Handout 8: Semantics II

1. Componential analysis (= feature analysis)
   - This approach tries to equate a word’s intension with an abstract concept consisting of smaller components called **semantic features**.
   - categories (here: word meanings) are defined in terms of **necessary and sufficient features** (the features are necessary in that no entity which does not possess the full set is a member of the category, and they are sufficient in that possession of all the features guarantees membership).

![](image)

**Figure 1:** Semantic feature composition for *man*, *woman*, *boy*, *girl*

- Componential analysis is effective when it comes to representing similarities and differences among words with related meanings
- It allows us to group entities into **natural classes** (similar to phonology); e.g. *man* and *woman* care in a class defined by the features [+HUMAN, +ADULT]

1.1 Some important semantic features for nouns

| ±COMMON | teacher vs Volker |
| ±COUNT | town vs sand |
| ±CONCRETE | butter vs. commitment |
| ±ANIMATE | pig vs ham |
| ±HUMAN | student vs elephant |
| ±MALE (or ±FEMALE) | bull vs cow |
| ±COLLECTIVE | player vs team |

**Exercise 6.5**

1.2 Some important features for verbs

| ±STATIVE | |
| ±DURATIVE | |
| ±TELIC | |
| ±VOLUNTARY | |

Cf. Brinton 143-147

2. Strengths and weaknesses of componential analysis

2.1 Strengths

- We can now define certain sense relations (see Handout 7) more precisely by making use of semantic features:
  - synonymy: two words have exactly the same features
oppositeness: two words W1 and W2 share the same features except for one feature of W1 being [+1] and the same feature of W2 being [-].

Hyponymy: W1 is a hyponym of W2 if the meaning of W1 contains all the features of W2 but not vice versa.

2.2 Weaknesses
- Circularly: it is argued that semantic features are abstractions that lie under the actual words of a language, but in fact the features ARE words of the language.
- No one has yet determined a complete list of features which are needed to analyse all the words of a language, let alone the words of all languages.
- In any particular use of a word, only some of the postulated features may be relevant.
- Semantic features are binary, but binary features are not always the best way of analyzing a semantic field.
- There is no evidence that semantic features have any psychological reality.
- There are fuzzy concepts (How much does one have to be worth to be called rich? Consider also old, tall, grey-haired, genius, clean)
- Membership in a category can be graded: A robin is a “better” bird than a penguin. In the classical model of componential analysis all members are equal.

- A theory that intends to represent our mental lexicon with more psychological validity.
- We understand the meaning of a word because we have a prototypical concept of the category to which the thing belongs.
- The closeness of a word to the prototype determines whether the word (or its referent) is a more or less good exemplar of a category.

3.1 Experimental and other evidence for prototype effects (from Lakoff 1987: 41-42 and Cruse & Croft 2004):
- **Direct rating:** Subjects are asked to rate, say on a scale from one to seven, how good an example of a category (e.g., bird) various members are (e.g., a robin, a chicken, etc.)
- **Verification speed:** Subjects are asked to press a button to indicate true or false in response to a statement of the form “An ___ is a ___” (e.g., “A chicken is a bird”). Response times are shorter for representative examples.
- **Production of examples:** When asked to list or draw examples of category members, subjects were more likely to list or draw more representative examples.
- **Asymmetry in similarity ratings:** Less representative examples are often considered to be more similar to more representative examples than the converse. Not surprisingly, Americans considered the United States to be a highly representative example of a country. In experiments where subjects were asked to give similarity ratings for pairs of countries, the following asymmetry arose. Subjects considered Mexico to be more similar to the United States than the U.S. are to Mexico.
- **Order of acquisition:** Children learn prototypical members of categories before more peripheral members.
3.2 Basic-level categories

- Prototype theory also provides an account of levels of categorization. In a hyponymy there is always one level, called the **basic level** of specificity, which has a special status.

(1) a. vehicle – **car** – hatchback
b. fruit – **apple** – Granny Smith
c. living thing – creature – animal – mammal – **dog** – spaniel
d. object – implement – cutlery – **knife** – breadknife
e. object – item of furniture – **table** – card table

- Some characteristics of **basic-level terms**:
  - the most commonly used labels for category members
  - the first level to enter the lexicon of a language
  - normally monomorphemic and original in the sense of not being borrowed by metaphorical extension from other domains
  - first learned by children
  - used in neutral contexts: There’s a dog on the porch - ?There’s a mammal on the porch – ?There’s a wire haired terrier on the porch

4. Frames/domains (e.g. Fillmore 1982)

- a semantic feature analysis of a term like **bachelor** as [+ADULT, – FEMALE, – MARRIED] is problematic because it would include individuals which we would not normally refer to as **bachelors**: e.g. an adult male living with his girlfriend, Tarzan, John Paul II, a male homosexual living with his boyfriend.

- **Bachelor** is defined with respect to a **frame/domain** in which there is a human society with (typically monogamous) marriage, and a typical marriageable age. It is questionable whether this kind of information can be represented in terms of semantic features.

**Recommended reading:**

5. Repetition of important concepts

Referent, sense, extension, entailment, ambiguity, types of homonymy, homonymy vs polysemy, metonymy, metaphor, presupposition, testing presuppositions, hyponymy, meronymy, types of oppositeness, x-bar theory, constituent, constituency tests, derivation, compounding, endocentric vs exocentric compounds, allomorph, inflection, derivation, lexeme, word form.

Reading for next week: Brinton 289-292, 301-305, 307-310 (ignore Table 11.2)