

January 26, 2007

## CLASS NOTES 1: INTRO TO GRAMMAR & CATEGORIES

### OVERVIEW

- standard English and non-standard varieties
  - formal and informal styles
- descriptive and prescriptive approaches to grammar

☞ Standard English, dialect, accent — grammar, vocabulary, pronunciation

### TERMINOLOGY

- components of grammar

☞ *form* (syntax, morphology), *meaning* (semantics), *sound* (phonology)  
*word classes / categories*: noun, verb, adjective, adverb, preposition...  
*grammatical terms*: subject and object, tense and aspect, clause types...

- tense
  - past tense = past tense?
- clause types
  - imperative = imperative?

☞ *general* (cross-linguistic, universal) and *language-particular* levels

### LINGUISTICS

- some definitions
- explanation
- language phenomena
  - ambiguity, data, predictions
- induction and deduction
- explicitness, simplicity
- elegance, parsimony, economy
- doubt

☞ *experiments – hypotheses*  
regularities, patterns, general laws,  
order, explanation, predictions

☞ *readings, structure, compositionality*  
square brackets / –ing, structural  
attested, competence

☞ *empirical, theoretical, systematicity*

## GRAMMAR, GRAMMAR, OR GRAMMAR?

### ❶ *School Grammar*

- the best one could say about it is that it's aimed to teach learners grammar
- a learner of a language must learn the grammar of that language somehow
- but what is "somehow"? — not very productive ⇒ **prescriptive grammar**

### ❷ *Traditional Grammar*

- Greeks: Protagoras (480-415 BCE), Plato (429-347 BCE), Aristotle (384-322 BCE)
- Romans continued this tradition, "standard" in Western civilization (Europe)
- elsewhere, people also looked at grammar, esp. in India: Panini (520-460 BCE)  
<http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Panini.html>
- main goals of traditional grammar are to describe a language ⇒ **descriptive**

### ❸ *Generative Grammar*

- "generative enterprise" with Noam Chomsky's work on language (mid-1950s)
- practical application side (e.g. machine translation), description is not enough
- languages are regular, despite obvious differences — can we capture this?
- can we also not only capture similarities and differences, but also say *why*?
- generative grammar aims to do all this ⇒ **descriptive, explanatory, universal**

## WHAT IS GRAMMAR?

When we talk about **grammar** we usually mean the two different, but inter-related fields of **morphology** (how words are formed out of smaller units, *morphemes*: (1a)) and **syntax** (how words are combined to form *phrases*: (1b), and *sentences*: (1c)). Beyond mere *formation* of words, phrases and sentences, grammar is also concerned with the *interpretation* (i.e. semantic definition of words, phrases, and more): (1d-e).

- (1) a. anti-dis-establish-ment-arian-ism / walk – walk-s – walk-ed / \*walked-s  
 b. [[ [ a ] [ [ [ very ] [ nice ] ] [ teacher ] ] ] ] / \*[ nice teacher a very ] / \*[ the walked ]  
 c. Who did you see Mary *with* ? / \*Who did you see Mary *and* ?  
 d. (Mary is a) wine-drinker / home-owner / man-eater  
 e. (This sauce is) wine-based / home-made / man-made

But language is more than words (morphology) and sentences (syntax) — the Aristotelian characterization of language being the **pairing of sound and meaning** tells us of two further components. **Semantics** is the field that deals with the meaning interpretation of linguistic expressions (words, phrases, sentences — **pragmatics** would then also be able to integrate even larger units, such as discourse properties). **Phonology** is the study of the component of language that deals with phonetic interpretation (where **phonetics** is the study of the actual properties of sounds). All of these components also underlie certain rules and conditions, which we are going to look at in some detail (incl. the "**hyphenated disciplines**" as well).

Grammar can then be characterized as a **set of rules** that, taken together, yield a natural language (such as English). But these rules are part of our **tacit** (*subconscious*), rather than **explicit** (*conscious*) knowledge. Thus, while any native speaker is able to tell whether a positive statement like (2a) can be correctly negated according to the rules of English, as in (2b), or not, i.e. (2c-d), s/he is not likely to be able to tell you the specific rule (an answer to ‘How does one form negative sentences in English?’):

*Human beings have no conscious awareness of the psychological processes involved in speaking and understanding a language.*

- (2) a. I like linguistics.  
 b. I don't like linguistics.  
 c. \* I no like linguistics.  
 d. \* I like linguistics not.

The tacit knowledge of grammar is also known as the grammatical **competence** in a speaker's native language. This is opposed to the **performance**, i.e. what people actually say or understand by what someone else says on a given occasion. As Noam Chomsky puts it, competence is “the speaker-hearer's knowledge of his language,” while performance is “the actual use of language in concrete situations” (Chomsky 1965: p. 4; the first chapter of this book is a good introduction to the generative enterprise in general and the competence/performance distinction in particular).

We will be solely concerned with grammatical competence (leaving aside *performance errors*, like slips of the tongue, misunderstanding, misinterpretation etc.; cf. *psycholinguistics*). As such, we take a **cognitive** view of the nature of grammar, studying language as a cognitive system *internalized* within the human mind/brain — or *I-language* (see Chomsky 1986, another useful book!). But to study grammatical competence, tacit knowledge, we must find a way to tap it.

For this purpose, we define our **empirical field of inquiry** through native **speakers' intuitions** about the *grammaticality* and *interpretation* of words, phrases, and sentences — a readily available pool of *empirical evidence* and as such the basis for a scientific approach.

**Grammaticality judgements** tell native speakers of English that the past tense forms in (3a) are incorrect, although they are often produced by children acquiring English. The same type of judgement tells native speakers also that the forms in (3b) are the correct ones. (We use the star ‘\*’ in front of an expression that it is ungrammatical and a hash mark ‘#’ that it is non-standard or limited, as in child data; the question mark ‘?’ indicates marginality.)

- (3) a. # *goed / comed / seed / buyed* etc. [typical child language errors]  
 b. *went / came / saw / bought* etc. [Modern Standard English]

Apart from (in)correct morphological forms, native speakers' competence (intuition) also judges the **grammaticality of sentences**, our main object of study: (4a) vs. (4b).

- (4) a. If you don't know the meaning of a word, look it up in the dictionary.  
 b. \* If you don't know the meaning of a word, look up it in the dictionary.

As we go along, we will see that a **theory of grammar** need not only make reference to the grammaticality of phrases and sentences, as traditional studies of grammar do, but also to **ungrammaticality** (to explain why certain structures are ill-formed).

Another important aspect of the study of grammatical competence (*introspective evidence*) are native speaker intuitions about the **interpretation** of words, phrases and sentences. While native speakers would all judge (5) grammatical, they may **associate different interpretations**: (6a-b) are both *equally well-formed*; the exact interpretation may depend on the *context, intonation* etc.

- (5) My wife kisses me more cheerfully than my cat.  
 (6) a. My wife kisses me more cheerfully than my cat kisses me.  
 b. My wife kisses me more cheerfully than my wife kisses my cat.

Native speaker *tacit knowledge of grammaticality* judges (5), and by extension (6), **well-formed**; their *intuitions about interpretation* choose (6a) or (6b) for (5), a decision which can be fostered or **disambiguated** through other factors (by means of context, plausibility, intonation etc.).

## THEORY OF GRAMMAR

We now have an idea what a grammar is, i.e. what our line of inquiry will be. If a grammar of a language is a model of the competence of a fluent speaker of the language, and if competence is reflected in intuitions about grammaticality and interpretation, an important *criterion of adequacy* for a grammar of any natural language is that of **descriptive adequacy**. This is the first step towards a **theory of grammar**.

By theory of grammar we denote *the set of (abstract) rules in our minds/brains that have a natural language as their output*. This makes two related claims: all humans start off with the **same "knowledge of language"** and the abstract grammar we're talking about is **universal**.

This research enterprise is known as the theory of **Universal Grammar (UG)**.

Another criterion of adequacy is thus **universality**: a theory of grammar should enable us to describe the grammar of *any* natural language. Note that grammar, as understood here, purely denotes the set of rules that govern language — highly abstract and not language-specific (but universal). A theory of grammar complying with the two criteria of descriptive adequacy and universality will then help us on our way to the *ultimate goal*: **a theory of Universal Grammar**. (A particular language is the output of the set of rules combined with some extra stuff, which is language-specific: these are called **parameters**, as we discuss briefly below.)

The last major criterion of adequacy relevant for us is that of **explanatory adequacy**: it is not enough to describe a/the grammar or list its properties (qua set of rules), but a theory of grammar (and a theory of UG) must seek to explain these properties. This conforms to standard notions of theoretical inquiry, namely the goal of *explanation* of the facts discovered. Explanatory adequacy governs our guiding question: ‘**Why** do natural language grammars have the properties they do?’

Regarding the **nature of grammar**, we can make a first cut by only considering the properties of UG which, by definition, is unique to human beings. In other words, by looking at the properties of **natural language(s)**, we can ignore artificial languages (programming languages, invented languages etc.) or communication systems found elsewhere in nature (such as the tail-wagging dance of bees). There are *essential defining characteristics* of natural (human) language: (such as the *design features* sound signals, arbitrariness, duality, displacement, patterning, structure dependence, need for learning, creativity compiled by the American linguist Charles Hockett).

This leads us to another condition we have to impose on our theory of grammar/language: it must be maximally **restrictive**, constrained in its expressive power to only adequately describe and explain natural language (and not something else, like numbers or colours, and not less either).

## **BIOLOGY OF LANGUAGE**

Given the universality claim of our theory of language, something needs to be said on its origin. The leading hypothesis about UG is that *all human beings start off the same*, i.e. **UG is an invariant set of rules** that we’re all fitted with at birth. Whatever the exact biological reality (such as “UG is genetic” [one gene or more?], “the language faculty is an organ” [which one, or like which one?] etc.), it is clear that UG sits in a specified part in our minds/brains, which we can call the **language faculty** (just as there are faculties for vision, numbers and so on).

As such, our theory of language must account for the fact that young children acquire their native language in a remarkably short time, seemingly effortless and without instruction. The ‘wonder’ of **acquisition** must thus be on our list of desiderata, the phenomena we want to describe and explain with a theory of language. That means that yet another natural condition on our theory of language is that of **learnability**: whatever set of rules we come up (i.e. the technical devices to state UG), the net result must be a **learnable system**. As children do acquire language naturally and effortlessly, it is quite clear that natural language is learnable, and so must be our theory.

Basic issues in acquisition: all children go through roughly the same **stages in their acquisition process** at roughly the same time in all languages, pretty much regardless of environment. By endowing the human brain with UG, we make the specific assumption about the **innateness hypothesis**, that we are born with UG, facilitated by the **language acquisition device (LAD)**.

## PRINCIPLES OF UG

To take a random (OK, classic) example to illustrate the importance of **structure** in language, consider the way how yes/no-questions are formed. We can gather random data like those in (7) and hypothesize that in order to form a yes/no-question, we simply *invert the first two words*.

- (7) a. Studying **is** a lot of fun. / Memories **will** fade away.  
 b. **Is** studying a lot of fun? / **Will** memories fade away?

Clearly, once we consider more data, such as (8-9), this hypothesis cannot hold. **Grammatical operations are not structure-independent**, but very much dependent on internal structure: (10).

- (8) a. Studying syntax is a lot of fun.  
 b. \* Syntax studying is a lot of fun?
- (9) a. Memories of happiness will fade away.  
 b. Of memories happiness will fade away?

(10) *Structure Dependence Principle*

All grammatical operations are structure-dependent.

The rule for forming yes/no-questions is thus not a simple inversion of the first two words (or something else that relies on such a notion of simple counting like ‘Move the second element in front of the first’). What is it then? In order to answer that and many other questions, we need to be more precise about **what structure is** and how to express structure dependence.

We know that sentences are structured out of words and phrases, and both belong to a specific **grammatical category** (nouns, verbs, prepositions etc., and their corresponding phrases) serving a specific **grammatical function** (e.g. subject, object) in the sentence. We will look at these notions in detail in the course of this semester. Regarding the formation of yes/no-questions it suffices to say at this point that ‘Move an auxiliary in front of a preceding noun expression which functions as its subject’ is closer to the truth (see also Radford 1997: Ch. 1 for more).

- (11) a. Down **will** come taxes.  
 b. \* **Will** down come taxes?

Returning briefly to the **acquisition** aspect of language, we can picture the process in oversimplified terms (yet close to the “truth”) and schematize it as follows:

- (12) Experience of L → UG → Grammar of L

The above-mentioned **language faculty** is the part in our brains responsible for language. We can think of it housing UG, the center of grammar. Now, the goal of the acquisition process is the mastering of the child’s native language L. In other words, **equipped with UG**, the child/ learner will end up with **knowledge of the grammar of L**.

Clearly, **experience of L** is relevant: the linguistic environment in which the child grows up governs which L s/he will acquire. If the environment is English s/he'll end up with English, if it's Chinese s/he will acquire Chinese and so on. Think of UG as a *meat grinder*: you feed it data and it churns out the desired grammar. However, not all aspects of the grammatical structure of languages is innate: **lexical learning** (the vocabulary of L) vs. **structural learning** (L-particular structures).

### PRINCIPLES AND PARAMETERS

But what are the language-specific structures, or properties in general? If UG, knowledge of grammar, is innate how come we ever end up with a particular language? How do the thousands of languages arise, and what makes them different from UG? The answer we're going to explore is to take UG as a set of rules or **principles** of grammar, some *fixed, universal properties* (such as that all languages have structure, words make up phrases, these phrases are structured and so on, or the inventory of grammatical categories and functions). Specific languages arise through the setting of language-specific **parameters**, values that need to be set on or off, something like a switchboard (oversimplified, again). What we will do is explore these parameters and thus come up with an adequately description of languages that differ from one another not in any principles, but in their particular parameters.

*Null Subject Parameter*: languages may allow/disallow dropped or **null subjects** ( $\emptyset$ ).

- (13) a. **Maria** parla francese. [Italian]  
       *Maria speaks French*  
       b.  $\emptyset$  Parla francese.  
 (14) a. **Mary** speaks French. [English]  
       b. \*  $\emptyset$  Speaks French.

*Wh-Parameter*: Languages may move a **Wh-phrase** or leave it *in situ*.

- (15) a. **What** did John buy? [English]  
       b. **What** do you think he will say?  
 (16) a. Zhangsan mai-le **shenme**? [Chinese]  
       *Zhangsan buy-ASP<sup>what</sup>*  
       b. Ni xiangxin ta hui shuo **shenme**?  
       *you think he will say what*

*Head Parameter*: Languages have **complements** follow or precede their heads.

- (17) a. **close** the door [English]  
       b. **desire** *for* change  
 (18) a. moonul **dadala** [Korean]  
       *door close*  
       b. byunhwa-*edaehan* **kalmang**  
       *change-for desire*

**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.

(19) 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 evidence for them (also Haegeman & Guéron 2000: 53-63).

**Nouns**

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

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

- the words in (20) are all *singular*
  - singular nouns can follow an *indefinite determiner* (which marks singular): (21a)
- these nouns can be put into *plural* (‘be pluralized’) by adding the ending *-(e)s*: (21b)
  - plural-marked nouns can follow, for instance, *numeral adjectives* (‘numerals’): (21c)
- nouns in general can be associated with the *genitive morpheme* (‘possessive’): (21d)

- (21) 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 ...  
 d. the linguist’s joy — the friend’s name — the lawyer’s guilt ...

Words belonging to the same category also have a similar **distribution**: they appear in similar positions in the sentence. Nouns can, for example, be preceded the definite article *the* or by a demonstrative like *this*, (22a), as well as by possessive pronouns, such as *my* in (22b).

- (22) 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 (23a-c).

- (23) 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*, (23a); others *abstract entities*, e.g. *concepts or feelings*, (23b).

Nouns from both classes can be *pluralized*, (24a); these are **count nouns**, derived from their property of being *countable*, (24b), and they usually can't stand alone, (24c).

- (24) a. mothers — daughters — teachers — girls — doors — windows — writers  
 b. a/one mother — a/one daughter — a/one teacher — a/one girl ...  
 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 (25a-b), or appear in their **bare form**, as in (25c).

- (25) a. \* The love / hatred / justice is wonderful / a pity / only for some.  
 b. The love I feel for Joy is wonderful.  
 c. Love makes the world go round.

Yet another class of nouns doesn't usually have plural forms; as these are *non-countable*, we call them non-count or **mass nouns**, (23c), shown in (26a-b), though they can be qualified, (26c).

- (26) a. \*informations — \*waters — \*foods — \*milks — \*flours — \*sugars  
 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 often show up) in *base* or **root form**, (27a). One of the few examples of **agreement morphology** is the *third person singular present tense*, where the marker *-s* attaches to the root, (27b). Other types of **verbal morphology** are (regular) *past tense*, (27c), the *present participle gerund*, (27d), and the *past participle*, (27e).

- (27) 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 there are, of course, the much loved *irregular forms* (past tense, past participles):

- (28) 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**, see below), (29a), or by *to*, which signals the infinitival form, (29b).

- (29) a. Kleanthes **will** / **can** / **must** comb Miss Emma tonight.  
 b. It is important for Kleanthes **to** comb Miss Emma tonight.

### *Adjectives*

Adjectives, like those in (30), also have a number of unique properties.

- (30) young, kind, attractive, important, studious, red, local, interesting, smart, tall...

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): (31a-b).

- (31) 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* is expressed by a preceding *more/most*, as shown in (32a-b), and, as so often in natural language, there are exceptions, like those in (32c).

- (32) 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*:

- (33) 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:

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

- |      |  |       |   |
|------|--|-------|---|
| (35) | a. a <b>young</b> cat<br>b. the <b>kind</b> teacher<br>c. this <b>attractive</b> theory<br>d. my <b>important</b> wife | (35') | a. <b>young</b> cats<br>b. the <b>kind</b> teachers<br>c. these <b>attractive</b> theories<br>d. our <b>important</b> wives |
|------|--|-------|---|

(We'll turn to adverbs next; cf. van Gelderen 2002: **Special Topic** of Ch. 2, pp. 28-29.)

### *Adverbs*

Adverbs, like those in (36a), are formed in three ways. **Adverbial morphology** consists of adding the *adverbial marker* *-ly* to adjectives, like (36b). But not all adverbs are *morphologically related* to adjectives. Some are *formally identical* to adjectives, others *exceptional*: (36c).

- (36) 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*:

- (37) a. Miss Emma 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. Joy lets me 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:

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

### *Prepositions*

**Morphologically**, prepositions are invariant, i.e. there is no prepositional morphology involved. "Classical" prepositions are *monosyllabic*, as in (39a), while others are *polysyllabic*, as in (39b).

- (39) 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 next class), as in (40).

- (40) 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 (41a-b). (We will distinguish prepositions from **particles**, and also **complementizers**, in subsequent classes, namely MASOE next semester.)

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

What all prepositions do have in common is that they can be **modified**: (42a-d).

- (42) 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**, (43a), **numerals**, (43b), **quantifiers**, (43c), **possessive pronouns**, (43d), and **demonstrative pronouns**, (43e) — I probably forgot a few...

- (43) 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 nouns (plus modifying material). We observe that some are in **complementary distribution**, (44), while others can co-occur, (45).

- (44) 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]
- (45) 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. (46) offers a brief glimpse.

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

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

- (47) 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 (44) suggests that *articles*, *demonstratives* and *possessives* occupy the same position inside the *nominal expression* (the stuff around the noun)
- we can see in (45) that *numerals* follow this class of determiners (*\*two the students*)
- *quantifiers* seem to have a more complicated behaviour, which we won't deal with

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**.



### Auxiliaries

Another class of *closed class* items consists of **auxiliary elements**. We classically distinguish **modal auxiliaries**, (52), from **perfective, imperfective/progressive & dummy auxiliaries**, (53) — in some (semantic) senses similar, English also has a bunch of **inflectional morphemes**, (54).

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

(53) have, be, do

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

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

- (55) 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.
- (56) a. They'll learn syntax. (57) a. The students learn-**ed** syntax.  
 b. They've learned syntax. b. The linguist teach-**es** syntax.  
 c. They're learning syntax. c. The students learn-**Ø** syntax.
- (58) 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 students.

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

- (59) a. **You** *can pass* the exam. (41') a. *Can you* pass the exam?  
 b. **They** *studied* hard. b. *Did they* study hard?
- (60) a. \* *Solved you* the homework? (42') a. *Did you* solve the homework?  
 b. \* *Come you* home tonight? b. *Do/Will you* come home tonight?

Another difference is that auxiliaries can directly be **negated** by *not* (no **do-support**):

- (61) a. Miss Emma **can not** / **can't** go outside.  
 b. Joy **has not** / **hasn't** finished work yet.
- (62) a. \* They **like not** / **liken't** the food.  
 b. \* I **played not** / **playn't** the piano.

- (62') a. They **do not** / **don't** like the food.  
 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*):

- (63) a. You don't like this, **do you**?  
 b. We will learn this, **won't we**?
- (63') a. \* You don't like this, **like you**?  
 b. \* We will learn this, **learn('t) we**?

### *Infinitive particle*

The fifth type of *functional category* in English is the **infinitive particle** *to*. The only type of element it allows (and requires!) to follow it is an *infinitival clause*, as illustrated in (64).

- (64) a. I wonder whether **to** skip this section.  
 b. You probably want **to** go home now.  
 c. But I don't intend **to** let you go now!

This is its identifying property, basically in terms of **distribution** again. As such it can be clearly contrasted with the homophonous preposition *to* (see Radford 1997: 46ff.). What is of more interest for us is **what category** infinitival *to* belongs to.

Note that *distributionally* infinitival *to* behaves very much like **finite auxiliaries**:

- (65) a. It is important [ that the students **should** learn syntax ].  
 b. It is important [ for the students **to** learn syntax ].
- (66) a. Everybody **would** / **could** / **must** / **will** love / \*loves / \*loving syntax.  
 b. Everybody is supposed **to** love / \*loves / \*loving syntax.
- (67) a. Joy doesn't want to eat Pounce, but I know Miss Emma **would** eat Pounce.  
 b. Joy wouldn't eat Pounce, but I know Miss Emma **wants to** eat Pounce.  
 c. \* Joy wouldn't eat Pounce, but I know Miss Emma **wants** eat Pounce.

Establishing such a connection between finite auxiliaries and infinitival *to*, we can view *to* as the **non-finite** counterpart of the (type of) **syntactic category** that these elements belong to. Given that these auxiliaries are finite, they express *tense* and they show *agreement* (with the subject) — and that is something we see infinitives do in other languages (e.g. Italian): *canta+re* 'to sing'. (Note that European Portuguese, for example, has *inflected infinitives* that show some agreement marking as well, just no tense; consider also Greek subjunctive...)

### Complementizers

The final group of *closed class* items we look at are **complementizers**. These elements introduce entire sentences, i.e. *subordinate* or **embedded clauses**: (68) — and as these clauses function as the *complement* of the complementizer, we call them also **complement clauses** (as opposed to **adjunct clauses**, those that are not related thematically to the *main* or **matrix clause**; later...).

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

- (69) 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'd love [ **for** you *will / should* pass this class and 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:

- (70) 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 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

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

As with some other categories (e.g. *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...

- (71) 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.

- (72) a. She refuses to believe **that** *rumour*.  
 b. She refuses to believe **that** *he went to the pub*.  
 c. She refuses to believe /ðæt/ / /ðæt/ *rumour*.  
 d. She refuses to believe /ðæt/ / \* /ðæt/ *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 other complementizers. Thus, **distributionally** complementizers behave like a class of their own, and so they do **functionally** as well.

### CATEGORIES AND STRUCTURE

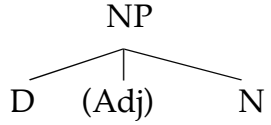
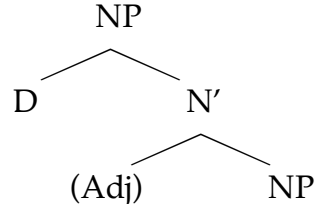
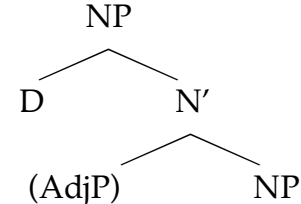
Given the detailed discussion about the **morpho-syntactic properties** of each of the categories reviewed, you should all be able to construct *tests* to determine the **category status** of a given word. And as you will see in today's homework, some words are not that easily classified. Sometimes, the (apparently) same word can have different *category status*. (In those cases, the words in question are obviously not the same but simply homophonous, though possibly related.)

Along the way we'll see how **phrases** are built. For that we need an abbreviated system of **categories**, and we use the following *capital-letter abbreviations* as shorthand notations:

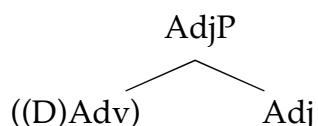
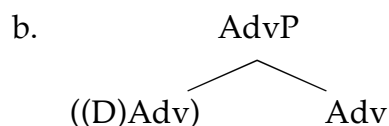
- (73) *N* = **Noun**  
*V* = **Verb**  
*A* = **Adjective**  
*Adv* = **Adverb**  
*P* = **Preposition**  
*D* = **Determiner** (⇒ Dem = demonstrative, Q = quantifier, Num = numeral, Poss = possessive)  
*I* = **Inflection for auxiliaries and infinitival *to*** (⇒ Aux = auxiliary, Mod = modal etc.)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

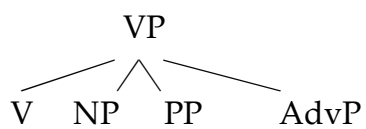
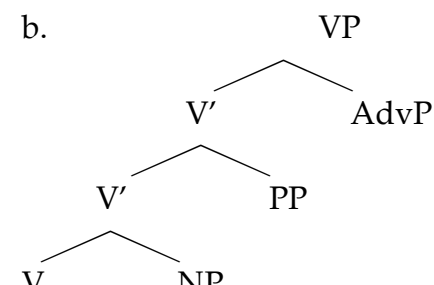
Initially, we'll use also:  
*S* = **Sentence**  
 which we'll revise soon.

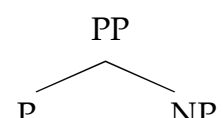
Note that I didn't include **pronouns** — the reason will become clear shortly on this station. Then we will also discuss the **other types of grammatical categories**, from ❶ above as well as clarify some **terminological conventions**. For starters, let's summarize van Gelderen's introduction of **phrase structure**, to be exercised fully next class (*parentheses = optional*):

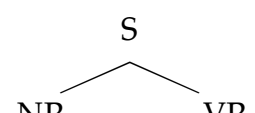
- (74) a.  b.  c. 

[ e.g. for an NP = *the (trifle) lecture* ]

- (75) a.  b. 
- [ for an AdjP = *(very) trifle* or an AdvP = *(rather) stupidly* ]

- (76) a.  b. 
- [ for a VP = *bored the students (at lunchtime) (tremendously)* ]

- (77) 
- [ for a PP = *at lunchtime* ]

- (78) 
- [ for an S = *the ((very) trifle) lecture bored the students (at lunchtime) (tremendously)* ]

## TESTING FOR PHRASEHOOD

We have looked at grammatical **categories** and the notion of a structured **phrase**.

### Question:

*How do we know what constitutes a particular phrase – where it begins and ends?*

For this purpose, we must **establish phrasehood** between different words that are purported to form a particular phrase. Part of this endeavour relates to the traditional notions of **subject**, **predicate**, and so forth. But we will do more than **label functions**: we will provide **arguments for constituency**. *Constituents are phrases* and as such they come with certain properties; all phrases have properties (which are captured by **constituency tests**), some even share the same, other properties/constituency tests are unique for a particular phrase.

## CONSTITUENCY TESTS

### (I) Pronominalization [WORKS WELL FOR NP, VP, SOME ADVERBIAL PP]

A complete constituent is replaceable by a single word (pro-form/of same category).

- (a) *a personal pronoun replaces a noun phrase*  
The fat man ate a hamburger, didn't he?
- (b) *the dummy verb do replaces a verb phrase*  
 Jacques likes hamburgers, and Monique does too.  
 \*Jacques likes hamburgers, and Monique does fries too.
- (c) *the adverbs there and then replace prepositional phrases*  
 Dylan went to the store after school and Dudley went there then too.

### (II) Interrogation [WORKS FOR ANY PHRASE THAT CAN BE AN ANSWER]

A complete constituent serves as an answer to a *wh*-question.

- (a) *a noun phrase*  
 What did Jacques eat for dinner? A large, juicy hamburger. / \*A large, juicy.  
 Who ate a hamburger for dinner? Jacques. / \*The fat.
- (b) *a prepositional phrase or adverb phrase*  
 When did Jacques eat a hamburger? At noon/yesterday.  
 Why did Jacques eat a hamburger? Because he was hungry.
- (c) *sometimes a verb phrase (this is not a particularly good test)*  
 What did Jacques do? ?Ate a hamburger.

### (III) Movement [WORKS WELL FOR ANY PHRASE THAT CAN BE DISPLACED]

A complete constituent can be moved or can occur in different positions in a sentence, but it retains its integrity or configuration; its unity cannot be disrupted.

If we begin with the sentence *Jacques ate a hamburger for dinner*, the following types of permutations can occur (these will be studied in more detail later):

- (a) *fronting (preposing) of a noun phrase or an adverbial prepositional phrase*  
A hamburger, Jacques ate for dinner (not a steak).  
For dinner, Jacques ate a hamburger.

- (b) *movement of noun phrases in a passive sentence*  
A hamburger was eaten by Jacques.  
 cf. The man rang the bell of the church.  
The bell of the church was rung by the man.  
 \*The bell was rung of the church by the man.
- (c) *inversion of the subject noun phrase and the auxiliary verb in a question*  
 Did Jacques eat a hamburger for dinner?
- (d) *focusing of a noun phrase or an adverbial prepositional phrase in a "cleft sentence"*  
 It was Jacques who ate a hamburger for dinner.  
 It was a hamburger that Jacques ate for dinner.  
 It was for dinner that Jacques ate a hamburger.  
 cf. It was the bell of the church that the man rang.  
 \*It was the bell that the man rang of the church.  
 \*It was of the church that the man rang the bell.
- (e) *focusing of a noun phrase or a verb phrase in a "pseudocleft sentence"*  
 What Jacques ate for dinner was a hamburger.  
 What Jacques did was eat a hamburger for dinner.  
 What Jacques did for dinner was eat a hamburger.  
 cf. What the man rang was the bell of the church.  
 \*What the man rang of the church was the bell.  
 What the man did was ring the bell of the church.

**(IV) Omission [WORKS WELL FOR NP and PP, CONSTITUENTS WITHIN VP]**

A complete constituent, if it is optional, may be deleted, but not all constituents are optional.

Jacques ate (a hamburger) (for dinner).  
 \*Jacques ate a (hamburger) for (dinner).

**(V) Conjunction [WORKS WELL FOR VIRTUALLY ALL PHRASES]**

Complete constituents are joined by conjunctions such as *and* or *or*.

The cat and the mouse ran away.  
 The quite large and smoothly rounded stone.  
 She read the newspaper and ate lunch.  
 He runs very quickly and extremely gracefully.

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