

CONSTITUENCY

This document discusses the notion of 'constituency' in English grammar.

CONSTITUENCY

Definition

A constituent is a subpart of a sentence that joins with other constituents to form a larger structure. Constituents can also be broken down into smaller constituents (but there will exist the smallest constituent which cannot be further subdivided). These smaller constituents are called **immediate constituents** of the larger structure.

For example, in the sentence *Jill came with a man* the word *a* is between *with* and *man* but we intuitively know it is closer to *man*. *A man* is a constituent; a phrase in fact. It can be further subdivided into its **immediate constituents**, the words *a* and *man*. As a constituent, it combines with *with* to form a prepositional phrase which combines with *came* to form a predicate which combines with *Jill* to form a sentence.

Phrases

We can postulate the existence of the phrase and test for it by substitution by a single word, pro-form or by expansion of the phrase. In the sentence *The young man followed a girl* we hypothesize that *The young man* and *followed a girl* are constituents. But how do we know to divide the sentence here and not at some other place? We can show why by substituting each part with a single word and still retain the grammaticalness of the sentence. Hence, substituting *John* for *The young man* and *sneezed* for *followed a girl* we get:

John sneezed

which is grammatical. However if we try to substitute *John* for *The young man followed* we get an ungrammatical sentence:

* John a girl

Similarly we can substitute noun phrases with pro-form or we can expand them:

The young man followed her

The young man followed the small, fat girl

Sometimes a phrase can be a constituent in one sentence but substitution shows it not to be in another. For example *John and Bill* is a constituent in 1 but not 2 because substitution for it in 1 by *Peter* yields 3 which is grammatical but substitution in 4 does not:

1 He saw John and Bill

2 He saw John and Bill did too

3 He saw Peter

4 * He saw Peter did too

Ellipsis also allows us to postulate the existence of phrases as constituents:

Liz saw the man in a pub and he in a betting shop

Here the verb phrase *saw the man* is ellipsed in the second clause.

Two further tests can be employed: coordination and movement. Coordination allows us to link (or coordinate) phrase:

He lay his cards on the table

He lay his cards on the table and on his lap

Here the PP *on the table* is coordinated with *on his lap*. We can also coordinate the whole verb phrase:

He lay his cards on the table and lit a cigar.

Coordination allows us to see the different constituents in:

He ran down the organization

We cannot say:

He ran down the organization and down the hill

because *down the organization* is not a constituent.

Movement allows us to see constituents although there are limits to which constituents can be moved:

He lay his cards on the table

On the table, he lay his cards

* Lay his cards on the table, He

What about some marginal cases? Take the following two sentences:

Ed drove the minister to the station

Ed found the key to the safe

Superficially they look like they have the same structure with the constituents NP + VP + PP. But passivization reveals different underlying constituents:

The minister was driven to the station

The key to the safe was found

We can now see that the first should be analyzed NP + VP + PP with VP --> V + NP and the second NP + VP with VP --> V + NP and NP --> NP + PP.

Clauses

So far we have provided pretty strong evidence through the four tests for the existence of constituents as phrase but what about clauses? A clause is generally taken to be a phrase

with a subject and a finite verb. But are there clause constituents that combine to form larger structures (i.e. sentences) and which can be broken down into immediate constituents (phrases)? We can look at sentences that contain clauses as constituents and apply the above four test:

1. That John was concealing the problem was obvious
2. It was obvious that John was concealing the problem
3. Concealment was obvious

In 1 the subordinate clause *That John was concealing the problem* is embedded in the sentence as the subject of the predicate *was obvious*. In 2 movement is possible and in 3 substitution by a single word.

Similarly

John believed that Peter hit Jane

PHRASE-STRUCTURED GRAMMAR

The constituency analysis above merely indicated which parts of a sentence are constituents. In order to be able to generate sentences we need to go a step further and label the constituents. We can do this by bracketing the constituents and then applying labels as below:

$(_s(NP_{(det)The} (nman)) (VP(vfollowed) (NP_{(det)a} (ngirl))))$

Now we can write phrase structure rules to show how the sentence is generated:

$S \rightarrow NP + VP$
 $NP \rightarrow det + n$
 $VP \rightarrow v + NP$

The rules generate not only the sentence in question but also other permutations:

A man followed the girl
 A girl followed a man

But the grammar is not yet complete because we know that in the language we can also have intransitive verbs that do not take compliments:

$VP \rightarrow v$

We could combine the two phrases to form a single phrase with the NP optional:

$VP \rightarrow v (NP)$

but we also know that some verbs take adjectives as compliments or two NPs:

$VP \rightarrow v adj$ *John seem*
 $VP \rightarrow v NP NP$ *John gave Mary a cake*
 $VP \rightarrow v PP$ *John spoke to Jim*

To account for the fact that different verbs take different complements we need to specify **subcategorization rules**:

seem V [---- adj]
give V [---- NP NP]
speak [--- PP]n

We could also specify subcategorization rules for nouns and adjectives.

Finally we need to specify selectional restriction to make sure that certain words select particular dependents. For example we cannot say:

The young girl drank the newspaper

since drink is normally associated with liquids. Thus we can postulate that the verb *drink* has as its selection restriction:

drink [NP +liquid]

Classification

We can classify constituents according to syntactic **class** (form) or **function**. Classifying them according to form we get at the phrase level, noun phrases, verb phrases, prepositional phrases etc. and at the word level, nouns, verbs, adjectives etc. Other levels yield more classes. Classifying constituents according to function yields items such as subject, predicate, adjunct etc. at one level and head, modifier, determiner etc. at another. The syntactic functions stand in **syntagmatic** relation with each other and are crucial to the meaning of the sentence. Thus in the sentence *The boss shot him*, *The boss* functions as the grammatical subject of the sentence and stands in syntagmatic relation with *shot him*. The meaning is determined in part by the words and part by the grammatical relations.

A syntactic class is a set of forms that shares common properties. They have the same **internal structure**. Prepositional phrases, for example, have a preposition functioning as a head and a noun phrase functioning as complement. Also, constituents of the same class share the same **functional potential**. The noun phrases, *the boss*, *a cup of coffee* and *a few of them* can all potentially function as subject, object, complement of prepositional phrases etc. Conversely, the word classes *to* and *the* have different functional potential and so are assigned to different syntactic classes. *To* functions as head of a prepositional phrase and *the* as determiner in a noun phrase.

TEST FOR CONSTITUENCY

We can test for constituency in four ways.

1. Substitution,
2. Ellipsis,
3. Coordination and
4. Movement.

However, we should note that these tests are not conclusive.

Substitution


- a. Jill saw the man in a pub
- b. Jill saw him in a pub

We can substitute for *the man* with *him* and still preserve the grammaticality. Thus we conclude *the man* is a constituent. Similarly:

- a. Jill saw the man in a pub
- b. Jill saw the man there

we can substitute the prepositional phrase *in a pub* with *there* and retain the grammaticality.

Ellipsis

- a. Jill saw the man in a pub
- b. Jill saw the man in a pub and  in a betting shop

Here the phrase *saw the man* can be ellipsed in the second phrase which leads us to believe that *saw the man* is a constituent; an (extended) verb phrase in fact.

Coordination

- a. Jill saw the man in a pub and called the police

Movement

- a. In a pub, Jill saw the man.

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SOURCES

Nelson, D (1997) Lecture notes. Univ. of Leeds