What is semantics, what is meaning
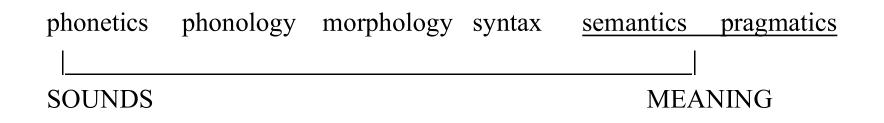
Lecture 1

Hana Filip
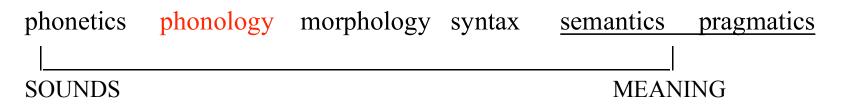
What is semantics?

- Semantics is the study of the relation between form and meaning
    - Basic observation: language relates physical phenomena (acoustic blast we produce when we speak, chalk marks on the board, etc.) to meanings
    - How do we get from certain brute physical facts to meanings?
    - How do we get from physics to semantics?

- The crucial question of linguistics:

  How are form and meaning systematically related in an adequate grammar of natural language?

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   <u>semantics   pragmatics</u>

|_____|

SOUNDS   MEANING

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   <u>semantics   pragmatics</u>

|_____|

SOUNDS   MEANING

Phonetics studies the physical side of linguistic utterances—the articulation and perception of speech sounds (articulatory, acoustic and auditory).
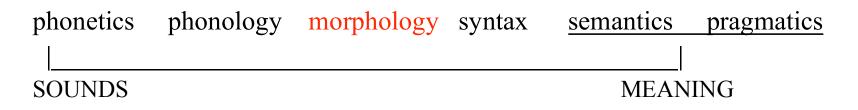
The form-meaning link in linguistics

phonetics   phonology   morphology   syntax   <u>semantics   pragmatics</u>

SOUNDS   MEANING

Phonology is the study of the sound patterns of human language.

– Speech sounds as physical entities may be infinitely varied, but when they function as elements in a given language, as phonological units, they are highly constrained.

– Native speakers of any language intuitively know which sequences of speech sounds are words or could be words in their language.

English	English-like	Not English-like	Czech tongue twister
blue	*grue*	*prst*	*strc prst skrz krk*

– What are the smallest meaning distinguishing units (= phonemes) in a given language? Example: <u>c</u>at - <u>s</u>at - <u>b</u>at - <u>m</u>at

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   semantics   pragmatics

|_____|

SOUNDS   MEANING

Morphology is the study of the structure of words and the smallest meaning-bearing units and how they combine into words:

- allowable combinations of morphemes: *un-able, to un-do, *un-house*
- new word formation: *to pulver-ize, to woman-ize, to google*

"You don't get to be a verb unless you're doing something right" (Nunberg on the effect of Google on our collective consciousness, 2003, in "The Nation: Search Engine Society; As Google Goes, So Goes the Nation")

The form-meaning link in linguistics

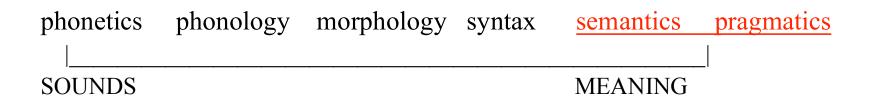phonetics   phonology   morphology   syntax   semantics   pragmatics

|_____|

SOUNDS   MEANING

Syntax is the study of the formation of sentences, how words are combined to larger units than words, to phrases and sentences that are well-formed strings in a given language

portrait Rembrandt painted that a …

A portrait that Rembrandt painted …

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   <u>semantics   pragmatics</u>

|_____|

SOUNDS   MEANING

Semantics is the study of meaning expressed by elements of any language, characterizable as a symbolic system.

It is the goal of linguistic semantics to describe the meaning of linguistic elements and to study the principles which allow (and exclude) the assignment of meaning to combinations of these elements. A complete and an adequate semantic theory

   – characterizes the systematic meaning relations between words and sentences of a language, and

   – provides an account of the relations between linguistic expressions and the things that they can be used to talk about   (De Swart 1998, p.2).

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   <u>semantics</u>   <u>pragmatics</u>

  |_____|

SOUNDS   MEANING

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The form-meaning link in linguistics

- **Question: How is a meaningful sentence built up from its meaningful parts all the way down to individual words?**
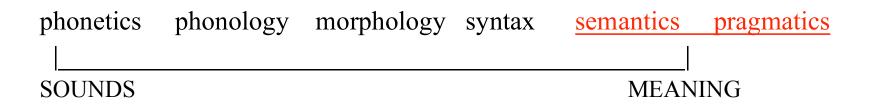
Dog bites man   ordinary, expected event, barely something worthwhile reporting
Man bites dog   an unusual, infrequent event, which is more likely to be reported

  – Same words *man, dog, bites* with the same meaning
  – different structure leads to a different meaning of a whole sentence
  – structure overtly manifested in the differences in word order indicates how *man* and *dog* are related to the verb *bites*

- **Conclusion:** The meaning of a complex expression is determined by its structure and the meanings of its constituents—once we fix what the parts mean and how they are put together we have no more leeway regarding the meaning of the whole. This is the **PRINCIPLE OF COMPOSITIONALITY (Frege's Principle)**, a fundamental presupposition of most contemporary work in semantics.

We cannot study meaning without structure.

The form-meaning link in linguistics

We cannot study meaning without structure.

There are certain aspects of structure (syntax, morphology) that may be fruitfully studied without reference to meaning (semantics). However, if we are interested in language as a means of communication, we do not want to study syntax for its own sake (De Swart 1998, p.9-10).

The form-meaning link in linguistics

phonetics   phonology   morphology   syntax   <u>semantics   pragmatics</u>

|_____|

SOUNDS   MEANING

- The simplest cases of meaning are those in which the speaker says a sentence and means exactly and literally what he says.

  It's warm in here.

- More complicated cases: the speaker utters a sentence, means what he says, but also means something more. The literal meaning of a sentence and what the speaker intends to convey when he uses it, utters it, for example, then come apart in various ways

  It's warm in here.

    (i)   Sentence (literal) meaning: <u>assertion</u> about temperature

    (ii) Speaker's intended meaning or utterance meaning (one among many): <u>command</u>
          Open the window, please!

The form-meaning link in linguistics

- Even more complicated case: An American soldier example (Searle 1965 "What is a speech act?")

"Suppose that I am an American soldier in the Second World War and that I am captured by Italian troops. And suppose also that I wish to get these troops to believe that I am a German officer in order to get them to release me. (…) But let us suppose I don't know enough German or Italian to do that. (…) they don't know enough German (…) Let us suppose I know only one line of German, which I remember from a poem I had to memorize in a high school German course. Therefore I, a captured American, address my Italian captors with the following sentence: *Kennst du das Land, wo die Zitronen blühen?*"

This is a line from Johann Wolfgang von Goethe's novel *Wilhelm Meisters Lehrjahre*, which is translated as **'Knowest thou the land where the lemon trees bloom?'**

"I want my captors to be deceived into thinking that what I mean is 'I am a German officer', but part of what is involved in the deception is getting them to think that that is what the words which I utter mean in German."

The form-meaning link in linguistics

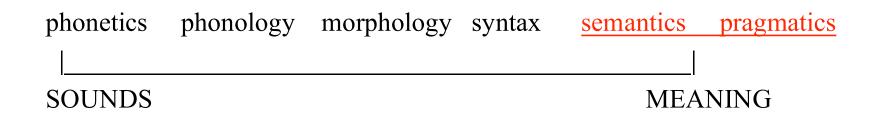*Kennst du das Land, wo die Zitronen blühen?*

(i) Sentence meaning: Knowest thou the land where the lemon trees bloom?

(ii) Speaker's intended meaning/ utterance meaning: I am a German officer.

However, this example does not mean that we can use ANY string of words with ANY intended meaning. Wittgenstein (in *Philosophical Investigations)* mentions that we cannot say *it's cold here* and mean *it's warm here*.

"The reason we are unable to do this is that what we can mean is a function of what we are saying. Meaning is more than a matter of intention, it is also a matter of convention." (Searle 1965)

• **The crucial question of pragmatics:**

   How is the sentence meaning related to speaker's intended meaning?

The form-meaning link in linguistics

phonetics   phonology   morphology syntax   semantics   pragmatics

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|_____|
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SOUNDS   MEANING

Semantics studies literal, context-independent meaning, the constant meaning that is associated with a linguistic expression in all of its occurrences

Pragmatics is the study of *situated uses* of language, the study of language in relation to the users of language, the study of linguistic communication as a social activity

The form-meaning link in linguistics

- Pragmatics is also concerned with how we DO things with words
  - There are certain utterances that change facts in the world

    I hereby declare you husband and wife.

    vs. *#I hereby scramble and fry you.*

    (This is not how you get your eggs cooked)

Austin. J. 1962. *How to Do Things with Words?*

- What is semantics?
- **What is meaning?**

What is meaning?

- 'Aboutness' of natural language
    - A noise that I make when I speak or a scribble that I produce when I write words in English or a sign-language gesture I make are physical objects that convey _meanings_, they are _about_ something
    - We use language to communicate, to talk _about_ things in the world, people and their properties, relations between people, events, in short about the way the world is, should be, could have been …
    - The property of 'aboutness' of linguistic signs (or symbols) is one of the defining properties of natural languages, it is what a semantic theory of natural languages tries to capture

Where is meaning?

- Can we define meanings in terms of their physical properties?
- The answer is 'no', there are 3 main arguments for this answer:

  1. Generally, there are no physical features that all meaningful noises or sets of marks have in common which serve to differentiate them from other signals or noises.

  2. Usually there is no resemblance between a name and the thing it is the name of. Linguistic forms usually lack any physical resemblance with the entities that they stand for.

  3. Not only do languages vary in their vocabularies, but also within one language the relation between the words and what they stand for may change (ex. *gay*).

In sum, the connection between a word and what it stands for is ARBITRARY. "The ARBITRARINESS of the linguistic sign" (Ferdinand de Saussure, 1916, *Cours de linguistique générale*) is one of the defining properties of human language.

Where is meaning?

- Indirect relation between word and world

WORD ⟷ CONCEPT ⟷ THING IN THE WORLD

house THOUGHT

 IDEA

 SENSE

 possibly IMAGE

Where is meaning?

- Indirect relation between word and world

WORD ⟷ CONCEPT ⟷ THING IN THE WORLD

house   THOUGHT

IDEA

SENSE

possibly IMAGE

?

IS IT IN <u>YOUR</u> MIND?

Where is meaning?

Gold is getting more and more expensive.

What idea, concept, thought or image do you think of when you hear this sentence?

For EVERY PERSON, the word *gold* evokes a DIFFERENT PICTURE, IDEA, CONCEPT, etc.; yet that does not prevent us all from using the word with the same meaning.

This means that the word *gold* applies to something general, or possibly even universal.

Where is meaning?

- Indirect relation between word and world

WORD   ⟷   CONCEPT   ⟷   THING IN THE WORLD

house   THOUGHT

              IDEA

              SENSE

              possibly IMAGE

Is the concept something outside your mind that you somehow latch onto?

Where is meaning?

Hana Filip

Where is meaning?

- SUMMARY
  - The meaning of words cannot be derived from their **physical properties**,
  - it cannot be reduced to the **real-world objects** or their perception, and
  - it cannot be reduced to the **particular image in my or your mind**.

- The meaning of words is to be derived from the relations between words, concepts and things in the real world.

Language as a social phenomenon

- Each person does not make language up from scratch for herself or himself. When as children we learn a language, we get plugged into an already existing system

Language as a social phenomenon

- Intentions in communication

  - Example: Mayan hieroglyphs
  - Words, and linguistic signs in general, have a **representational** or **symbolic** function, i.e., they are **ABOUT** something that goes beyond their physical shape, they have meanings.
  - Meaning that is conveyed by some marks, scribbles or noises relies in part in the intention on the part of the speaker or writer to produce understanding in the hearer or reader.
  - Any communication is only successful to the extent that the idea the hearer or reader gets is the same idea that the speaker or writer *intended* the hearer or reader to get.

Language as a social phenomenon

- CONVENTION
    - Meaning is more than a matter of intentions of individual's speakers, it is also a matter of convention that is accepted, acknowledged, or otherwise believed by the language users.

    - What a linguistic sign represents (is about, means) is determined by some publicly accepted convention.

Language as a social phenomenon

- CONVENTION

  Two examples:
  - Recall: Wittgenstein (in *Philosophical Investigations)* observed that we cannot say *it's cold here* and mean *it's warm here*.
  - What must be the case in order for the word CHAIR to designate this particular piece of furniture in the world?

- The constitutive rule for linguistic symbols (John Searle, 1995, *The Construction of Social Reality*):

  One symbol X stands for Y (meaning) in context C, and it does so by some **convention** that is publicly acknowledged.

  I.e., the representational or symbolic (ABOUTNESS) function of a language sign X is constituted by the symbolic 'stand for' relation, this relation is essential given that the connection between a linguistic sign and what it stands for is **arbitrary**.

Language as a social phenomenon

- CONVENTION
  - Apart from language, other facts that in some sense are facts by human agreement (e.g., facts about money, governments, property, marriage, universities) can be motivated in essentially the same way:

    What stands to the sound [CHAIR] as its meaning is what stands to a piece of paper as its function as a dollar bill.

  Constitutive rule for institutional facts: X <u>stands for</u> Y (status function) in context C, and it does so by some public **convention**.

    - This piece of paper stands for a one-dollar bill.
    - The person who kills another (X term), under certain circumstances (C term), and is found guilty of so doing is assigned the status of 'convicted murderer' (Y term, and hence an institutional fact).

  - According to Searle (1995, *The Construction of Social Reality)*, language plays a crucial role in the construction of such social facts, facts that have an objective existence only because we believe them to exist.

Language as a social phenomenon

- SUMMARY
  - Linguistic signs have a representational or symbolic function that relies in a crucial way on the intentions of language users to use them to communicate a certain meaning.
  - Meaning is more than a matter of intentions on the part of individual language users, it is also a matter of convention, which is related to the fact that the connection between a linguistic sign and what it stands for is arbitrary.
  - The property of ABOUTNESS (representational or symbolic function) of linguistic signs (= symbols) is truly unique to linguistic signs that is missing from other signs.

Semiotics

- provides a unifying analysis of various sign systems

  3 kinds of SIGNS:

  - INDEX : smoke means fire, a rabbit's tracks in the snow mean that the rabbit has recently passed by (NOT arbitrary, NOT conventional)

  - ICONS : bathroom signs, road signs (NOT arbitrary, partly conventional)

  - SYMBOL: natural language, formal languages like algebraic languages, programming languages, first order language, etc. (arbitrary and conventional)

Theories of meaning

- Mentalistic, cognitive, conceptual
- Referential

Mentalistic, cognitive theories of meaning

- Focus on cognitive representations of meanings

WORD ⟷ CONCEPT ⟷ THING IN THE WORLD

house

- – speakers psychological grasp of the meanings of expressions of their language
- – what matters is how the world is presented, construed by means of linguistic expressions, how our reports about reality are influenced by the conceptual structures inherent in our language
- – Origins in certain developments in the field of cognitive science in the 1970s: mainly psychology, artificial intelligence, computer science and anthropology.

Mentalistic, cognitive theories of meaning

Just a few examples of some foundational work:

- Charles Fillmore, University of California at Berkeley, International Computer Science Institute, Berkeley

1975. "An Alternative to Checklist Theories of Meaning."

1976. "Frame semantics and the nature of language."

- Ray Jackendoff , Tufts University

1983. *Semantics and Cognition.*

- George Lakoff, University of California at Berkeley

1980. (with Mark Johnson). *Metaphors We Live By*.

1987. *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind.*

- Ronald Langacker, University of California at San Diego

1987. *Foundations of Cognitive Grammar*.

- Leonard Talmy, State University of New York, Buffalo

1972. *Semantic Structures in English and Atsugewi*. (PhD Thesis, University of California at Berkeley)

1985. "Lexicalization patterns: semantic structure in lexical forms."

- Anna Wierzbicka, Australian National University

1980. Lingua Mentalis: The semantics of natural language ()

1972. Semantic Primitives.

Mentalistic, cognitive theories of meaning

- Much of the work in mentalistic, cognitive or conceptual linguistics is concerned with categorization, as reflected in linguistic categories:

  "If linguistics can be said to be any one thing it is the study of categories: that is, the study of how language translates meaning into sound through the categorization of reality into discrete units and set of units" (Labov 1973, p.342).

- Hence, both in its methodology and substance, they are directly related to work done in psychology.

Mentalistic, cognitive theories of meaning

- Problem of categorization: many words describe concepts that have no clear category boundaries and that not all members of a given category have an equal status.

Example: *chair*

We might characterize its meaning in terms of a conjunction (of a fixed set) of the following conditions:

A given object counts as a CHAIR if and only if it is (a) a piece of furniture (b) for one person (c) to sit on, (d) having a back and (e) four legs.

These five conditions could then be taken as being *individually necessary* for the definition of the category the word CHAIR labels. If any of the defining features is not exhibited by the entity, then the entity is not a member of the category. *Jointly*, the two features are *sufficient*; any entity which exhibits each of the defining features is a member of the category.

Mentalistic, cognitive theories of meaning

A given object counts as a CHAIR if and only if it is (a) a piece of furniture (b) for one person (c) to sit on, (d) having a back and (e) four legs.

- Such necessary and sufficient conditions work well for certain things that we call *kitchen chairs*.

- But what about

  office chairs

  dentist chairs

  beanbag chairs

  barber chairs

  electric chairs ?

Mentalistic, cognitive theories of meaning

- Observation: among things that we call 'chairs', there are
  – better examples of the category 'chair' like kitchen chairs and some are
  – less good examples like dentist chairs and some are
  – very marginal examples like beanbag chairs and electric chairs.
- Proposal:

Words like CHAIR are not defined in terms of necessary and sufficient conditions, but instead categorized around good, clear exemplars like KITCHEN CHAIRS, and that these good exemplars or PROTOTYPES serve as reference points for the categorization of not so clear instances.

  – Members of the category like CHAIR can be graded in terms of their typicality.
  – Membership in a prototype category is a matter of gradience.

The notion of 'prototype' in this sense is defined in
  Eleanor Rosch. 1973. "Natural Categories."
  Eleanor Rosch. 1975. "Cognitive Representation of Semantic Categories."

Mentalistic, cognitive theories of meaning

- Example: *bird*

  bird: 'warm-blooded, egg-laying, feathered vertebrae with forelimbs modified to form wings' (dictionary definition)

  bird: [+feathers], [+beak], [+ability to fly] (features with boolean binary value)

- Even concepts whose boundaries can be scientifically defined exhibit a graded membership

- Robins and magpies, for example, are intuitively better examples of birds than are hummingbirds, ostriches, or penguins.

Mentalistic, cognitive theories of meaning

Questions at the intersection of linguistics, psychology and anthropology:

(1) What categories of experience are encoded by the members of a given speech community through the linguistic choices that they make when they talk?

(2) Do categories have any basis in the real world, or are they merely constructs of the human mind?

(3) What is their internal structure?

(4) How are categories learnt?

(5) How do people go about assigning entities to a category? (For example, a furry four-legged animal to the category DOG?)

(6) What kinds of relationships exist amongst categories? (For example, between DOG, MAMMAL, ANIMAL?)

(7) Language, culture and thought are all mirrors of each other. Does language play a role in shaping how we think and if it does, to what extent exactly?

(8) Do all human beings share the same conceptual system? Do all languages express concepts in the same way? Do we overestimate the differences among languages and cultures: Will we find, upon deeper inspection, fundamental similarities in thought processes in individuals with diverse linguistic and cultural backgrounds?
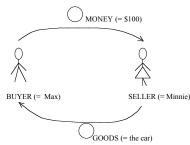
Mentalistic, cognitive theories of meaning

Example of how one question is addressed

- **How do parts of language, culture and thought match up?**

Charles Fillmore: FRAME SEMANTICS

"Linguistically encoded categories (not just words and fixed phrases, but also various kinds of grammatical features and syntactic patterns) presuppose particular structured understandings of cultural institutions, beliefs about the world, shared experiences, standard or familiar ways of doing things and ways of seeing things. Lexical items can be seen as serving discriminating, situating, classifying, or naming functions, or perhaps merely a category-acknowledging function, within, or against the background of, such structures" (Fillmore 1985, p.231-2).

- Such structures are labeled FRAMES
- inspired by work in AI, computer science, psychology, and philosophy in the late 1960's and 1970's
- roughly correspond to the notion of 'prototype' or 'exemplar', used by Rosch, and others

Mentalistic, cognitive theories of meaning

Implementation of the FRAME idea: **Commercial Transaction Frame**

Some of the ways in which this situation can be described:

- Minnie <u>sold</u> the car to Max for a hundred dollars.
- Max <u>bought</u> the car from Minnie for a hundred dollars.
- Max <u>paid</u> a hundred dollars to Minnie for the car.
- Max <u>paid</u> Minnie a hundred dollars for the car.

Mentalistic, cognitive theories of meaning

Verbs associated with the commercial transaction FRAME:

SELL	Minnie	car	$100	Max
frame-specific participant role	seller	goods	money	buyer
grammatical function	subject	DO	PP-for	PP-to

BUY	Max	car	$100	Minnie
frame-specific participant role	buyer	goods	money	seller
grammatical function	subject	DO	PP-for	PP-from

PAY	Max	$100	Minnie	car
frame-specific participant role	buyer	money	seller	goods
grammatical function	subject	DO	PP-to	PP-for

Mentalistic, cognitive theories of meaning

A **frame** is a script-like (conceptual) structure of inferences, linked by linguistic convention to the meanings of linguistic units, including individual lexical items.

Each frame identifies a set of frame elements (FEs), i.e., participants and props in the frame.

A frame semantic description of a lexical item identifies the frames which underlie a given meaning and specifies the ways in which FEs, and constellations of FEs, are realized in structures headed by the word.

http://framenet.icsi.berkeley.edu/

Mentalistic, cognitive theories of meaning

- **Fuzzy concept, fuzzy set, fuzzy logic**

Lotfi Zadeh, University of California at Berkeley

1965. "Fuzzy sets."

1973. "Outline of a new approach to the analysis of complex systems and decision processes."

- Fuzzy sets are an extension of the classical notion of a 'set' in set theory.
- The classical notion of a 'set' takes the membership of elements in a set to be evaluated in binary terms according to a bivalent condition — an element either belongs or does not belong to the set.
- Fuzze set theory permits that elements in a set have degrees of membership.

Examples:

pregnant, married vs. *tall, old, playboy, strong, grey-haired, genius, clean*

Mentalistic, cognitive theories of meaning

- ## Some outstanding issues

  - What is the mental concept, image, frame, etc. associated with words like *only*, *hello*, or with negation (*not*), quantification (*every*)?

  - What is the mental concept, image, frame, etc. associated with complex concepts, i.e., linguistic expressions beyond the word level? We need define operations on concepts that are as psychological realistic as the atomic concepts (see de Swart 1998, p.5-6).

Referential theories of meaning

- Basic tenet:

  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

  WORD(S)   WORLD

  definite description: ***the house*** ⟶

  proper name: ***David Lewis*** ⟶

"World" is intended to encompass the vast complex of things, situations and facts that words or sentences can be "about".

Referential theories of meaning

- Basic tenet:

  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

  WORD(S)   **WORLD**

  proper name: **_David Lewis_** ⟶

- A proper name _David Lewis_ refers to or denotes its bearer: a person named _David Lewis_.
- The terms _reference, denotation, denotatum, semantic value_ is used for what a name denotes.
- The **denotation relation** constitutes the most fundamental semantic relation.

September 8, 2008   Hana Filip   49

Referential theories of meaning

- Basic tenet:

  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

- Referential theories of meaning are concerned with the relation between linguistic expressions and the world (i.e, what speakers use expressions to talk about in the world).

- They are motivated by the basic intuition that

  – one of the most important characteristics of natural language expressions is that they are *about* something in the world, they are about something that is external to the concepts in our minds.

- They formulate a theory of meaning that makes no psychological claims about the speaker's state of the brain or his/her psychological grasp of the meanings of expressions of his language, a theory of mental objects of some sort, concepts or thoughts in speaker's heads, etc.

Referential
theories of meaning

- origins are in the philosophy of language, logic and mathematics:

Gottlob Frege (1892)

Bertrand Russell (1905)

Alfred Tarski (1933, 1944)

Peter Strawson (1950)

Richard Montague (1970)

- John Searle on philosophy of language

Part 1:

http://www.youtube.com/watch?v=jOlJZabio3g

Part 2:

http://www.youtube.com/watch?v=FC3vosOlRZ4&feature=related

Referential theories of meaning

- Basic tenet:

  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

- Basic questions:
  - How do words refer?
  - What is the mechanism by which the relation of reference between words and things, individuals, facts in the world comes about?

http://plato.stanford.edu/entries/reference/

Referential theories of meaning

- Basic tenet:

  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

  WORD(S)   WORLD

  common noun: *house* ⟶

  a set of houses

Referential theories of meaning

- **THE REFERENCE OF A SENTENCE IS ITS TRUTH VALUE**
  (Gottlob Frege, 1892)

  The door is closed.

  To know the meaning of a (declarative) sentence is to know what the world would have to be like for the sentence to be true. To give the meaning of a sentence is to specify its truth conditions, i.e., to give necessary and sufficient conditions for the truth of that sentence.

- **truth-conditional theory of semantics**
- **correspondence theory**

Referential theories of meaning

- **THE REFERENCE OF A SENTENCE IS ITS TRUTH VALUE**

Mary stood close to John.

- Although we may not know what the facts actually are, we do know what the facts <u>ought to be</u> in order to make these sentences true.

Water is chemically a compound of hydrogen and oxygen.

- We can understand the above sentence without having to go to a lab and do the relevant chemical tests. The point is not to provide effective criteria for checking the truth of sentences. It is not part of semantics to determine when particular sentences are actually true or false about the actual real world. It is not part of semantics to determine whether Einstein's theory of relativity of Newton's theory of mechanics is a correct theory about the world. How do we know whether something is true? In philosophy, it is called the **theory of knowledge** or **epistemology**.
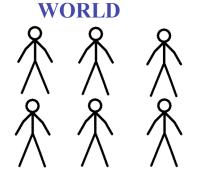
Referential theories of meaning

- Basic tenet:

MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

John exercised [e.g., daily, 3 times a day].

Intuitively, this sentence is true in a situation in which John is one of the people who exercised (at a given time).
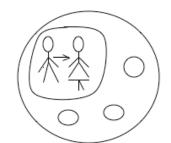
WORD(S)   **WORLD**

intransitive verb: *exercise* ⟶

a set of those who exercise

Referential theories of meaning

- Basic tenet:
  MEANING IS REFERENCE TO FACTS OR OBJECTS IN THE WORLD

John kissed Mary.

WORD(S)   **WORLD**

transitive verb: ***kiss*** ⟶

a set of ordered pairs of those who kiss

John kissed Mary is true if and only if the pair John and Mary is a member of a set of ordered pairs of individuals such that the first member (John) kisses the second (Mary)

Referential theories of meaning

- **A note on the notion of a 'possible world'**

world-creating expressions, e.g. verbs like *dream*, epistemic or propositional attitude verbs like *believe*:

(1) *I dreamt that I was Brigitte Bardot and that I kissed me*.

> McCawley, J. 1981. *Everything that Linguists Have Always Wanted to Know about Logic,* But Were Ashamed to Ask. University of Chicago Press.

(2) *John believes that Elvis lives in Brooklyn*.

Counterfactual conditionals

If Proust had travelled on Titanic, <u>Remembrance of Things Past</u> would not have been completed.

- **In order to characterize the conditions for the truth of these sentences, we need to consider alternative worlds, in addition to actual worlds**.

Referential theories of meaning

- A note on the notion of a 'possible world'

David Lewis 1973. *Counterfactuals* (an analysis of counterfactual conditionals in terms of the theory of possible worlds, cp. *If that match had been scratched, it would have lighted.)*

"There are many ways things could have been besides the way they actually are. On the face of it, this sentence is an existential quantification. It says that there exist many entities of a certain description, to wit, 'ways things could have been.' I believe permissible paraphrase of what I believe; taking the paraphrase at its face value, I therefore believe in the existence of entities which might be called 'ways things could have been '. I prefer to call them 'possible worlds' " (p.84).

September 28, 1941 Oberlin, Ohio
October 14, 2001 Princeton, New Jersey

Referential theories of meaning

- **Indirect relation between word and world**

WORD   ⟵⟶   CONCEPT ⟵⟶   INDIVIDUAL IN A POSSIBLE WORLD

unicorn   (any world that is different from the actual

Santa Claus   world(s), i.e., imaginary world, dream

the future President of the USA   world, world of wishes, beliefs, etc.)

a former beauty queen

the present king of France

the largest prime number

- Semantics that is enriched with possible worlds is called **intensional semantics.** The semantics of a variety of intensional expressions, like world-creating verbs and conditional sentences will be formulated in terms of reference here and now in the actual world, but also the referent in other evaluation worlds (at possible world indices).