Charles L. 1973. Questions in Montague English. *Foundations of Language* 10, 41-53.

Jaszczolt, Katarzyna M. 2002. *Semantics and Pragmatics: Meaning in Language and Discourse*. London: Longman.

Kripke, Saul. 1977. Speaker's Reference and Semantic Reference. In Peter A. French, Theodor E. Uehling, Jr & Howard K. Wettstein, eds. *Contemporary Perspectives in the Philosophy of Language*. Minneapolis, MN: University of Minnesota Press, 6-27.