



# Chapter 9: Semantics

# Semantics



## What is Semantics?

Semantics is the study of the meaning of words, phrases, and sentences.

# Meaning



- When we define words, we deal with the **conceptual** meaning rather than the **associative** meaning.
- What is the difference?

# Meaning

## Conceptual meaning:

- **Needle** = thin, sharp, steel, instrument
- **Low-calorie** = producing a small amount of heat or energy

## Associative meaning:

- **Needle** = pain, illness, blood, drugs, thread, knitting, hard to find.
- **Low calorie** = healthy
- Associative connotations related to a word.
- These associations differ from a person to another.

# Meaning



Poets, song-writers, novelists, literary critics,  
advertisers and lovers

**Associative Meaning**

In linguistic semantics

**Conceptual Meaning**

# Semantic Features

- The hamburger ate the boy
- The table listens to the radio
- The horse is reading the newspaper 🤖
- The oddness of these sentences does not derive from their syntactic structure.
- According to the basic syntactic rules for forming English sentences ,we have well-formed structures.

NP

V

NP

The hamburger

ate

the boy

# Semantic Features

- This sentence is syntactically good, but semantically odd.
- Since the sentence *The boy ate the hamburger* is perfectly acceptable, we may be able to identify the source of the problem.
- The components of the conceptual meaning of the noun *hamburger* must be significantly different from those of the noun *boy*.
- The kind of noun that can be the subject of the verb *ate* must denote an entity that is capable of ‘*eating*’.
- The noun *hamburger* does not have this property and the noun *boy* does .

# Semantic Features

- We can make this observation applicable by trying to determine the important features of meaning that any noun must have in order to be used as the subject of the verb *ate*.

- Feature = animate being

*boy*: + animate

[+ = has the feature]

*hamburger*: – animate

[ – = doesn't have the feature]



# Semantic Features

	table	horse	boy	man	girl	woman
animate	-	+	+	+	+	+
human	-	-	+	+	+	+
female	-	-	-	-	+	+
adult	-	+	-	+	-	+

- The word *girl* involves the elements [+ human, + female, - adult]
- Syntactic analysis + semantic features:

The \_\_\_\_\_ is reading the newspaper

N [+human]

# Semantic Roles

- Instead of thinking of words as ‘containers’ of meaning, we can look at the ‘**roles**’ they play.
- *The boy kicked the ball*
- The verb describes an action (kick)
- The noun phrases describe the roles of entities, such as people & things, involved in the action.
- We can identify a small number of **semantic roles** (thematic roles) for these noun phrases.

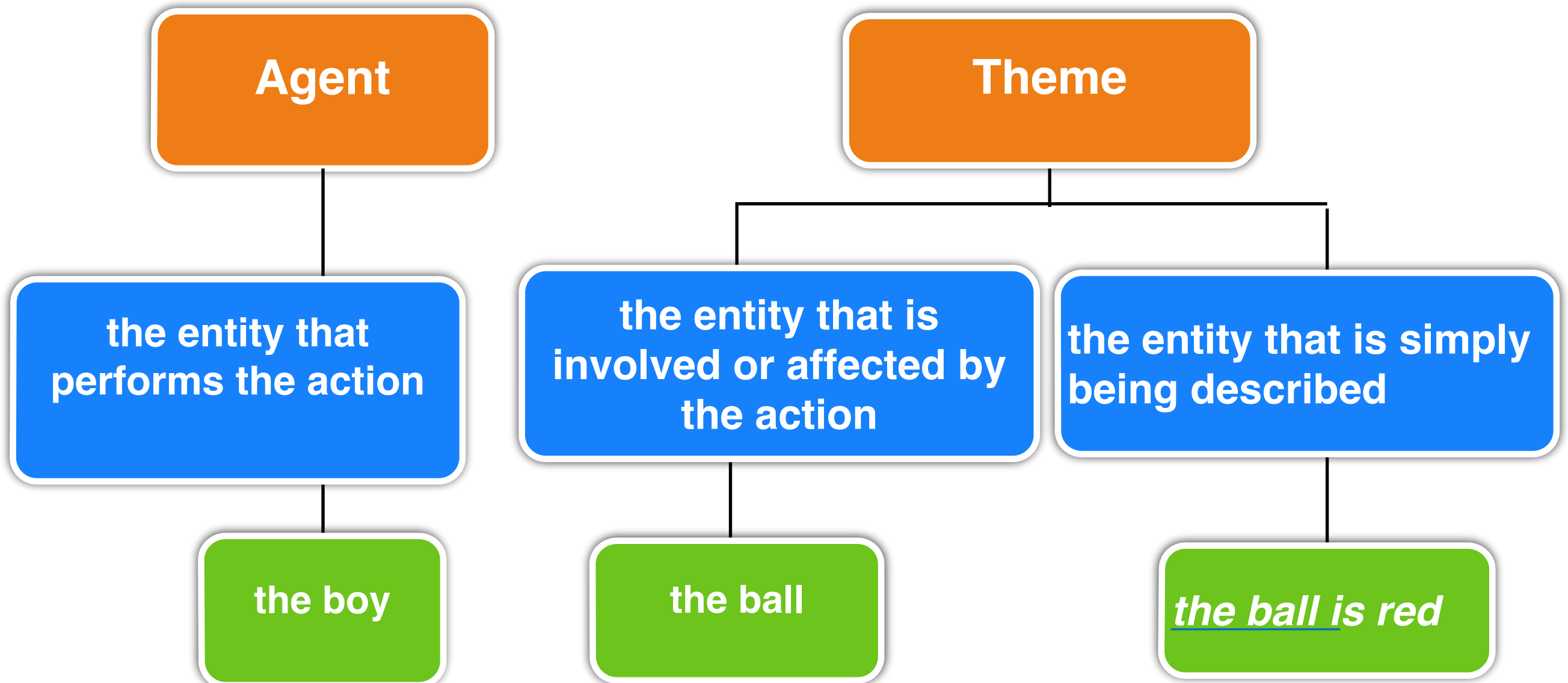
# Semantic Roles



- Agent
- Theme
- Instrument
- Experiencer
- Location
- Source
- Goal

# Agent and Theme

*The boy kicked the ball*



# Agent and Theme

- Although **agents** are typically **human**, they can also be **non-human** entities that cause actions.
- as in noun phrases denoting:
  - A natural force (the wind blew the ball away)
  - A machine (A car ran over the ball)
  - A creature (The dog caught the ball)

# Agent and Theme

- The theme is typically **non-human**, but can be **human**
  - The dog chased the boy.
- The same physical entity can appear in 2 different semantic roles in a sentence
  - The boy cut himself

the boy = agent

himself = theme

# Instrument

- If an agent uses another entity in order to perform an action, that other entity fills the role of **instrument**.
  - The boy cut the rope with an old razor.
  - He drew the picture with a pencil.
- The NP *an old razor* & *a pencil* are being used in the semantic role of **instrument**.

# Experiencer

- When a NP is used to represent an entity as the person who has a feeling, perception or state, it fills the role of **experiencer**.
- If we *see*, *know* or *enjoy* something, we are not really performing an action (so, we are not agents)
- We are in the role of **experiencer**.
  - The boy feels sad
  - Did you hear that noise?
  - The boy = experiencer
  - You = experiencer
  - that noise = theme



# Agent Vs Experencer

According to Ramchand, G.C. (2011),

- **Agent:** A participant which the meaning of the verb specifies as doing or causing something, possibly intentionally.
  - e.g. subjects of kill, eat, hit, smash, kick and watch.
- **Experencer:** A participant who is characterised as aware of something.
  - e.g. subjects of love, like, enjoy, smell, hear

# Location



- A number of other semantic roles represent where an entity is
  - on the table
  - in the room
- Where an entity is fills the role of **location**.

# Source and Goal

- Where an entity moves from is: the **source**
- Where an entity moves to is: the **goal**.
- *We drove from Jeddah to Riyadh.*  
source goal
- *I transferred the money from saving to checking.*  
source goal

# Semantic Roles

- All these semantic roles are illustrated in the following scenario.

- *Mary saw a fly on the wall.*

EXPERIENCER

THEME

LOCATION

- *She borrowed a magazine from George*

AGENT

THEME

SOURCE

- *she hit the bug with the magazine.*

AGENT

THEME

INSTRUMENT

- *She handed the magazine back to George*

AGENT

THEME

GOAL

- *"Gee thanks," said George*

AGENT

# Semantic Roles

- Extra examples:

<i>I</i>	<i>took</i>	<i>the pen</i>	<i>from her</i>	<i>and</i>	<i>gave</i>	<i>it</i>	<i>to him</i>
AGENT		THEME	SOURCE			THEME	GOAL

<i>The</i>	<i>door</i>	<i>is</i>	<i>big</i>
THEME			

# Lexical Relations

- Synonymy
- Antonymy
- Hyponymy
- Prototypes
- Homophones
- Homonyms
- Polysemy
- Metonymy
- Collocations

# Lexical Relations

- What is the meaning of the word *conceal*?
- What is the meaning of *shallow*?
- What is the meaning of *Rose*?
- By answering these questions, we are characterizing the meaning of each word, not in terms of its component **features**, but in terms of its **relationship** to other words.

# Lexical Relations

- Words can have relationships with each other.
  - *Big*  
The same as *large* (*Synonymy*)
  - *Big*  
The opposite of *small* (*Antonymy*)
  - *Dog*  
A kind of *animal* (*Hyponymy*)
- Lexical relations



# Synonymy

- **Synonyms** are two or more words with very closely related meanings.

Examples:

*almost/nearly, big/large, broad/wide, buy/purchase, cab/taxi, car/automobile, couch/sofa, freedom/liberty.*

# Synonymy

- They can often, though not always, be substituted for each other in sentences.
  - *What was his **answer**?* ✓
  - *What was his **reply**?* ✓
- The idea of “sameness” of meaning is not necessarily ‘total sameness’.
- In many occasions, **one word is appropriate** in a sentence, but **its synonym is odd**.
  - *Sandy had only one correct **answer** on the test.* ✓
  - *Sandy had only one correct **reply** on the test.* ✗

## Formal Vs. informal uses

- *My **father** **purchased** a **large** **automobile**.*
- *My **dad** **bought** a **big** **car**.*

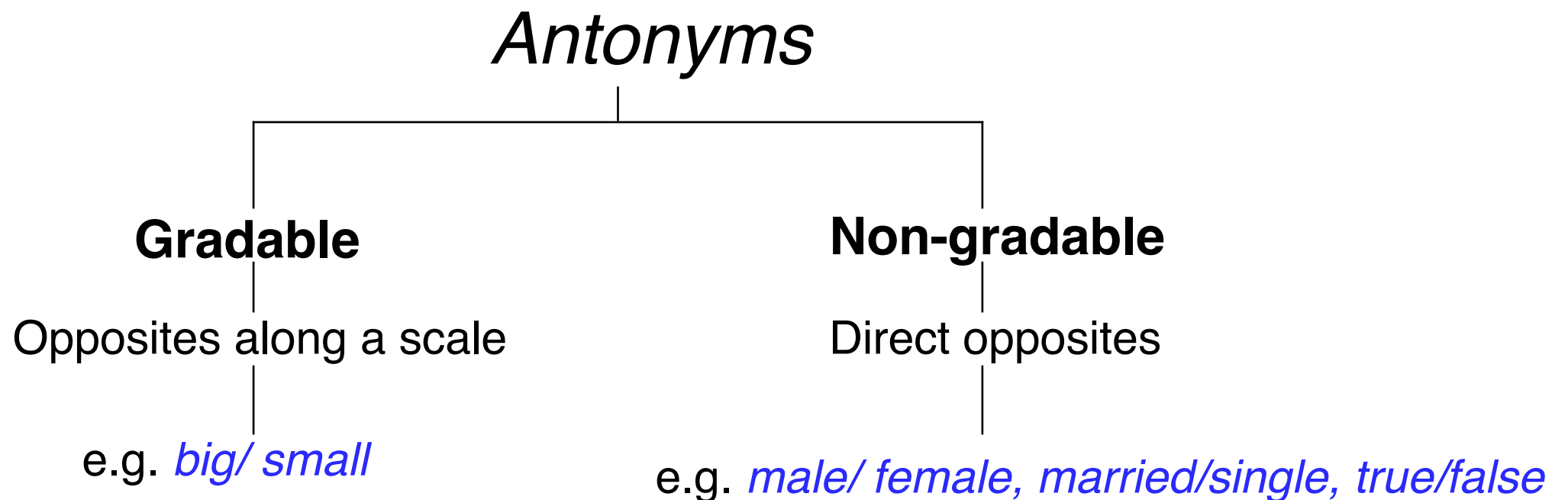
# Antonymy

- **Antonyms** are two forms with opposite meanings.

## Examples:

*alive/ dead, big/small, fast/slow, happy/sad, hot/cold,  
long/short, male/female, married/single, old/new, rich/  
poor, true/false.*

# Antonymy



**1-** Used in comparative constructions

**e.g.** *I'm bigger than you*

*A pony is smaller than horse*

**2 –** The negative of one member of a gradable pair doesn't necessarily imply the other.

**e.g.** *My car isn't old ≠ My car is new*

**1-** comparative constructions are not normally used

**e.g.** *dead* ✓      *deader* ×      *more dead* ×

**2 –** The negative of one member of a non-gradable pair does imply the other member.

**e.g.** *My grandparents aren't alive* =  
*My grandparents are dead*

# Hyponymy

- **Hyponymy** = when the meaning of one form is included in the meaning of another.

## Examples:

*animal/dog, dog/poodle, vegetable/carrot, flower/rose.*

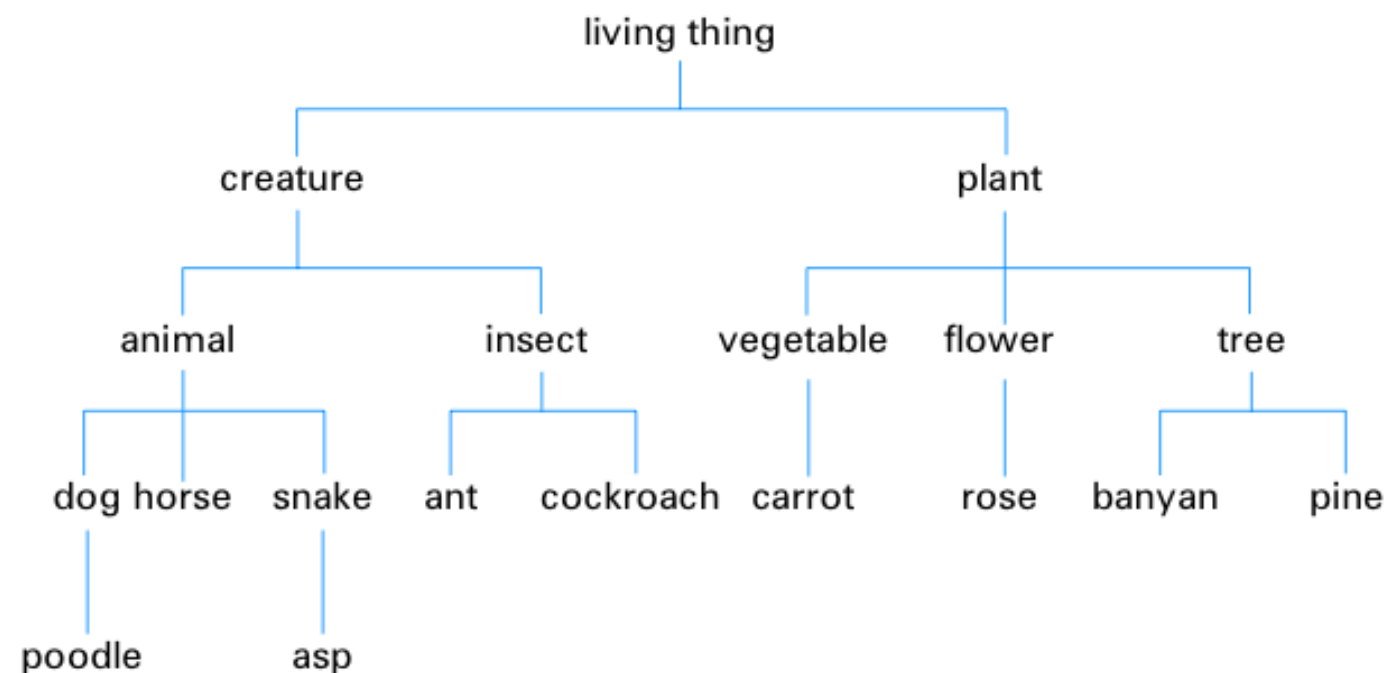


- The concept of ‘inclusion’ involved in this relationship is the idea that if an object is a **rose**, then it is necessarily a **flower**
  - **rose** is a hyponym of **flower**.
- The relationship of hyponymy = the concept of ‘is kind of’
  - e.g. “an **asp** is a kind of **snake**”



# Hyponymy

- Looking at the diagram, we can say that “*horse* is a hyponym of *animal*” or “*ant* is a hyponym of *insect*”
  - animal* = *superordinate* (= higher level)
  - insect* = *superordinate*
- The 2 or more words that share the same superordinate term are *co-hyponyms*.
  - Dog* & *horse* are co-hyponyms and the superordinate term is *animal*.



# Hyponymy



- Not only words of ‘things’ but also words of ‘actions’
  - e.g. *punch*, *shoot*, *stab* are co-hyponyms of the superordinate term *injure*.

# Prototypes

- What is the clearest example of the word *bird*?
- What is the clearest example of the word *fruit*?
- What is the clearest example of the word *furniture*?

-



# Prototypes

- “The characteristic instance” of a category is known as the *prototype*.
- Explain the meaning of certain words in terms of resemblance to the clearest example.
  - Bird
  - Pigeon & sparrow are closer to the prototype than ostrich & penguin.
  - Clothing--- *shirts* are closer than *shoes*.
  - Furniture --- *chair* is closer than *stool*



# Homophones

- **Homophones:** Two or more words with different forms and the same pronunciation

- Examples:

*Bare/bear, meat/meet, flour/flower, pail/pale, right/write, hole/whole, to/too/two.*

# Homonyms

- **Homonyms:** Two or more words with the same form and pronunciation that are unrelated in meaning

- Examples:

*bank* (of a river)

*bank* (financial institution)

*mole* (on skin)

*mole* (small animal)

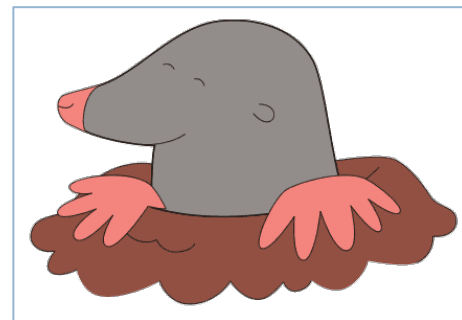
*pupil* (at school)

*pupil* (in the eye)

*race* (contest of speed)

*race* (ethnic group)

- Homonyms are words that have separate histories and meanings, but have accidentally come to have exactly the same form and pronunciation .



# Polysemy

- **Polysemy:** Two words or more with the same form and pronunciation, and with related meanings.

## Examples:

- *Head* = the object on top of your body
- *Head* = the person at the top of a company or department.
- *Foot* = of person/ of bed/ of mountain
- *Run* = person does/ water does/ colors does.

# Polysemy

- It is possible for two terms to be distinguished via homonymy and via polysemy.
  - **Date** = a thing we eat
  - **Date** = a point in time

} **homonyms**
- **Date** = a point in time is polysemous in terms of:
  - a particular day and month (=on a letter)
    - *The date on the letter was 30th August 1962.*
    - *What's today's date?*
  - An arranged meeting (= an appointment)
    - *Let's make a date to come over and visit.*
  - A romantic meeting (=with someone we like)
    - *I've got a date with Andrea tomorrow night.*
  - A person (that person we like)
    - *Can I bring my date to the party*

} **polysemy**

# Metonymy

- A container-contents relation
  - *Bottle/water*                      *e.g. He drank the whole bottle.*
  - *Can/juice*
- A whole-part relation
  - *Car/wheels*
  - *House/roof*
- Representative-symbol relation
  - *King/crown*
  - *The President/ the White House*      *The White House has announced..*
- Using one of these words to refer to the other is an example of metonymy.

# Metonymy

## Other examples:

- *10 Downing Street protested..*
- *answering the door*
- *boiling a kettle*
- Making sense of such expressions often depends on context, background knowledge and inference.

# Collocation

- Which words tend to occur with other words.
  - *hammer/ nail*
  - *table/ chair*
  - *butter/ bread*
  - *needle/ thread*
  - *salt/ pepper*
  - *Break/ rule, break/promise, break/ heart*
  - ارق للعاده، خارق للقانون
  - يكسر الروتين، يكسر القاعدة



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Thank you