

## Chapter 3

# Sentences

**Syntax** is the study of sentence structure, of how meaning is given form at the sentence level. In other words, syntax studies the systematic covariation between meaning and form in sentences. Most commonly, syntactic form has to do with **word order**. In addition, it is common and in many ways useful to group words into larger constituents and view each sentence as having a **constituent structure**. Finally, we shall have a brief look at other structural devices used for syntactic purposes, in particular **agreement**.

Sentence vs. clause.

## 3.1 Sentence meaning

Words are assembled into **sentences**. The meaning of a sentence is determined by the meaning of the words (or other lexical units) and grammatical structures of which it is composed.

Sentences designate **situations**, that is, mental representations of a state of affairs. To get an understanding of how language describes situations, the following four elements must be distinguished:

### THE FOUR ELEMENTS OF A SITUATION

- The **event**
- The **participants** in the event
- The **setting** where the event and its participants are situated
- The **ground** - the situation in which the sentence is uttered

Sentence semantics typically concerns the associations between the elements of a situation. The event is linked to the participants. The event and the participants are linked to a setting. The event, the participants, and the setting are linked to the ground.

### 3.1.1 Event

Events are usually referred to with verbs.

### 3.1.2 Participants

The participants are **entities** playing different roles in the event, referred to as **thematic roles** (sometimes called semantic roles). The study of entities belongs to lexical semantics, while the roles entities play in an event is an important part of grammatical semantics. Roles differ somewhat from one verb to another, so that the roles of *beat* are *the beater* and the *beaten*, and the roles of *devour* are the *devourer* and the *devoured*, but linguists have tried to make some generalizations. Some important roles are **agent**, **instrument**, **patient**, and **benefactive**.

The meaning of the prototypical verb as an **energetic interaction** where energy from an **energy source** (*agent*) is transferred to an **energy sink** (*patient*), as illustrated in the Arabic sentence in (9), meaning ‘the father [=agent] beat his son [patient]’.

The prototypical **agent** is an animate entity that instigates an active event with will and intention, while the prototypical **patient** is an inanimate entity that undergoes, is changed by, or is affected by the active event. A prototypical **instrument** is an inanimate entity by means of which an active event is carried out. It is used by the agent to affect the patient, and energy may be said to “flow” through it on its way from the agent to the patient, as depicted in FIG. 9.

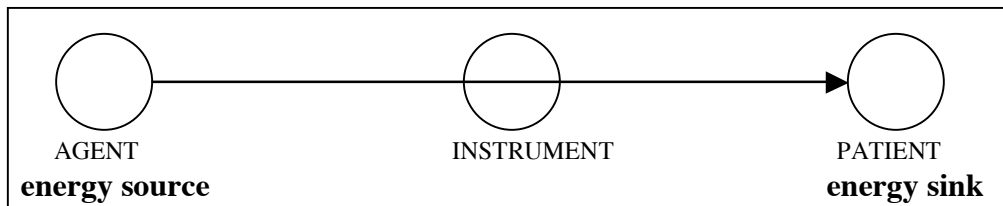


FIGURE 9. *The energy flow from agent through an instrument to a patient.*

These three roles are illustrated by sentence (11), where ‘he’ is the agent, ‘thief’ is the patient, and ‘truncheon’ is the instrument:

(11) He        beat the thief with a truncheon.  
 AGENT        PATIENT INSTRUMENT

Furthermore, the **benefactive** is a participant who benefits or suffers from an event, as illustrated in sentence (12):

(12) I        slaughtered that ox for Buuba.  
 AGENT        PATIENT BENEFACTIVE

### 3.1.3 Setting

**Setting** is a common denominator for the **time**, **location**, **manner**, **reason**, and **purpose** that an event and its participants are embedded in. In sentence (13), the adverb *yesterday* specifies the temporal setting:

(13) I shot the fox **yesterday** with a gun.  
 TIME

*Location* is illustrated in sentence (14):

- (14) I saw the girls **on the bus**.  
LOCATION

*Manner* is illustrated in sentence (15):

- (15) I walked **slowly** towards her.  
MANNER

*Reason* and *purpose* are expressed in sentence (16):

- (16) Mary went to town **to buy a circus ticket** *because she loves clowns*.  
PURPOSE REASON

### 3.1.4 Ground

What is talked about is *anchored* to the **ground**, which has the following elements:

GROUND

the **speech event**

the **participants** of the speech event: the **speaker** and the **addressee(s)**

the **setting** of the speech event.

Most languages have words for the main components of the ground. In English, the speaker is *I*, the addressee(s) is/are *you*, the local setting of the ground is *here*, and the temporal setting of the ground is *now*. Let us take a look at the English sentence in (17).

- (17) I shot the fox yesterday with a gun.

We can analyze the situation described in (17) in the following way: The *event* is expressed by *shot*. There are three *participants*, the *agent* (*I*), the *patient* (*the fox*), and the *instrument* (*the gun*). The temporal part of the *setting* is expressed by *yesterday*.

The event, the participants, and the setting are anchored to the ground in several ways:

The past tense form *shot* places the event at a point in time preceding the ground.

The agent is identified as one of the participants in the ground, that is, the speaker: *I*.

Definite articles give the information that the patient and the instrument are already known to the participants in the ground: *the fox*, *the gun*.

## 3.2 Sentence structure

### 3.3.1 Word order

In the English sentence (21), the three words *vultures*, *eat*, and *hyaenas* follow each other in a specific **order**:

(21) *Vultures eat hyaenas.*

In this sentence, *vultures* is the first word, *eat* the second, and *hyaenas* the third.

The most obvious aspect of word order has to do with **precedence**, with whether a given element precedes or follows some other element. In (21), for instance, *vultures* precedes *eat*, and *hyaenas* follows *eat*.

In addition, word order also has to do with **proximity**. Compare the following expressions from English and Fula:

1. *one big red ball*
2. *balloŋre wodeere mawnde woore*  
ball      red      big      one

The two expressions, which have the same meaning, consist of the same words, but the words come in exactly the opposite order. Even with regard to word order, however, there is a striking similarity between the two expressions. In both languages, the word meaning 'red' is **closer** to the noun meaning 'ball' than the word meaning 'big', and in both languages, the words meaning 'red' and 'big' are closer to the noun meaning 'ball' than the word meaning 'one'. In neither language could these proximity relations be changed without creating ungrammatical or semantically odd noun phrases. In other words, the word order of the two expressions differ from each other with regard to precedence, but not with regard to proximity.

This is quite typical. Features of precedence vary a lot from language to language, while features of proximity are much less subject to variation. When comparing the word order of different languages, therefore, what is compared mostly has to do with precedence.

### 3.3.2 Constituent structure

Take a look at the English sentences in (23).

(23) *Some English sentences*

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- (i) Dogs bite postmen
- (ii) Angry dogs bite postmen
- (iii) Dogs bite angry postmen

It is easy to see that sentence (23i) may be divided in three, since it consists of three words. It is less obvious that (23ii) and (23iii) may also be divided in three, since each of them consists of four words. But in (23ii), *angry* and *dogs* clearly belong together, and in (23iii), *angry* and *postmen* also clearly belong together. *Angry dogs* and *angry postmen* are **constituents** of sentences (23ii) and (23iii), respectively.

Constituents like *angry dogs* and *angry postmen* are bound together semantically, but they are also syntactic units. In many respects, *angry dogs* and *angry postmen* work syntactically in the same way as the single words *dogs* and *postmen*. For instance, if they are placed in other positions in the sentence, they have to keep each other company, as is the case when some statements may be made into questions by reversing the order of the subject and the auxiliary verb:

(22) *Some English questions*

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- (i) Dogs will bite postmen --> Will dogs bite postmen?
- (ii) Angry dogs will bite postmen --> Will angry dogs bite postmen?

With few exceptions, therefore, elements within the same constituent always occur in proximity to each other. In English, at least, *angry* cannot occur in positions further away from *dogs*, as illustrated in (24ii) and (24iii):

(24) *More English sentences*

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- (i) Perhaps angry dogs bite postmen
- (ii) \*Perhaps dogs angry bite postmen
- (iii) \*Angry perhaps dogs bite postmen

Sentence (24ii) is possible to understand, but it is not a grammatical English sentence. The asterisk (\*) marks the sentence as ungrammatical. In sentence (24iii), *angry* is separated from *dogs* by the adverb *perhaps*, and the sentence is clearly ungrammatical. *Angry* is too far away from *dogs*, and it is probably impossible to decide who is angry—dogs or postmen. We would get a grammatical sentence by saying *Perhaps dogs bite angry postmen*, but this sentence would claim that it is the postmen that are angry, not the dogs. The sentence would be unsuccessful as an attempt to characterize the dogs as angry.

There is an asymmetry between *angry* and *dogs*, since *angry* is optional. It is possible to say *Dogs bite postmen* and *Angry dogs bite postmen*, but not *\*Angry bite postmen*. When two words within a constituent are in an asymmetric relationship, the obligatory word is called a **head** and the optional word a **modifier**. Many linguists take one step further and claim that a head is the pivotal member of a specific type of syntactic unit usually referred to as a **phrase**:

A **phrase** is a *head* plus its *modifiers*, if there are any.

In the sentences (25), the *phrases* are placed between squared brackets, and *heads* are written in **bold** letters. Notice in particular that in (25i), *dogs* and *postmen* are regarded as phrases despite the fact that they are single words.

(25) *English sentences again*

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- (i) [Dogs] bite [postmen]
- (ii) [Angry **dogs**] bite [frightened **postmen**]
- (iii) [The angry **dogs**] bite [the frightened **postmen**]

Phrases are classified into different types on the basis of the *word class* of their heads. If the head is a noun, we have a **noun phrase**—abbreviated NP—and if the head is an adjective, we have an **adjective phrase**—abbreviated ADJP. Adjectives can be modified by adverbs like *very*, *slightly*, *extremely*, to form adjective phrases like [very angry] and [quite frightened]. In a more complete analysis, (26ii) and (26iii) should therefore be analyzed as in (26). A word is then analyzed as the head of a phrase if it can take modifiers, whether they are present or not.

(26) English sentences again

- (i) [[Angry] **dogs**] bite [[frightened] **postmen**]  
 (ii) [The [angry] **dogs**] bite [the [frightened] **postmen**]

One consequence of the introduction of phrases into the syntactic analysis is the postulation of a **hierarchical syntactic structure**, implying the existence of *linguistic units smaller than the sentence and bigger than the word*. The term **constituent** is used as a name for a «sentence part» anywhere in the hierarchy. Sentence (26ii) may provisionally be analyzed as in FIG. 10, which, for obvious reasons, is called a **syntactic tree**.

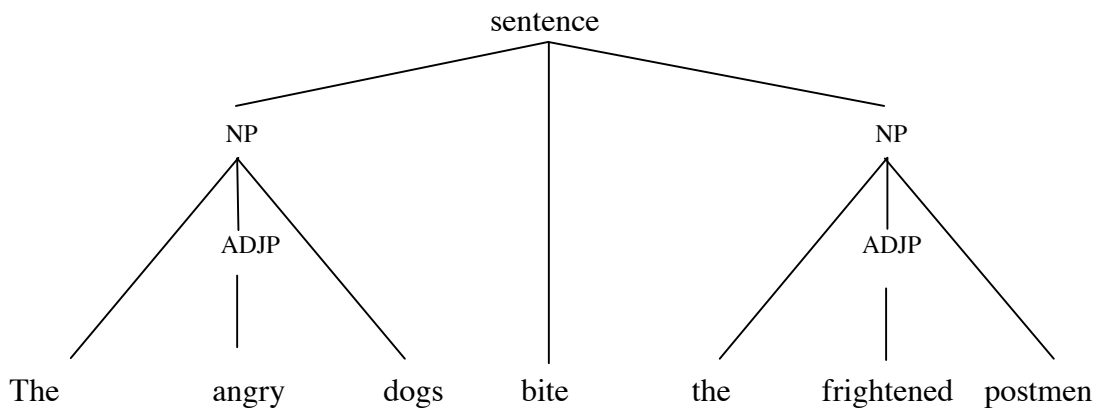


FIGURE 10. Constituent structure presented in a syntactic tree

First, sentence (27ii) is analyzed as having the three constituents, NP, *bite*, and NP. Secondly, the first NP is analyzed as having the three constituents, *the*, ADJP, and *dogs*, and the second NP is analyzed as having the three constituents *the*, ADJP, and *postmen*. Thirdly, the two ADJP's have the single constituents *angry* and *frightened*, respectively.

A syntactic tree may also contain information about the word class of each word in the sentence:

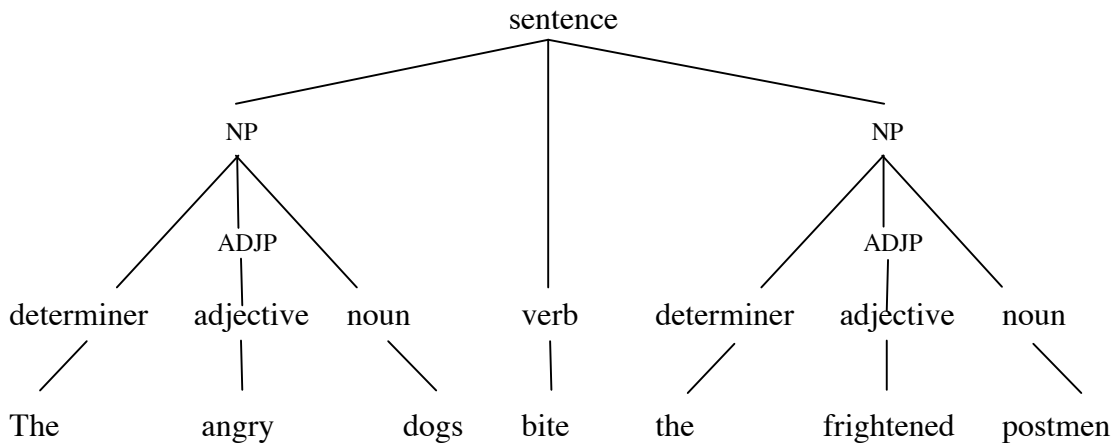


FIGURE 11. Syntactic tree including information on word classes

This makes it explicit which word is the head of each phrase, since the head of a noun phrase must be a noun, and the head of an adjective phrase must be an adjective.

Hierarchical syntactic structures have been postulated at least since the German psychologist Wilhelm Wundt (1832–1920) drew the first syntactic trees in his *Völkerpsychologie* ‘Ethnic Psychology’ (10 volumes, 1900–20). This way of viewing sentences has turned out to be very fruitful. However, there is in fact very little agreement about the exact constituent structure of even the most simple sentences, despite intense research through almost a whole century.

For instance, many linguists would claim that sentences containing a verb have a **verb phrase** (abbreviated VP), which, loosely speaking, consists of the verb plus all other constituents in the sentence apart from the subject. In our case, this would result in the following syntactic tree:

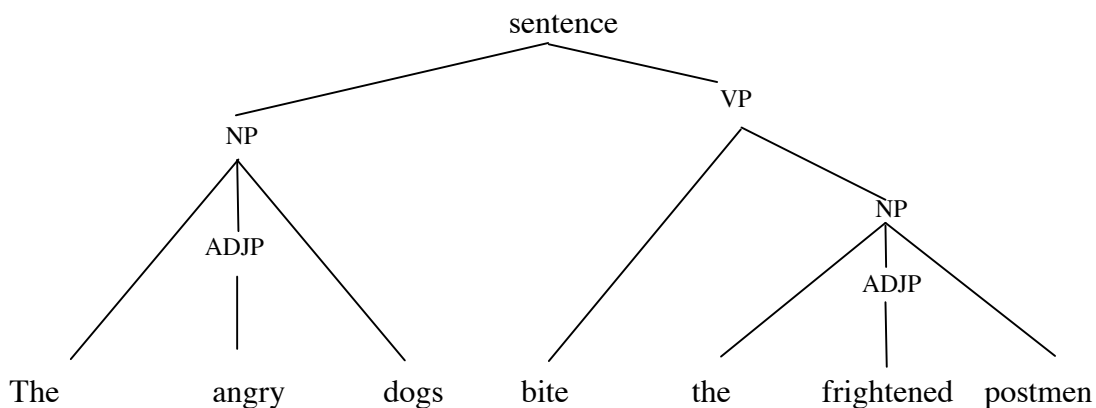


FIGURE 10. Syntactic tree including a verb phrase

Adherents of this analysis often define subject and object based on the position of noun phrases in a syntactic tree. Roughly, the object is defined as a noun phrase *inside* the VP,

while the subject is defined as a noun phrase *outside* the VP. We shall return to alternative definitions of subject and object later in this chapter.

### 3.3 Syntactic functions

In the subsection on sentence meaning above, we have introduced the notion of thematic roles like agent, patient, instrument, benefactive etc. In general, thematic roles are not marked directly in sentences, but through a fascinating interplay with **syntactic functions**, the most important of which are **subject (S)**, **object (O)**, and **oblique (Obl)**. Take a look at the sentences in (13).

(13) *Some English sentences*

- a) *John opened the door with this key.*  
 b) *This key opened the door.*  
 c) *The door opened.*

The relationship between thematic roles and syntactic functions in the sentences in (13) is summed up in TABLE 4.

SUBJECT	VERB	OBJECT	OBLIQUE
<i>John</i>	<i>opened</i>	<i>the door</i>	<i>with this key</i>
AGENT	EVENT	PATIENT	INSTRUMENT
<i>This key</i>	<i>opened</i>	<i>the door</i>	
INSTRUMENT	EVENT	PATIENT	
<i>The door</i>	<i>opened</i>		
PATIENT	EVENT		

TABLE 4. *Thematic roles and syntactic functions*

In (13a), the subject is an *agent*, in (13b) a *patient*, and in (13c) an *instrument*. At first glance, this may give the impression that the subject varies so much semantically that it cannot be given a semantic definition, but this is not the case.

#### 3.3.1 Subject and object

In fact, some important and central properties of the **subject** and **object** can be defined as follows:

The **subject** corresponds to the only participant or the participant closest to the energy source, while the **object** corresponds to the participant closest to the energy sink.<sup>1</sup>

In (13a), *agent*, *instrument*, and *patient* are mentioned. The agent is closest to the energy source, and is the subject. The patient is closest to the energy sink, and is the object. The instrument is expressed as an oblique, which contains a morpheme (the preposition *with*) expressing the thematic role. In (13b), *instrument* and *patient* are mentioned. The instrument is closest to the energy source, and is the subject. The patient is closest to the

<sup>1</sup> An exception is passive sentences like *He was killed by his wife*, in which the participant closest to the energy sink is a subject and not an object, while the participant closest to the energy source is oblique.



energy sink, and is the object. In (13c), *patient* is the only thematic role mentioned. It is only participant, and is the subject of the sentence.

Many languages accept sentences with two objects, and a few even sentences with three object. We shall number the objects from left to right. In the English sentence in (14), there is therefore a **first object (O1)** and a **second object (O2)**. Here, we have introduced another thematic role, **recipient**, the receiver.

(14) *First and second object*

SUBJECT	VERB	FIRST OBJECT	SECOND OBJECT
Mary AGENT	<i>gave</i> EVENT	John RECIPIENT	<i>an apple</i> PATIENT

Most linguists refer to O1 as *indirect object* and O2 as *direct object*, a terminology that cannot be extended to languages, like Fula, that allow three objects:

(15) *First, second, and third object in Fula*

SUBJECT	VERB	FIRST OBJECT	SECOND OBJECT	THIRD OBJECT
Duudu	<i>hokkanii</i>	<i>Buuba</i>	<i>Muhammadu</i>	<i>ceede</i>
Duudu	hokk-an-ii	Buuba	Muhammadu	ceed-e
Duudu	give-ben-pve	Buuba	Muhammadu	money-pl
agent	event	benefactive	recipient	patient
'Duudu gave Muhammadu money for Buuba'				

Abbreviations: ben = benefactive; pve = perfective.

The last object is always the energy sink, and typically refers to an inanimate, non-sentient entity. The preceding objects are typically human (or at least sentient) beings that are not directly involved in the energetic interaction, which they rather relate to as **experiencers**. When there are three objects, the second is more involved in the energetic interaction than the first object.

Typically, subject and object are realized as noun phrases, and languages can signal subject and object noun phrases by means of *word order*. Take a look at sentence (35), where the noun phrase [*the hungry vultures*] is the subject and [*the dead jackal*] the object.

(35)                      SUBJECT                      OBJECT  
[The hungry vultures] devoured [the dead jackal].

In English, the following generalizations are valid:

The noun phrase immediately preceding the verb is the **subject**.  
The noun phrase immediately following the verb is the **object**.

FIG. 12 shows the meaning and form of subject and object in English:

	subject	object
meaning	'the only participant' or 'the participant closest to the energy source'	'the participant closest to the energy sink'
FORM	<i>the noun phrase immediately preceding the verb</i>	<i>the noun phrase immediately following the verb</i>

FIGURE 12. *Subject and object as linguistic signs*

The meanings of *subject* and *object* are valid for most or all languages, while the form varies. Arabic is an example of a language where word order signals syntactic functions, but in a different way:

(36) An Arabic sentence

	SUBJECT	OBJECT	
Ṭabaxat	zawjatī	aṭṭaʿam	'My wife cooked the food'
she.cooked	my.wife	the.food	

In Arabic, the subject as well as the object follow the verb, but the subject is the noun phrase closest to the verb and the object follows the subject.<sup>2</sup>

### 3.3.2 Oblique and adverbial

In English sentences, a *participant* may be referred to with an NP preceded by a preposition. A preposition + NP sequence is usually called a **prepositional phrase**, abbreviated PP. A participant consisting of a prepositional phrase has the syntactic function of **oblique**:

(39) *English sentences with PP oblique*

	SUBJECT		OBJECT	OBLIQUE
(a)	[The old man]	gave	[a dime]	[to [the little boy]].
(b)	[The little boy]	put	[the dime]	[in [his pocket]].

Now, compare this with sentence (40), where the PP contains an NP that does not refer to a participant, but to a setting (location). In such cases, the syntactic function of the PP is **adverbial**:

(40) *English sentence with PP adverbial*

	SUBJECT		OBJECT	ADVERBIAL
	[The girl]	met	[her friend]	[in [the train]].

Not surprisingly, words belonging to the word class of *adverbs* typically have adverbial function, as shown in (41).

(41) *An English sentence with an adverb as adverbial*

	SUBJECT		ADVERBIAL
	[My friend]	came	[yesterday]

How do we distinguish **oblique** from **adverbial**? As already pointed out, the *oblique* function is for *participants*, while the *adverbial* function is for *settings*. The oblique is an integrated part of the event, while the adverbial describes the *scene* where the event and its participants are «located», as illustrated by the two homonymous English sentences in (42).

<sup>2</sup> This generalization is only valid in sentences where the subject is expressed as a separate noun phrase.

(42) *Two English sentences: oblique versus adverbial*

	SUBJECT		OBLIQUE		ADVERBIAL
(a)	[The committee]	decided	[on [the boat]].		
(b)	[The committee]	decided		[on [the boat]].	

Sentence (42a) means that the committee reached a decision in favor of the boat, while (42b) means that the committee were on the boat when they reached a certain decision.

An important extra characteristic of the oblique is the **collocational** ties between the verb and the preposition. A **collocation** is a habitual juxtaposition of two or more words, like a verb and a preposition, and the preposition cannot be substituted by another preposition. In the case of the *adverbial*, there are in general no collocational ties, and the preposition can easily be substituted, as in *The committee decided under the bridge*.

### 3.4 information structure

**Information structure** may be defined in the following way:

**Information structure** is the way in which the words of a sentence are arranged so that a particular part of a message receives greatest attention.

Compare the two English sentences in (43). Notice in particular sentence (43b), which differs from (43a) by having two noun phrases before the verb.

(43) *Two English sentences*

- |     |                             |
|-----|-----------------------------|
| (a) | [Bears] like [blueberries]. |
| (b) | [Blueberries] [bears] like. |

Sentences never have more than one subject, and in English the subject NP precedes the verb immediately, with very few exceptions. Therefore, there is no doubt that [bears] is the subject in both sentences. In (43a), [blueberries] is definitely the object, since it is an NP immediately following the verb. What about [blueberries] in (43b)? It also has to be the object.

In English, as in many other languages, most phrases have their privileged position in the sentence, but may, in addition, occur *in the beginning of the sentence*, before the subject, as illustrated in (44). A phrase in this position plays the role of **topic** in addition to its ordinary syntactic function. For example, *the money* is *object* in (44a), *object and topic* in (44b).

(44) *English sentences with a topic*

	topic	subject	verb	object	oblique	adverbial
a		John	gave	the money	to Peter	yesterday
b	The money	John	gave		to Peter	yesterday

c	To Peter	John	gave	the money		yesterday
d	Yesterday	John	gave	the money	to Peter	

**Topic**, which is grammatically marked by word order, may be semantically defined as the subject-matter of the sentence, that part of the sentence about which something is said. The rest of the sentence is then called the **comment**. (Some linguists use the terms theme and rheme instead.)

The reasons for putting a phrase in the topic position, for **topicalizing** it, are found in the wider linguistic context the sentence is used in. In conversation, topicalization is often necessary to link a sentence in an appropriate way to what has already been said—cf. the constructed dialogues in (44) between Mary (M) and Paul (P).

(44) *Some dialogues*

1st dialogue	M: What happened to the money? P: The money John gave to Peter yesterday.
2nd dialogue	M: What did John give to Peter? P: To Peter John gave the money (yesterday).
3rd dialogue	M: What did you say happened yesterday? P: Yesterday John gave the money to Peter.

When Mary asks, *What happened to the money?*, she establishes *the money* as the subject-matter of the conversation, and Paul maintains *the money* as subject-matter by topicalizing it.

Peter's answers are certainly not the only possible and appropriate ones, and instead of answering *The money John gave to Peter* he could have answered *John gave it to Peter yesterday*. But try to move the answers around a little, and the result is quite strange. If Mary asks, *What did you say happened yesterday?*, it would be very surprising if Paul answered, *The money John gave to Peter yesterday*, because it would destroy the *cohesion* of the text.

## 3.5 Grammatical categories

### 3.5.1 Case

**Case** is variation in the form of pronouns, nouns or noun phrases to show their role in the structure of the sentence. In English, many personal pronouns distinguish between subjective case (as in *I, he, she, we, they*) and objective case (as in *me, him, her, us, them*). The subjective case is used in subject position, while the objective case is used in most other positions, notably object position and position within a prepositional phrase.

Case languages typically distinguish between two or more of the following cases, with their typical syntactic and/or semantic features in parentheses:

- nominative (subject)
- accusative (direct object)
- dative (indirect object)
- genitive (possessor)

locative (at location)  
ablative (from location)  
allative (to location)  
vocative ()  
instrumental (instrument)  
absolutive ()

In many cases, however, cases do not make complete syntactic or semantic sense.

Case may be expressed morphologically (by means of case affixes or special case forms) or syntactically (by means of function words, often referred to as case particles).

### 3.5.2 Tense

The grammatical category **tense** is related to the temporal setting of the ground, through a distinction between **past**, **present**, and **future**:

**past** is a time preceding the temporal setting of the ground  
**present** is a time overlapping with the temporal setting of the ground  
**future** is a time following the temporal setting of the ground

The time of the speech event, ‘now’, plays an important role in language. Most languages have a word meaning ‘now’, referring to the **present**. ‘Now’ is opposed to other times, ‘then’, away from the present and into the **past** or the **future**. – Closely related to ‘now’ are words referring to ‘today’, the day of the speech event. Following and preceding days are defined on the basis of their distance away from ‘today’—often, but not always, with different words for days in the past and days in the future.

### 3.5.3 Aspect

The grammatical category **aspect** refers to the phase of an event, distinguishing between **inchoative** (beginning), **progressive** (continuous), **perfective** (completed) and others. Some languages, like Chinese, have only aspect and no tense, while other languages, like Russian, show a complex interplay between the two.

### 3.5.4 Mood

The grammatical category **mood** refers to forms that are typically associated with specific **speech acts**, such as **indicative** (plain assertion: *is*), **imperative** (injunction: *be!*), and **subjunctive** (hypothesis: *were*), **interrogative**.

### 3.5.5 Voice

The grammatical category **voice** usually distinguishes between **active** (*He killed her*) and **passive** (*She was killed [by him]*).

### 3.6 Agreement

**Agreement** refers to a formal relationship between elements whereby a form of one word requires a corresponding form of another. In English, verbs in the present tense agree with the subject in person (*I go* vs. *he goes*) and number (*he goes* vs. *they go*). Like word order and case forms, agreement helps to identify the roles or syntactic functions of each constituent in the sentence.

There are languages, among others Swahili and most other the Bantu languages of Africa, where the verb has not only subject agreement, but also object agreement (though only when the object is definite):

(48) *A Swahili sentence*

*Adamu umekileta kisu.* ‘Adamu has brought the knife.’

SUBJECT	OBJECT
Adamu u- me- ki- let -a ki- su	
Adamu	CL.7-knife
CL.1-PERFECT-CL.7-bring-INDICATIVE	

In Swahili and other Bantu languages, nouns belong to different **noun classes** or **genders**, and the gender of a noun can in most cases be seen from a prefix, as in *kisu* ‘knife’, which has the *ki* prefix, marking noun class 7 (CL.7). The name *Adamu* has no prefix, but it belongs to class 1 (CL.1), the class of singular human beings. The verb form *u-me-ki-let-a* ‘s/he brought it’ has three prefixes. The first one, *u*, is the subject agreement prefix, showing that the subject belongs to class 1; the second one, *me*, is a tense/aspect prefix marking perfect, and the third one, *ki*, is the (definite) object agreement prefix, showing that the object belongs to class 7.

The notion of **noun class** or **gender** is closely related to the notion of agreement:

**Noun classes** or **genders** are classes of nouns that influence the shape of words that are in constructions with them.

In French, for instance, nouns belong to one out of two genders, called masculine and feminine, and adjectives and determiners have to agree in gender with the noun they describe:

*un petit garçon* ‘a small boy’  
*une petite fille* ‘a small girl’  
*Le garçon est petit* ‘The boy is small’  
*La fille est petite* ‘The girl is small’

There are masculine and feminine forms of the indefinite article (*un* vs. *une*), the definite article (*le* vs. *la*) and the adjective *petit/petite*. While grammatical gender usually reflects biological sex, this is not always the case, and for the vast majority of nouns it makes little sense to speak of biological sex, and masculine and feminine are, in this context, purely grammatical terms.

Gender or noun class systems are very common in African languages. In grammars of languages in the Niger-Congo family, the term noun class is more common

than gender, and the number of noun classes may reach twenty, as in Fula, where the semantic definitions of the classes are a fascinating study. In this language, the noun classes influence the shape of demonstratives, definite articles, adjectives, numerals and participles that are in constructions with a noun, and the demonstratives are used as class names. Consider TABLE 3, with nouns from the NDE class and the ngol class.

	NDE CLASS	NGOL CLASS
Object	<i>yitere</i> 'eye' <i>hayre</i> 'stone'	<i>boggol</i> 'rope' <i>mahol</i> 'outer wall of a compound'
Place	<i>waalde</i> 'cattle camp, corral'	<i>laawol</i> 'road'
Writing	<i>harfeere</i> 'letter of the alphabet'	<i>diidol</i> 'line'
Process	<i>doyyere</i> 'fall; loss'	<i>doyyol</i> 'falling; losing'

TABLE 3. Some Fula nouns

The prototypical nouns of the NDE class designate relatively small, round, clearly delimited, three-dimensional objects like *yitere* 'eye', *hayre* 'stone', *bernde* 'heart', and *hoore* 'head'. This structure is imposed metaphorically on two-dimensional «objects», that is, places like *waalde* 'cattle camp, corral', *wonorde* 'locality, abode', and *janngirde* 'school' (literally, 'reading-place'), and on the domain of writing; the smaller unities of writing belong to the NDE class, cf. *harfeere* 'letter (of the alphabet)' and *hownde* 'sukūn (a small circle placed above a consonant letter in the Arabic alphabet to indicate the absence of a vowel)'. NDE class nouns also designate relatively short one-dimensional «objects» in the process domain, that is, clearly delimited episodes like *doyyere* 'fall; loss' and *fuutere* 'fart'.

The prototypical NGOL noun, on the other hand, designates long, thin or narrow three-dimensional objects: *boggol* 'rope', *mahol* 'outer wall of a compound', and *meetaleewol* 'turban (that is, a long, narrow piece of cloth that is wound around the head)'. This long narrow structure is also found in NGOL nouns like *laawol* 'road'; a road may be construed as a place that is narrow in one dimension and unlimited in the other dimension, and in the domain of writing, where NGOL class nouns designate long and narrow phenomena like *diidol* 'line' and *binndol* 'writing'. Finally, in the process domain, NGOL class nouns designate events as phenomena without emphasis on the beginning and the end: *doyyol* 'falling; losing' and *puutol* 'farting'.

These examples show how processes, which are usually designated by verbs, may be *entified* and talked about with nouns, and how these entified processes are structured in analogy with other «things». The difference between the delimited «NDE class process» *doyyere* 'fall; loss' and the unlimited «NGOL class process» *doyyol* 'falling; losing' is analogous to the difference between the delimited «NDE class place» *waalde* 'cattle camp, corral' and the unlimited (in one of its two dimensions) «NGOL class place» *laawol* 'road'. NGOL class process nouns are mass nouns, while most other NGOL nouns are count nouns. You can count occurrences of a *fuutere* 'fart', while *puutol* 'farting' is uncountable.