SEMANTICS

Quick review

- **Lexical semantics**
- The traditional descriptive aims of lexical semantics have been:
  - (a) to represent the meaning of each word in the language; and
  - (b) to show how the meanings of words in a language are interrelated
- **lexeme -** a meaningful word in a language
- **Lexicon -** a complete list of the words in a language

  To build a lexicon, we must provide:
  - 1. the lexeme's pronunciation;
  - 2. its grammatical status;
  - 3. its meaning;
  - 4. its meaning relations with other lexemes.
- Problems with establishing the meaning of lexemes:
  - Vagueness
  - Collocation
  - Context
  - Ambiguity
  - Semantic shift
- Lexical relations
  - **Homonymy** – same spelling (homographs) or pronunciation (homophones)
  - **Polysemy** – multiple meaning
  - **Hyponomy** – Set/subset
  - **Meronymy** – part/whole
  - **Member-collection** – unit word/collection word
  - **Portion-mass –** count/noncount

Today

- Derivational relations
- Sentence relations

Derivational Relations

Another challenge for lexicon building is that it must include derived words when their meaning is not predictable.

Two examples of this are **causative verbs** and **agentive nouns**

Derivational Relations

Causative verbs

- *The apples are **ripe***. (Describes a state)
- *The apples are **ripening***. (Describes a change of state, aka an inchoative use)
- *The sun is **ripening** the apples*. (Describes the cause of change, a causative)

- The verb ‘ripening’ is derived from the adjective ‘ripe’ and the last two uses are grammatically distinct: **intransitive verb**, and a **transitive verb**, respectively.

Derivational Relations

- **Agentive Nouns**

- Agentive nouns are typically derived from verbs, e.g. by adding ‘er’ or ‘or’:

  - *Walk – walker*
  - *Murder – murderer*
  - *Toast – toaster*
  - *Comment – commentator*
  - *Direct – director*
  - *Sail – sailor*

Derivational Relations

- However, dictionary writers tend to list even these forms, for two reasons.

- The first reason is that there are some irregularities. For instance, some nouns are not derived from verbs; e.g. the word *footballer does not derive from a verb.*

- In other cases, the nouns may have several senses, some of which are quite far from the associated verb:
  - **lounger -** a piece of furniture for relaxing on
  - **undertaker -** mortician
  - **muffler -** *US* a car silencer
  - **renter -** *Slang*. a male prostitute

Derivational Relations

- The second reason for listing these forms in published dictionaries is that even though this process is quite regular, it is not possible to predict for any given verb which of the strategies for agentive nouns will be followed.

- For example, one who depends upon you financially is not a ∗*depender* but a *dependant*;
- and a person who cooks is a *cook* not a *cooker*.

Lexical Typology

- **Semantic typology** is the cross-linguistic study of meaning

- **Lexical typology** is of interest to a wide range of scholars because a language's lexicon reflects interaction between the
  - structures of the language,
  - the communicative needs of its speakers,
  - the cultural and physical environment they find themselves in.

Lexical Typology

- **Polysemy**
- It seems to be a universal aspect of human language that words have a certain plasticity of meaning that allows speakers to shift their meaning to fit different contexts of use.

- There are cross-linguistic commonalities as in the Somali example below:

  - *Sigaar ma cabtaa?*
  - cigarette(s) Q drink+you.SING.PRES
  - “Do you smoke?” (lit. Do you drink cigarettes?)

- This use of a verb of drinking for smoking is reported for Hindi, Turkish, and Hausa among other languages.

Lexical Typology

- **Color terms**
- Languages vary with respect to color terms.
- For example, some languages have fewer basic color terms than others (some as few as two)
- However, when two languages have the same number of terms, the same colors are usually included, as seen below:

System	*Number of terms*	*Basic color terms*
1	Two	WHITE, BLACK
2	Three	WHITE, BLACK, RED
3	Four	WHITE, BLACK, RED, GREEN
4	Four	WHITE, BLACK, RED, YELLOW
5	Five	WHITE, BLACK, RED, GREEN, YELLOW
6	Six	WHITE, BLACK, RED, GREEN, YELLOW, BLUE
7	Seven	WHITE, BLACK, RED, GREEN, YELLOW, BLUE, BROWN
8	Eight, nine, ten, or eleven	WHITE, BLACK, RED, GREEN, YELLOW, BLUE, BROWN, PURPLE +/ PINK +/ ORANGE +/ GRAY

Lexical Typology

- **Core vocabulary**
- The idea that each language has a core vocabulary of more frequent and basic words is widely used in foreign language teaching and dictionary writing.

Lexical Typology

- **Core vocabulary**
- Morris Swadesh proposed that this core vocabulary could be used to trace lexical links between languages to establish family relationships between them.

Swadesh's (1972) 100-item basic vocabulary list

1. I
2. you
3. we
4. this
5. that
6. who
7. what
8. not
9. all
10. many
11. one
12. two
13. big
14. long
15. small
16. woman
17. man
18. person
19. fish
20. bird
21. dog
22. louse
23. tree
24. seed
25. leaf
26. root
27. bark
28. skin
29. flesh
30. blood
31. bone
32. grease
33. egg
34. horn
35. tail
36. feather
37. hair
38. head
39. ear
40. eye
41. nose
42. mouth
43. tooth
44. tongue
45. claw
46. foot
47. knee
48. hand
49. belly
50. neck
51. breasts
52. heart
53. liver
54. drink
55. eat
56. bite
57. see
58. hear
59. know
60. sleep
61. die
62. kill
63. swim
64. fly
65. walk
66. come
67. lie
68. sit
69. stand
70. give
71. say
72. sun
73. moon
74. star
75. water
76. rain
77. stone
78. sand
79. earth
80. cloud
81. smoke
82. fire
83. ash
84. burn
85. path
86. mountain
87. red
88. green
89. yellow
90. white
91. black
92. night
93. hot
94. cold
95. full
96. new
97. good
98. round
99. dry
100. name

Universal lexemes

- Anna Wierzbicka and her colleagues have analyzed a large range of languages to try and establish a core set of universal lexemes. One feature of their approach is the avoidance of formal metalanguages. These writers use a subpart of a natural language as a natural semantic metalanguage

Universal lexemes

- **Natural Semantic Metalanguage** (Goddard 2001: 3):
- …a “meaning” of an expression will be regarded as a paraphrase, framed in semantically simpler terms than the original expression, which is substitutable without change of meaning into all contexts in which the original expression can be used… The postulate implies the existence, in all languages, of a finite set of indefinable expressions (words, bound morphemes, phrasemes). The meanings of these indefinable expressions, which represent the terminal elements of language-internal semantic analysis, are known as “**semantic primes**.”

Universal lexemes

- A selection of the **semantic primes** proposed in this literature is given below, informally arranged into types:

Universal semantic primes (from Wierzbicka 1996, Goddard 2001)	
Substantives:	I, you, someone/person, something, body
Determiners:	this, the same, other
Quantifiers:	one, two, some, all, many/much
Evaluators:	good, bad
Descriptors:	big, small
Mental predicates:	think, know, want, feel, see, hear
Speech:	say, word, true
Actions, events, movement:	do, happen, move, touch
Existence and possession:	is, have
Life and death:	live, die
Time:	when/time, now, before, after, a long time, a short time, for some time, moment
Space:	where/place, here, above, below, far, near, side, inside
"Logical" concepts:	not, maybe, can, because, if
Intensifier, augmentor:	very, more
Taxonomy:	kind (of), part (of)
Similarity:	like

The claim made by these scholars is that the semantic primes of all languages coincide.

Sentence relations and Truth

- Having looked at relations among words, we now turn to relations among sentences.

- One popular approach to understanding relations among sentences, which has grown out of the study of logic, is a truth-based account.

Sentence relations and Truth

- There is a consensus in the literature that for sentence meaning, a semantic theory should reflect an English speaker's knowledge:

4.1 That a and b below are **synonymous**:
a. My brother is a bachelor.
b. My brother has never married.

4.2 That a below **entails** b:
a. The anarchist assassinated the emperor.
b. The emperor is dead.

4.3 That a below **contradicts** b:
a. My brother Sebastian has just come from Rome.
b. My brother Sebastian has never been to Rome.

4.4 That a below **presupposes** b, as c does d:
a. The Mayor of Manchester is a woman.
b. There is a Mayor of Manchester.
c. I regret eating your sandwich.
d. I ate your sandwich.

4.5 That a and b are necessarily true, i.e. **tautologies**:
a. Ireland is Ireland.
b. Rich people are rich.

4.6 That a and b are necessarily false, i.e. **contradictions**:
a. ?He is a murderer but he's never killed anyone.
b. ?Now is not now.

Sentence relations and Truth

- Such relations are closely related to relations studied in logic.

4.14	a.	If Arnd has arrived, then he is in the pub.	p → q
	b.	Arnd is not in the pub.	P
	c.	Arnd has not arrived.	q
4.15	a.	If Arnd is in the pub, then he is drinking beer.	p → q
	b.	If Arnd is drinking beer, then he is drinking Guinness.	q → r
	c.	If Arnd is in the pub, then he is drinking Guinness.	p → r
4.16	a.	Arnd is in the public bar or he is in the lounge.	p v q
	b.	Arnd isn't in the public bar.	~p
	c.	Arnd is in the lounge.	q

Notice that in each of the above, we can determine the truth of c based on the truth of a and b.

Sentence relations and Truth

- Not

p	$\neg p$
T	F
F	T

- And

p	q	$p \wedge q$
T	T	T
T	F	F
F	T	F
F	F	F

- Or

p	q	$p \vee q$
T	T	T
T	F	T
F	T	T
F	F	F

- If…then

p	q	$p \rightarrow q$
T	T	T
T	F	F
F	T	T
F	F	T

Sentence relations and Truth

- The important point here is that, as we have seen, there are certain words like the connectors *and*, *or*, *if . . . then*, the negative word *not*, influence the truth behavior of sentences. For this reason these are sometimes called **logical terms**.

Sentence relations and Truth

- **Entailment**
- a. *The anarchist assassinated the emperor.*
- b. *The emperor died.*

- A truth-based definition of entailment allows us to state the relationship more clearly:

- **Entailment defined by truth:**
- A sentence **p** entails a sentence **q** when the truth of **p** guarantees the truth of **q**, and the falsity of **q** guarantees the falsity of **p**.

Composite truth table for entailment

p		**q**
T	→	T
F	→	T or F
F	←	F
T or F	←	T

Sentence relations and Truth

- **Entailment**
- a. *The anarchist assassinated the emperor.*
- b. *The emperor died.*

- Formally:

Composite truth table for entailment

p		**q**
T	→	T
F	→	T or F
F	←	F
T or F	←	T

- When **p** is false, **q** can be either true or false: if all we were told was that the anarchist didn't assassinate the emperor, we wouldn't know whether the emperor was dead or alive.
- When **q** is true, **p** can be either true of false: if we just know that the emperor is dead, that doesn't tell us anything about whether the anarchist assassinated him or not

Sentence relations and Truth

- **Entailment**
- a. *The anarchist assassinated the emperor.*
- b. *The emperor died.*

- We have said that an entailment relation is given to us by linguistic structure: we do not have to check any fact in the world to deduce the entailed sentence from the entailing sentence. The source may be lexical or syntactic. In our example above it is clearly lexical: the relationship of entailment between a and b derives from the lexical relationship between *assassinate* and *die*. (hyponymy)

Sentence relations and Truth

- **Synonymy**
- Similarly, we can define other relations using a truth-based model

- The Etruscans built this tomb.
- This tomb was built by Etruscans.

Composite truth table for synonymy

p		**q**
T	→	T
F	→	F
T	←	T
F	←	F

Exercises

- P. 76
- 3.2
- 3.8
- 3.9
- 3.10