

Units of analysis in different  
theories of lexical semantics  
Feature-based theories

**Course**

***Semantics: The Structure of Concepts***

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# Functional-structuralist school

- Prague Linguistics Circle; Ferninand de Saussure, Eugen Coseriu, Lucien Tesnière, Louis Hjelmslev, etc.
- The lexical items are analyzed in terms of minimal semantic features (*semes*), which determine the structure of the lexicon paradigmatically and syntagmatically.
- Paradigmatically, the features allow to define what a certain group of words have in common and what differentiates them.

	kill, put to death	unlawfully, wickedly, inhumanly, or barbarously	in pursuance of a sentence	in numbers, brutally and indiscriminately
<b><i>to execute</i></b>	+		+	
<b><i>to murder</i></b>	+	+		
<b><i>to massacre</i></b>	+			+

# Componential analysis in terms of distinctive features

- Another classical example: *seat* and its varieties

	comfortable	functional	for exterior	for interior	with a back	without a back	moveable	fixed	for one person	for several people	for sitting
<i>seat</i>									+		+
<i>chair</i>	+	+			+		+				+
<i>bank</i>		+	+		+			+		+	+
<i>stool</i>		+				+	+		+		+
<i>sofa</i>	+			+	+		+			+	+

# Lexical fields

- A group of lexemes which share contiguous semantic content and which are mutually opposed by means of minimal distinctive features constitutes a lexical field

(definition of Coseriu, 1977). The term was introduced by Jost Trier.

- The meaning of a word is dependent on the meaning of the other words of the same lexical or conceptual field.
- If a single word undergoes a *semantic change*, then the whole structure of the lexical field changes.
- Some of studied lexical fields: taste terms, visual perception, furniture, etc.

Systematic relations within lexical fields: archilexeme ( $\approx$ hypernym)  
+ distinctive features

# Some drawbacks of the functional-structuralist method 1

- It follows the **classical (Aristotelian) approach to categorization**, which defines a **category in terms of a set of necessary** (all of them have to be satisfied) **and sufficient** (nothing else is needed) **criteria for membership**.

Criteria for some X to qualify for inclusion in the category GIRL:

**X is human**

**X is female**

**X is young**

These features conform the semantic definition of the word *girl*, its “hard core”. All the other information is not linguistically relevant, can be added or omitted without altering the basic meaning, and it is ascribed to the general knowledge.

- Categories defined this way are clearly delimited (discrete), there is nothing “sitting on the fence”.

## Some drawbacks of the functional-structuralist method 2

- All the members of a category have the same status within the category: there are no better representatives of a certain class than others.

**BUT: is the reality that clear-cut?**

-why do we call *penguins* birds although they don't fly? (a necessary condition is not satisfied)

-what fruit do we think first of when we hear the word fruit?

*Apple??* Is it then a “better fruit” than the others?

-defective things: why do we keep naming a robin with this name even when it only has one wing and can't fly?

# Greeny green (Aitchison, 1994)



- How come can the girls understand each other?
- What is *greeny green*?

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## A possible alternative: cognitive linguistics how to deal with the meaning when it's slippery?

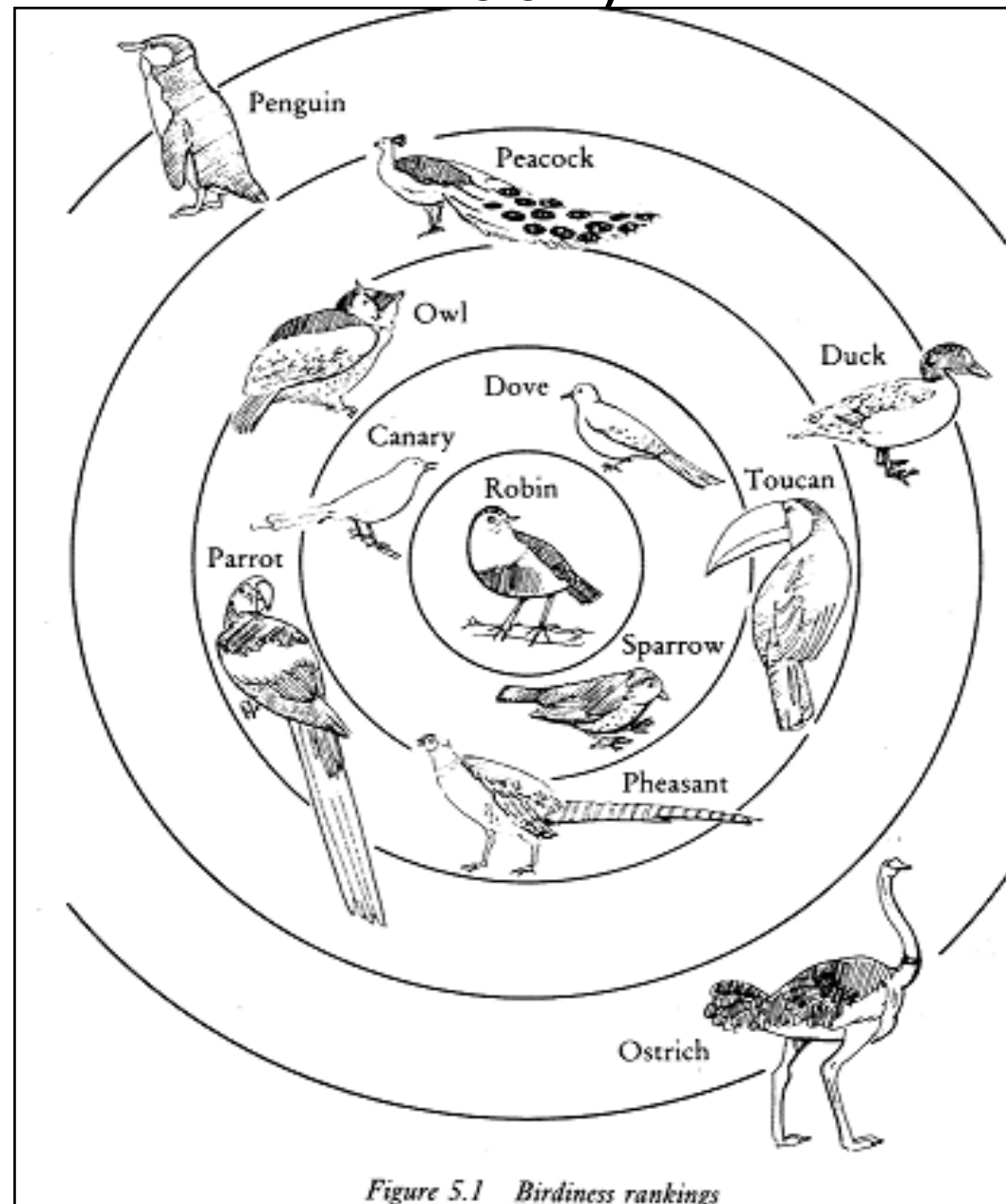
- **Cognitive semantics** studies the linguistic reflex of the general cognitive domain. It is based on the notion of **prototype**, proposed as a psychological approach to categorization by Eleanor Rosch.
- Rosch experiment: “This study has to do with what we have in mind when we use words which refer to categories”.

*“Let’s take the word red as an example. Close your eyes and imagine a true red. Now imagine an orangish red... imagine a purple red. Although you might still name the orange red or the purple red with the term red, they are not as good examples of red... as the clear ‘true’ red. In short, some reds are redder than others. The same is true for other kinds of categories. Think of dogs. You all have some notion of what a ‘real dog’, a ‘doggy dog’ is. To me a retriever or a German shepherd is a very doggy dog while a Pekinese is a less doggy dog. Notice that this kind of judgment has nothing to do with how well you like the thing; you can like a purple red better than a true red but still recognize that the color you like is not a true red. You may prefer to own a Pekinese without thinking that it is the breed that best represents what people mean by dogginess”.*

# Eleanor Rosch and her experiment 1

- Some of the categories tested: ‘Furniture’, ‘Fruit’, ‘Vegetable’, ‘Bird’, ‘Carpenter’s Tool’, ‘Clothing’, etc.
- Under each category was a list of 50 or so examples. The students (over 200) “had to rate how good an examples of the category each example was on a seven-point scale: rating something as 1 meant that it was considered an excellent example; 4 indicated a moderate fit; 7 suggested that it was a very poor example, and probably should not be in the category at all”. [Goodness-of-Exemplar ratings \(GOE\)](#)
- The results were surprisingly consistent:  
*robin*: ‘Bird’, *pea*: ‘Vegetable’, *chair*: ‘Furniture’, etc.

# E. Rosch and her experiment 2 (Aitchison, 1994)



# Existing interpretations of prototype

- The **most prominent** (central) **representative of a category**
- **Set of typical properties** (do not confuse with necessary and sufficient conditions) of a category.

For the category 'Bird': 'be able to fly', 'be oviparous', 'have feathers', 'have wings', 'have a beak'.

People probably decide on the extent to which something is a member of a category by matching it against the features of the prototype. It does not have to match exactly, it just has to be sufficiently similar, though not necessarily visually similar. Some features will have a greater effect on determining centrality in the category than others.

- **Family resemblance**: certain feature has to be shared by at least two members of the category (not all of them): AB-BC-CD, etc.

“A complicated network of similarities overlapping and criss-crossing” (Wittgenstein)

- **Prototype effects**

# The family of games 1

- Possible features to define a game:
  - winning and losing (what if you play alone?)
  - for amusement (chess as well?)
  - skill-defined (skill in tennis and skill in chess is the same?)
  - luck-defined (cards, for example)
  - etc.....

# The family of games 2 (Aitchison, 1994)

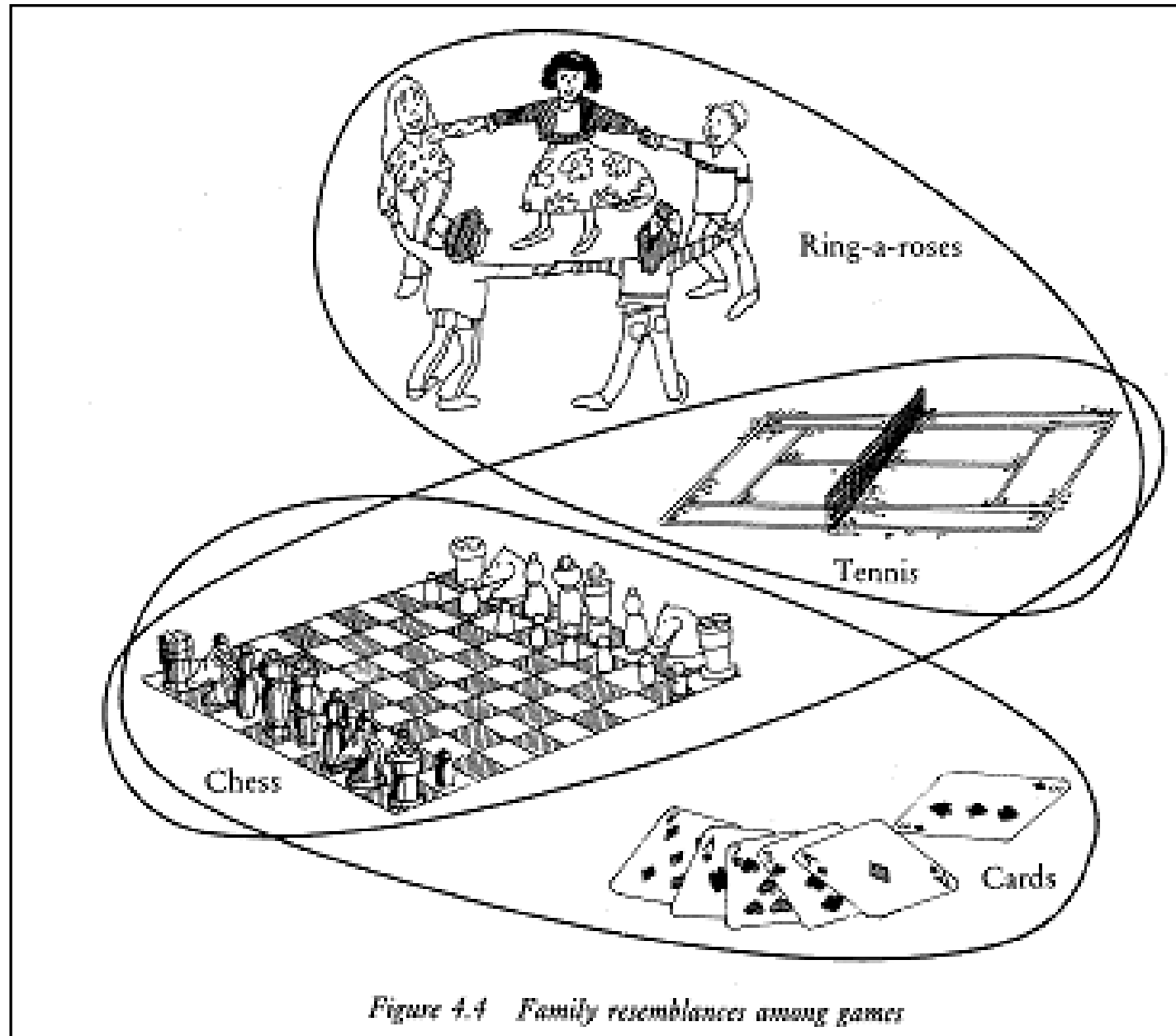
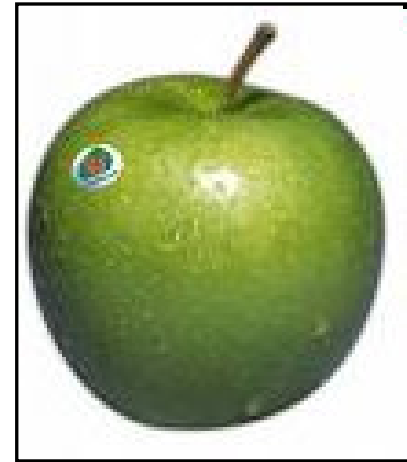


Figure 4.4 Family resemblances among games

# Prototype effects (Cruse, 2000)

- **Order of mention:** when subjects are asked to list the members of a category (especially under time pressure), the order of listing correlates with GOE ratings. The prototypical member normally appears early in the list.
- **Overall frequency:** the frequency of mention also correlates with GOE score.
- **Order of acquisition:** prototypical members of categories tend to be acquired first; the order of acquisition correlates with GOE rating.
- **Vocabulary learning:** children at later stages of language acquisition learn new words more readily if they are provided with definitions that focus on prototypical instantiations than if they are given an abstract definition that more accurately reflects the total range of the word's meaning.
- **Speed of verification:** in psycholinguistic experiments in which subjects are required to respond as quickly as possible to a categorization task, they produce faster responses if the tasks involve a prototypical member.
- **Priming:** the presentation of a category name has the greatest speeding-up effect on the prototype of a category, and the effect is proportionately less as we move away from the center of the category.

# What's that?



# Basic-level categories 1

Different levels of specificity in naming:

- (a) vehicle-**car**-hatchback
- (b) fruit-**apple**-Granny Smith
- (c) living thing-creature-animal-**cat**-Persian cat.
- (d) object-implement-cutlery-**spoon**-teaspoon

One level of specificity in each set has a special status, called **basic** or **generic** level.

Characteristics of basic-level items:

- (i) The most inclusive (generic) level at which there are **characteristic patterns of behavioral interaction**: imagine being asked to mime how one would behave with an animal. You need to know at least if it's a cat, crocodile, hamster, etc.
- (ii) The most inclusive level for which **a clear visual image can be formed**: try to visualize an item of cutlery or a vehicle, without it being any specific type.

## Basic-level categories 2

(iii) **Used for neutral, everyday reference.** The most probable response to the question *What's that?*

If you see a German shepherd, how would you reply?

- (a) It's an animal                      (b) It's a dog                      (c) It's a German shepherd

(iv) The basic level is the **level at which the best categories can be created.** Properties of good categories:

(a) distinctness from neighboring categories (German shepherd is less distinct from other dog breeds than the dog from other species)

(b) internal homogeneity (the category 'Animal' has less internal homogeneity than 'Dog')

(c) differential informativeness (the 'right amount of information we need at each point')

(v) Names of basic level categories **tend to be morphologically simple and 'original'**, in the sense of not being metaphorical extensions from other categories: *spoon vs. teaspoon, tablespoon, soup spoon, coffee spoon, etc.*

# Wierzbicka's semantic primitives

- The metalanguage (units of analysis of Wierzbicka) is composed by **semantic primitives**, basic undefinable concepts used to describe the whole vocabulary.
- These elements are assumed to be universal on the one hand because they represent basic conceptual entities, and on the other hand they are language-dependent.
- The list of primitives and quasi-primitives is relatively short and includes terms such as *I, you, something, somebody, thus, everything, two, to say, to want, not to want, to feel, to think, to know, to be able, to do, to happen, good, bad, similar, the same, where, when, after, because of*, etc.

**No complex terminology, just everyday terms from natural language**

- Her theory specifically stresses the **anthropomorphic dimension of the language**, according to which the man –his body, his everyday activity- acts as a structuring principle of concepts and related words.

Neck of a bottle, handful of people, mouth of the tunnel.

# Semantic primitives in a lexical entry

- The anthropomorphic perspective explains **the central role of the function in the lexicographic definition**. This information is included in the first place, among other things, because it gives cohesion to the concept and because it underlies other specific features of artifacts: size, shape, material, etc.

## CUPS

A KIND OF THING THAT PEOPLE MAKE

IMAGINING THINGS OF THIS KIND PEOPLE WOULD SAY THESE THINGS ABOUT THEM:

they are made for people to use repeatedly for drinking hot liquids from such as tea or coffee

one person from one thing of this kind

being able to put them down on something else

# Semantic primitives in a lexical entry: another example

- *English Speech Act Verbs. A semantic dictionary* (Wierzbicka, 1987):

REPROVE

Meaning

I say: you have done something bad

I assume you understand that you shouldn't do such things

I assume you understand that I am someone who can say this to  
you

I say this because I want to cause you not to do such things

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