

## Notes on Assignment 1

1. Pseudoclefts can be used to provide evidence for the constituency of a sequence of words. If a sequence of words can appear in the postcopular position of a pseudocleft, then that sequence of words forms a constituent.

- (1) a. I love pepperoni and smoked turkey.
- b. Pseudocleft: What I love is *pepperoni and smoked turkey*.

*pepperoni and smoked turkey* appears as the postcopular sequence of the pseudocleft in (1b). Hence we can conclude that it is a constituent.

Some other examples demonstrating pseudoclefts are provided below.

- (2) a. i. We donated a dialysis machine to the nephrology unit.
- ii. What we donated a dialysis machine to was the nephrology unit.
- b. i. Roumi and Dave soaked their feet after dinner.
- ii. When Roumi and Dave soaked their feet was after dinner.
- c. i. Roumi and Dave soaked their feet in the kitchen.
- ii. Where Roumi and Dave soaked their feet was in the kitchen.

((2b, c.ii) are stilted and unnatural. For the purposes of this exercise, please ignore this stiltedness. It might help you to read (2b.ii) prefixed by *The time*, and (2b.iii) prefixed by *The place*.)

a. Provide an explicit procedure which explains how to form a pseudocleft out of a simple sentence.

**Answer:** Let us call our sentence  $S$ . Let the sequence of words in  $S$  that we want to focus  $w$ . Then  $S = xwy$ , where  $x$  and  $y$  are the sequences in  $S$  that precede and follow  $w$ , respectively.

Output: Wh  $x$   $y$  BE  $w$

The actual form of the *Wh* will be determined by the nature of  $w$ . If  $w$  refers to a location, we will have *where*, if to a time, *when*, if to human individual(s), *who*, and for everything else, *what*.

The actual form of BE depends upon two factors - the tense and the agreement. The tense we are free to pick and the agreement seems to work as follows: if  $w$  refers to a plural entity, we have plural agreement. Otherwise, we have singular agreement.

b. Check if your procedure extends to the following case.

- (3) a. Roumi and Dave soaked their feet in a bucket.
- b. What Roumi and Dave did was soak their feet in a bucket.

If it does, show that it does. If it does, show where it breaks down, and modify it so that it can handle (3).

**Answer:** It does not. Instead of yielding (3b), it yields the following.

- (4) What Roumi and Dave was soak their feet in a bucket.

The following modification works:

Let us call our sentence  $S$ . Let the sequence of words in  $S$  that we want to focus  $w$ . Then  $S = xwy$ , where  $x$  and  $y$  are the sequences in  $S$  that precede and follow  $w$ , respectively. Further if  $w$  is a tensed verb phrase, then let  $w = \text{Tense+Agreement}(w')$

Output: Wh  $x$  Tense+Agreement(do)  $y$  BE  $w'$

This rule generates the desired output. But note that I have had to, in a sense, cheat in order to properly formulate this rule. By cheating, I mean that the procedure has to be stated in structural terms ('tensed verb phrase') and not in purely string-theoretic terms. It is not clear to me that a completely general string-theoretic characterization is even possible. Two potential characterizations that can be thrown out are:

- (i) if  $w$  begins with a tensed verb.

(would not work for: 'What John did in the kitchen was quickly wolf down the pizza.')

- (ii) if  $w$  contains a tensed verb.

(would not work for: 'What John wants is to say openly that he loves Mary.')

On an unrelated note, the appearance of *do* is reminiscent of the process called *do*-support. But as Elena pointed out in her homework, there are good reasons to think that it is different from standard *do*-support. We will return to the question of exactly what it is when we encounter *do*-support soon. There are still some bugs in my formulation which we can also iron out then.

- c. Apply your procedure to the following sequences of words from (2b.i). Discuss what your results mean for the constituency of this sentence.

- (5) a. their feet after dinner

Most of you found this ungrammatical, but at least one of you found this ok.

(\*)What Roumi and Dave soaked was [their feet after dinner].

The potential acceptability of the above might suggest that some of you are able to make sense of the sequence *their feet after dinner*, taking *after dinner* to be a kind of restrictive modifier - as in 'His hands before dinner are much cleaner than his hands after dinner.' Setting this reading aside, we can conclude from the ungrammaticality of the above that *their feet after dinner* (in its normal interpretation) is not a constituent.

- b. Roumi and Dave

(The people) Who soaked their feet after dinner were Roumi and Dave.

We conclude that *Roumi and Dave* is a constituent.

- c. soak their feet

What Roumi and Dave did in the kitchen was soak their feet.

We conclude that *soak their feet* is a constituent.

There is an interesting difference between *in the kitchen* and *in a bucket*. The corresponding pseudo-cleft with *in a bucket* is grammatical, but not with the expected interpretation. Consider 'What Roumi and Dave did in the bucket was soak their feet.' This suggests that *in the bucket* might be able to attach lower than *in the kitchen*. Or more generally, there are two distinct attachment sites for the location of the object in which the feet are soaked (probably in the smallest VP) and the location of the soaking event (in a higher VP).

Setting the above distinction aside for now, we have deduced the following constituent structure:

- (6) [[Roumi and Dave] [[soaked their feet] [in the kitchen]]]

2. The following sentences look superficially similar.

- (7) a. He looked up the number.
- b. He walked up the hill.

However, it turns out that they have rather different constituent structures. The most striking fact is that in (7a) but not in (7b) the word *up* can appear at the end of the sentence.

- (8) a. He looked the number up.
- b. \*He walked the hill up.

Traditionally, verbs that behave like *look up* are called phrasal verbs.

a. Think up five more examples of phrasal verbs, and five examples of verbs which are not phrasal but can appear in sentences like (7) with the same superficial structure. Then using the clefting test, the movement test, and the replacement test, determine the constituent structure of your phrasal verbs and your non-phrasal verbs. For the replacement test, use *there* as a replacement for a PP constituent.

- (9) Phrasal Verbs: *bring in/up take/throw out, look/shake up, put down, drop/turn off*
  - a. V P Obj: Minjoo dropped off the keys.
  - b. V Obj P: Minjoo dropped the keys off.
  - c. *it*-cleft: \*It was off the keys that Minjoo dropped.
  - d. Movement: \*Off the keys, Minjoo dropped.
  - e. Replacement: \*Minjoo dropped there.

- (10) Non-Phrasal Verbs: *go in/out/up, look out, fall down/off, run out*
  - a. V P Obj: Angela went into that room.
  - b. V Obj P: \*Angela went that room into.
  - c. *it*-cleft: It was into that room that Angela went.
  - d. Movement: Into that room, Angela went.
  - e. Replacement: Angela went there.

Also: locative and temporal modifiers of intransitive verbs e.g. *sit by, fight/live in*,

All the above tests suggest that the P forms a constituent with the NP that follows it in the case of non-phrasal verbs but not in the case of phrasal verbs. So for non-phrasal verbs, we have the following constituency: [V [P NP]], while for phrasal verbs, we have [V P NP] as well as [V NP P].

Some of you have examined that certain putatively non-phrasal verbs where the PP has a non-locative meaning do not respond properly to the above tests. Consider e.g. *look after*.

- (11) a. V P Obj: Andries looked after Makoto.
- b. V Obj P: \*Andries looked Makoto after.

- c. *it*-cleft: #It was after Makoto that Andries looked.
- d. Movement: #After Makoto, Andries looked.
- e. Replacement: #Andries looked there.

(I am using a # to indicate that the sentences are possibly good under another interpretation, just not this one.)

I think these facts tell us that not all non-phrasal verbs are created alike, or that languages can entertain verbal structures that have some phrasal verb properties but not all.

**b.** Phrasal verbs differ in their syntax from non-phrasal verbs in a number of other ways. For example, phrasal verbs with pronominal objects tend towards unacceptability if the prepositional element precedes the pronoun.

- (12) a. He looked it up.  
 b. \*He looked up it.

Check whether this is true of your examples, and show any contrasts you find with non-phrasal verbs.

The *V Pron P* order is the only one available for phrasal verbs. In contrast, this order is not available for non-phrasal verbs. Only the *V P Pron* order is available for them. While the absence of the *V P Pron* order for phrasal verbs does not follow from anything we know, the availability of the *V Pron P* order finds in a parallel in the availability of *V NP P* for phrasal verbs. Finally, the constituency we have deduced for non-phrasal verbs explains why the *V Pron P* order is unavailable.

**c.** Determine how your phrasal verbs and your non-phrasal verbs pattern with respect to the placement of certain optional elements such as adverbials (*slowly, often*), simple prepositional phrases (*in the town*), and complex prepositional phrases (*as quickly as he could*). Formulate a hypothesis that relates the pattern you find to the constituent structure of the two kinds of verbs. We are primarily interested in whether an adverbial expression can intervene between a V and a P and between a P and an NP. We find that nothing can intervene between a V and a P in a phrasal verb with a *[V P NP]* order, but that such an intervention is possible with a non-phrasal verb.

- (13) a. Phrasal Verb, \*[V Adv P NP]:  
       \*Rosa cut [as quickly as she could] out the coupon.  
 b. Non-Phrasal Verb, [V Adv P NP]:  
       David climbed [as quickly as he could] out of the window.

We also find, but judgements here are more variable, that while an adverbial expression can intervene between the P and the NP in a phrasal verb, this is not possible with a non-phrasal verb.

- (14) a. Phrasal Verb, [V P Adv NP]:  
       Rosa cut out [as quickly as she could] the coupon.  
 b. Non-Phrasal Verb, \*[V P Adv NP]:  
       \*David climbed out [as quickly as he could] of the window.

The adverbial intervention facts are compatible with the structures we have postulated for phrasal verbs and non-phrasal verbs though to derive the full paradigm, we need more tools than we have at the moment.

Finally just for completeness, let us also consider the [V NP P] order, which, as we known by now, is only available with phrasal verbs. Here we find some surprising facts that I will leave you with.

- (15) a. V Adv NP P: \*He put slowly the milk away.  
b. V NP Adv P: He put the milk slowly away.