Tools for discovering structure: Constituency Tests

1 Movement

If a group of words can undergo movement i.e. preposing, postposing, or fronting for question formation, they constitute a phrase of some sort.1

1.1 Preposing

Constituents can often be preposed. Non-constituents can never be preposed.

Noun Phrase (NP) preposing:

(1) a. I can’t stand your younger brother.
   b. [Your younger brother], I can’t stand [ ____ ] (though your elder brother’s OK).
   c. * Your younger, I can’t stand [ ____ brother].
   d. * Younger brother, I can’t stand [ your ____ ].
   e. * Brother, I can’t stand [your younger ____ ].
   f. * Your, I can’t stand [your younger ____ ].
   g. * Your brother, I can’t stand [ ____ younger ____ ].

Prepositional Phrase preposing:

(2) a. Peter gave a book to your brother.
   b. [To your brother], Peter gave a book [ ____ ] (but not to mine).
   c. * To your, Peter gave a book [ ____ brother].
   d. * To, Peter gave a book [ ____ your brother].
   e. [Your brother], Peter gave a book [to ____ ] (but not to mine).
   f. * Your, Peter gave a book [to ____ brother].
   g. * To brother, Peter gave a book [ ____ your ____ ].

Why is (2e) ok?

Preposing of Adjective Phrases and Verb Phrases is more restricted but still possible.

(3) a. Bill said that the new Almodovar was exciting and [very exciting], it was [AP ____ ].
   (Adjective Phrase)
   b. [Give in to blackmail], I never will [VP ____ ]. (Verb Phrase)
   c. Patrick said that he would win the prize, and [win the prize], he did [VP ____ ]. (Verb Phrase)

(4) a. They said that Bill would read the book somewhere, and [read the book] he did in the library.

1Remember that the reverse is not always true i.e. if something cannot be moved around, it does not mean that it is not a constituent. There could be independent reasons for why it cannot move around.
b. They said that Bill would read the book in the library, and read the book in the library he did.

Tensed VPs (and VPs + modals) cannot be preposed.

(5) a. John ate the apple.
   b. * [Ate the apple], John.
   c. Kelly must visit the doctor.
   d. * Must visit the doctor, Kelly.

Adverbial phrases can be preposed much more freely.

(6) a. She’s going to be leaving for Poughkeepsie [very shortly].
   b. [Very shortly], she’s going to be leaving for Poughkeepsie [AdvP ___].

1.2 Postposing

Only constituents can be postposed. Typically this test is only applicable to NP objects.

(7) a. He explained [all of the terrible problems that he had encountered] to her.
   b. He explained [NP ___] to her [all of the terrible problems that he had encountered].
   c. * He explained [NP all of ___] to her the terrible problems that he had encountered.
   d. * He explained [NP all ___] to her of the terrible problems that he had encountered.

1.3 Questions

If it is possible to ask a question about a set of consecutive words in a sentence, they form a constituent.

(8) a. He gave a book to Michael hurriedly.
   b. Who gave a book to Michael hurriedly?
   c. Who did he give a book [PP to [NP ___]] hurriedly?
   d. How did he give a book to Michael [AdvP ___]?
   e. To whom did he give a book [PP ___] hurriedly?
   f. What did he give [NP ___] to Michael hurriedly?
   g. What did he do [VP ___]?

2 Adverbs

If adverbs can be positioned inside a constituent, it is either an S or a VP, and not an NP or a PP. If S-adverbs such as certainly, obviously etc. can be positioned inside a constituent, it is an S. If VP-adverbs such as completely can be positioned inside a constituent, it is a VP.

(9) a. Possible positions for S-adverbs like certainly
   [s * The team * can * [VP rely on my support]VP * ]s
   b. Possible positions for VP-adverbs like completely
   [s The team can * [VP rely * [PP on my support]PP * ]VP ]s
3 Sentence fragments

Only phrasal constituents i.e. full phrases can serve as sentence fragments (in an appropriate context).

(10) a. A: Where did he go?
    B1: Up the hill
    B2: *Up hill
    B3: He went up the hill
b. A: Where are you going to?
    B1: To the cinema
    B2: The cinema
    B3: I am going to the cinema
c. A: Who were you ringing up?
    B1: My sister
    B2: *Up my sister
    B3: I was ringing up my sister.

*Up my sister in (10c) is not a possible sentence fragment because *up and my sister do not form a constituent in ‘I was ringing up my sister’. This is in contrast with ‘I am going to the cinema’ where to and the cinema do form a constituent.

4 Coordination

4.1 Ordinary Coordination

Only constituents can be coordinated.

(11) a. He has \( [NP \text{ a cat}] \) and \( [NP \text{ a dog}] \).
b. I met your \( [N \text{ mother}] \) and \( [N \text{ father}] \).
c. Is she \( [PP \text{ in the kitchen}] \) or \( [PP \text{ in the bathroom}] \)?
d. He speaks \( [AdvP \text{ very slowly}] \) but \( [AdvP \text{ very articulately}] \).
e. \( [S \text{ Wynona likes Maui}] \) and \( [S \text{ Kelly likes Cancun}] \).
f. * John rang \( up \text{ his mother and up his sister} \).

Only identical constituents can be coordinated.

(12) a. John wrote \( to \text{ Mary and to Fred} \). (= PP and PP)
b. John wrote \( a \text{ letter and a postcard} \). (= NP and NP)
c. * John wrote \( to \text{ Mary and a letter} \). (= PP and NP)
d. * John wrote \( a \text{ letter and to Fred} \). (= NP and PP)

4.2 Shared Constituent Coordination

Another kind of coordination is exemplified below.

(13) a. John walked, and Bill ran, \( [AdvP \text{ up the hill}] \).
b. Tamara denied, but Fred admitted, \( [AdvP \text{ complicity in the crime}] \).
c. Kelly must, and Jason may, [go to the party].

The italicized sequence in the sentences in (13) is shared between the two conjuncts. Only constituents can be shared.

(14) *Martha rang and Paul picked up Martin’s sister.

Two features of Shared Constituent Coordination:

(15) a. Non-shared parts are intonationally marked.
    b. Shared constituent appears to the right of the non-shared material.

5 Ellipsis

Under certain discourse conditions, it is possible to omit certain parts of a sentence. This phenomenon is known as Ellipsis.

(16) A: Jay won’t wash the dishes.
    B: I bet he will (wash the dishes) if you’re nice to him.
    (the bracketed words need not be pronounced)

Typically, in English, only VPs can undergo Ellipsis (i.e. be omitted)

(17) a. Vivian won’t put soda water into scotch, but her brother will put soda water into scotch.
    b. * Vivian won’t put soda water into scotch, but her brother will put soda water into (scotch).
    c. * Vivian won’t put soda water into scotch, but her brother will put soda water (into scotch).
    d. * Vivian won’t put soda water into scotch, but her brother will put (soda water into scotch).
    e. Vivian won’t put soda water into scotch, but her brother will (put soda water into scotch).

6 Replaceability

If a sequence of words can be replaced by another sequence of words which you know forms a constituent, then the original sequence also forms a constituent.

So suppose you know that eat the apple is a Verb Phrase, then you can show that drink scotch is also a verb phrase by a simple replacement test.

(18) Mimi didn’t [drink scotch] → Mimi didn’t [eat the apple].

6.1 Proforms

The replacement test can be used more generally with help of words which can stand for full phrases. These are words like him, it, so, as, which etc. These words are called proforms - to generalize over pronouns (actually pro-NPs), pro-VPs, pro-APs etc.

If we can replace a sequence of words by a pro-XP, then we can claim that the sequence is an XP. Pronouns, (him, her, it), replace NPs and not Ns.
(19)  
  a. A: What do you think of the woman who wrote that incredibly pretentious book on shamanistic chants?  
     B: I can’t stand her.
  
  b. * What do you think of the her who wrote that incredibly pretentious it on shamanistic it?

*there functions as pro-PP.

(20)  
  A: Have you ever been to Paris?  
  B: No, I have never been there.

*so, as, which function as pro-VPs.

(21)  
  a. John might \([_{VP} \text{go home}]\), and so might Bill.
  b. John might \([_{VP} \text{resign his post}]\), as might Bill.
  c. If John can \([_{VP} \text{speak French fluently}]\) - which we all know he can - why is he so shy with the French?

*do so is another pro-VP.

(22)  
  a. Bill \([_{VP} \text{read the book}]\) in the library, and Mary did so (in the museum).
  b. Bill \([_{VP} \text{fixed the faucet}]\) with a screwdriver in fifteen minutes with great difficulty, and Mary did so (with a hammer) (in twenty minutes) (with no problem at all).

(23)  
  the boldfaced sequence is the (intended) antecedent for do so.
  
  a. Maia \([_{VP} \text{gave a present to me}]\) yesterday and Sally did so the day before yesterday.
  b. *Maia \([_{VP} \text{gave a present to me}]\), and Mary did so to my brother.
  c. Maia \([_{VP} \text{put some money on the table}]\) yesterday and Sally did so the day before yesterday.
  d. *Maia \([_{VP} \text{put some money on the table}]\), and Mary did so on the shelf.
  e. Maia \([_{VP} \text{gave Mary a book}]\) yesterday, and Sally did so the day before yesterday.
  f. *Maia \([_{VP} \text{gave Mary a book}]\), and Sally did so a magazine.

*so can also replace APs i.e. it is a pro-AP also.

(24)  
  Many people consider John \([_{AP} \text{extremely rude}]\), but I’ve never found him so.

Similarly it can be a pro-S also. However it can only occur in NP positions.

(25)  
  a. A: Mary has finished her assignment.
     B: I don’t believe it. (I don’t believe that Mary has finished her assignment)
  
  b. A: I believe that John will won.
     B: *I hope it. (I hope that John will win)

Note that all the proforms that we have discussed so far replace phrases and not word-level constituent.
6.2 Words used as phrases

Consider the following sentence:

(26) Cats can be useful.

Is *Cats* in (26) an NP or an N or both?
We know that *cats* is a Noun. Is it also an NP?
Similarly is *useful* just an A or is it an AP also?
We can show that *cats* is also an NP and that *useful* is also an AP.
For one thing, they can be replaced by the relevant proforms.

(27) a. Cats can be useful, but *they* can also be dangerous.
    b. Cats can be useful, but I have never found them *so*.

Also *cats* can be replaced by phrases which we are sure are noun phrases.

(28) Those brown *cats* can be very useful.

*cats* can be coordinated with NPs.

(29) Cats and other mice hunting animals can be very useful.

These facts suggest that words can function as phrases. The absence of extra words should not lead us to conclude that something is just a word-level category.