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Faculty of Arts

2nd year Arts

English Dept.

SYNTAX

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2nd YEAR Arts

Compiled by Dr. Heba Abdelraheim Alkady

A Y (2022-2023)

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Syntax

Knowledge of syntax was implicit knowledge: people show they possess such knowledge in that it is reflected in the patterning of their language, but they cannot directly intuit the form of that knowledge.

Here, we will focus on the kinds of implicit knowledge encountered in studying syntax, which is the study of sentence structure. What do speakers known when they know the syntax of a language?

(1) They have intuitions about grammaticality.

A sentence is grammatical if it is syntactically well-formed; if it counts as "part of the language."

Grammaticality is distinct from merely making sense.

Consider, for example, the following series of sentences:

She wonders if Alice is going to like Bill. Who does

she wonder if Alice is going to like? (answer: Bill)

*Who does she wonder if is going to like Bill? (answer: Alice)

As far as meaning goes, the third sentence is as

sensible as the second. It is only ungrammatical.

Similarly, sentences like *Bill and Fred think that I like each other, seen earlier, have a perfectly sensible interpretation, but are ungrammatical. Sentences like

Colorless green ideas sleep furiously, however, are

quite grammatical but are nonsense.

(2) Our implicit knowledge of syntax cannot possibly

take the form of a list of sentences. No such list could be stored in a finite mind, as there are an infinite

number of grammatical sentence in English (or any other human language). It is easy to show this. A list

of sentences like the following:

Alice likes Fred John said that Alice likes Fred Bill

believes that John said that Alice likes Fred

can be extended onward to infinity.

Since syntactic knowledge cannot take the form of a

list, we are led to the more reasonable hypothesis that

we implicitly know a set of syntactic rules; the rules

enable us to create novel sentences (a potentially infinite supply of them) on the spot. Just what sort of rules could do this will become clear later on.

(3) Speakers have the ability to recognize and

manipulate systematic relations among sentences. For

example, the following set of four sentences:

Bill shaved Fred (active statement)

Did Bill shave Fred? (active question)

Fred was shaved by Bill (passive statement)

Was Bill shaved by Fred? (passive question)

forms a clear pattern that can be duplicated by a

speaker of English for an indefinite number of other

sentences.

(4) Sentences are not simply strings of words; they also

involve grouping of words into larger units. The easiest way to show this is with sentences that have two meanings, traceable to two different groupings of the words:

There were (old)(men and women) There were (old

men)(and women)

They (danced) and (sang the first number) They

(danced and sang)(the first number) Sue saw (the man)(with the telescope) Sue saw (the man with the

telescope)

Bill (gave)(the Chinese vases) (...to someone) Bill (gave)(the Chinese)(vases) (...even though they already had vases)

Trees in syntax Drawing the syntactic trees for

sentences depends in part on our knowledge of the meaning of the sentence, and in part on our knowledge of the grammar (the syntactic part of the grammar) of the language. The idea is to think through the meaning, and locate the syntactic units.

Consider the sentence Sue saw the man with the telescope. This sentence actually has two meanings

(either Sue used a telescope for her observations, or

the man was carrying one). Often, different meanings

correspond to different trees, so let us for present

purposes assume the meaning in which the man was carrying the telescope. I will build the tree from the bottom up.

I believe it is pretty intuitive that the telescope is a linguistic unit. We show this with a tree diagram.

NP

Art N

the telescope

The History of Syntax

P.W. Culicover

The history of thinking about and describing syntax goes backthousands of years. But from the perspective of theorizing about syntax, which is our concern here, a critical point of departure is Chomsky's

Syntactic Structures (Chomsky 1957) henceforth SS.

1. GRAMMARS AND GRAMMATICALITY

A central assumption of MGG (and other theories) is that a language is a set of strings of words and morphemes that meet a set of well-formedness conditions. In MGG these are expressible as RULES.

The rules constitute the grammar of the language, and are part of the native speaker's linguistic

knowledge. One task of the linguist is to formulate

and test hypotheses about what the rules of a

language are, that is, to determine the grammar.

The linguist's hypothesis and the native speaker's

knowledge are both called the GRAMMAR.

The evidence for a child learning a language

consists minimally of examples of expressions of the language produced in context. It is assumed that on the basis of this evidence the learner arrives at a grammar. The grammar provides the basis for the speaker to produce and understand utterances of the language. The descriptive problem for the linguist is to correctly determine the form and content of the speaker's grammar. Since Aspects (Chomsky 1965) it has been assumed in MGG that the grammar is only imperfectly reflected in what a speaker actually says. Absent from the CORPUS of utterances is a vast (in fact infinite) amount of data that the speaker could produce, but hasn't produced, and could comprehend if exposed to it. It contains a substantial number of utterances that contain errors such as slips of the tongue, or are

incomplete. Moreover, regular properties of the corpus such as the relative frequency of various expressions and constructions may not be relevant to the grammar itself (in either sense), but to social and cognitive effects on the way in which the language defined by the grammar is used in communication. The classical approach to discovery of the grammar has been to take the judgments of a native speaker about the acceptability of an expression to be a reflection of the native speaker's knowledge, that is, the grammar. In simple cases such an approach is very reliable. For instance, if we misorder the words of a sentence of a language such as English, the judgment of unacceptability is very strong, and reflects the knowledge of what the order should be. E.g., (1b) is ungrammatical because the article the follows rather than precedes the

head of its phrase.

(1) a. The police arrested Sandy. b. *Police the arrested Sandy.

Other cases are plausibly not a matter of grammar.

Consider (2).

(2) a. Sandy divulged the answer, but I would never do it. b. *Sandy knew the answer, but I would never do it.

Intuitively, the difference between the two sentences is that do it can refer only to an action, divulge denotes an action, while know does not. Since (2b) is ill-formed for semantic reasons, the burden of explanation can be borne by the semantics.

The distinction between grammaticality and acceptability was highlighted by Miller and Chomsky 1963, who observed that a sentence can be well-formed in the sense that it follows the rules of linear ordering,

phrase structure and morphological form, but is nevertheless unacceptable. Canonical cases involve center embedding.

(3) The patient that the doctor that the nurse called examined recovered.

The unacceptability of center embedding has been generally attributed to processing complexity, and not to grammar (Gibson 1998; Lewis 1997). The distinction between grammaticality and acceptability has not played a significant role in syntactic theorizing until recently, primarily because of the unavailability of theories of the mechanisms (e.g. processing) other than syntax itself that could explain the judgments.

SYNTACTIC STRUCTURES AND THE STANDARD THEORY

2.1. Constituent structure In SS, syntax is understood to

be the theory of the structure of sentences in a language. This view has its direct antecedents in the theory of immediate constituents (IC), in which the function of syntax is to mediate between the observed form of a sentence and its meaning: “we could not understand the form of a language if we merely reduced all the complex forms to their ultimate constituents” (Bloomfield 1933:161). Bloomfield argued that in order to account for the meaning of a sentence, it is necessary to recognize how individual constituents (e.g. words and morphemes), constitute more complex forms, which themselves constitute more complex forms. In SS, basic or KERNEL sentences were derived by the successive application of rewrite rules such as those in (4).

(4) S → NP VP

VP → V NP

NP → Det N

V → arrested, ... { }

Det → the, a, ... { }

N → police, students, ... { }

Transformations

S → NP VP

VP → V NP

NP → Det N

Constraining movement

A central consequence of the hypothesis that there are

at least two transformationally related levels of

syntactic representation is that constituents MOVE from

their underlying positions to their observed positions

in the structure. An example of movement is the derivation of the passive construction, in which the

deep structure object moves to surface structure

subject. Another is the movement of the English

inflected auxiliary in subject Aux inversion (SAI) in

(10b).

(10) a. Sandy will call.

b. Will Sandy ___ call.

Yet another example is seen in English wh-questions,

where the interrogative phrase appears in a position

distinct from the position that determines its syntactic and semantic function in the sentence (marked in (11) with underscore).

(11) What are you looking at __ ?

The question then arose, What kinds of movements are possible – how can they be constrained? Emonds 1970 observed that the passive transformation yields a structure that conforms to the general pattern of the language as characterized by the PSRs – that is, it is STRUCTURE PRESERVING. Emonds proposed that all transformations except those like SAI that apply to the highest level of the structure (the ROOT) are necessarily structure preserving. (In later developments, all transformations are assumed to be structure preserving.)

REFERENCES

Abney, S. (1987) The Noun Phrase in its Sentential

Aspect. MIT. Blake, B.J. (1990) Relational grammar.

Routledge, London.

Bloomfield, L. (1933) Language. Holt, Rinehart &

Winston, New York. Brame, M. (1978) Base Generated

Syntax. Noit Amrofer, Seattle, Washington. Bresnan, J.

(1982) The passive in grammatical theory. In The Mental

Representation of Grammatical Relations, (Ed, Bresnan,

J.) MIT Press, Cambridge, MA, pp. 3-86. Bresnan, J. &

Kaplan, R. (1982) Lexical functional grammar: a formal

Arrangement of Words

Heads, Modifies, and Arrangements of Words

J Miller

To make sense of a clause or sentence in written

language or of a series of clauses in spontaneous

speech, we have to pick out each head and the words that modify it. This task is made easier by the

organisation of words into phrases and clauses.

Speakers and writers produce words and phrases one

after the other. (It does not matter whether the writer

sets out words from left to right, as in English texts, or

right to left, as in Arabic texts.) Heads and modi- fiers

tend to occur next to each other. For instance, in

English, nouns can be modified by various types of

words and phrases – adjectives, prepositional phrases

and relative clauses, not to mention words such as a,

the, this and some.

Examples are given in (1).

(1) a. the house

b. the splendid house

c. the house on the hilltop

d. the house which they built out of reinforced concrete

In (1a), house is modified by the definite article the; in

(1b) it is modified by the definite article and by the

adjective splendid. The definite article, the indefinite

article

a and demonstratives such as this and that

precede their head noun, but certain modifiers follow

their head noun.

Examples are the prepositional phrase on the hilltop in

(1c) and the relative clause which they built out of

reinforced concrete in (1d). In noun phrases in some other languages, the order of head and modifiers follows a stricter pattern, with all modifiers either preceding or following the head. In French, for example, most adjectives and all prepositional phrases and relative clauses follow the noun, although the definite and indefinite articles precede it. This is demonstrated in (2). (2) a. la maison the house

b. la maison splendide the house splendid 'the splendid house'

c. la maison sur la colline the house on the hill 'the house on the hill'

d. la maison qu' ils ont construite en béton armé the house which they have built of concrete reinforced 'the house which they built of reinforced concrete' The adjective splendide, the prepositional phrase sur la

collineand the rela- tive clause qu'ils ont construite en béton armé all follow the head noun.

At this point, we come up against one of the interesting (or annoying) facts of French and indeed of all human languages: most patterns have exceptions. Example (4b) is also acceptable but is mainly used in formal writing.

(4) a. Which room did Jeeves shimmer into? b. Into which room did Jeeves shimmer?

We can note in passing that similar stranding is found in clauses intro- duced by which or who. In formal writing, a preposition plus which/who turns up at the front of the clause, as in the room into which Jeeves shimmered. In informal writing and in informal speech, the preposition is left behind at the end of the clause, as in the room which Jeeves shimmered into.

Tests for phrases

The arrangement of words into phrases and phrases into clauses may seem self-evident from the above discussion, particularly if you are a native speaker of English or a non-native speaker who knows English well. In fact, it is not always clear how the words in a given phrase are arranged or how the phrases are arranged in a given clause. Fortunately, tests have been developed to help analysts.

Transposition Many sequences of words can be moved together into different slots in a clause; this is evidence that the words form a phrase. Let us go back to (3a),Jeeves shimmered into the room. We can think Of (3a) as being converted to (3c) by the words into the roombeing moved, or transposed, to the front of the clause. This transposition indicates that the three

separate words combine into a larger block, a phrase.

Transposition also applies to phrases without

prepositions. The words the results in (5) can be moved

to the front of the clause to give The results Barbara

handed to Alan on Tuesday, a clause that is

appropriate if the speaker or writer continues, for

example, The actual scripts she kept until Friday. The

above examples of transposition have to do with a

sequence of words being moved from one position in

a clause to another position without any other

changes in the clause.

Transposition is one of the tests that reveal whether a

given sequence of words make up a phrase or are just

words that happen to come one after the other. If you

know English well, you may be tempted to think that

such a test is unnecessary; but two facts speak against

this temptation. One is that in spite of the vast amount of research on English syntax in the twentieth century we still come across examples whose structure is not obvious. The second fact is that many linguists work not just on languages other than English but on languages which have been little studied or not studied at all. In these circumstances, tests such as transposition are essential. The test of transposition is also applied in a slightly different fashion. Consider the active clause in (6a) and the passive clause in (6b).

(6) a. The pupils in this maths class gave cakes to Margaret every Friday. b. Cakes were given to Margaret every Friday by the pupils in this maths class. The phrase the pupils in this maths classis at the beginning of the clause in (6a) and refers to the people doing the giving. The same sequence is at the end of the clause in (6b) and is the complement of the

preposition by. In contrast with (3a) and (3b), the differences between (6a) and (6b) consist of more than just a group of words being moved from one position to another. Example (6a) contains gave, while (6b) contains the words were and given. Example (6b) also contains the prepositional phrase by the pupils in this maths class, whereas (6a) has no prepositional phrase.

When we use 'transposition' with respect to examples such as (6a) and (6b), we are talking about sequences of words that turn up in a particular order in one position in one construction and about the same sequences of words turning up in the same order in another construc- tion. The sequence the pupils in this maths classoccurs in the different con- structions in (6a) and (6b). (Constructions are discussed in Chapter 3.) The test of transposition applies to other sequences of words, as shown by (7). (7) a. This parcel is very heavy.

b. This very heavy parcel was delivered yesterday. c.

Very heavy, this parcel! d. What this parcel is is very

heavy. In (7a), the sequence of words/the phrase very

heavy is the complement of is; in (7b) it is the modifier

of parcel. It turns up at the beginning of the spoken

construction in (7c). In (7d) it is also the complement of

is, but in a special emphatic construction. Very can be

replaced by words such as astonishingly, and the

sequence can be made longer – astonishingly and

frighteningly heavy – but can still be transposed, as shown in This parcel is astonishingly and frighteningly

heavy, this astonishingly and frighteningly heavy

parcel was delivered yesterday, What this parcel is

astonishingly and frighteningly heavy. Examples (3a)

and (3c) show that a sequence of words introduced by

a preposition – into the room – can be transposed.

Substitution

The essential idea behind this test is that a single word can substitute for a number of words hanging together as a phrase. This is demon- strated in (9). (9) a. Barbara handed the intriguing results of the latest examinationto Alan on Tuesday. b. Barbara handed them to Alan on Tuesday. Them in (9b) substitutes for the intriguing results of the latest examination in (9a).

Similarly, in (6a) and (6b) David can be substituted for the pupils in this maths class: David baked cakes for Margaret every Friday and Cakes were baked for Margaret every Friday by David. The test of substitution applies to sequences of words with adjectives, such as those in (7); This parcel is very heavy, This parcel is astonishingly and frighteningly heavyor simplyThis parcel is heavy. The single adjective heavy substitutes for the sequences very

heavy and astonishingly and frighteningly heavy but another type of substitution is possible, using the specialised substitution word so. Consider the dialogue in (10). (Here capital letters represent different speakers.) (10) A. This large parcel is very heavy. B. No it's not. C. It is so. The test of so-substitution exemplified in (10) is straightforward in that the sequence very heavyis removed and sois dropped into the empty slot. Another type of so-substitution is rather indirect. Consider (11). (11) This large parcel is very heavy and so is this small packet. There is no doubt that so 'stands for' very heavy. The reason for calling this substitution 'indirect' is that so has not simply been dropped into the slot occupied by very heavy but has been moved to the front of the clause. Nonetheless, so-substitution is a good indication that sequences such as very heavy form a larger unit.

Substitution can be applied to sequences introduced by prepositions, as in (12) and (13).

(12) a. Vera is crocheting in the lounge.

b. Vera is crocheting there.

(13) a. Grandma is coming to Mr Chalky's school tomorrow.

b. Grandma is coming here tomorrow.

There in (12b) substitutes for in the lounge in (12a), and here in (13b) sub- stitutes for to Mr Chalky's school in (13a). Examples in which a single preposition substitutes for a whole sequence are difficult to find. This is mainly because prepositions typically require a complement, but also because in standard written English there is a contrast between in for location and intofor movement, and for many speakers there is a contrast between out of for movement and out for

location, as in (14).

(14) a. The cat was sleeping in the kitchen.

b. The cat trotted into the kitchen.

c. The mouse jumped out of the cheese-box.

d. The mouse was out the cheese-box.

In informal spoken English, and certainly in non-standard varieties of English, inandoutexpress both location and movement, and (14b, c) can be expressed as (15a, b).

(15) a. The cat trotted in the kitchen.

b. The mouse jumped out the cheese-box.

These examples can be shortened to those in (16).

(16) a. The cat trotted in.

b. The mouse jumped out.

In these examples, in and out can be treated as single words substituting for the longer phrases in the

kitchen and out the cheese-box. However, for the large majority of prepositions, the substitution of a preposition for preposition plus noun phrase does not work, whether in writing or informal speech, in standard or non-standard English. Finally in this section, let us note that all the above examples show a sequence of words being replaced by one word. The converse is that a single word can be replaced by a sequence of words: Cheese is goodcan be changed to ThatFrench cheese with the blue veins is good. The latter example is occasionally described in terms of cheese being expanded to that French cheese with the blue veins, but it is treated here as a type of substitution.

Ellipsis

Consider the examples in (17).

(17) a. The terrier attacked the burglar. The terrier

savaged the burglar's ankles.

b. The terrier attacked the burglar and the terrier

savaged the burglar's ankles.

c. The terrier attacked the burglar and [ ] savaged the

burglar's ankles.

Example (17a) contains two separate clauses.

In (17b), the clauses are conjoined by and; this gives a

single sentence consisting of two clauses, each

beginning with the terrier. Example (17c) is produced by deleting the second

occurrence of the terrier. The square brackets in (17c)

mark the site of the miss- ing words, which are said to

have been ellipted. Example (17c) is an example of

ellipsis. The important point about this type of ellipsis

is that it applies only to complete phrases. Sentences

such as *The fierce terrier attacked the burglar and

terrier savaged the burglar's ankles are incorrect,

because terrier must be preceded by the. Example

(17b) is peculiar because speakers and writers of

English do not repeat phrases in this manner but either

ellipt the second occurrence of the phrase as in (17c) or

use a substitute such as he, she or it. The burglar occurs

twice, once as the phrase at the beginning of (17b) and

again in the bigger phrase the burglar's ankles. In the

latter phrase the burglar, or rather the burglarplus the

possessive suffix 's, is replaced by his:The terrier

attacked the burglar and she savaged his ankles.

Coordination

Words of the same type can be coordinated, that is,

joined by special words such as

and and

or . Phrases

of the same type can be coordinated, and clauses of the same type. In this section, we focus on words and phrases. In the clause John and his energetic wife landscaped the garden twice last year, John is a phrase consisting of a single word and his energetic wife is a phrase consisting of three words. In spite of the disparity in length, the two phrases are coordinated – John and his energetic wife. In the noun phrase the bright and incredibly sharp air over Doubtful Sound, the one-word adjective phrase bright is coordinated with the two-word adjective phrase incredibly sharp. The fact of the coordination is one of the reasons for recognising bright as a phrase.

Exercises

The following sentences exemplify the criteria of transposition, substitution, coordination and ellipsis applied to one type of phrase.

What type of phrase is it and which criteria apply to which examples?

1. I put the letter into the top drawer of the bureau.

2. I put the letter there.

3. Where I put the letter was into the top drawer of the bureau.

4. Into the top drawer of the bureau I put the letter.

5. It was into the top drawer of the bureau that I put the letter.

6. I put the letter either there or into the top drawer of

the bureau.

7. I put into the top drawer of the bureau the letter, my wallet and an old watch.

2. Analyse the following examples into phrases. Label each phrase, for example as noun phrase, adverbial phrase and so on, as appropriate. If in doubt about whether words that are next to each other in an example constitute a phrase, apply the tests as demonstrated in Exercise 1 above.

For example, in (1) they can be substituted for the pedestrians offended by the dangerously selfish action of the driver; him can be replaced by the selfish driver; into the harbour can be replace by off, and so on. The sequence into the harbour occurs in the different construction Into the harbour they threatened to throw him. That is, the tests of substitution and transposition

indicate that into the harbour is a phrase, a single constituent.

Grammaticality

Mathematically, the number of possible combinations of 5 words is 5! (factorial), equalling 120 instances. But among these 120 possible combinations, only 6 form grammatical English sentences:1

(1) a. The man kicked a ball.

(2) b. A man kicked the ball.

(3) c. The ball kicked a man.

(4) d. A ball kicked the man.

(5) e. The ball, a man kicked.

(6) f. The man, a ball kicked.

(7) All the other 114 combinations, a few of which are given in (2), are unacceptable to native

speakers of English. We use the notation * to indicate that a hypothesized example is ungrammatical.

(8) (2) a. *Kicked the man the ball.

(9) b. *Man the ball kicked the.

(10) c. *The man a ball kicked.

(11) It is clear that there are certain rules in English for combining words. These rules constrain which words can be combined together or how they may be ordered, sometimes in groups, with respect to each other. Such combinatory rules also play important roles in our understanding of the syntax of an example like (3a).2 Whatever these rules are, they should give a different status to (3b), an example which is judged ungrammatical by native speakers even though

the intended meaning of the speaker is

relatively clear and understandable.

(12) (3) a. Kim lives in the house Lee sold to her.

(13) b. *Kim lives in the house Lee sold it to her.

We could

continue adding adjectives, theoretically

enabling us to generate an infinitive number of

sentences:

(20) (6) a. The man kicked the ball.

(21) b. The tall man kicked the ball.

(22) c. The handsome, tall man kicked the ball.

(23) d. The handsome, tall, nice man kicked the ball.

(24) One might argue that since the number of

English adjectives could be limited, there would

be a dead-end to this process. However, no one

would find themselves lost for another way to

keep the process going (cf. Sag et al. 2003):

(25) (7) a. Some sentences can go on.

(26) b. Some sentences can go on and on.

(27) c. Some sentences can go on and on and on.

(28) d. Some sentences can go on and on and on and

on.

(29) To (7a), we add the string and on, producing a

longer one (7b). To this resulting sentence (7c),

we once again add and on. We could in

principle go on adding without stopping: this is enough to prove that we could make an infinite

number of well-formed English sentences.

Given these observations, how then can we explain

the fact that we can produce or under- stand an

infinite number of grammatical sentences that we

have never heard or seen before? It seems

implausible to consider that we somehow memorize

every example, and in fact we do not (Pullum and Scholz 2002). We know that this could not be true, in particular when we consider that native speakers can generate an infinite number of infinitely long sentences, in principle. In addition, there is limit to the amount of information our brain can keep track of, and it would be implausible to think that we store an infinite number of sentences and retrieve whenever we need to do so. These considerations imply that a more appropriate hypothesis would be something like (8):

(30) (8) All native speakers have a grammatical competence which can generate an infinite set of grammatical sentences from a finite set of resources.

Generative Grammar:

An English generative grammar is the one that can generate an infinite set of well- formed English sentences from a finite set of rules or principles.

The job of syntax is thus to discover and formulate these rules or principles.5 These rules tell us how words are put together to form grammatical phrases and sentences. Generative grammar, or generative syntax, thus aims to define these rules which will characterize all of the sentences which native speakers will accept as well-formed and grammatical.

1.2 How We Discover Rules

How can we then find out what the generative rules of English syntax are? These rules are present in the speakers' minds, but are not consciously accessible; speakers cannot articulate their content, if asked to do so. Hence

we discover the rules indirectly, and of the several methods for inferring these hidden rules,

hypotheses based on the observed data of the

given language are perhaps the most reliable.

These data can come from speakers' judgments

– known as intuitions – or from collected data

sets – often called corpora. Linguistics is in one

sense an empirical science as it places a strong

emphasis on investigating the data underlying a

phenomenon of study.

[Step I: Observing Data] To discover a grammar

rule, the first thing we need to do is to check out

grammatical and ungrammatical variants of the

expression in question. For example,

(10) Data Set 1:

a. *The professor gave John some good advices.

b. *The president was hoping for a good advice.

c. *The advice that John got was more helpful than

the one that Smith got.

Why Do We Study Syntax and What Is It Good

for?

There are many reasons for studying syntax, from

general humanistic or behavioral motivations to

much more specific goals such as those in the

following: To help us to illustrate the patterns of

English more effectively and clearly. . To enable

us to analyze the structure of English sentences

in a systematic and explicit way.

For example, let us consider how we could use

the syntactic notion of head, which refers to the

essential element within a phrase. The following is a short and informal rule for English subject-

verb agreement.

(27) In English, the main verb agrees with the head element of the subject.

This informal rule can pinpoint what is wrong with the following two examples:

(28) a. *The recent strike by pilots have cost the country a great deal of money from tourism and so on.

b. *The average age at which people begin to need eyeglasses vary considerably.

Once we have structural knowledge of such sentences, it is easy to see that the essential element of the subject in (28a) is not pilots but strike. This is why the main verb should be has but not have to observe the basic agreement rule in (27). Meanwhile, in (28b), the head is the

noun age, and thus the main verb vary needs to agree with this singular noun. It would not do to

simply talk about 'the noun' in the subject in the

examples in (28), as there is more than one. We

need to be able to talk about the one which

gives its character to the phrase, and this is the

head. If the head is singular, so is the whole

phrase, and similarly for plural.

Exercises

1. Consider the following list of nouns:

(i) vehicle, traffic, stuff, knowledge, hair,

discussion, luggage, suitcase, difficulty,

experience, broccoli, orange, activity, light,

lightning

For each of these nouns, decide if it can be used as

a count or as a non-count (mass) noun. In doing

so, construct acceptable and unacceptable

examples using the tests (plurality, indefinite article, pronoun one, few/little, many/much tests)

we have discussed in this chapter.

2. Check or find out whether each of the following

examples is grammatical or ungrammatical. For

each ungrammatical one, provide at least one

(informal) reason for its ungrammaticality,

according to your intuitions or ideas.

(i) a. Kim and Sandy is looking for a new bicycle.

b. I have never put the book.

c. The boat floated down the river sank.

d. Chris must liking syntax.

e. There is eager to be fifty students in this class. f.

Which chemical did you mix the hydrogen

peroxide and?

g. There seem to be a good feeling developing

among the students.

WORDS AND PHRASES

Lexical Categories

J.B.Kim and P. Sells

The basic units of syntax are words. The first question is then what kinds of words (also known as parts of speech, or lexical categories, or grammatical categories) does English have? Are they simply noun, verb, adjective, adverb, preposition, and maybe a few others? Most of us would not be able to come up with simple definitions to explain the categorization of words. For instance, why do we categorize book as a noun, but kick as a verb? To make it more difficult, how do we know that virtue is a noun, that without is a preposition, and that well

is an adverb (in one meaning)? Words can be classified into different lexical categories according to three criteria: meaning, morphological form, and syntactic function (distribution). Let us check what each of these criteria means, and how reliable each one is. At first glance, it seems that words can be classified depending on their meaning. For exam- ple, we could have the following rough semantic criteria for N (noun), V (verb), A (adjective), and Adv (adverb):

(2) a. N: referring to an individual or entity

b. V: referring to an action

c. A: referring to a property

d. Adv: referring to the manner, location, time or frequency of an action

Though such semantic bases can be used for many words, these notional definitions leave a great number of words unaccounted for. For example, words like sincerity, happiness, and pain do not simply denote any individual or entity. Absence and loss are even harder cases. There are also many words whose semantic properties do not match the lexical category that they belong to. For example, words like assassination and construction may refer to an action rather than an individual, but they are always nouns. Words like remain, bother, appear, and exist are verbs, but do not involve any action. A more reliable approach is to characterize words in terms of their forms and functions. The 'form-based' criteria look at the morphological form of the word in question: (3) a. N: + plural morpheme -

(e)s b. N: + possessive ’s c. V: + past tense -ed or 3rd singular -(e)s d. V: + 3rd singular -(e)s e. A: + -er/est (or more/most) f. A: + -ly (to create an adverb)

According to these frames, where the word in question goes in the place indicated by , nouns allow the plural marking suffix -(e)s to be attached, or the possessive ’s, whereas verbs can have the past tense -ed or the 3rd singular form -(e)s. Adjectives can take comparative and superlative endings -er or -est, or combine with the suffix -ly. (4) shows some examples derived from these frames:

(4) a. N: trains, actors, rooms, man’s, sister’s, etc.

b. V: devoured, laughed, devours, laughs, etc.

c. A: fuller, fullest, more careful, most careful, etc.

d. Adv: fully, carefully, diligently, clearly, etc.

The morphological properties of each lexical category cannot be overridden; verbs cannot have plural marking, nor can adjectives have tense marking. It turns out, however, that these morphological criteria are also only of limited value. In addition to nouns like information and furniture that we presented in Chapter 1, there are many nouns such as love and pain that do not have a plural form. There are adjectives (such as absent and circular) that do not have comparative -er or superlative -est forms, due to their meanings. The morphological (form-based) criterion, though reliable in many cases, are not necessary and sufficient conditions for determining the type of lexical categories. The

most reliable criterion in judging the lexical category of a word is based on its function or distributional possibilities. Let us try to determine what kind of lexical categories can occur in the following environments:

(5) a. They have no .

b. They can .

c. They read the book.

d. He treats John very .

e. He walked right the wall.

The categories that can go in the blanks are N, V, A, Adv, and P (preposition). As can be seen in the data in (6), roughly only one lexical category can appear in each position:

(6) a. They have no TV/car/information/friend.

b. They have no *went/*in/*old/*very/*and.

(7) a. They can sing/run/smile/stay/cry.

b. They can *happy/*down/*door/*very.

(8) a. They read the big/new/interesting/scientific book.

b. They read the *sing/*under/*very book.

(9) a. He treats John very nicely/badly/kindly.

b. He treats John very *kind/*shame/*under.

(10) a. He walked right into/on the wall.

b. He walked right *very/*happy/*the wall.

As shown here, only a restricted set of lexical categories can occur in each position; we can then assign a specific lexical category to these elements:

(11) a. N: TV, car, information, friend, ...

b. V: sing, run, smile, stay, cry, ...

c. A: big, new, interesting, scientific, ...

d. Adv: nicely, badly, kindly, ...

e. P: in, into, on, under, over, ...

In addition to these basic lexical categories, does English have other lexical categories? There are a few more. Consider the following syntactic environments:

(12) a. student hits the ball.

b. John sang a song, Mary played the piano.

c. John thinks Bill is honest.

The only words that can occur in the open slot in (12a) are words like the, a, this, that, and so forth, which are determiner (Det). (12b) provides a frame for conjunctions (Conj) such as and, but, so, for, or, yet.9 In (12c), we can have the category we call 'complementizer', here the word that – we return to these in (16) below. Can

we find any supporting evidence for such lexical categorizations? It is not so difficult to construct environments in which only these lexical elements appear. Consider the following:

(13) We found out that jobs were in jeopardy.

Here we see that only words like the, my, his, some, few, these, those, and so forth can occur here. These articles, possessives, quantifiers, and demonstratives all 'determine' the referential properties of jobs here, and for this reason, they are called determiners. One clear piece of evidence for grouping these elements as the same category comes from the fact that they cannot occupy the same position at the same time:

(14) a. *[My these jobs] are in jeopardy.

b. *[Some my jobs] are in jeopardy.

c. *[The his jobs] are in jeopardy.

Words like my and these or some and my cannot occur together, indicating that they compete with each other for just one structural position.

Now consider the following examples:

(15) a. I think learning English is not easy at all.

b. I doubt you can help me in understanding this.

c. I am anxious you to study English grammar hard.

Once again, the possible words that can occur in the specific slot in (16) are strictly limited.

(16) a. I think that [learning English is not all that easy].

b. I doubt if [you can help me in understanding this].

c. I am anxious for [you to study English grammar hard].

The italicized words here are different from the other lexical categories that we have seen so far. They introduce a complement clause, marked above by the square brackets, and may be sensitive to the tense of that clause. A tensed clause is known as a 'finite' clause, as opposed to an infinitive. For example, that and if introduce or combine with a tensed sentence (present or past tense), whereas for requires an infinitival clause marked with to. We cannot disturb these relationships:

(17) a. *I think that [learning English to be not all that easy].

b. *I doubt if [you to help me in understanding

this].

c. *I am anxious for [you should study English

grammar hard].

The term ‘complement’ refers to an obligatory

dependent clause or phrase relative to a head..

Now consider the following environments:

(18) a. John not leave. b. John drink beer last night.

c. John leave for Seoul tomorrow? d. John will

study syntax, and Mary , too.

The words that can appear in the blanks are

neither main verbs nor adjectives, but rather

words like will, can, shall and must. In English,

there is clear evidence that these verbs are

different from main verbs, and we call them

auxiliary verbs (Aux). The auxiliary verb

appears in front of the main verb, which is

typically in its citation form, which we call the

'base' form. Note the change in the main verb

form in (19b) when the negation is added:

(19) a. He left.

b. He did not leave.

There is also one type of to which is auxiliary-like.

Consider the examples in (20) and (21):

(20) a. Students wanted to write a letter.

b. Students intended to surprise the teacher.

(21) a. Students objected to the teacher.

b. Students sent letters to the teacher.

It is easy to see that in (21), to is a preposition. But

how about the infinitival marker to in (20),

followed by a base verb form? What lexical

category does it belong to?

Finally, there is one remaining category we need

to consider, the 'particles' (Part), illustrated in

(25):

(25) a. The umpire called off the game.

b. The two boys looked up the word.

Words like off and up here behave differently

from prepositions, in that they can occur after

the object.

(26) a. The umpire called the game off.

b. The two boys looked the word up.

Such distributional possibilities cannot be

observed with true prepositions:

(27) a. The umpire fell off the deck.

b. The two boys looked up the high stairs (from

the floor).

(28) a. *The umpire fell the deck off.

b. *The students looked the high stairs up (from

the floor).

We can also find differences between particles

and prepositions in combination with an object

pronoun:

(29) a. The umpire called it off. (particle)

b. *The umpire called off it.

(30) a. *The umpire fell it off.

b. The umpire fell off it. (preposition)

The pronoun it can naturally follow the

preposition as in (30b), but not the particle in

(29b). Such contrasts between prepositions and

particles give us ample reason to introduce

another lexical category Part (particle) which is differentiated from P (preposition). In the next

section, we will see more tests to differentiate these two types of word.

Content vs. function words

The lexical categories we have seen so far can be classified into two major word types: content and function. Content words are those with substantive semantic content, whereas function words are those primarily serving to carry grammatical information. If we remove the words of category Det, Aux, and P from the examples in (31), we have the examples in (32):

(31) a. The student will take a green apple.

b. The teachers are fond of Bill.

(32) a. *Student take green apple

b. *Teachers fond Bill. Even though these are ungrammatical, we get some meaning from the strings, since the remaining N, V, and A words include the core

meaning of the examples in (31). These 'content' words are also known as 'open class' words since the number of such words is unlimited, and new words can be added every day.

(33) Content words:

a. N: computer, email, fax, Internet, ...

b. A: happy, new, large, grey, tall, exciting, ...

c. V: email, grow, hold, have, run, smile, make, ... d. Adv: really, completely, also, well, quickly, ...

In contrast, function words are mainly used to indicate the grammatical functions of other words, and are 'closed class' items: only about 300 function words exist in English, and new function words are only very rarely added into the language: a. P: of, at, in, without, between, ...

b. Det: the, a, that, my, more, much, ...

c. Conj: and, that, when, while, although, or, ...

d. Aux: can, must, will, should, ought, ...

e. C: for, whether, that, ...

f. Part: away, over, off, out, ...

2.3 Grammar with Lexical Categories

As noted in Chapter 1, the main goal of syntax is building a grammar that can generate an infinite set of well-formed, grammatical English sentences. Let us see what kind of grammar we can develop now that we have lexical categories. To start off, we will use the examples in (35):

(35) a. A man kicked the ball.

b. A tall boy threw the ball.

c. The cat chased the long string.

d. The happy student played the piano.

Given only the lexical categories that we have identified so far, we can set up a grammar rule for sentence (S) like the following:

S→Det (A) N V Det (A) N

The rule tells us what S can consist of: it must contain the items mentioned, except that those which are in parentheses are optional. So this rule characterizes any sentence which consists of a Det, N, V, Det, and N, in that order, possibly with an A in front of either N. We can represent the core items in a tree structure as in (37):

(37) S

Det N V Det N

We assume a lexicon, a list of categorized words, to be part of the grammar along with the rule in (36):

(38) a. Det: a, that, the, this, ...

b. N: ball, man, piano, string, student, ...

c. V: kicked, hit, played, sang, threw, ...

d. A: handsome, happy, kind, long, tall, ...

By inserting lexical items into the appropriate pre-terminal nodes in the structure, where the labels above ... are, we can generate grammatical examples like those (35) as well as those like the following, not all of which describe a possible real-world situation:

(39) a. That ball hit a student.

b. The piano played a song.

c. The piano kicked a student.

d. That ball sang a student.

Such examples are all syntactically well-formed, even if semantically in some cases, implying that syntax is rather 'autonomous' from semantics. Note that any anomalous example can be preceded by the statement "Now, here's something hard to imagine:...".12 Notice that even this simple grammar rule can easily extend to generate an infinite number of English sentences by allowing iteration of the A:13 (40) S→Det A∗ N V Det A∗ N The operator allows us to repeat any number of As, thereby generating sentences like (41). Note that the parentheses around 'A' in (37) are no longer necessary in this instance, for the Kleene Star operator means

any number including zero.

(41) a. The tall man kicked the ball.

b. The tall, handsome man kicked the ball.

c. The tall, kind, handsome man kicked the ball.

One could even generate a sentence like (42):

(42) The happy, happy, happy, happy, happy,

happy man sang a song.

A grammar using only lexical categories can be specified to generate an infinite number of well-formed English sentences, but it nevertheless misses a great deal of basic properties that we can observe. For example, this simple grammar cannot capture the agreement facts seen in examples like the following:

(43) a. The mother of the boy and the girl is arriving soon.

b. The mother of the boy and the girl are arriving soon.

Why do the verbs in these two sentences have different agreement patterns? Our intuitions tell us that the answer lies in two different possibilities for grouping the words:

(44) a. [The mother of [the boy and the girl]] is arriving soon.

b. [The mother of the boy] and [the girl] are arriving soon.

The different groupings shown by the brackets indicate who is arriving: in (44a), the mother, while in (44b) it is both the mother and the girl. The grouping of words into larger phrasal units which we call constituents provides the first step in understanding the agreement facts in (44).

Now, consider the following examples:

(45) a. John saw the man with a telescope.

b. I like chocolate cakes and pies.

c. We need more intelligent leaders.

These sentences have different meanings

depending on how we group the words. For

example, (45a) will have the following two

different constituent structures: (46) a. John saw [the man with a telescope]. (the

man had the telescope)

b. John [[saw the man] with a telescope]. (John

used the telescope)

Even these very cursory observations indicate that

a grammar with only lexical categories is not

adequate for describing syntax. In addition, we

need a notion of ‘constituent’, and need to

consider how phrases may be formed, grouping

certain words together.

Phrasal Categories

In addition to the agreement and ambiguity facts,

our intuitions may also lead us to hypothesize

constituency. If you were asked to group the

words in (47) into phrases, what constituents

would you come up with? (47) The student enjoyed his English syntax class

last semester.

Perhaps most of us would intuitively assign the

structure given in (48a), but not those in (48b) or

(48c):

(48) a. [The student] [enjoyed [his English syntax

class last semester]].

b. [The] [student enjoyed] [his English syntax class]

[last semester].

c. [The student] [[enjoyed his English] [syntax class last semester]].

What kind of knowledge, in addition to semantic coherence, forms the basis for our intuitions of constituency? Are there clear syntactic or distributional tests which demonstrate the appropriate grouping of words or specific constituencies? There are certain salient syntactic phenomena which refer directly to constituents or phrases.

Cleft: The cleft construction, which places an emphasized or focused element in the X position in the pattern 'It is/was X that ... ', can provide us with simple evidence for the existence of phrasal units. For instance, think

about how many different cleft sentences we

can form from (49).

(49) The policeman met several young students in

the park last night.

With no difficulty, we can cleft almost all the

constituents we can get from the above

sentence:

(50) a. It was [the policeman] that met several

young students in the park last night. b. It was

[several young students] that the policeman met

in the park last night. c. It was [in the park] that the policeman met several young students last

night. d. It was [last night] that the policeman

met several young students in the park.

However, we cannot cleft sequences that not form

constituents:

(51) a. *It was [the policeman met] that several

young students in the park last night. b. *It was

[several young students in] that the policeman

met the park last night. c. *It was [in the park

last night] that the policeman met several young

students.

Constituent Questions and Stand-Alone Test:

Further support for the existence of phrasal

categories can be found in the answers to

‘constituent questions’, which involve a wh-

word such as who, where, when, how. For any

given wh-question, the answer can either be a full sentence or a fragment. This stand-alone

fragment is a constituent:

(52) A: Where did the policeman meet several

young students? B: In the park.

(53) A: Who(m) did the policeman meet in the

park? B: Several young students.

This kind of test can be of use in determining constituents; we will illustrate with example (54):

(54) John put old books in the box.

Are either old books in the box or put old books in the box a constituent? Are there smaller constituents? The wh-question tests can provide some answers:

(55) A: What did you put in your box?

B: Old books.

B: *Old books in the box.

(56) A: What did you put?

B: *Old books in the box.

(57) A: What did you do?

B: *Put old books.

B: *Put in the box.

B: Put old books in the box.

Overall, the tests here will show that old books and in the box are constituents, and that put old books in the box is also a (larger) constituent.

The test is also sensitive to the difference between particles and prepositions. Consider the similar-looking examples in (58), including looked and up:

(58) a. John looked up the inside of the chimney.

b. John looked up the meaning of ‘chanson’.

The examples differ, however, as to whether up forms a constituent with the following material or not. We can again apply the wh-question test:

(59) A: What did he look up? B: The inside of the chimney. B: The meaning of ‘chanson’.

(60) A: Where did he look? B: Up the inside of the chimney. B: *Up the meaning of ‘chanson’.

(61) A: Up what did he look? B: The inside of the chimney. B: *The meaning of ‘chanson’.

What the contrasts here show is that up forms a constituent with the inside of the chimney in (58a) whereas it does not with the meaning of ‘chanson’ in (58b).

Substitution by a Pronoun: English, like most languages, has a system for referring back to individuals or entities mentioned by the use of pronouns. For instance, the man who is standing by the door in (62a) can be ‘substituted’ by the pronoun he in (62b).

(62) a. What do you think the man who is standing by the door is doing now?

b. What do you think he is doing now?

There are other pronouns such as there, so, as,

and which, which also refer back to other

constituents.

(63) a. Have you been [to Seoul]? I have never

been there.

b. John might [go home], so might Bill.

c. John might [pass the exam], and as might Bill.

d. If John can [speak French fluently] – which we

all know he can – we will have no problems.

A pronoun cannot be used to refer back to

something that is not a constituent:

(64) a. John asked me to put the clothes in the

cupboard, and to annoy him I really stuffed

there [there=in the cupboard]. b. John asked me

to put the clothes in the cupboard, and to annoy

him I stuffed them there [them=the clothes]. c.

*John asked me to put the clothes in the cupboard, but I did so [=put the clothes] in the

suitcase.

Both the pronoun there and them refer to a constituent. However, so in (64c), referring to a VP, refers only part of a constituent put the clothes, making it unacceptable.

Coordination: Another commonly-used test is coordination. Words and phrases can be co-ordinated by conjunctions, and each conjunct is typically the same kind of constituent as the other conjuncts:

(65) a. The girls [played in the water] and [swam under the bridge]. b. The children were neither [in their rooms] nor [on the porch]. c. She was [poor] but [quite happy]. d. Many people drink [beer] or [wine].

If we try to coordinate unlike constituents, the

results are typically ungrammatical. (66) a. *Mary waited [for the bus] and [to go

home]. b. *Lee went [to the store] and [crazy].

Even though such syntactic constituent tests are

limited in certain cases, they are often adopted

in determining the constituent of given

expressions.

PS Rules

NP: Noun Phrase

Consider (67):

(67) [liked ice cream].

The expressions that can occur in the blank

position here are once again limited. The kinds

of expression that do appear here include:

(68) Mary, I, you, students, the students, the tall

students, the students from Seoul, the students

who came from Seoul, etc.

If we look into the sub-constituents of these expressions, we can see that each includes at least an N and forms an NP (noun phrase). This leads us to posit the following rule:

NP→(Det) A* N (PP/S)

This rule characterizes a phrase, and is one instance of a phrase structure rule (PS rule). The rule indicates that an NP can consist of an optional Det, any number of optional A, an obligatory N, and then an optional PP or a modifying S. The slash indicate different options for the same place in the linear order.

VP: Verb Phrase

Just as N projects an NP, V projects a VP. A simple test environment for VP is given in (72).

(72) The student .

(73) lists just a few of the possible phrases that can occur in the underlined position.

(73) snored, ran, sang, loved music, walked the dog through the park, lifted 50 pounds, thought Tom is honest, warned us that storms were coming, etc.

These phrases all have a V as their head – as projections of V, they form VP. VP can be charac-terized by the rule in (74), to a first level of analysis: (74) VP→V (NP) (PP/S) This simple VP rule says that a VP can consist of an obligatory V followed by an optional NP and then any

number of PPs or an S. The rule thus does not generate ill-formed VPs such as these:

(75) *leave the meeting sing, *the leave meeting, *leave on time the meeting, ...

We can also observe that the presence of a VP is essential in forming a grammatical S, and the VP must be finite (present or past tense). Consider the following examples:

(76) a. The monkey wants to leave the meeting.

b. *The monkey eager to leave the meeting.

(77) a. The monkeys approved of their leader.

b. *The monkeys proud of their leader.

(78) a. The men practice medicine.

b. *The men doctors of medicine.

These examples show us that an English well-formed sentence consists of an NP and a (finite)

VP, which can be represented as a PS rule: (79)

S→NP VP We thus have the rule that English sentences are composed of an NP and a VP, the precise structural counterpart of the traditional ideas of a sentence being ‘a subject and predicate’ or ‘a noun and a verb’. One more aspect to the structure of VP involves the presence of auxiliary verbs. Think of continuations for the fragments in (80):

(80) a. The students .

b. The students want .

For example, the phrases in (81a) and (81b) can occur in (80a) whereas those in (81c) can appear in (80b).

(81) a. run, feel happy, study English syntax, ...

b. can run, will feel happy, must study English

syntax, ...

c. to run, to feel happy, to study English syntax, ...

We have seen that the expressions in (81a) all form VPs, but how about those in (81b) and (81c)? These are also VPs, which happen to contain more than one V. In fact, the parts after the auxiliary verbs in (81b) and (81c) are themselves regular VPs. In the full grammar we will consider to and can and so on as auxiliary verbs, with a feature specification [AUX +] to distinguish them from regular verbs. Then all auxiliary verbs are simply introduced by a second VP rule:17 (82) VP→V[AUX +] VP One more important VP structure involves the VP modified by an adverb or a PP:

(83) a. John [[read the book] loudly].

b. The teacher [[met his students] in the class].

In such examples, the adverb loudly and the PP in

the class are modifying the preceding VP. To

form such VPs, we need the PS rule in (84):

(84) VP→VP Adv/PP

AP: Adjective Phrase

The most common environment where an

adjective phrase (AP) occurs is in 'linking verb'

constructions as in (86):

(86) John feels .

Expressions like those in (87) can occur in the

blank space here:

(87) happy, uncomfortable, terrified, sad, proud of

her, proud to be his student, proud that he

passed the exam, etc.

Since these all include an adjective (A), we can

safely conclude that they all form an AP. Look-

ing into the constituents of these, we can

formulate the following simple PS rule for the

AP→A (PP/VP/S) This simple AP rule can

easily explain the following contrast:

(89) a. John sounded

happy/uncomfortable/terrified/proud of her.

b. John sounded *happily/*very/*the student/*in

the park.

Also observe the contrasts in these examples:

(90) a. *The monkeys seem [want to leave the

meeting].

b. The monkeys seem [eager to leave the

meeting].

(91) a. *John seems [know about the bananas].

b. John seems [certain about the bananas].

These examples tell us that the verb seem combines with an AP, but not with a VP.

AdvP: Adverb Phrase

Another phrasal syntactic category is adverb phrase (AdvP), as exemplified in (92).

(92) soundly, well, clearly, extremely, carefully, very soundly, almost certainly, very slowly, etc.

These phrases are often used to modify verbs, adjectives, and adverbs themselves, and they can all occur in principle in the following environments:

(93) a. He behaved very .

b. They worded the sentence very .

c. He treated her very .

Phrases other than an AdvP cannot appear here.

For example, an NP the student or AP happy

cannot occur in these syntactic positions. Based

on what we have seen so far, the AdvP rule can

be given as follows: (94) AdvP→(AdvP)

PP: Preposition Phrase

Another major phrasal category is preposition

phrase (PP). PPs like those in (95), generally

consist of a preposition plus an NP.

(95) from Seoul, in the box, in the hotel, into the

soup, with John and his dog, under the table,

etc.

These PPs can appear in a wide range of

environments:

(96) a. John came from Seoul.

b. They put the book in the box.

c. They stayed in the hotel.

d. The fly fell into the soup.

One clear case in which only a PP can appear is

the following:

(97) The squirrel ran straight/right .

The intensifiers straight and right can occur neither

with an AP nor with an AdvP:

(98) a. The squirrel ran straight/right up the tree.

b. *The squirrel is straight/right angry.

c. *The squirrel ran straight/right quickly.

From the examples in (95), we can deduce the

following general rule for forming a PP:19 (99)

PP→P NP The rule states that a PP consists of a P followed by an NP. We cannot construct

unacceptable PPs like the following:

(100) *in angry, *into sing a song, *with happily, ...

We have seen earlier that the grammar with just lexical categories is not adequate for capturing the basic properties of the language. How much further do we get with a grammar which includes phrases? A set of PS rules, some of which we have already seen, is given in

a. S→NP VP

b. NP→(Det) A* N (PP/S)

c. VP→V (NP) (PP/S/VP)

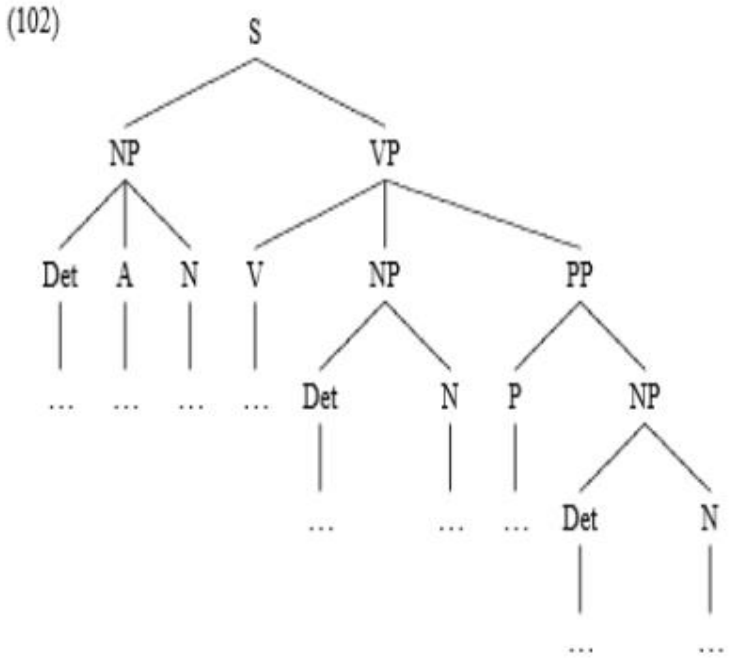
d. AP→A (PP/S)

e. AdvP→(AdvP) Adv

f. PP→P NP

The rules say that a sentence is the combination of

NP and VP, and an NP can be made up of a Det, any number of As, an obligatory N, and any number of PPs, and so on.. Of the possible tree structures that these rules can generate, the following is one example:



With the structural possibilities shown here, let us assume that we have the following lexical entries:

(103) a. Det: a, an, this, that, any, some, which, his,

her, no, etc.

b. A: handsome, tall, fat, large, dirty, big, yellow,

etc. c. N: book, ball, hat, friend, dog, cat, man, woman,

John, etc.

d. V: kicked, chased, sang, met, believed, thinks,

imagines, assumes etc

Inserting these elements in the appropriate pre-

terminal nodes (the places with dots) in (102), we

are able to generate various sentences like

those in (104):

(104) a. This handsome man chased a dog.

b. A man kicked that ball.

c. That tall woman chased a cat.

d. His friend kicked a ball.

There are several ways to generate an infinite

number of sentences with this kind of grammar.

As we have seen before, one simple way is to

repeat a category like A infinitely. There are

also other ways of generating an infinite

number of grammatical sentences. Look at the

following two PS rules from (101) again: (105) a.

S→NP VP b. VP→V S As we show in the

following tree structure, we can 'recursively'

apply the two rules, in the sense that one can

feed the other, and then vice versa:

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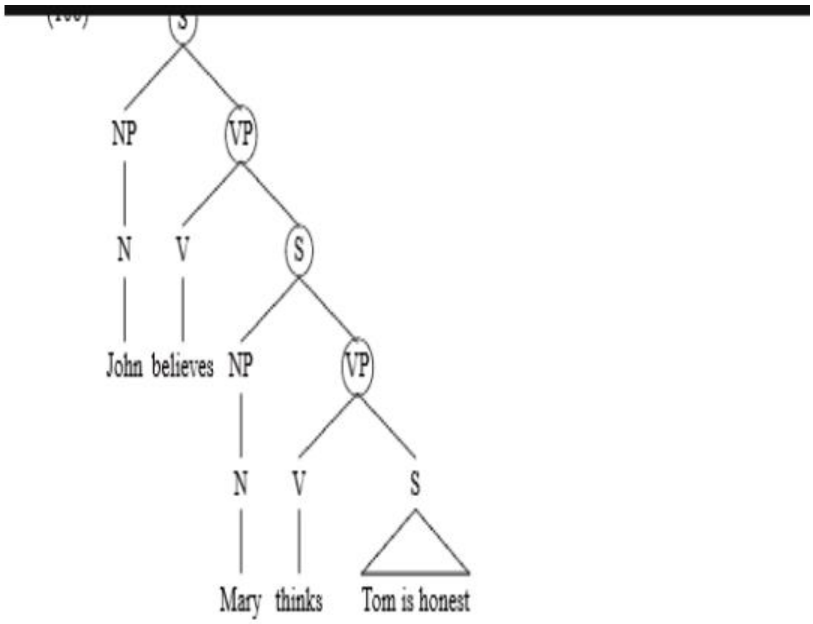


s not difficult to expand this sentence by applying

the two rules again and again:

(107) a. Bill claims John believes Mary thinks Tom is

honest.

b. Jane imagines Bill claims John believes Mary thinks

Tom is honest.

There is no limit to this kind of recursive application of

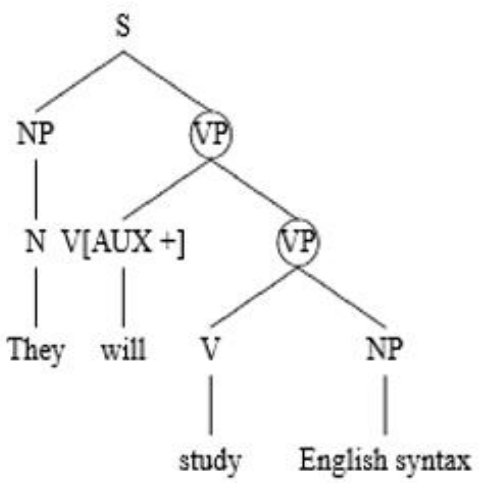
PS rules: it proves that this kind of grammar can

generate an infinite number of grammatical sentences.

One structure which can be also recursive involves

sentences involving auxiliary verbs. As noted before in (84), an auxiliary verb forms a larger VP after combining with a VP:

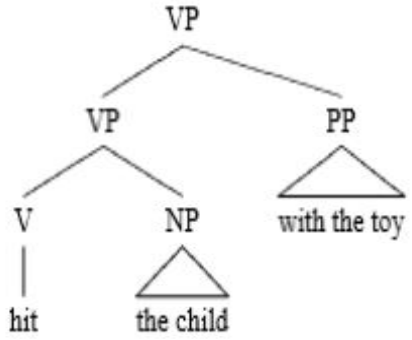
(108)



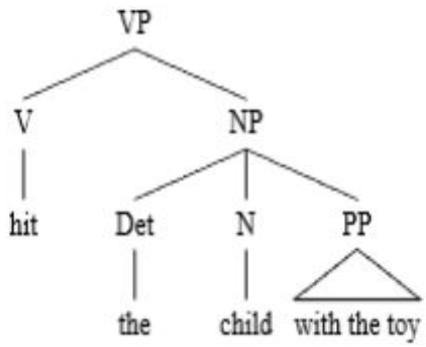
Another important property that PS rules bring is the ability to make reference to hierarchical structures within given sentences, where parts are assembled into sub-structures of the whole. One merit of such hierarchical structural properties is that they enable us to represent the structural ambiguities of sentences we have seen earlier in (45).

Depending on which PS rules we apply, for the sentences here, we will have different hierar- chical tree structures. Consider the possible partial structures of (110a) which the grammar can generate:

(111) a.



b.



The structures clearly indicate what with the toy modifies: in (111a), it modifies the whole VP phrase

whereas (111b) modifies just the noun child. The structural differences induced by the PS rules directly represent these meaning differences. In addition, we can easily show why examples like the following are not grammatical:

(112) a. *The children were in their rooms or happy.

b. *Lee went to the store and crazy.

We have noted that English allows two alike categories to be coordinated. This can be written as a PS rule, for phrasal conjunction, where XP is any phrase in the grammar.

Syntactic Forms and Grammatical Functions

a. Syntactic categories: N, A, V, P, NP, VP, AP, ...

b. Grammatical functions: SUBJ (Subject), OBJ (Object),

MOD (Modifier), PRED (Predicate), ...

The notions such as SUBJ, OBJ and PRED represent the grammatical function each constituent plays in the given sentence. For example, consider one simple sentence:

(2) The monkey kicked a boy on Monday.

a. [S [NP The monkey] [VP kicked [NP a boy] [PP on Monday]]]. b. [S [SUBJ The monkey] [PRED kicked [OBJ a boy] [MOD on Monday]]]. As shown here, the monkey is an NP in terms of its syntactic form, but is the SUBJ (subject) in terms of its grammatical function. The NP a boy is the OBJ (object) while the verb kicked functions as a predicator. More importantly, we consider the entire VP to be a PRED (predicate) which describes a property of the subject. On Monday is a PP

in terms of its syntactic category, but serves as a MOD (modifier) here. We also can represent sentence structure in terms of semantic roles. Constituents can be considered in terms of conceptual notions of semantic roles such as agent, patient, location, instrument, and the like. A semantic role denotes the underlying relationship that a participant has with the relation of the clause, expressed by the main verb. Consider the semantic roles of the NPs in the following two sentences:27

(4) a. John tagged the monkey in the forest.

b. The monkey was tagged in the forest by John.

Both of these sentences describe a situation in which someone named John tagged a particular monkey. In this situation, John is the agent and the monkey is the patient of the tagging event. This in turn means that in

both cases, John has the semantic role of agent (agt), whereas the monkey has the semantic role of patient (pat), even though their grammatical functions are different. We thus can assign the following semantic roles to each constituent of the examples:

(5) a. [[agt John] [pred tagged [pat the monkey] [loc in the forest]]]. b. [S [pat The monkey] [pred was tagged [loc in the wood] [agt by John]]]. As noted here, in addition to agt (agent) and pat (patient), we have has pred (predicate) and loc (loative) semantic roles that express the semantic role that each expression performs in the descried situation. Throughout this book we will see that English grammar refers to these three different levels of information (syntactic category, grammatical function, and semantic role), and they interact with each other. For now, it may appear that they are equivalent classifications: for

example, an agent is a subject and an NP, and a patient is an object and an NP. However, as we get further into the details of the grammar, we will see many ways in which the three levels are not simply co-extensive.

Grammatical Functions

Subjects

Consider the following pair of examples:

(6) a. [The cat] [devoured [the rat]].

b. [The rat] [devoured [the cat]].

These two sentences have exactly the same words and have the same predicator devoured. Yet they are significantly different in meaning, and the main difference comes from what serves as subject or object with respect to the predicator. In (6a), the subject is the

cat, whereas in (6b) it is the rat, and the object is the rat

in (6a) but the cat in (6b). The most common structure

for a sentence seems to be one in which the NP subject

is the one who performs the action denoted by the verb (thus having the semantic role of agent).

However, this is not always so:

(7) a. My brother wears a green overcoat.

b. This car stinks.

c. It rains.

d. The committee disliked her proposal.

Wearing a green overcoat, stinking, raining, or

disliking one's proposal are not agentive activi- ties;

they indicate stative descriptions or situations. Such

facts show that we cannot rely on the semantic roles

of agent for determining subjecthood. More reliable

tests for subjecthood come from syntactic tests such as

agreement, tag ques- tions, and subject-auxiliary

inversion.

Agreement

The main verb of a sentence agrees with the subject in English:

(8) a. She never writes/*write home.

b. These books *saddens/sadden me.

c. Our neighbor takes/*take his children to school in his car.

As we noted in Chapter 1, simply being closer to the main verb does not entail subjecthood:

(9) a. The book, including all the chapters in the first section, is/*are very interesting.

b. The effectiveness of teaching and learning *depend/depends on several factors.

c. The tornadoes that tear through this county every

spring *is/are more than just a nuisance.

The subject in each example is book, effectiveness, and

tornadoes respectively, even though there are nouns closer to the main verb. This indicates that it is not

simply the linear position of the NP that determines

agreement; rather, agreement shows us what the

subject of the sentence is.

Tag questions: A tag question, a short question tagged

onto the end of an utterance, is also a reliable

subjecthood test:

(10) a. The lady singing with a boy is a genius, isn't

she/*isn't he?

b. With their teacher, the kids have arrived safely,

haven't they/ *hasn't he?

The pronoun in the tag question agrees with the

subject in person, number, and gender – it refers back

to the subject, but not necessarily to the closest NP, nor

to the most topical one. The she in (10a) shows us that

lady is the head of the subject NP in that example, and

they in (10b) leads us to assign the same property to kids. The generalization is that a tag question must

contain a pronoun which identifies the subject of the

clause to which the tag is attached.

Subject-auxiliary inversion: In forming questions and

other sentence-types, English has subject-auxiliary

inversion, which applies only to the subject.

(11) a. This teacher is a genius.

b. The kids have arrived safely.

c. It could be more detrimental.

(12) a. Is this teacher a genius?

b. Have the kids arrived safely?

c. Could it be more detrimental?

As seen here, the formation of 'Yes/No questions' such

as these involves the first tensed auxil- iary verb

moving across the subject: more formally, the

auxiliary verb is inverted with respect to the subject, hence the term 'subject-auxiliary inversion'. This is not

possible with a non-subject:

(13) a. The kids in our class have arrived safely.

b. *Have in our class the kids arrived safely?

Subject-auxiliary inversion provides another reliable

subjecthood test.

Direct and Indirect Objects

A direct object (DO) is canonically an NP, undergoing

the process denoted by the verb:

(14) a. His girlfriend bought this computer.

b. That silly fool broke the teapot.

However, this is not a solid generalization. The objects

in (15a) and (15b) are not really affected by the action.

In (15a) the dog is experiencing something, and in (15b)

the thunder is somehow causing some feeling in the

dog: (15) a. Thunder frightens [the dog].

b. The dog fears [thunder].

Once again, the data show us that we cannot identify the object based on semantic roles. A much more firm criterion is the syntactic construction of passivization, in which a notional direct object appears as subject.

The sentences in (16) can be turned into passive sentences in (17):

(16) a. His girlfriend bought this computer for him.

b. The child broke the teapot by accident.

(17) a. This computer was bought for him by his girlfriend.

b. The teapot was broken by the child by accident.

What we can notice here is that the objects in (16) are 'promoted' to subject in the passive sentences. The test comes from the fact that non-object NPs cannot be

promoted to the subject:

(18) a. This item belongs to the student.

b. *The student is belonged to by this item.

(19) a. He remained a good friend to me.

b. *A good friend is remained to me (by him).

The objects that undergo passivization are direct objects, distinct from indirect objects. An indirect object (IO) is one which precedes a direct object (DO), as in (20); IOs are NPs and have the semantic roles of goal, recipient, or benefactive:

(20) a. I threw [the puppy] [the ball]. (IO = goal)

b. John gave [the boys] [the CDs]. (IO = recipient)

c. My mother baked [me] [a birthday cake]. (IO = benefactive)

A caution is in order – when a DO follows an IO as in

(20), the DO cannot be passivized:28

(21) a. *The CDs were given the boys by John.

b. *A review copy of the book was sent her by the

publisher.

In examples like (20), passive has the property of

making the IO into the subject.

(22) a. The boys were given the CDs (by John).

b. She was sent a review copy of the book (by the

publisher).

Note that sentences with the IO-DO order are different

from those where the semantic role of the IO is

expressed as an oblique PP, following the DO:

(23) a. John gave the CDs to the boys.

b. The publisher sent a review copy of the book to her.

c. My mother baked a cake for me. In this kind of example, it is once again the DO which

can be passivized, giving examples like the following:

(24) a. The CDs were given to the boys by John.

b. A review copy of the book was sent to her by the publisher.

c. This nice cake was baked for me by my mother.

3.2.3 Predicative Complements

There also are NPs which follow a verb but which do not behave as DOs or IOs. Consider the following sentences:

(25) a. This is my ultimate goal.

b. Michelle became an architect.

(26) a. They elected Graham chairman.

b. I consider Andrew the best writer

The italicized elements here are traditionally called 'predicative complements' in the sense that they function as the predicate of the subject or the object. However, even though they are NPs, they do not

passivize:

(27) a. *Chairman was elected Graham.

b. *The best writer was considered Andrew.

The difference between objects and predicative complements can also be seen in the following contrast:

(28) a. John made Kim a great doll.

b. John made Kim a great doctor.

Even though the italicized expressions here are both NPs, they function differently. The NP a great doll in (28a) is the direct object, as in John made a great doll for Kim, whereas the NP a great doctor in (28b) cannot be an object: it serves as the predicate of the object Kim. If we think of part of the meaning informally, only in the second example would we say that the final NP describes the NP Kim. (29) a. (28)a: Kim6= a

great doll b. (28)b: Kim = a great doctor

In addition, phrases other than NPs can serve as

predicative complements:

(30) a. The situation became terrible.

b. This map is what he wants.

c. The message was that you should come on time.

(31) a. I made Kim angry.

b. I consider him immoral.

c. I regard Andrew as the best writer.

d. They spoil their kids rotten.

The italicized complements function to predicate a

property of the subject in (30) and of the object in (31).

Oblique Complements

(32) a. John put books in the box.

b. John talked to Bill about the exam.

c. They would inform Mary of any success they have

made.

These italicized expressions are neither objects nor predicative complements. Since their pres- ence is obligatory, for syntactic well-formedness, they are called oblique complements. Roughly speaking, 'oblique' contrasts with the 'direct' functions of subject and object, and oblique phrases are typically expressed as PPs in English. As we have seen before, most ditransitive verbs can also take oblique complements:

(33) a. John gave a book to the student.

b. John bought a book for the student.

c. John asked Bill of a question.

The PPs here, which cannot be objects since they are not NPs, also do not serve as predicate of the subject or object – they relate directly to the verb, as oblique

complements.

Modifiers

The functions of DO, IO, predicative complement, and oblique complement all have one common property: they are all selected by the verb, and we view them as being present to 'complement' the verb to form a legitimate VP. Hence, these are called complements (COMPS), and typically they cannot be omitted. Unlike these COMPS, there are expressions which do not complement the predicate in the same way, and which are truly optional:

(34) a. The bus stopped suddenly.

b. Shakespeare wrote his plays a long time ago.

c. They went to the theater in London.

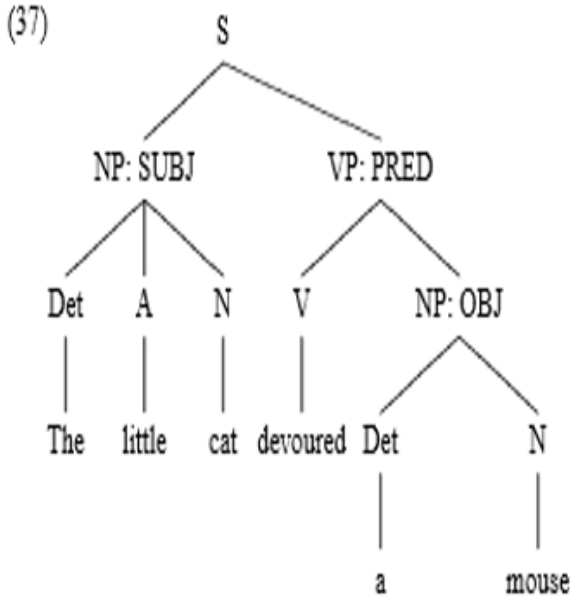
Consider now the italicized expressions in (32):

d. He failed chemistry because he can't understand it.

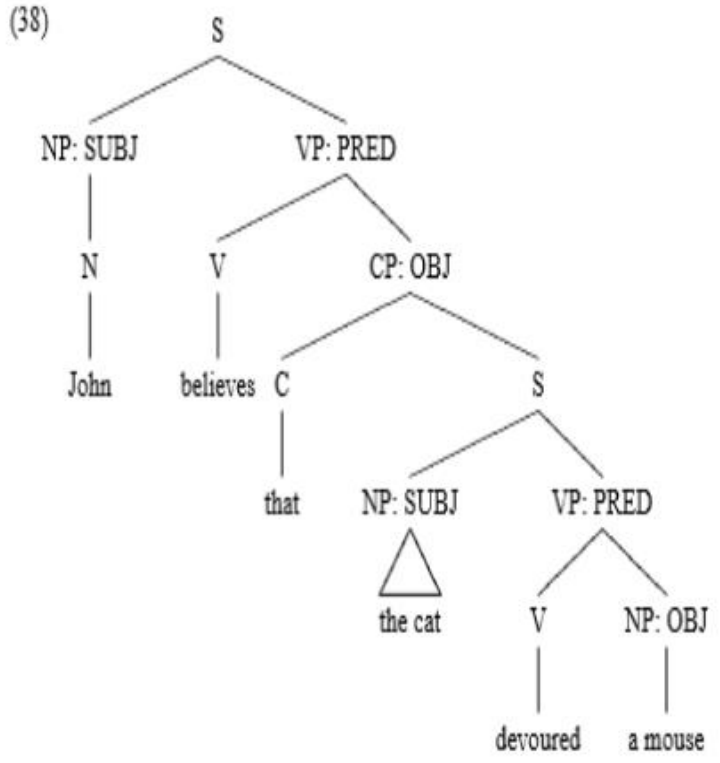
The italicized expressions here are all optional and function as modifiers (also called 'adjuncts' or 'adverbial' expressions). These modifiers specify the manner, location, time, or reason, among many other properties, of the situations expressed by the given sentences – informally, they are the (how, when, where, and why) phrases. One additional characteristic of modifiers is that they can be stacked up, whereas complements cannot.

Form and Function Together

We now can analyse each sentence in terms of grammatical functions as well as the structural constituents. Let us see how we can analyse a simple sentence along these two dimensions:



As represented here, the expressions the little cat and a mouse are both NPs, but they have different grammatical functions, SUBJ and OBJ. The VP as a whole functions as the predicate of the sentence, describing the property of the subject. Assigning grammatical functions within complex sentences is no different:



Each clause has its own SUBJ and PRED: John is the subject of the higher clause, whereas the cat is the subject of the lower clause. We also can notice that there are two OBJs: the CP is the object of the higher clause whereas the NP is that of the lower clause.

Every category in a given sentence has a grammatical

function, but there is no one-to-one mapping between category such as NP or CP and its possible

grammatical function(s). The following data set shows

us how different phrase types can function as SUBJ or

OBJ:

(39) a. [NP The termites] destroyed the sand castle.

b. [VP Being honest] is not an easy task. c. [CP That

John passed] surprised her. d. [VP To finish this work

on time] is almost unexpected. e. [S What John said] is

questionable.31 f. [PP Under the bed] is a safe place to

hide. (40) a. I sent [NP a surprise present] to John. b.

They wondered [S what she did yesterday]. c. They

believed [CP that everybody would pass the test]. d.

Are you going on holiday before or after Easter? I

prefer [PP after Easter]. As the examples in (39) and (40)

show, not only NPs but also infinitival VPs and CPs can

also function as SUBJ and OBJ. The following tag-

question, subject-verb agreement, and subject- hood tests show us that an infinitival VP and CP can function

as the subject.

(41) a. [That John passed] surprised her, didn't it?

b. [[That the march should go ahead] and [that it

should be cancelled]] have been argued by different

people at different times.

(42) a. [To finish it on time] would make a quite a

statement, is it?

b. [[To delay the march] and [to go ahead with it]]

have been argued by different people at different

times.

The same goes for MOD, as noted before. Not only

AdvP, but also phrases such as NP, S, VP, or PP can

function as a modifier:

(43) a. The little cat devoured a mouse [NP last

night]. b. John left [AdvP very early]. c. John has been

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at Stanford [PP for four years]. d. She disappeared [S

when the main party arrived].

Exercise

Construct sentences containing the following

grammatical functions:

(i) a. subject, predicator, direct object

b. subject, predicator, direct object, indirect object

c. subject, predicator, adjunct

d. adjunct, subject, predicator

e. adjunct, subject, predicator, direct object

f. subject, predicator, direct object, oblique

complement

g. subject, predicator, predicative complement

h. subject, predicator, predicative complement,

adjunct

Constituency Tests

Tests for constituents In all sciences, linguistics included, one should be able to assess the truth or falsehood of a claim by means of objective tests. We now introduce some tests for establishing whether a string (i.e. group of words) is a constituent or not.

a) **Proform test**.

Proforms are expressions like she, them, somewhere, do so, there which have the function of representing a constituent which has already been mentioned, so that one need not go to the effort of

pronouncing/writing the constituent twice. The best-known type of proform is a so-called pronoun, which replaces a NP, e.g. she/him/they. If you can replace a string with a proform, the string is a constituent. (9)

illustrates the use of the proform test in finding constituents in (9)(a). (9) a. The lady running the group handed in her resignation on Friday at noon. b. She handed in her resignation on Friday at noon. [Thus, The

lady running the group is a constituent] c. The lady running it handed in her resignation on Friday at noon. [Thus, the group is a constituent] d. The lady running the group did so on Friday at noon. [Thus, handed in

her resignation is a constituent] e. The lady running the group handed in her resignation then. [Thus, on Friday at noon is a constituent] b) **Question test.**

If you can convert a sentence into a question using a wh-

expression (e.g. where/how/when/why/what/who(m), and phrases like with whom?, at what time?, in whose house?), the string that the wh-expression replaces is a constituent. (Wh-expressions are proforms.) The answer to the question is also a constituent. (10)

illustrates this with reference to (9)(a). In each case, A and B refer to different speakers. B's answer is a constituent. (10) a. A: What did the lady running the group hand in on Friday at noon? B: Her resignation.

b. A: Who handed in her resignation on Friday at noon? B: The lady running the group c. A: When did the lady running the group hand in her resignation? B: On Friday at noon c)

Movement test.

If a string can be moved to some other position in the sentence, you know it is very likely to be a constituent. The following examples apply this test to identify constituents in the respective (a) sentences. (11) 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. (12) a. Rover ran out of the house. b. Out of the house Rover ran. (13) a. Ann is not a fan of mindless techno music. b. A fan of mindless techno music, Ann is not. (14) a. Gertrude wasn't interested in

art. b. Interested in art, Gertrude wasn't. (15) a. Hortense didn't win the race. b. Win the race, Hortense didn't. d) Coordination test. Coordination is the operation of joining two words or phrases together using conjunctions, e.g. and and or. Strings joined by conjunctions must each be a constituent. (They must be constituents of the same type, a fact which will be important to us later.) Suppose you are trying to test whether the underlined strings in (16)(a) and (17)(a) are constituents. Try to find another expression which you can coordinate with the underlined string. You can be confident that the string is a constituent if you can place the other expression with which it is coordinated either before or after it without any difference in meaning, as in (16)(b,c) and (17)(b,c). (16) a. I went to the post office to post a letter. b. I went to the post office to post a letter and did the shopping. c. I did the

shopping and went to the post office to post a letter.

(17) a. She spoke to a small number of the students interested in the subject. b. She spoke to a small number of the students interested in the subject and the staff. c. She spoke to the staff and a small number of the students interested in the subject.

Cleft test.

(18)(a) can be changed into the sentences in (b-d). These are instances of cleft sentences (Spaltsätze). (Cleft comes from an old verb cleave meaning 'divide'; the idea is that cleft sentences are divided in two.) The general form of cleft sentences is (18)(e). The purpose of cleft sentences is to focus the material between be and that, underlined in (18)(b- d), presenting it as the new information. This material is always a constituent. (18)

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] f) Pseudocleft test. Sentence (18)(a) can also be changed into sentences like those in (19) and (20). These are 'pseudocleft sentences', which we can describe roughly as a reformulation of a sentence such that a form of be divides the sentence into two parts, of which one is a focussed constituent from the original sentence (underlined in the examples below) and the other begins with what. The order of the two parts of the sentence is often flexible. The important point about pseudoclefts for our purposes is that the string appearing in the part of the sentence not containing

what, i.e. the underlined string in the examples below, must always be a constituent. (19) a. What the guests

from overseas visited on Monday was the best parts

of the city. b. The best parts of the city were what the

guests from overseas visited on Monday. (20) a. What

the guests from overseas did on Monday was visit the

best parts of the city. b. Visit the best parts of the city

was what the guests from overseas did on Monday.

(21) a. I don't need losers like him who couldn't think

their way out of a paper bag. b. What I don't need are

losers like him who couldn't think their way out of a

paper bag. c. Losers like him who couldn't think their

way out of a paper bag are what I don't need. (22) a.

She seemed to be totally fed up with the inefficiency of

the system. b. What she seemed to be was totally fed

up with the inefficiency of the system. c. Totally fed up

with the inefficiency of the system was what she

seemed to be. g) Though test. In (23) we see that it is sometimes possible to transform sentences beginning with although into structures where a focused part of the sentence precedes though, followed by the rest of the sentence. This fact can be used as another constituent test because whatever stands in front of though must be a constituent. (23) a. Although she is a defender of free will... = A defender of free will though she is... b. Although they are annoyed at their son... = Annoyed at their son though they are... c. Though he crossed the road with care... = Cross the road with care though he did... There are other constituent tests, but the ones given above will suffice for our purposes. A couple of warnings are appropriate. Firstly, to be completely certain that the results are correct, it is wise to use more than one test when trying to work out whether a string is a constituent. Secondly, the above

descriptions of the tests were all formulated in terms similar to 'If you can do such-and-such with a string, then it is a constituent', rather than 'If you cannot do such-and-such with a string, then it is not a constituent'.

This was because constituent tests will sometimes yield unacceptable results not because the string being tested is not a constituent, but because of some other factor. Consider the underlined string in she played the piece very quickly and very skillfully. We know it is a constituent because it is coordinated with very skillfully. However, we cannot form a question from this sentence: *How did she play the piece and very skillfully? 3 The unacceptability of this sentence does not show that very quickly is not a constituent, but is explained by a constraint (not discussed here) which says that one cannot ask a question of a coordinated element.

A. Apply two of the above tests to show that the

underlined phrases are constituents. a. A lady in a blue

dress sang the national anthem in the stadium

sometime after noon. b. Someone saw a suspicious- looking man with a briefcase walking around in the

foyer on Monday half an hour before the building

blew up.

We distinguish word-level categories

(categories of words, i.e. N, V, A, P, etc.) and phrasal categories or simply phrases (constituents larger than a word). Examples of the latter which were already mentioned are NP and S. There are a number of other types of phrases. The first thing to note is that each

word-level category has a corresponding phrasal category, which contains the

An asterisk (*) indicates that the expression after

it is not acceptable to native speakers.

Noun Phrase (NP)

a. the woman; a (big) tree; (this) coffee, (our)

existence

b. a (renowned) expert (on indigenous Australian

music) (from Brisbane)

c. the (classical) dancer (of exceptional talent)

(who got run over by a bus)

d. the (most important) representatives (of

workers' interests) (at the conference)

e. a documentary (by a French journalist) (about

Spain) (25)

Verb Phrase (VP)

a. (suddenly) die (of cancer) (at a young age)

b. (blindly) rely on the advice of a counsellor

c. (often) called him a maladjusted sociopath

d. give Basil the book

e. read (a book)

Adjective Phrase (AP)

a. (very) angry (at the rest of the human race)

b. (completely and utterly) disappointed (at the

ineptitude of her secretary)

c. interested (in the history of Postmodernist

theatre) (to some extent)

d. dull (to the extreme)

e. (soul-destroyingly) boring

f. devoid of content

Prepositional Phrase (PP)

a. (right) near the fireplace

b. towards the entrance to the building c. (wholly) inside (the enclosure)

d. out (of the house)

e. despite the failed attempt of the paramilitary at

blowing up the Institute of Syntax

Adverb Phrase (AdvP)

a. (very) slowly

b. (extremely) well

c. (completely) independently

The underlined elements in the phrases above are the elements around which the respective phrases are built. They are said to be the heads of the respective phrases. (Alternative ways of saying this are, taking NP as an example, that N heads or projects NP, or that NP is a projection of N or is headed by N.) The head of a phrase is the element which determines the properties of the whole phrase. All elements in a phrase other than the head are dependent on the head, in that they either give additional information about the head, or are included in the phrase because the head requires or allows this. The head is obligatory, in the sense that if you leave out the head

of a phrase, the rest of the phrase must be left out too. You can confirm this by forming a sentence containing any of the phrases in (24)-(28), but omitting the head of that phrase. The resulting sentence will almost certainly be unacceptable. Note that the notion of 'head' also applies to word structure. Inside words, the head is the element which determines the properties of the whole word. For instance, we say that eat is the head of overeat because the whole word has the same category as eat (i.e. it is a verb) and is inflected in the same way as eat (cf. ate/eaten and overate/overeaten). A difference between morphological and syntactic heads is that, in English,

Determiners

Determiners serve to mark the noun phrase as definite or indefinite.

[32] i Definite the Premier of

NSW , the key , this book , both copies, the

man's death

ii Indefinite a politician , some keys , any serious book , enough copies , three dogs

We use a definite noun phrase when we assume that

its content is sufficient, in the context, to identify the

referent. There's only one (current) Premier of NSW, so

the definiteness in the first example is unproblematic,

but with the second example there is of course very

heavy reliance on context to make the referent

clear. The is a pure marker of definiteness, known

as the definite article. Its use effectively pre-empts

a which question: if I say W h e r e ' s t h e k e y ? I assume

you won't need to ask W h i c h k e y ? Note that a genitive Determiner confers definiteness on the noun phrase: the man's death means `the death of the man', and a m a n ' s d e a t h likewise means `the death of a man'. Noun phrases like b l a c k c o f f e e and friends , which have a common noun as Head and no Determiner are normally indefinite.

Complements

Complements. The clearest cases of Complements involve preposition phrases where the preposition is specified by the Head noun, and certain types of subordinate clause:

[33] i Preposition phrases h e r r e v i e w o f t h e play , a ban on alcohol , his marriage to Sue

ii Subordinate clauses t h e i d e a t h a t h e m i g h t

be ill , an opportunity to make friends

Note that nouns, unlike verbs, do not take Objects: we

say S h e r e v i e w e d t h e p l a y , but not * h e r r e v i e w t h e

play ; instead we need of t h e p l a y . With ban and

marria ge the prepositions required are on and to . The

subordinate clauses in [ii] clearly satisfy the licensing

test: only a fairly narrow range of nouns can take

Complements like these.

Modifiers

Modifiers. The typical pre-Head Modifier is an

adjective or adjective phrase: a good book , a very

serious matter . But those are not the only possibilities.

In particular, nouns can also function as Modifier to a

Head noun: a school play , the unemployment situation ,

etc.

Post-Head Modifiers are typically preposition phrases

and subordinate clauses that occur more freely than

Complements in that they do not have to be licensed

by the Head noun: a m a n o f h o n o u r , the

house o p p o s i t e t h e p o s t o f f i c e , t h e p l a y t h a t s h e

wrote , the guy who spoke first .

It is also possible to have Modifiers that precede

the Determiner: all t h e b o o k s , both t h e s e p l a y s , too

small a car for our needs . Note that adverbs can occur

in this position, but not after the Determiner: absolutely t h e b e s t s o l u t i o n , but not

* an absolutely success . Instead of the latter we need an adjective, an absolute success .

Number and countability

(a) Nouns with fixed number. Although most nouns

have an inflectional contrast between singular and

plural, there are a good few that do not - that have

only singular or only plural forms:

i Singular-only

nouns crockery , dross , harm , nonsense ; news ,

mumps , physics , ...

ii Plural-only

nouns belongings , clothes , genitals , scissors ;

cattle , police , ...

Count and non-count nouns. Related to the

distinction between nouns with variable number and

nouns with fixed number is that

between count and non-countnouns. Count nouns can

take cardinal numerals (one , two , three , etc.) as

Dependent, while non-count nouns cannot. Compare

count student (one student , t w o s t u d e n t s) and non-

count harm and clothes (* o n e h a r m / clothes , * two

harms / clothes).

However, most nouns can occur with either a count

or a non-count interpretation:

[35] Count interpretation

Non-count interpretation

i a. H e p u l l e d o u t a w h i t e hair .

b. He has white hair .

ii a. Have another cake .

b. Have some more cake .

iii a. Can I borrow your football .

b. Let's play football .

The interpretations in [a] allow for a contrast between

one and more than one (cf., for example, He pulled out

t w o w h i t e h a i r s), but those in [b] do not. When we speak of count and non-count nouns, therefore, we are referring to nouns as used with a count and non-count interpretation. Thus hair is a count noun in [ia], a non-count noun in [ib], and so on.

Measure expressions

Two hours isn't long enough for such a job.

ii Quantificational nouns A lot of people like it.

iii Collective nouns The jury haven't y e t r e a c h e d a decision.

In [i] the hours aren't thought of individually but as making up a single period, so the Subject is treated as singular.

In [ii] the verb-form is determined not by the Head noun lot but by people , which is embedded within the Subject noun phrase. With collective nouns like jury

in [iii] there is

Pronouns.

The grammatically distinctive property of

pronouns is that they do not normally combine with

Determiners: He arrived , not * The he arrived . There are

several subtypes of pronoun, including:

[37] i Personal pronouns I , we , you , he , she , it , they , one

ii Reciprocal pronouns each other , one another divided usage, with singular hasn't also used.

iii Interrogative or relative

pronouns who , what , which , whoever , etc.

We will comment here on only the first of these

categories. Personal pronouns are those where we

find contrasts of person. I and we are first person, used to refer to the speaker or a group containing the speaker. (`Speaker' is to be understood as covering the writer in written texts.) You is second person, used to refer to the addressee or a group containing one or more addressees. The others are third person: this doesn't encode reference to speaker or addressee and therefore usually refers to entities other than the speaker or addressee. But I can refer to myself or to you in the third person: The writer has noti ced ... ; The reader may recall ...

The personal pronouns have five inflectional forms:

[38] i Nominative I , we , you , ... I did it. It was I who did it.

ii Accusative me , us , you , ... It bit me . It was me who did it.

iii Dependent genitive my , our , your ,

... My son is here. I saw your car .

iv Independent genitive mine , ours , yours ,

... Mine was broken. That's mine .

v Reflexive myself , ourselves , ... I

hurt myself . We talk to ourselves .

Nominatives occur mostly as Head of a Subject noun phrase. In formal style they can also occur in certain

types of Predicative Complement, with the accusative

as a less formal variant: I t w a s I / me w h o d i d i t . In

other types, however, only the accusative is

possible: The victim was me , not * The victim was I , and

the like. Dependent genitives occur when there is a

following Head in the noun phrase, independent ones

when there isn't. Reflexives usually relate back to the

Subject noun phrase, as in the above examples.

ADJECTIVES AND ADJECTIVE PHRASES

Two major functions of adjectives

Most adjectives can be

either attributive or predicative:

[39] i Attributive a hot day , some new DVDs , this excellent play , lonely people

ii Predicative It's hot . These look new . I found it excellent . They seem lonely .

Attributive adjectives are pre-head Modifiers in noun

phrase structure; predicative adjectives are Predicative

Complements in clause structure (see Section5.5).

There are, however, some adjectives that are

restricted to one or other of these functions:

i Attributive-

only the main speaker , a mere child , the onl

y problem , my own car

ii Never-attributive I'm afraid . S h e ' s asleep .

He looks content . It's liable to flood.

Adjective phrases consist of an adjective as Head,

alone or accompanied by one or more Dependents,

which may be Complements or Modifiers:

i Complements good at chess , grateful for your

help , fond of animals , keen on golf ,

glad that you liked it , unsure what had

happened , eage r to help ii Modifiers very bad , morally wrong , this

good , most useful , much better , two

days long , a b i t old , cautious to

excess , dangerous in the extreme

The Complements are preposition phrases or

subordinate clauses; in the former case the adjective

selects a particular preposition to head the

Complement: fond takes of , keen takes on , and so on.

The Modifiers are adverbs (e.g. very), determinatives

(this), noun phrases (t w o d a y s) or post-Head

prepositional phrases. Adjective phrases containing

post-Head Dependents cannot normally be used

attributively: H e ' s g o o d a t c h e s s , but not * a g o o d a t

chess schoolboy .

Constituents

A constituent is a word or a group of words that function together as a unit. Don't be worried, this sounds scary but it's actually really easy! We can figure out what words or groups of words are constituents by performing tests on them. There are four tests which can be used on any suspected constituent. These are:

Omission – Create the same sentence but take away the word/words we are testing.

Replacement – Can we replace the word/words with just a single word?

Standalone – Can we form a question using the sentence, and the answer be the word/words being

tested?

Movement – Can we move the position of the word/words in the sentence and have the sentence still make sense without changing the meaning?

Let's do some examples of these tests so you can see how they work.

First, omission. If we take the sentence 'He sat down in the car', we can use the omission test to figure out the constituents in the sentence. Let's take 'in the car' as our constituent. If we take this away, does the sentence still make sense grammatically?

'He sat down in the car.'

'He sat down.'

The sentence still makes sense. Therefore, 'in the car' is likely to be a constituent; however we can't be certain yet. It is always important to do m o r e t h a n

one constituency test to figure out if the word/words are constituents. It could pass one and fail the other three!

Next, let's do replacement. We take 'He sat down in the car' and replace 'in the car' with just one word. Useful words to try and use in a replacement test are pronouns (he, she, it, this, that etc).

'He sat down in the car.'

'He sat down there.'

The sentence makes sense once again! So 'in the car' has passed two constituency tests, but let's try another test first, just to make sure.

Time for the standalone test. We need to form a question using the rest of the sentence, and have the answer only be the word/words we are testing.

‘Where did he sit down?’ ‘In the car.’

Success! It surely must be a constituent now. But we’ll

do the final test just in case.

The final test is movement. Can we move the words

we are testing to see if the sentence still makes sense?

‘He sat down in the car.’

‘It was in the car that he sat down.’

Once again the sentence makes sense. Now we have

done these constituency tests, we know that ‘in the

car’ is a constituent of the sentence ‘He sat down in the

car.’

But be careful, just because it is a constituent here

d o e s n o t m e a n i t i s a c o n s t i t u e n t i n e v e r y o t h e r sentence .

Syntactic categories

A. McIntyre

It is assumed that you have some familiarity with what in traditional grammar were called the parts of speech, i.e. notions like those in (1). Such notions are now covered by the term categories or syntactic categories.

(1) Category Abbreviation Example

a. noun N John, London, 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 (or Det) a, the, this, those

It is worthwhile learning the abbreviations for the categories, as they are used in other works. Let us briefly examine some of the criteria which are used in determining the category a word belongs to. We will not try to give a full list of completely failsafe criteria here; we will simply indicate the types of criteria which are considered more reliable

by syntacticians. One less reliable type of criterion for categories which you may already have encountered is semantic, i.e. based on meaning. Thus, you may have been told in school that a noun denotes a person, place or thing, that a verb denotes an activity or state and that an adjective denotes a property. Unfortunately, such semantic generalisations are tendencies, not absolute rules. Thus, there are nouns which denote activities (the hammering), events (recital), states (drunkenness) and properties (silliness). More reliable evidence for determining the category of a word come from morphological and distributional criteria. Examples of morphological criteria would be that nouns, but no other category, can take a plural affix (tables, intervals, oxen) and that most verbs change their morphological form according to the requirements of tense and agreement (I sing, she sings, I sang; I talk, she talks, I talked). If you can add -ly to a word to form an adverb, you know that word is an adjective (slow>slowly).

Examples of distributional criteria for various categories are given below. In each case, assume that the gap in the sentence is to be filled by a single word.

a. They have no []N b. the []A []N c. She did so []Adv d. very []A/Adv e. They can []V

Constituent structure

Identifying the syntactic category of each word in a sentence is only the beginning of syntactic analysis. Consider the simple sentence below:

(3) That man likes that woman In analysing sentence (3), we might propose the following rule:

(4) S → D+N+V+D+N (Translation: A sentence can consist of the sequence determiner + noun + verb + determiner + noun.) It is easy to show that a rule like (4) is worse than useless. Suppose we want to give more information about the man spoken of in (3) and/or to say that he likes someone or something other than that woman. We could then replace that man and that women with different, more complex expressions. A small selection of the infinite number of possible replacements is given in (5) and (6). (5) a. that old man b. that old man with the bottle of beer c. that extremely old and decrepit man with a nearly empty bottle of cheap beer d. that man over there near the window e. that extremely old and decrepit man over there with a nearly empty bottle of cheap beer (6) a. heavy metal music from the Seventies b. people with a flair for the unusual c. paintings by certain fairly weird and decadent artists d. the lady over there beside the fireplace e. his collection of photographs of Victorian guesthouses in Tasmania The possibility of replacing that man in (3) with any

expression in (5) and that woman in (3) with any expression in (6) gives us twenty-five sentences. If we wish to be able to describe what happens using rules like that in (4), we would require twenty-five different rules. Once we start adding further material to the sentence (say, very much just before likes and/or obviously at the beginning of the sentence), the number of rules of the type in (4) begins to multiply. We would rapidly see that the number of rules of the type in (4) required to describe possible English sentences would be infinite. There is no way a child could learn such rules. Also, such rules are purely descriptive, by which is meant that they just state observed empirical facts without giving any explanation for them. A way out of this impasse emerges when we realise that what has hitherto been lacking in our analysis of sentences has been the idea that words can combine with other words to form larger groups of words which belong together. In technical parlance, such groups of words are called constituents. Constituents combine with other constituents to form yet larger constituents, until we eventually have the largest type of constituent studied in syntax, the sentence. The expressions listed in (5) and (6) were examples of constituents called 'noun phrases' (NPs), expressions which include a noun and some additional material giving additional information about it. NPs can typically be replaced by pronouns: each NP in (5) and (6) can be replaced by he, her, it, them

etc. as appropriate. We will give a better definition of NPs and other types of constituents later. Our purpose now is merely to show how establishing constituent structure greatly helps us in analysing sentences. Consider (7), which will be rejected later and should not be memorised, but is far better than (4): (7) S → NP V NP (Translation: A sentence can consist of the sequence NP+V+NP.) Even if we are only interested in describing the twenty-five possible sentences consisting of a NP from (5), a verb and a NP from (6), the benefits of recognising constituent structure should now be apparent. If we use rules of the type in (4), we would require twenty-five rules to describe these sentences, whereas (7) describes all twenty-five sentences with just one rule. It should be emphasised again that the rule in (7) is being used only as a way of showing the need for constituent structure. We will later show how this rule can be improved upon. As another, more interesting argument for the need for constituent structure, consider the following sentences containing the possessive s morpheme: (8) a. [That lady]'s husband left. b. [That lady over there]'s husband left. (=the husband of that lady over there...) c. [That lady near the door]'s husband left. (=the husband of that lady near the door...) d. [That lady you talked to]'s husband left. (=the husband of that lady you talked to...) e. [That lady you saw]'s husband left. (=the husband of that lady you saw...) Notice that we cannot describe the behaviour of the

possessive 's in terms of the category of the words it attaches to: 's can appear immediately to the right of a word of any category. Notice also that 's does not necessarily say that the word it appears to the right of is the possessor. (For instance, the door in (8)(c) probably does not have a husband.) Rather, the correct generalisation is that possessive 's attaches to a particular type of constituent (marked by square brackets in (8)), namely a NP. Without knowing what a NP is, there is simply no way to describe the behaviour of possessive 's. Thus, we cannot describe sentence structure without recourse to constituents.

Tests for constituents

In all sciences, linguistics included, one should be able to assess the truth or falsehood of a claim by means of objective tests. We now introduce some tests for establishing whether a string (i.e. group of words) is a constituent or not.

a) Proform test.

Proforms are expressions like she, them, somewhere, do so, there which have the function of representing a constituent which has already been mentioned, so that one need not go to the effort of pronouncing/writing the constituent twice. The best-known type of proform is a so-called pronoun, which replaces a NP, e.g. she/him/they.

If you can replace a string with a proform, the string is a constituent. (9) illustrates the use of the proform test in finding constituents in (9)(a). (9) a. The lady running the group handed in her resignation on Friday at noon. b. She handed in her resignation on Friday at noon. [Thus, The lady running the group is a constituent] c. The lady running it handed in her resignation on Friday at noon. [Thus, the group is a constituent] d. The lady running the group did so on Friday at noon. [Thus, handed in her resignation is a constituent] e. The lady running the group handed in her resignation then. [Thus, on Friday at noon is a constituent]

b) Question test.

If you can convert a sentence into a question using a wh-expression (e.g. where/how/when/why/what/who(m), and phrases like with whom?, at what time?, in whose house?), the string that the wh-expression replaces is a constituent. (Wh-expressions are proforms.)

The answer to the question is also a constituent. (10) illustrates this with reference to (9)(a). In each case, A and B refer to different speakers. B's answer is a constituent. (10) a. A: What did the lady running the group hand in on Friday at noon? B: Her resignation. b. A: Who handed in her resignation on Friday at noon? B: The lady running the group c. A: When did the lady running the group hand in her resignation? B: On Friday at noon

c) Movement test.

If a string can be moved to some other position in the sentence, you know it is very likely to be a constituent. The following examples apply this test to identify constituents in the respective (a) sentences. (11) 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. (12) a. Rover ran out of the house. b. Out of the house Rover ran. (13) a. Ann is not a fan of mindless techno music. b. A fan of mindless techno music, Ann is not. (14) a. Gertrude wasn't interested in art. b. Interested in art, Gertrude wasn't. (15) a. Hortense didn't win the race. b. Win the race, Hortense didn't.

d) Coordination test.

Coordination is the operation of joining two words or phrases together using conjunctions, e.g. and and or. Strings joined by conjunctions must each be a constituent. (They must be constituents of the same type, a fact which will be important to us later.) Suppose you are trying to test whether the underlined strings in (16)(a) and (17)(a) are constituents. Try to find another expression which you can coordinate with the

underlined string. You can be confident that the string is a constituent if you can place the other expression with which it is coordinated either before or after it without any difference in meaning, as in (16)(b,c) and (17)(b,c). (16) a. I went to the post office to post a letter. b. I went to the post office to post a letter and did the shopping. c. I did the shopping and went to the post office to post a letter. (17) a. She spoke to a small number of the students interested in the subject. b. She spoke to a small number of the students interested in the subject and the staff. c. She spoke to the staff and a small number of the students interested in the subject. e) Cleft test. (18)(a) can be changed into the sentences in (b-d). These are instances of cleft sentences (Spaltsätze). (Cleft comes from an old verb cleave meaning 'divide'; the idea is that cleft sentences are divided in two.) The general form of cleft sentences is (18)(e). The purpose of cleft sentences is to focus the material between be and that, underlined in (18)(b- d), presenting it as the new information. This material is always a constituent. (18) 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] f) Pseudocleft test. Sentence (18)(a) can also be changed

into sentences like those in (19) and (20). These are 'pseudocleft sentences', which we can describe roughly as a reformulation of a sentence such that a form of be divides the sentence into two parts, of which one is a focussed constituent from the original sentence (underlined in the examples below) and the other begins with what. The order of the two parts of the sentence is often flexible. The important point about pseudoclefts for our purposes is that the string appearing in the part of the sentence not containing what, i.e. the underlined string in the examples below, must always be a constituent. (19) a. What the guests from overseas visited on Monday was the best parts of the city. b. The best parts of the city were what the guests from overseas visited on Monday. (20) a. What the guests from overseas did on Monday was visit the best parts of the city. b. Visit the best parts of the city was what the guests from overseas did on Monday. (21) a. I don't need losers like him who couldn't think their way out of a paper bag. b. What I don't need are losers like him who couldn't think their way out of a paper bag. c. Losers like him who couldn't think their way out of a paper bag are what I don't need. (22) a. She seemed to be totally fed up with the inefficiency of the system. b. What she seemed to be was totally fed up with the inefficiency of the system. c. Totally fed up with the inefficiency of the system was what she seemed to be. g) Though test. In (23) we see that it is sometimes possible to transform

sentences beginning with although into structures where a focussed part of the sentence precedes though, followed by the rest of the sentence. This fact can be used as another constituent test because whatever stands in front of though must be a constituent. (23) a. Although she is a defender of free will... = A defender of free will though she is... b. Although they are annoyed at their son... = Annoyed at their son though they are... c. Though he crossed the road with care... = Cross the road with care though he did... There are other constituent tests, but the ones given above will suffice for our purposes. A couple of warnings are appropriate. Firstly, to be completely certain that the results are correct, it is wise to use more than one test when trying to work out whether a string is a constituent. Secondly, the above descriptions of the tests were all formulated in terms similar to 'If you can do such-and-such with a string, then it is a constituent', rather than 'If you cannot do such-and-such with a string, then it is not a constituent'. This was because constituent tests will sometimes yield unacceptable results not because the string being tested is not a constituent, but because of some other factor. Consider the underlined string in she played the piece very quickly and very skillfully. We know it is a constituent because it is coordinated with very skillfully. However, we cannot form a question from this sentence: *How did she play the piece and very skillfully? 3 The unacceptability of

this sentence does not show that very quickly is not a constituent, but is explained by a constraint (not discussed here) which says that one cannot ask a question of a coordinated element.

A. Apply two of the above tests to show that the underlined phrases are constituents. a. A lady in a blue dress sang the national anthem in the stadium some time after noon. b. Someone saw a suspicious-looking man with a briefcase walking around in the foyer on Monday half an hour before the building blew up.

1.4. Phrasal categories and the notion of 'head' Just like words, constituents larger than words have a category. We distinguish word-level categories (categories of words, i.e. N, V, A, P, etc.) and phrasal categories or simply phrases (constituents larger than a word). Examples of the latter which were already mentioned are NP and S. There are a number of other types of phrases. The first thing to note is that each word-level category has a corresponding phrasal category, which contains the word-level category itself and any material which -in a manner to be made more precise shortly- adds additional information to it or is dependent on it.

In (24)-(28) are examples of the phrasal categories we will be concentrating on in this text. Do not worry if you do not yet understand

why the expressions in (24)-(28) are seen as instances of the respective categories. This set of problems is taken up in the next section.

(24) Noun Phrase (NP) a. the woman; a (big) tree; (this) coffee, (our) existence b. a (renowned) expert (on indigenous Australian music) (from Brisbane) c. the (classical) dancer (of exceptional talent) (who got run over by a bus) d. the (most important) representatives (of workers' ./

W(about Spain) (25) Verb Phrase (VP) a. (suddenly) die (of cancer) (at a young age) b. (blindly) rely on the advice of a counsellor c. (often) called him a maladjusted sociopath d. give Basil the book e. read (a book) (26) Adjective Phrase (AP) a. (very) angry (at the rest of the human race) b. (completely and utterly) disappointed (at the ineptitude of her secretary) c. interested (in the history of Postmodernist theatre) (to some extent) d. dull (to the extreme) e. (soul-destroyingly) boring f. devoid of content (27) Prepositional Phrase (PP) a. (right) near the fireplace b. towards the entrance to the building c. (wholly) inside (the enclosure) d. out (of the house) e. despite the failed attempt of the paramilitary at blowing up the Institute of Syntax (28) Adverb Phrase (AdvP) a. (very) slowly b. (extremely) well c. (completely) independently of the approval of his superiors The underlined elements in the phrases above are the elements around which the respective phrases are built. They are said to be the heads of the respective

phrases. (Alternative ways of saying this are, taking NP as an example, that N heads or projects NP, or that NP is a projection of N or is headed by N.) The head of a phrase is the element which determines the properties of the whole phrase. All elements in a phrase other than the head are dependent on the head, in that they either give additional information about the head, or are included in the phrase because the head requires or allows this. The head is obligatory, in the sense that if you leave out the head of a phrase, the rest of the phrase must be left out too. You can confirm this by forming a sentence containing any of the phrases in (24)-(28), but omitting the head of that phrase. The resulting sentence will almost certainly be unacceptable. Note that the notion of 'head' also applies to word structure. Inside words, the head is the element which determines the properties of the whole word. For instance, we say that eat is the head of overeat because the whole word has the same category as eat (i.e. it is a verb) and is inflected in the same way as eat (cf. ate/eaten and overate/overeaten). A difference between morphological and syntactic heads is that, in English, the head of a word is usually the right-hand element, while the head of a phrase is often not the right-hand element.

1.5. The main problems in identifying and motivating the phrasal categories Readers may be asking why some of the expressions in (24)-(28) were seen as being headed by the underlined elements. In some

cases there may be doubt about whether the expressions are even constituents. We address the most challenging cases now, applying the constituent tests introduced in section 1.3 and making some additional observations.

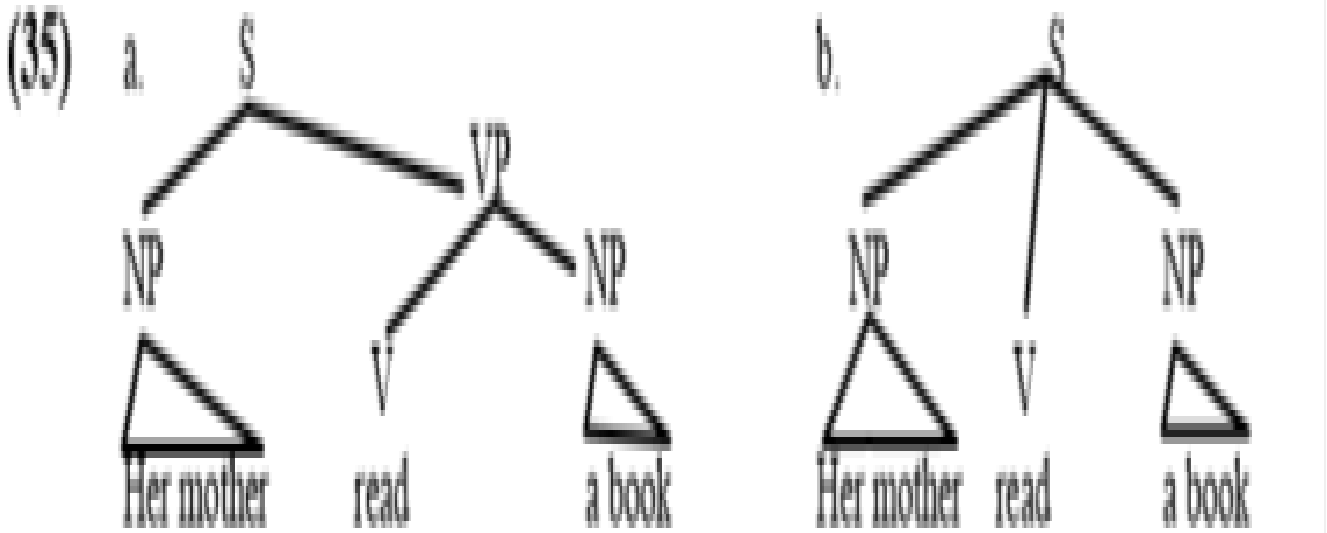
NP

NPs are among the easiest phrase-level categories to understand. The following points hold of each example in (24), and of all other NPs: a. The whole phrase refers to the entity/concept named by the noun. b. All the material in the phrase gives information about the noun. c. The whole phrase can be replaced by a pronoun (she/her/he/him/it/they/them). Points a and b are two arguments for the claim that the noun determines the nature of the whole phrase, and is thus its head.4 Point c gives an important grammatical characteristic of NPs in general, which helps us to identify them. It is important to realise that pronouns stand for full NPs, not just nouns. If pronouns stood for nouns, then replacing the big tree with a pronoun would yield the unacceptable expression *the big it. It is easy to identify simple expressions like (24)(a) as NPs. Cases which may confuse beginners are structures like (24)(b-d) where the NP includes material after the noun. As an example of this, consider (24)(e), repeated in (29) as part of a full sentence. We can establish that the underlined string in

(29) is a constituent by applying the cleft test in (30), the movement test in (31) and the proform test in (32). Since the proform is a pronoun, we can assume, as per point c above, that the underlined constituent in (29) is a NP. It should also be clear that the constituent conforms to points a and b above. (29) I saw a documentary by a French journalist about Spain last night. (30) a. It was a documentary by a French journalist about Spain that I saw last night. b. *It was a documentary that I saw by a French journalist about Spain last night. (31) a. I saw last night a documentary by a French journalist about Spain. b. *I saw by a French journalist about Spain last night a documentary (32) a. I saw it last night. b. *I saw it by a French journalist about Spain last night Students may have trouble with these sentences because the string a documentary can be a complete NP in some contexts. It is important to note that, while it is a NP in a sentence like e.g. I saw a documentary last night, the tests above show that a documentary is not a complete NP in the context of (29).

1.5.2 VP Consider now the strings of words in (25), referred to as VPs. These strings all contain a verb and that, if one adds an appropriate NP (called a subject5) in front of the string, a full sentence is formed. Thus, adding the NP her mother to (25)(e) gives us the sentence (33). Readers may wonder why the strings in (25) are regarded as constituents. To make the question more concrete, consider (33). Why is it better to

assume that (33) has the structure indicated in (34)(a) or (35)(a) rather than that seen in (34)(b) or (35)(b).6 If the VP constituent exists at all, why does it not include the subject? Why is her mother read not a VP? (33) Her mother read a book. (34) a. [S[NPHer mother] [VP [V read] [NP a book]] b. [S [NP Her mother] [V read] [NP a book]]



(34)(b)/(35)(b) suggests that the string read a book is not a constituent, but two independent constituents. On the other hand, (34)(a)/(35)(a) suggests that this string is a constituent. If we apply the constituent tests introduced in section 1.3, we find clear evidence for the existence of the constituent presupposed by (34)(a)/(35)(a). (36) a. Her mother READ A BOOK. She did so last year. [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] To show that the behaviour of read a book is no fluke, we give below some evidence indicating that each of the other constructions in (25) are constituents. (37) [VP Suddenly die of cancer at a young age] though she did, she is still remembered. (38) What he did was [VP blindly rely on the advice of a counsellor] (39) They [VP often called him a maladjusted sociopath] and [VP laughed at him] They [VP laughed at him] and [VP often called him a maladjusted sociopath] (40) A: What did she do? B: [VP give Basil the book] Thus, it is clear that the structures in (25) are possible constituents in a sentence. That the constituents in (25) are seen as headed by the verbs rather than some other element seems fairly self-evident. Readers will be able to verify for themselves that all the material in the phrase is giving us information about the situation expressed by the verb.

1.5.3 PP Beginners sometimes assume that PPs (e.g. (27)) are a type of NP. This assumption seems to result from the intuition that the preposition is in some sense 'less important' than the noun in the NP after the preposition, which is taken to show that the noun ought to be the head of the whole construction. This reasoning is misses the mark. Taking the PP into the shop as an example, we note that the

preposition is not telling us anything about the shop, contrary to what we would expect if it were part of the NP headed by shop. Secondly, note that PPs never denote entities, unlike NPs. In most cases, PPs denote locations or directions. Finally, pronouns that can replace NPs (it/them/she etc) can never replace PPs. There is thus clear evidence that PPs are not a type of NP.

1.5.4 AP It seems to be relatively unproblematic to identify APs in predicative position (i.e. if the AP is in a sentence-final position and the NP it describes is nowhere near it, as is the case if one of the APs in (26) appears in a sentence beginning with They are, e.g. They are very angry at the rest of the human race. What sometimes causes confusion among beginners are cases of prenominal APs, i.e. APs which are directly in front of the noun they describe, as in the very

big tree. Here the AP is very big, not very big tree. A reason for assuming this is that the noun is the head of the whole construction, not the adjective, since the adjective is describing the noun and not vice-versa. Additionally, if you compare prenominal APs with predicative APs, you will notice that a uniform characterisation of the AP is possible only by assuming that the AP never contains the noun it describes.

1.6. More on Coordination We can now complete the treatment of coordination begun in section 1.3. The basic principles are: • Coordination is generally possible only with constituents of the same category. • Coordination forms a phrase of the same category as that of the coordinated constituents.

Identify the categories coordinated by the italicised conjunctions in the sentences below. a. A cleaner and a professor of physics recently got married. b. She will sing and play a Beatles tune. c. He went to the restaurant for a pie and chips but only had a glass of wine there. d. There was an interesting talk on the last day of the conference, but everyone fell asleep. C. Find the heads of the phrases below. Is the phrase a NP, AP, VP, AdvP or PP? a. that big and ugly building b. in the house over there c. extremely proud of his children d. smokes very weird cigarettes e. sometimes sings out of tune f. outside the house over there g. seldom knew all the answers h. completely unbeknownst to us D. Identify the NP and VP which combine to form the following sentences. a. The lady over there and her friend know George. b. Fred obviously believes the story about the Martian invasion. c. A big problem with the theory still gives the researchers cause for concern. d. He usually read or watched television.

1.7. Complements, Arguments and Modifiers Consider the following phrases, where the heads are underlined and optional constituents are enclosed in parentheses. (42) VP: a. (constantly) relied ON HER (throughout the crisis) b. (secretly) devoured THE LEFTOVERS (in the kitchen) (before leaving) c. (often) claimed THAT HE WAS GOD'S PERSONAL MESSENGER (despite somewhat sceptical reactions) (43) AP: a. reliant ON HER PARENTS (during the crisis) b. fond OF HIS WIFE (in every way) c. proud (OF HER CHILDREN) (above all justification) d. unable (TO KEEP THE APPOINTMENT) (because of the accident)

(completely) bereft/devoid OF INSPIRATION (=lacking it) (44) 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) e. the (generous) friends (OF THE ACCIDENT VICTIMS) f. the (better known) kings (OF ENGLAND) (before the fifteenth century) (45) PP: a. towards THE FENCE b. (right) inside (THE HOUSE) c. despite STATE INTERVENTION In these phrases, the constituents in capitals are said to be complements of the heads. The expressions in italics are modifiers of the heads. The differences are as follows. A. It is impossible to define the head of the phrase without referring to its complement. Take the verbs in (42). Any definition of rely would mention a person or thing

relied upon, a definition of devour would mention something that is eaten and a definition of claim would mention some claim that is made. However, the definitions of the verbs in (42) need not mention the sorts of information expressed by the constituents in italics. (Consider how redundant the PPs sound in the following definition of devour: 'enthusiastically eat something at a particular time and at a particular place'.) A definition of expert (see (44)(c)) would mention that the individual in question possesses knowledge of a particular subject (which can appear as the complement of expert), but not whether the expert belongs to a committee or what they wear. A definition of proud (see (43)(c)) must mention that a proud person is proud of something or someone. B. Modifiers are always optional, while complements are often obligatory. Notice that the claim is not that complements are always obligatory. The capitalised expression in (46) is a complement for the same reasons as that in (42)(b) is: one cannot define the verb without mentioning an eaten entity. However, it is possible to say she ate as well as she ate the leftovers, so we must assume that the complement is optional. Even if the complement is not expressed, it is still present in the meaning of the VP, for one cannot eat without any food being consumed. Similar remarks apply to proud and expert (cf. (43)(c) and (44)(c)). If we hear John is proud, we know that he is proud of someone or something. The sentence John is an expert is understood

such that he is an expert on something. (46) ate (THE LEFTOVERS) (before she went to the pub) C. Complements appear closer to the head than modifiers do, as the examples above show. D. (This principle subsumes A.) The complements of a word are those elements which occur within the phrase headed by the word which 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 part of the native speaker's linguistic knowledge which contains idiosyncratic information, i.e. information which must be memorised because it is not describable in terms of rules. The mental lexicon is thus a mental 'dictionary'. The lexical entry for a word must include, among other things, information about the syntactic category, the pronunciation and the meaning of a word. It will also indicate how and whether certain parts of the meaning of a word are to be expressed in the sentence. Consider the verbs eat, devour and dine, all of which basically mean 'consume food'. The lexical entries for these verbs will be quite similar, but (apart from differences in pronunciation and subtle semantic differences) will differ in their specification of whether and how the food can be expressed in the sentence. The entry for devour specifies that the food must appear as a NP (we devoured the chicken), the entry for eat says that it may or may not do so, since both we ate and we ate the chicken are acceptable. The entry for dine specifies that the food may either not

appear in the sentence (we dined), or may appear as a PP headed by on (we dined on the chicken), but not as a NP

(*we dined the chicken). From contrasts of this type we can see that the types of complements a word can take are to some extent idiosyncratic, i.e. not able to be predicted wholly and solely on the basis of the meaning of that word. This is why information about the complements a word can take must appear in that word's lexical entry. On the other hand, the types of expressions which can modify an expression can always be predicted on the basis of knowledge of the meanings of that expression and of those of the modifiers. E. There is no syntactically determined limit to the number of modifiers a word can have within its phrase, cf. (47). 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. Verbs have at most two complements, and other categories can mostly only have one. (47) a. [sometimes] walked THE DOG [slowly] [in the park] [on Fridays] [after work] [for two hours] [to clear his mind] b. [big], [black], [fluffy] , [slobbery], [dangerous] dogs [without collars] [in the park]

The term ‘argument’: In other texts you may encounter the term argument. It means that same as complement, except argument is

exempt from condition C above: an argument of a head need not appear within that head's projection. Thus, the subjects in John [VP ate the food] and Ann [VP gave me the book] are arguments of eat/give, but do not appear in the VP.

E. Are the phrases listed in brackets below each sentence below complements or modifiers, and what are they are complements or modifiers of? More than one answer may be right. a. People started loudly applauding the performance of the band in the next room. [the phrases headed by loudly, in, of, and performance] b. She gave Mary a book on French art from the last century at the party. [the phrases headed by at, from, on, Mary, book] c. The minister resigned because of the parliamentary decision on Friday [the phrases headed by on, because of] d. They unanimously rejected the application for funding for a second trip to America in August. [the phrases headed by in, for (both occurrences) , unanimously] .