Basic Syntactic Notions (Handout 1, BA seminar *English Syntax*)
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1. Recalling the most basic concepts

The material below is treated in more detail in the text (referred to as *Fundamentals* below):
McIntyre, A. 2014. *Fundamentals of English Syntax* (version 4, November 2014). (Downloadable at www.angl.hu-berlin.de/staff/1685901/fundamentals-of-english-syntax)

1.1. Syntactic categories

- First step in analysing sentence structure: identify the **syntactic categories** (**parts of speech**) of the words in the sentence. (1) lists the most important syntactic categories:

(1)

	Category	Abbreviation	Example
a.	noun	N	computer, city, stupidity, event
b.	verb	V	hear, think, kill, shorten, eavesdrop, exist
c.	adjective	A	good, obscene, demented, lovely, schoolmasterly
d.	preposition	P	by, in, with, from, to, at, inside, despite
e.	adverb	Adv	slowly, often, now, mostly
f.	determiner	D, Det	a, the, this, those

- See *Fundamentals* sect 1.1. for brief remarks on distinguishing between the categories.

1.2. Constituent structure

- Syntacticians aim to discover the nature of the mental processes which form sentences. These mental processes form sentences by combining words with other words to form larger groups of words (=**constituents**). Constituents combine with other constituents to form bigger constituents, until we have the largest possible constituent, a sentence.
- If constituents didn't exist, we would have to assume that our brains create sentences by putting words of particular categories together in a particular order. The acceptability of a sentence would depend on whether they conform to memorised patterns of the types described by the **word order rules** in (2).

(2) a. *Her flatmates watched a documentary about Syria in the kitchen.*
Word order rule that derives (a): S = D+N+V+D+N+P+N+P+D+N
b. *They watched it in the kitchen.*
Word order rule that derives (b): S = Pronoun+V+Pronoun+P+D+N
c. **Her flatmates about Syria watched a documentary in the kitchen.*
Illicit word order rule deriving (c): *S = D+N+P+N+V+D+N+P+D+N

- Evidence that the brain uses constituents and not word order rules like those in (2):
  - It is unclear what would predict which word order rules are possible and which aren't. Such rules *describe* the facts but don't *explain* them. They cannot answer questions like why English speakers have the rules in (2)a,b) but not that in (c).
  - We would need infinitely many word order rules, and some of them would have to be infinitely complex, as any sentence can be varied in an **infinite** number of ways. E.g.
    - Replace *Her flatmates* with longer expressions (e.g. *Some of her flatmates, Her flatmates, her boyfriend and a few other people that I hadn't met yet*).
    - Replace *about Syria* with *about the reasons for the conflict in Syria and Iraq and about who was financing the extremist forces in those countries.*
    - Add *and then…* (followed by any appropriate sentence) at the end of the sentence.
  - Word order rules don't capture the fact that groups of words form **constituents**, groups of words that behave as indivisiable units for certain purposes. E.g.
    - *in the kitchen* in (2)a) (but no part of it) can be moved to the front of the sentence.
    - The pronouns in (2)b) replace the underlined constituents in (2)a). They can't replace anything smaller (**Her they watched it about Syria in the kitchen.*)
  - Once we identify particular kinds of constituents (e.g. NPs/DPs like those underlined in (2)a,b)) we can solve the problems with word order rules just noted (as seen later).
- Thus, syntactic analysis requires us to identify whether a given **string** (sequence of words) in a sentence is a constituent or not. We now describe tests that can help us in this.

1.3. Tests for constituents (more in *Fundamentals*, sect. 1.3)

a) Proform test. If you can replace a string with a proform, the string is a constituent. Proforms stand for constituents already mentioned. E.g. *pronouns* (which replace NPs; *she/him/they* etc). Other proforms: *somewhere, do so, there*).

(3) a. *The lady running the group handed in her resignation at noon.*
b. *She handed in her resignation.* [→ *The lady running the group* is a constituent]
c. *The lady running it handed in her resignation.* [→ *the group* is a constituent]
d. *The lady running the group did so at noon.* [→ *handed in her resignation* is a c.]
e. *The lady running the group handed in her resignation then.* [→*at noon* is a c.]

b) Question test. A string is a constituent if you can ask about it using a ***wh*-expression** (e.g. *where/how/when/why/what/who(m); with whom?, at what time?, in whose house?*). The answer to the question is also a constituent. (4) illustrates this with reference to (3)(a).

(4) a. A: *What did the lady running the group hand in at noon?*
B: *Her resignation.*
b. A: *Who handed in her resignation at noon?*
B: *The lady running the group*
c. A: *When did the lady running the group hand in her resignation?*
B: *At noon*

c) Movement test. If a string can be moved to some other position in the sentence, it is very likely to be a constituent.

(5) a. *Egbert was reading a thick book about formal logic on the balcony on Sunday.*
b. *On Sunday, Egbert was reading a thick book about formal logic on the balcony.*
c. *On the balcony, Egbert was reading a thick book about formal logic on Sunday.*
d. *Egbert was reading on the balcony on Sunday a thick book about formal logic.*

(6) a. Rover ran out of the house. b. Out of the house Rover ran.

(7) a. Ann is not a fan of mindless techno music.
b. *A fan of mindless techno music, Ann is not.*

(8) a. Gertrude wasn't interested in art.
b. *Interested in art, Gertrude wasn't.*

(9) a. Hortense didn't win the race.
b. *Win the race, Hortense didn't.*

e) Cleft test. (10)(a) is changed into **cleft sentences** in (b-d). Cleft sentences have the form in (10)(e). The material between *was/is* and *that* (underlined) must be a constituent.

(10) a. The guests from overseas visited the best parts of the city on Monday.
b. *It was on Monday that the guests from overseas visited the best parts of the city.*
c. *It was the best parts of the city that the guests from overseas visited on Monday.*
d. *It was the guests from overseas that visited the best parts of the city on Monday.*
e. *It {was/is}* X *that ...* [where X is some constituent]

1.4. Phrases and the notion *head*

- Each word-level category (N,V,P and others in (1)) is part of a constituent (called a **phrase**) which also contains material giving information about it or dependent on it. E.g.:

(11) a. Noun Phrase (NP): *the* (*biggest*) *tree* (*in the garden*)
b. Verb Phrase (VP): (*often*) *played* (*in a band*) (*on Saturday nights*)
c. Prepositional Phrase (PP): *under the window*
c. Adjective Phrase (AP): (*very*) *proud* (*of his children*)

- We explain each of these in more detail later, but for now note the properties which all these phrases have in common.
- Underlined are the **heads** of the phrases. The head of a phrase is the word/morpheme that determines the properties of the whole phrase. Heads are obligatory in phrases. Everything in a phrase *depends on* the head (e.g. gives information about the head, is in the phrase because the head requires or allows it to be).
- Useful terminology: N **heads** or **projects** NP, NP is a **projection** of N.
- Recall from morphology that words can also have heads: *bird* is the head of [$_{N}$ [$_{A}$ *black*] [$_{N}$ *bird*]]. Unlike in syntax, combining words in morphology yields words, not phrases.

2. Basic details about some important types of phrases

See *Fundamentals*, section 1.5 for more details on the material discussed below.

2.1. Noun Phrase (NP)

- Examples of various types of noun phrases (NPs)

(12) a. the woman; a big tree; this coffee, our existence
b. a (famous) singer (of exceptional talent) (who got run over by a truck)
c. a (renowned) expert (on indigenous Australian music) (from Brisbane)
d. the (most important) representatives (of workers' interests) (at the conference)

- Why underlined nouns are considered the heads of these expressions:
  a. The whole NPs refer to (instances of) the entity/concept named by the noun.
  b. All the material in the phrase is there to give information about the noun, so it follows that the noun is the central element of the phrase.
- Pronouns (*she/him/it/ them* etc.) are proforms for NPs, not just nouns. Proof:

(13) a. They found [$_{NP}$ a big tree] and sat under **it**.
b. *They found [$_{NP}$ a big tree] and sat under **the big it**.

- Tests for identifying NPs
  - They can nearly always be replaced with pronouns.
  - All subjects of sentences are NPs. NPs can nearly always be subjects of sentences.

(14) Example: *She read about the history of Europe*.
➔ *the history of Europe* is an NP because it can be replaced by *it* and because it can be the subject of a sentence (e.g. *The history of Europe was not always pleasant.*)
➔ *the history* is not an NP (here): **She read about it of Europe*.

- (15)-(17) name three types of NPs containing only one word. They are not only nouns/pronouns, but are also complete NPs because they can be replaced by pronouns, and because they appear in other positions where one finds NPs (e.g. the subject position of a sentence):

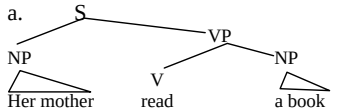
(15) Pronouns: [$_{NP}$ *I*] *like* [$_{NP}$ *it*]
(16) Mass/plural indefinites: [$_{NP}$ [$_{N}$ *Italians*]] *drink* [$_{NP}$ [$_{N}$ *wine*]]
(17) Proper names: [$_{NP}$ *Maria*] *likes* [$_{NP}$ *England*]

- In more modern theories, NPs are called DPs for reasons seen later; in the meantime we stick to the traditional view that these have nouns, not determiners, as heads because this is more intuitively obvious and because everyone has to understand the older hypothesis.

2.2. Verb Phrase (VP)

- (18)a) illustrates an example of a **tree diagramme** indicating the constituents in a sentence. Notice that it contains a constituent called a **verb phrase** (**VP**), which combines with an NP to form the sentence.

(18) a.



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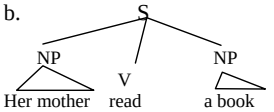


- Why do we assume VP exists? Why is the sentence given the structure in (18)a), not that in (18)b)? Answer: Constituent tests show that VP exists:

(19) a. Her mother READ A BOOK. She did so last week. [Proform test]
b. A: What did her mother do? B: READ A BOOK. [Question test]
c. Her mother [READ A BOOK] and [did a crossword puzzle] [Coordination]
Her mother [did a crossword puzzle] and [READ A BOOK]
d. READ A BOOK was what her mother did. [Pseudocleft test]
e. READ A BOOK though she did, she was still bored. [*though* test]

- Why is V seen as the head of the constituent? I.e. why do we call it a VP? Answer: All material in the phrase gives information about the situation expressed by the verb.
- Other examples of VPs (note that some can consist solely of a verb):

(20) a. (quietly) left (the room) (before the end of the concert)
b. (blindly) rely on the advice of a counsellor
c. (often) called him a maladjusted sociopath
d. (quickly) give Basil the key
e. (often) eats (dinner) (in the kitchen)

- At least in the simple cases discussed so far, the VP in a sentence can be identified by removing the NP in front of it (the **subject**).
- VPs have their own proform, *do so*, cf. (19)a).

2.3. Prepositional Phrase (PP)

- Examples of **prepositional phrases** (**PP**s), illustrating the three main types: spatial PPs (expressing places or directions, as in (a,b)), temporal PPs (expressing times, (c,d)) and other PPs expressing more abstract meanings (e,f):

(21) a. [$_{PP}$ near [$_{NP}$ the fireplace]] b. [$_{PP}$ towards [$_{NP}$ the building]]
c. [$_{PP}$ after [$_{NP}$ the discussion]] d. [$_{PP}$ in [$_{NP}$ the evening]]
e. [$_{PP}$ of [$_{NP}$ her parents]] f. [$_{PP}$ despite [$_{NP}$ the situation]]

- PPs are *not* a type of NP. Unlike NPs, PPs never denote entities, and cannot be replaced by pronouns:

(22) a. I went [$_{PP}$ into [$_{NP}$ the building]] [$_{PP}$ with [$_{NP}$ the other people]]
b. I went [$_{PP}$ into [$_{NP}$ IT]] [$_{PP}$ with [$_{NP}$ THEM]]
c. *I went IT THEM.

- Proform for spatial PPs: *there*; for temporal PPs: *then*. Other PPs can't be replaced by proforms, e.g. PPs headed by *of, about, despite*.
- Prepositional phrases usually consist of P+NP (as in (21)). Exceptions are as follows:
  - A few PPs consist of P+PP:

(23) [$_{PP}$ from [$_{PP}$ under [$_{NP}$ the table]]]

  - Sometimes PPs combine to form larger PPs:

(24) *I went [$_{PP}$ [$_{PP}$ out the door] [$_{PP}$ into the garden] [$_{PP}$ to the gate]]*.

  - Sometimes the preposition is preceded by an adverb or some other phrase giving information about the place or direction expressed by the PP:

(25) [PP RIGHT near [NP them]] [PP STRAIGHT towards [NP it]] [PP BACK to [NP London]]
[PP TEN MINUTES before [NP the meeting]] [PP TEN KILOMETRES into [NP the desert]]

- The underlined items in (26) are often wrongly called *adverbs*. They have little in common with real adverbs (*often, slowly, well*). They are just **intransitive prepositions** (prepositions not followed by NPs, cf. intransitive verbs like *arrive*).

(26) a. they went {inside/downstairs/forwards}
b. they are {here/everywhere/downstairs/overhead/ahead/outside}

- Evidence that the so-called adverbs in (26) are really prepositions: **(a)** like other prepositions, they express directions or places; **(b)** they can be coordinated with PPs, not adverbs cf. (27); **(c)** many prepositions can be used with or without a NP, cf. (28), suggesting that they are the same kind of element in both contexts. (We don't say that *read* has different categories in *I read* and *I read a book*.); **(d)** they can be modified by *right, straight*, which otherwise modify prepositions but not adverbs, cf. (29).

(27) a. They walked [PP outside] and [PP down the hall]
b. They went [PP upwards] and [PP over the hill]
c. *They went [PP inside] and [AdvP slowly]

(28) a. They are inside (the house)
b. The sky above (us) and the valley (below)

(29) a. I walked [PP **straight/right** out (of the house)]
b. I walked [AdvP (***straight/*right**) slowly]

2.4. Adjective Phrase (AP)

- Examples of different types of **adjective phrases** (**AP**s):

(30) a. [AP (very) angry (at the rest of the human race)]
b. [AP dull (to the extreme)]
c. [AP (soul-destroyingly) boring]
d. [AP devoid of content]
e. [AP interested (in art) (to some extent)]

- APs typically describe NPs. They may appear either inside or outside this NP:

(31) a. [NP a [AP very angry] person] shouted at him.
b. [NP a person [AP very angry about the situation]] shouted at him.
c. [NP the people] became [AP very angry]

- If inside the NP, English APs come before the head noun if AP is *head-final* (see (31)b)).
- APs never contain the noun described by the adjective. (Cf. (31)a) vs. (31)c).)

2.5. Adverb Phrase (AdvP)

(32) a. (very) slowly
b. (extremely) well
c. (completely) independently of the approval of his superiors

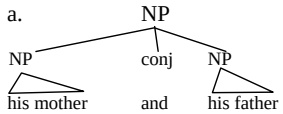
- AdvPs occur (a) inside VP, describing the situation named by the verb, (b) inside APs indicating the degree to which the adjective is applicable, (c) inside the AdvPs headed by other adverbs, also indicating the degree to which the main adverb is applicable.

(33) [S [NP Mary] [VP [AdvP very quickly] memorised [NP the material] [AdvP perfectly]]]
(34) [AP [AdvP vaguely/incredibly/mind-blowingly/(so) very/somewhat] cool]]
(35) [AdvP [AdvP incredibly/(so) very/somewhat] skillfully]]

3. Coordination and conjunctions (more details in *Fundamentals*, sect. 2)

Coordination (=linking material using **conjunctions** like *and, or, but*) obeys two basic rules:
a. Coordination is possible only with constituents of the same category.
b. Coordination forms a phrase of the same category as that of the coordinated constituents.

(36) a.



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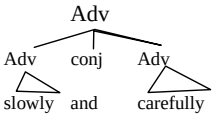

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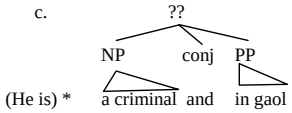

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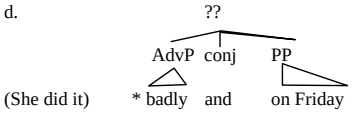


A. In the following examples, write down all NPs, VPs, APs and PPs.
1. She quickly drank a very large glass of orange juice and then walked out of the room.
2. Some people spread rather bizarre theories about this on the internet.
3. He became aware of the limitations on his influence on global politics, and very frustrated.

4. Complements, arguments and modifiers (*Fundamentals*, section 3)

Consider the following phrases, where the heads are underlined and optional constituents are enclosed in parentheses.

(37) VP: a. (*constantly*) relied ON HER (*throughout the crisis*)
b. (*secretly*) devoured THE CAKE (*in the kitchen*) (*on Friday*) (*before leaving*)
c. ate (THE LEFTOVERS) (*quickly*) (*at midday*)

(38) NP a. his fondness/liking FOR STRONG DRINK (*during the Winter months*)
b. my (*misguided*) reliance ON MICROSOFT SOFTWARE (*in writing these notes*)
c. the expert (ON PHYSICS) (*on the committee*) (*in an orange waistcoat*)
d. her (*profound*) faith (IN DIVINE BEINGS) (*during the crisis*)

The constituents in capitals are said to be **complements** of the heads. The expressions in italics are **modifiers** of the heads. Differences:

A. It is impossible to define the head of the phrase without referring to its complement. E.g. in (37)c): one cannot define *eat* without mentioning food, so *the leftovers* is a complement, but *at midday* is a modifier because nobody would define *eat* as "put food in one's mouth and swallow it *at a particular time*"; here the time phrase is redundant.

B. Modifiers are always optional, while complements are often (if not always) obligatory.

C. Complements appear closer to the head than do modifiers. We will see later that exceptions to this always result from movement.

D. The complements of a word are mentioned in the **lexical entry** of a word. A word's lexical entry is the information associated with the word in the **(mental) lexicon** the 'dictionary' in our brains indicating the word's syntactic category, pronunciation and meaning.

E. Modifiers can be added **recursively**, i.e. no limit to the number of modifiers, cf. (39). Because complements of a head can appear only if the lexical entry for the head mentions them, the number and type of complements of a head is much more limited.

(39) a. [sometimes] walked THE DOG [slowly] [in the park] [on Fridays] [after work] [for two hours] [to clear his mind]
b. [big], [black], [fluffy], [dangerous] dogs [without collars] [in the park]

Arguments vs. complements: The term 'argument' is like 'complement', except that an argument need not fulfil condition C above: an argument of a head need not appear within the projection of that head. Thus, the subjects in *John [ate the food]$_{VP}$* and *Ann [gave me the book]$_{VP}$* are arguments of the verbs, but do not appear within the VP.

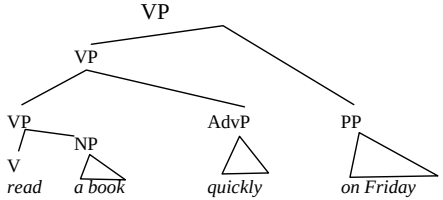
B. State whether the underlined phrases are complements or modifiers of the heads of the phrases.

1. handed Mary the flowers at noon in the garden	2. quickly decided on the boat on Monday
3. left his wife in Vladivostok in 1973	4. teachers of maths from Paris
5. that very old car in the street	6. the brother of Mary with long hair

5. Syntactic consequences of the complement-modifier distinction

Example of VP with a complement and modifiers:

(40)



The complement (*her dinner*) joins to the head of the phrase, creating a VP. Each modifier added creates a new VP. Evidence from *do so* (=proform for VP):

(41) a. Cuthbert read a book quickly on Friday and Ethel did so slowly on Saturday.
b. Cuthbert read a book quickly on Friday and Ethel did so on Saturday.
c. Cuthbert read a book quickly on Friday and Ethel did so as well.
d. *Cuthbert read a book and Ethel did so an article.

Principles concerning the addition of modifiers:

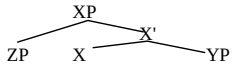
A. The operation where a constituent X is added to another constituent Y such that the resulting constituent has the same category as Y is known as **adjunction**. X is referred to as an **adjunct**. We say that X is **adjoined** to Y.
B. Modifiers are always adjuncts. (The term 'adjunct' is often used instead of 'modifier'.)
C. Adjunction, and hence modification, is **recursive**, by which we mean that it can apply more than once. For instance, if a modifier is adjoined to N' to form a larger N', then one can add a further modifier to form a yet larger N'.

The same principle can be illustrated with other categories. We discuss this later.

6. X-bar theory and notation

- Many types of phrases conform to the **X' schema** (=X-bar schema) in (42).

(42)



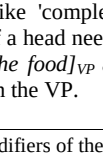
(ZP is called the **specifier** of X)
(YP is the **complement** of X)

- X, Y, Z stand for particular syntactic categories. P stands for 'phrase' as usual, and signals that the phrase is *complete* (i.e. no more complements/specifiers to be added; adjuncts can be added to a complete phrase, as we just saw.)
- Examples of uses of the X' schema are below. Some of these will be revised later, so do not memorise them. We will see more instances of the X' schema later.

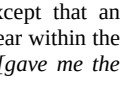
(43) [$_{NP}$ [$_{PossP}$ the lady's] [$_{N'}$ box [$_{PP}$ of books]]]
(44) [$_{PP}$ [$_{NP}$ ten miles] [$_{P'}$ into [$_{NP}$ the desert]]]
(45) [$_{AP}$ [$_{AdvP}$ so very] [$_{A'}$ afraid [$_{PP}$ of the psycho holding the chainsaw]]]
(46) [$_{VP}$ [$_{NP}$ all] [$_{V'}$ read [$_{NP}$ the book]]]

- The specifier and complement position of a phrase will not always be filled. In this case, writers differ on the notation used. Options, taking the AP in *John is sick* as an example:

(47) **a.**



b.



c.

d.

- All these variants say the same thing, namely that *sick* is in this context both a word (head) of category A, and a complete phrase, i.e. an AP.
- A better, but less common, way of expressing the notions seen here is as follows:

(48) a. XP = $X^{[+max, -min]}$ (i.e. maximal and not minimal projection of X)
b. X = $X^{[-max, +min]}$ (minimal and not maximal projection of X)
c. X' = $X^{[-max, -min]}$ (neither maximal nor minimal projection of X)