

September 8 & 11, 2009

CLASS 1–2: INTRODUCING MORPHOLOGY — WORDS

OVERVIEW

In the first few classes of *MASOE* (roughly a third of the entire semester), we will be dealing with morphology, the theory of **word formation**. Naturally, the definition of a word will be important and we'll learn how words break down into smaller units, **morphemes**. We'll look at the 'word' along the following lines:

- **words:** units of meaning vs. units of sentence structure,
pronounceable vs. abstract entities
- **word classes:** lexical vs. functional categories,
verbal morphology,
inflectional classes
- **building words:** morphemes,
morphological processes,
compounds,
clitics,
allomorphy

In addition, there's interesting aspects of **morphology across languages**: There are so-called agglutinative languages, morphological operations, other funky stuff.

WHAT'S A WORD?

H1: unpredictable — something that must be listed in a dictionary

H2: building blocks — they are used to form phrases and sentences

Some problems:

- **non-words** (bigger than "just a word": idioms, collocations, proverbs)
- **type vs. token** (what exactly *is* listed in a dictionary or stored in the lexicon?)
- **predictability** (onomatopoeia, sound symbolism, some word formation processes)

Further issues:

- **arbitrariness** (Lexicon: stores label, phonology/sound, semantics/meaning)
- **complex vs. simple words** (what's the difference between *teacher* and *fish*?)
- **compositionality** (meaning is composed: phrases/syntax vs. words/morphology)
- **phonotactics** (if *teacher* contains *teach*, why isn't there **spit* < *pit* or **chef* < *cook*?)

WHAT ARE “CATEGORIES”?

We can basically distinguish **two types of categorial information**:

- ❶ person, number, gender, case, definiteness, tense, aspect, mood, voice etc.
- ❷ noun, verb, adjective, adverb, preposition, determiner, complementizer etc.

- (1) A *grammatical category* is a class of expressions which share a common set of grammatical properties. (Radford 1997: 29)

The **inventory of grammatical categories** for English follows straightforwardly for the most part from traditional grammars (“school English”). But let’s go through the **major types** and establish some evidence (cf. also Haegeman & Guéron 2000: 53-63).

Nouns

- (2) linguist, friend, lawyer, gallery, lunch, star, computer, book, friendship...

These nouns different in *semantic meaning* share properties of **nominal morphology**:

- the words in (2) are all *singular*
 - singular nouns can follow an *indefinite determiner* (which marks singular): (3a)
- these nouns can be put into *plural* (‘be pluralized’) by adding the ending *-(e)s*: (3b)
 - plural-marked nouns can follow, for instance, *numeral adjectives* (‘numerals’): (3c)
- nouns in general can be associated with the *genitive morpheme* (‘possessive’) ‘s’: (3d)

- (3) a. a linguist – a friend – a lawyer – a gallery – a lunch
 b. linguist-s – friend-s – lawyer-s – galleri-es – lunch-es
 c. **two** linguists – **three** friends – **four** lawyers – **five** galleries – **six** lunches
 d. the linguist’s joy – the friend’s name – the lawyer’s guilt – the gallery’s fate

Words belonging to the same category (“word class”) have a similar **distribution** as well: They appear in similar or (near-)identical positions in the sentence. Nouns can, for example, be preceded the definite article or by a demonstrative, as in (4a), as well as by possessive pronouns, as in (4b).

- (4) a. **the** linguist — **this** friend — **the** lawyer — **that** gallery — **the** lunch
 b. **my** linguist — **your** friend — **his** lawyer — **her** gallery — **our** lunch

Other words that belong to the **lexical category** of nouns are given in (5a-c).

- (5) a. mother, daughter, teacher, girl, door, window, writer, soldier, bomb...
 b. love, hatred, justice, friendship, faith, hope, charity, horror, thought...
 c. information, water, food, milk, flour, sugar, cream, mud, blood, gas...

But these groups of nouns differ **semantically**. One class of nouns expresses *concrete entities, objects or persons*, (5a); others *abstract entities, such as concepts or feelings*, (5b).

Nouns from both classes can be *pluralized*, (6a); these are **count nouns** because of their being *countable*, (6b); they usually can't stand alone in a sentence (6c).

- (6) a. mothers — daughters — teachers — girls — doors — windows — writers
 b. a/one mother — a/one daughter — a/one teacher — a/one girl — a/one door
 c. * Mother / Daughter / Teacher goes shopping / grows up / sucks.

Some nouns from the abstract-class need to be *specified* further if they occur with a *determiner* (see below), such as (7a-b), or appear in their **bare form** (7c).

- (7) a. * The love / hatred / justice is wonderful / a pity / only for some.
 b. The love I feel for one's sweetheart is wonderful.
 c. Love makes the world go round.

Yet another class of nouns doesn't usually have plural forms; these *non-countable words*, we call non-count or **mass nouns**, (5c), shown in (8a-b), though they can be qualified, (8c).

- (8) a. *informations — *waters — *foods — *milks — *flours — *sugars — *creams
 b. *an/one information — *a/one water — *a/one food — *a/one milk
 c. good information, fresh water, hot food, sour milk, fine flour, brown sugar

Verbs

Verbs come in different flavours too. For starters, we identify verbs in terms of their *inflectional morphology*. English verbs come (and more often than not show up) in *base* or **root form**. One of the few examples of **agreement morphology** is the *third person singular present tense*, where the marker *-s* attaches to the root. Other types of **verbal morphology** are (regular) *past tense*, the *present participle gerund*, the *past participle*.

- (9) a. work, wait, show, meet, go...
 b. he/she/it work-s — wait-s — show-s — meet-s — goe-s
 c. work-ed — wait-ed — show-ed — *meet-ed ⇒ *met* — *go-ed ⇒ *went*
 d. work-ing — wait-ing — show-ing — meet-ing — go-ing
 e. work-ed — wait-ed — show-ed — *meet-ed ⇒ *met* — *go-ed ⇒ *gone*

And then there are, of course, the much loved *irregular forms* (for the usual suspects of verbal morphology, namely past tense and past participles):

- (10) a. buy ⇒ **bought** — bring ⇒ **brought** — speak ⇒ **spoke** — come ⇒ **came**
 b. buy ⇒ **bought** — bring ⇒ **brought** — speak ⇒ **spoken** — come ⇒ **come**

Apart from showing up in their specific morphology, verbs can be distinguished **distributively** from other grammatical categories by being able to be preceded by elements like *will*, *can* or *must* (**modal auxiliaries**), or by *to*, which signals infinitive.

- (11) a. The girl **will** / **can** / **must** comb the cat tonight.
 b. It is important for the girl **to** comb the cat tonight.

Adjectives

Adjectives, like those in (12), also have a number of unique properties.

- (12) young, kind, attractive, studious, red, local, interesting, smart, tall, tiny...

With respect to **adjectival morphology**, adjectives can be associated with the **affixes** *-er* and *-est* to express the notion of **degree** (*comparative* and *superlative*, respectively):

- (13) a. young-**er** — kind-**er** — redd-**er** — smart-**er** — tall-**er** — tini-**er**
 b. young-**est** — kind-**est** — redd-**est** — smart-**est** — tall-**est** — tini-**est**

Degree for adjectives that are *polysyllabic* can be expressed by a preceding *more/most*, as shown in (14a-b), and, as so often in language, there are exceptions, as in (14c).

- (14) a. **more** attractive — **more** important — **more** studious — **more** local
 b. **most** attractive — **most** important — **most** studious — **most** local
 c. good ⇒ **better** ⇒ **best** — bad ⇒ **worse** ⇒ **worst**

Distributively, we can observe that adjectives can co-occur with other *degree words*:

- (15) a. **so** young — **so** kind — **so** attractive — **so** important
 b. **too** young — **too** kind — **too** attractive — **too** important
 c. **that** young — **that** kind — **that** attractive — **that** important
 d. **very** young — **very** kind — **very** attractive — **very** important
 e. **quite** young — **quite** kind — **quite** attractive — **quite** important
 f. **rather** young — **rather** kind — **rather** attractive — **rather** important
 g. **how** young — **how** kind — **how** attractive — **how** important

The **position** of adjectives in an English sentence is directly preceding the noun:

- (16) a. a / the / this / that / those / those ____ *noun(s)*
 b. my / your / his / her / our / your / their ____ *noun(s)*

- | | |
|---|---|
| (17) a. a young cat
b. the kind teacher
c. this attractive theory
d. my important wife | (17') a. young cats
b. the kind teachers
c. these attractive theories
d. our important wives |
|---|---|

Adverbs

Adverbs (18a) are formed in three ways. **Adverbial morphology** consists of adding the *adverbial marker* *-ly* to adjectives, (18b). But not all adverbs are *morphologically related* to adjectives. Some are *formally identical* to adjectives, others *exceptional*: (18c).

- (18) a. carefully, eagerly, strongly, badly, happily, lazily, long, well
b. careful-ly — eager-ly — strong-ly — bad-ly — happi-ly — lazi-ly
c. long ⇒ **long** — good ⇒ **well**

In terms of **distribution**, adverbs can, just like adjectives, be *modified by degree words*:

- (19) a. The cat balanced on the edge *very* **carefully**.
b. The students study for syntax *more* **eagerly** than for postmodernism.
c. The teacher press the chalk *so* **strongly** on the blackboard that it breaks.
d. I fix things *too* **badly** so they don't work.
e. The wife lets him cook *quite* **happily**.
f. Cats lie on beds *rather* **lazily**.
g. Some classes don't have to be *that* **long**.
h. *How* **well** do you draw syntactic trees?
i. I will prepare that class **well** *enough*.

Still, adverbs cannot be inserted into exactly the same **positions** as adjectives:

- (20) a. Her (very) **careful** answer surprised him.
b. * Her (very) **carefully** answer surprised him.

Prepositions

Morphologically, prepositions are invariant, there is no prepositional morphology. "Classical" prepositions are *monosyllabic* (21a), while others are *polysyllabic*, as (21b).

- (21) a. in, on, of, at, by, for, with (...)
b. about, against, above, beyond, underneath, after, before (...)

But their **distribution** is pretty clear: Prepositions are usually followed by a nominal expression (some phrase containing a noun, a *noun phrase*; see below), as in (22a-j).

- (22) a. **in** class
 b. **on top of** the world
 c. **at** a nice restaurant
 d. **by** the author
 e. **with** this book
 f. **about** syntax
 g. **against** postmodernism
 h. **above** my head
 i. **beyond** the horizon
 j. **underneath** the surface

Some prepositions can also be followed by a *sentence*, illustrated in (23a-b). (We will distinguish prepositions from **particles**, and also **complementizers**, in later classes.)

- (23) a. **after** [they left]
 b. **before** [I talk to you again]

What all prepositions do have in common is that they can be **modified**: (24a-d).

- (24) a. *right* **in** here
 b. *straight* **by** the book
 c. *right* **about** now
 d. *straight* **against** the tide

LEXICAL VS. FUNCTIONAL WORDS

We distinguish the above **lexical words** from another class of grammatical categories, **functional words**. Before wondering why, let's look at a representative of the latter group.

Determiners

These are the little guys that pop up in front of the noun (and any *nominal modifiers*, such as adjectives). The cover term we use in the generative framework is **determiners**. Strictly speaking, however, these are all distinct words, and a number of items fall into this category: *definite* and *indefinite* **articles**, (25a), **numerals**, (25b), **quantifiers**, (25c), **possessive pronouns**, (25d), **demonstrative pronouns**, (25e), and possibly more.

- (25) a. the, a(n)
 b. one, two, three...
 c. some, many, most, no, all (...)
 d. my, your, his, her, its, our, their
 e. this, that, these, those

In general, these items precede the noun (plus modifying material; see above). We can observe that some of these are in **complementary distribution**, while others can co-occur.

- (26) a. ***this the** student [demonstrative pronoun + definite article]
 b. ***that a** student [demonstrative pronoun + indefinite article]
 c. ***a her** book [indefinite article + possessive pronoun]
 d. ***the his** book [definite article + possessive pronoun]
 e. ***this their** teacher [demonstrative pronoun + possessive pronoun]
 f. ***that our** course [demonstrative pronoun + possessive pronoun]
- (27) a. **the two** students [definite article + numeral]
 b. **my two thousand** books [possessive pronoun + numeral]

Quantifiers are a bit tricky and lead to a messy partition. (28) offers a brief glimpse.

- (28) a. ***these some** students [demonstr. pronoun + quantifier = *indefinite* article]
 b. **those many** students [demonstrative pronoun + quantifier]
 c. **all those** students [quantifier + demonstrative pronoun]
 d. **some of these** students [quantifier + demonstr. pronoun with *of*-insertion]

Demonstratives and *articles* on the other hand can be shown to differ quite clearly:

- (29) a. **This** is a nice house. / I don't like **that**.
 b. * **The** is a nice house. / I don't like **the**.

- the **distributive** evidence in (26) suggests that *articles*, *demonstratives* and *possessives* occupy the same position inside the *nominal expression* (the stuff around the noun)
- we can see (27) that *numerals* follow this class of determiners (cf. **two the students*)
- *quantifiers* seem to have a more complicated behaviour (leave it for another time!)

So, how are determiners different from the other grammatical elements (nouns, verbs, adjectives, adverbs, prepositions)? In particular, why do we call the first class **lexical categories** and the second **functional categories**?

One traditional argument is that lexical words have **lexical/descriptive content**, while functional words carry an essentially **grammatical function**, they act as **functors** (hence the terminology!).

This distinction can be carried on and rationalized in that *lexical categories* are words from an **open class** word list, while *functional categories* are **closed class** items.

This means that, by and large, *open class* items can be constantly added to the **vocabulary** of a language. We can always make up new nouns, turn these into verbs, adjectivize them and finally create an adverb out of them (for example; the rules governing such creation and derivation are part of **morphology**). Our inventory of open class items is in principle **infinite**.

Closed class items, on the other hand, are limited. In general, no new items of this class can be added to the vocabulary. *Prepositions* may be a marginal group, as our

Auxiliaries

Another class of *closed class* items consists of **auxiliary elements**. We classically distinguish **modal** from **perfective, imperfective/progressive & dummy auxiliaries** — in some (semantic) senses similar, English also has some **inflectional morphemes**.

(34) will, would, may, might, can, could, shall, should, must

(35) have, be, do

(36) *-ing, -s, -ed, -en*

Auxiliaries have the *semantic function* of **marking grammatical properties** of the verb that follows them: *tense* (present vs. past), *aspect* (progressive, habitual), *voice* (active vs. passive), *mood* (indicative, subjunctive etc.) or *modality* (possibility, necessity...).

(37) a. The students **will** learn syntax.

b. The students **have** learned syntax.

c. The students **are** / **were** learning syntax.

d. Syntax **will be** / **has been** / **is being** learned by the students.

(38) a. They'll learn syntax.

b. They've learned syntax.

c. They're learning syntax.

(39) a. The students learn-**ed** syntax.

b. The linguist teach-**es** syntax.

c. The students learn-**Ø** syntax.

(40) a. The students **would** / **may** / **can** / **shall** / **must** learn syntax.

b. The students **would** / **may** / **can** / **shall** / **must be** learn-*ing* syntax.

c. The students **would** / **may** / **can** / **shall** / **must have** learn-*ed* syntax.

d. Syntax **would** / **may** / **can** / **shall** / **must be** learn-*ed* by the students.

e. Syntax **would/may/can/shall/must have been** learn-*ed* by the students.

In their **distribution** auxiliaries differ from verbs in being able to undergo **inversion**:

(41) a. **You** *can* pass the exam.

b. **They** *studied* hard.

(41') a. *Can* **you** pass the exam?

b. *Did* **they** *study* hard?

(42) a. * *Solved* **you** the homework?

b. * *Come* **you** home tonight?

(42') a. *Did* **you** *solve* the homework?

b. *Do/Will* **you** *come* home tonight?

Another difference is auxiliaries can directly be **negated** by *not*, without **do-support**:

(43) a. The cat **can not** / **can't** go outside.

b. The boy **has not** / **hasn't** finished work yet.

(44) a. * They **like not** / **liken't** the food. (44') a. They **do not** / **don't** *like* the food.

b. * I **played not** / **playn't** the piano. b. I **do not** / **don't** *play* the piano.

Auxiliaries, in contrast to verbs, can also be used as **tags** (in so-called *tag questions*):

- (50) a. By now you all must think [**that** syntax *is* the greatest thing].
 b. Please tell me [**if** you *don't* understand something (or anything?)].
 c. I would love [**for** you all *to* pass this class and continue with syntax].
 d. Everybody wants to know [**whether** this class *will* be as good as it looks].

We distinguish **two types of complementizers**: those, that *require their complement clause* to be *finite* and those, that require it to be *non-finite* (basically, *infinitival*).

- (51) a. * By now you all must think [**that** syntax *to* be the greatest thing].
 b. * Please tell me [**if** you *to* understand something (or anything?)].
 c. * I would love [**for** you all *will/should* pass this class & continue with syntax].
 d. * Everybody wants to know [**whether** this class *to* be as good as it looks].

Another big difference between *that/for* and *if/whether* is that the first two introduce declarative sentences and the other two interrogative sentences.

- (52) a. I know **that** Macs are better than PCs. ⇒ Macs are better than PCs.
 b. I wish **for** everybody to own a Mac. ⇒ Everybody (should) own(s) a Mac.
 c. I don't know **if** you care. ⇒ Do you care?
 d. I wonder **whether** PCs are any good. ⇒ Are PCs any good?

Complementizers serve three **grammatical functions**. They mark:

- the fact that the clause they introduce is the **complement of some predicate**
- whether the clause they introduce is **finite or non-finite** (*infinitival*)
- the **illocutionary force** (*semantic/pragmatic function*) of the clause they introduce

As with some other categories (such as infinitival *to*), the question arises whether complementizers need to be assigned their **own, separate grammatical category** (i.e. *complementizer*) or whether we can subsume them under *already established categories*. By looking at the words themselves, an obvious choice would be to call *for* a preposition (just like the preposition *for*), *that* a determiner (demonstrative), and *if* and *whether* maybe as adverbs. Would that work? ⇒ No...

- (53) a. He headed (*straight*) **for** the pub.
 b. She hoped (**straight*) **for** him to head for the pub.
 c. **For** *her to go there* would be impossible.
 d. * **For** *her* would be impossible.
- (54) a. She refuses to believe **that** *rumour*.
 b. She refuses to believe **that** *he went to the pub*.
 c. She refuses to believe /ðæt/ / /ðət/ *rumour*.
 d. She refuses to believe /ðæt/ / * /ðət/ *he went to the pub*.
 e. She refuses to believe **this** / **the** *rumour*.
 f. * She refuses to believe **this** / **the** *he went to the pub*.

The same types of arguments can be made for the other complementizers. **Distributionally** complementizers behave like a class of their own, and so they do **functionally** as well.

CATEGORIES AND STRUCTURE

Given the detailed discussion about the **morpho-syntactic properties** of each of the categories reviewed, you should all be able to construct *tests* to determine the **categorial status** of a given word. We'll use the following **labels** for all these categories/word classes:

- (55) *N* = Noun
V = Verb
A = Adjective
Adv = Adverb
P = Preposition
D = Determiner (Dem=demonstrative, Q=quantifier, Num=numeral, Poss=possessive)
I = Inflection for auxiliaries and infinitival *to* (Aux = auxiliary, Mod = modal etc.)
C = Complementizer

Pronouns are also a type of **D**, but if you prefer you can abbreviate them as **Pron**.

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