

**NEXT TUESDAY (Sept. 10th) we will have class in the Social Sciences building, in the SBS Instructional Computing Laboratory, SSCI 224. Regular time, of course.**

### 1. Headedness: some potential problems

1. a. You should have discovered that German appears to be a bit problematic for a unitary view of the setting of the headedness parameter; I'll discuss that next time after looking at the homeworks.

- b. Korean/Japanese demonstratives

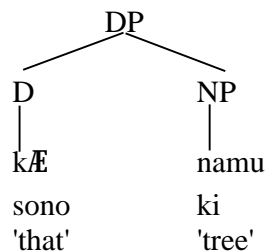
Korean (thanks to Gwanhi Yun  
and Boon Sun Park)

kÆ namu  
that tree

Japanese (Thanks to Masato Yabe)

sono ki  
that tree

2. If demonstratives are Ds, heading DPs, then these trees look like this:



This would represent an inconsistent setting of the headedness parameter: in all other respects, both Korean and Japanese are head-final

3. Some clues that perhaps more is going on with demonstratives:

- a. Neither Korean nor Japanese have any other elements that look like straightforward determiners (no definite/indefinite markers, e.g.)
- b. In some languages, demonstratives are explicitly constructed out of a definite determiner plus some sort of adjectival distal marker. Consider Irish Gaelic (an *extremely* head-initial language, otherwise):

<i>fear</i>	a man	
<i>an fear</i>	the man	
<i>an fear seo</i>	this man	(lit: 'the man here')
<i>an fear sin</i>	that man	('the man there')
<i>an fear siud</i>	that (far) man	('the man yonder')
<i>anseo</i>	'here'	
<i>ansin</i>	'there'	
<i>ansiud</i>	'yonder'	

If Korean and Japanese use an adjectival distal marker, rather than a true demonstrative, then the relative position of the noun and the 'demonstrative' are expected and are not a problem for a consistent headedness setting in these languages. (Possible paper topic: investigate the categorial status of *sono* or *kare* and other determiners in these languages).

## 2 The original argument for DP

- Last week we argued for DP based on the headedness parameter.
- DP is a relatively recent discovery; up until 1987, DPs were labelled NPs (and some people still do this, more out of habit than theoretical conviction).
- In 1987, Abney discovered the following data set.

### 4. Nominal gerundive clauses with possessive-marked subjects

- a. recall that up to now, we've seen that DPs can appear in subject and object position:  
[the dog] bit [the cat]
- b. we've also seen that CPs can appear in these positions  
*Subject CP*: [that John came to the party] surprised Mary  
*Object CP*: John thinks [that Mary was surprised]
- c. There is a kind of derived verby thing called a *gerund*:  
*Swimming* is fun (= 'the activity of swimming')
- d. These gerunds can appear with an apparently possessive subjects:  
  
[John's destroying the spaceship] upset the neighbors
- e. Abney discovered that such gerunds don't behave like clausal arguments, rather, they behave like nominal arguments. In addition to appearing with possessive markers, they appear as subjects even in yes/no questions (where for some reason clausal subjects cannot appear), appear as the object of a preposition (where clausal objects cannot appear, for reasons we'll learn later), etc:  
  
\*Did [that John destroyed the spaceship] upset Mary?  
Did [John's destroying the spaceship] upset Mary?  
\*I told you about [that John destroyed the spaceship].  
I told you about [John's destroying the spaceship].
- f. On the other hand, we find that, omitting the *John's* part, the *building the spaceship* part looks like a VP, not an NP. Compare *destroying* with *destruction*, a bona-fide N:  
i) *destroying* takes its object (the spaceship) without requiring *of*, which nouns always have on their objects (remember the *student OF linguistics*?):  
*John's destroying the spaceship*  
\**John's destruction the spaceship* cf. *John's destruction of the spaceship*

ii) gerunds of verbs like *appear* occur with their infinitival clause objects happily, while true nominalizations like *appearance* don't:

*John's appearing to be dead*

\**John's appearance to be dead*      cf. *John's appearance OF being dead*

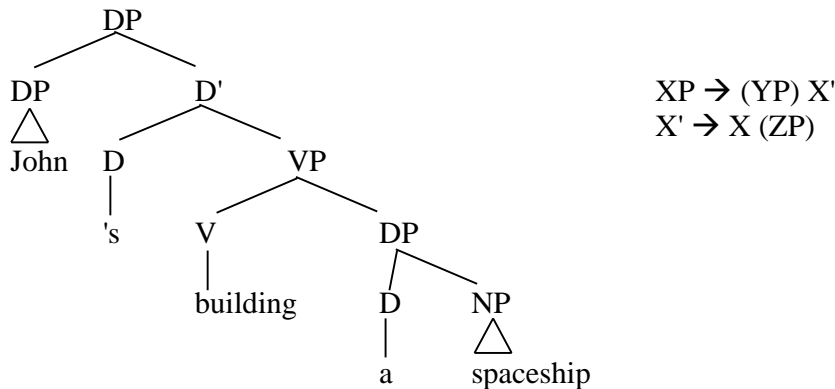
iii) gerunds can be modified by adverbs, but nouns can't:

*John's recklessly destroying the spaceship*

\**John's recklessly destruction of the spaceship*      cf. *John's reckless destruction of the spaceship*

So gerunds are VPs on the inside, but behave like regular nominal arguments — which at the time people called NPs — on the outside. But they *can't* be NPs, because we've proved that the gerund itself — the apparent head of the construction — is syntactically a verb. There's no N around to be the head of the apparent NP, as in the case of *John's dog*, where *dog* is a perfectly good N.

Abney's solution: the gerund is a verb, but adding the possessive marker makes it a DP. This structure explains everything: the way the gerund itself can behave like a VP, but the whole thing behaves just like other nominal (i.e. DP) arguments. Plus it makes English fit in better with the headedness parameter — if nominal arguments are DPs, rather than NPs, then we can understand why determiners precede their nouns.



### 3 Important thing to remember when drawing trees

- I: Each phrase has one and only one *head* !!!
- II: Each head projects one and only one *phrase*. !!!

(Notice your X-bar structure rules: everything in the structure that is not a head or a bar-level is a maximal projection (ZP, XP).)

Draw the tree of the following sentence:

*The girl's discovering the Easter egg appeared to please her mother.*

4 **My lecture notes from last year on category tests in English, based on Radford (Chapt. 2)**

5. Categories are **distributionally** determined, not semantically. That is, by sorting certain types of words together into a category, we are making a claim about the kinds of morphological and syntactic behavior they exhibit, not their semantic behavior.

6. *Morphological evidence for lexical categories in English:*

**Nouns:** nearly all nouns can be pluralized with the *-s* suffix

They are fools / \*They are foolishes

*Exceptions:* mass nouns: *furniture, wheat, rice, blood*  
nouns which are inherently plural: *pants, scissors*  
irregular nouns: *sheep, goose/geese, mouse/mice*

**Verbs:** all verbs can take the *-ing* progressive suffix; nearly all take the *-ed* past tense/perfective and the *-s* third person present suffixes.

*Exceptions:* none to the *-ing* rule, a few to *-ed* and *-s*: *\*hitted, \*swimmed*

**Adjectives:** many adjectives form their comparatives and superlatives in *-er* and *-est*, form a negative in *un-* or *in-*, form nouns in *-ness* and form **adverbs** in *-ly*.

*Exceptions:* some adjectives don't form negatives in *un* (*\*unold, \*unfat*); adjectives with the wrong phonological properties don't form comparatives/superlatives in *-er, -est*: (*\*intelligenter, intelligentest, \*admirabler, \*admirablest...*, nor do ungradable adjectives *\*presenter, \*deader, \*alivest*, some don't form adverbs in *-ly*: *\*oldly, \*littly, \*unably*) (Note that Radford claims there is no comparative/superlative of *little*, and gives *\*littler, \*littest* asterisks; I can't agree at all. There was even a TV show called "The Littlest Hobo." "Littleness" and "bigness" are also a-ok for me.

**Prepositions:** no actual morphological evidence for prepositions as a category in English

7. *Syntactic evidence for lexical categories in English*

**Nouns** can form complete sentences when inserted in the following environment:

- a) They have no *car/conscience/friends/ideas/furniture/desire/pants*.  
*\*pushed/\*above/\*older/\*quickly*

**Verbs** can form complete sentences when inserted in the following environment:

- b) They can *stay/leave/be/hide/cry/starve*  
*\*gorgeous, \*happy, \*door, \*against*

(note Radford's duplicity here: he doesn't include any transitive or ditransitive verbs in his list!)

**Adjectives** and adverbs can occur following an intensifier like *very*:

- c) He is very *slow, intelligent, blue, strong, dirty*

*\*fool, \*adore, \*above.*

**Adverbs** (but not adjectives) can modify verbs in the following environment

- d) He treats her *badly, carefully, nicely, attentively*  
*\*kind, \*shame, \*despise.*

**Adjectives** (but not adverbs) can be used predicatively:

- e) They are *ready, tall, kind, pretty, nice, foolish, blue, dirty*  
*\*kindly, \*nicely, \*dirtyly...*

**Adjectives** modify nouns; adverbs modify everything else

- f) That's a *real* **crisis**.  
He is *really* **nice**  
He walks *really* **slowly**  
He is *really* **down in the dumps**.  
He *really* **squirmed**.

**Prepositions** can be modified by *right* or *straight*

- g) Go *right/straight* up the ladder  
He went *right* inside  
He walked *straight* into a wall  
He fell *straight* down.  
*\*He straight* **despaired**  
*\*He is right* **handsome**.  
*\*She looked at her right* **strangely**.  
*\*He's a right* **fool**.

Again, notice Radford's duplicity: he doesn't include the information that *straight* and *right* can also function as adjectives: *the right answer, a straight road...*

Exceptions: prepositions with meanings incompatible with *right* or *straight*: *\*a house straight with green trim, \*a man straight of integrity, \*a present straight for Mary*, etc. (although on other uses some of these are ok with *straight/right*: *He got right with the program, He headed straight for the door*).

**Prepositions** also take accusative pronouns as complements, just like verbs; they can be distinguished from verbs by virtue of the fact that they don't take *-ing* or other verbal affixes. Adjectives, adverbs and nouns don't take pronouns as (direct) complements.

- h) I gave it *to* **him**/*\*he*  
She was *against* **her**/*\*she*  
He was *with* **me** /*\*I*.  
*\*She is fond* **him**.  
*\*She showed me a photo* **him**.  
*\*She works independently* **him**.

8. An example of categorial argumentation, from Carnie (1997), "Two types of non-verbal predication in Modern Irish" in *Canadian Journal of Linguistics*.

1.1.2 The morpheme *Is*

The second issue that we must deal with before delving into the different kinds of non-verbal copular constructions in Irish is the categorial status of the morpheme *Is* seen in the examples above. In this short section, I will discuss briefly the reasons for analyzing this morpheme as a complementizer particle, following Ahlqvist (1972), Ó Sé (1987), Doherty (1996) and Carnie (1995). There are a great many arguments in favor of the complementizer analysis of the morpheme, and I refer the reader to the above references for more extensive discussion; in this section, I will simply present a couple of simple cases.

In traditional grammars, *Is* is often referred to as a "defective" verb (see Ó Maille 1912). From a purely descriptive perspective, as well as a historical one, there is some justification for this assumption. First, like verbs in declarative clauses, *Is* is initial in its clause. From a historical perspective, the analysis of *Is* as a verb is also understandable. In Old Irish, the *Is* morpheme was fully inflected like a verb, and shows many similarities to English "be". This is seen in (6).

6)	Am	1s	ammi	1p/	
	at/it	2s	adib/adi	pl	
	is	3s	it	3pl	(Old Irish)

These historical and distributional arguments aside, however, there is overwhelming evidence that Modern Irish *Is* is not a verb, but is a complementizer particle.

Doherty (1996) notes that in Irish, verbs are inflected for a full range of tenses and moods, past, present, future, conditional and subjunctive. The copula is not; it only has a present/past distinction

7)	Present/Future	Past/conditional
	<i>is</i>	<i>ba</i>

This is a feature that *Is* shares with complementizers in the language. Preverbal complementizer particles also only show a past/non-past distinction.

8)	Present/Future	Past/Conditional
	ní 'neg'	níor 'neg.past'
	go 'that'	gur 'that.past'
	an 'Q'	ar 'Q.past'

Similarly, Ó Sé (1987) notes that in West Kerry Irish, there is a definite trend toward the phonological merger of the preverbal complementizer particles and *Is*. For example, older generations distinguished the question form of *Is* from the question complementizer particle by the fact that the particle triggered the nasalization mutation on following words (indicated here by a superscript <sup>N</sup>), the copula did not. In the speech of most modern speakers these two have merged and both particle and copula trigger nasalization and have an identical phonological shape:

9)	an	>	an <sup>N</sup>		an <sup>N</sup>	>	an <sup>N</sup>
	<i>Q.is</i>				<i>Q.part</i>		

These are only two small examples of the evidence that can be put forward in defense of the claim that *Is* is not a verb, but a complementizer. Again I refer the reader to the above mentioned sources for further argumentation.

9. *Functional categories*

Lexical categories have "lexical content", that is, it's possible to write a dictionary-style definition of them. Functional categories serve (pretty much) only grammatical purposes, and it's either very difficult or super-easy to write a dictionary definition of them. (E.g. *the*: hard to define, *I*: easy to define)

According to Radford) lexical categories can have antonyms, while functional categories cannot. So, for any word for which you can find an antonym, the argument goes, the category of that word (and its antonym) is a lexical category.

(Please note: it seems like he might be saying that a word for which you *can't* find an antonym belongs to a functional category. That's obvious nonsense: what's the antonym for *knuckle?* or *run?* He's provided a way to identify lexical *categories*, not a way to identify function words.)

10. **Determiners** *determine* the referential or quantificational nature of the nouns that they are attached to.

Examples: *the, many, some, every, a, this, that, his, her...*

Distributionally, they always appear before a noun or a noun phrase (e.g. adjective+noun, noun+relative clause), or (sometimes) on their own. Adjectives have a superficially similar distribution, but on a closer inspection, are clearly very different.

a) Only one determiner per noun phrase, while adjectives can be stacked:

Nice new blue pants.

Intelligent, sensitive, handsome dogs.

\*The my dog (cf. *The dog of mine that I entered in the show...*)

\*Those every his cars. (cf. *Every one of those cars of his...*)

b) Determiner must always occur to the left of any adjective(s)

My nice new blue pants

\*Nice my new blue pants

\*Nice new blue my pants

c) Singular count nouns must occur with only a determiner, but not with only an adjective:

I want the chair/ a chair / your chair/ every chair /\*chair/ \*comfortable chair.

d) The countability/number properties of nouns can affect which determiner may appear with them (that is, determiners must agree in number with their nouns)

a chair /\*a chairs

some chairs/\*some chair

many chairs /\*many chair

much furniture /\*many furniture

more furniture/ \*more chair

No such interaction appears in English between adjectives and their nouns

a *nice, comfortable* chair

some *nice, comfortable* chairs.

more *nice comfortable* furniture.

e) *Other* semantic properties of nouns can affect their compatibility with adjectives; other semantic properties do not affect compatibility with determiners:

*Green plants/#ideas*  
*Clever ideas/#plants*  
*A/the/another/this/my plant/idea*  
*Some/many/all/more plants/ideas*

11. Pronouns

a) Pronouns serve the function of an entire noun phrase. They cannot co-occur with determiners or adjectives:

*\*the he went to the store, \*I like blue it*

b) Pronouns in English inflect for case, nominative or accusative:

*I like him*  
*He likes me.*  
*Me like he.*  
*Him likes I.*

c) Pronouns have no lexical content; their form depends entirely on the *discourse status*, *number* and *gender* of the person or thing they refer to.

Person	Number	Gender	Nominative	Accusative
1st	Sg		I	me
	Pl		we	us
2nd			you	
3rd	Sg	Masc	he	him
		Fem	she	her
		Neut	it	
3rd	pl		they	them

d) Notice that some determiners can be used as pronouns:

Both children were ill / Both were ill.

Some silly people like banana chips / Some like banana chips / \*Some silly like banana chips.

Same for *this, that, those, any, many...*

e) Notice that their determiner use and pronominal use are distinct, though, as evidenced by the fact that i) some determiners cannot be used as pronouns and ii) some determiners have different forms when used as pronouns:

The children were ill /\*The were ill

A banana chip fell behind the couch / A fell behind the couch.

No children were will /None were ill / \*No were ill.

My house is bigger than your house /Mine is bigger than y ours/\*My is bigger than your.



## 5 The theory of categories (such as it is; Roberts 15-16)

12. Four lexical categories: N, V, A and P  
→ any system of four items can be described in terms of two intersecting features.  
→ the intuition: language is organized along lines of a fundamental dichotomy between nominal-ish elements and verbal-ish elements  
→ the proposal: every lexical item in a lexical category comes prespecified with information about its nominal and verbal status  
→ the intersection of these two features acts to produce the appearance of categories.

	+N	-N
+V	Adj/Adv	Verb
-V	Noun	Preposition

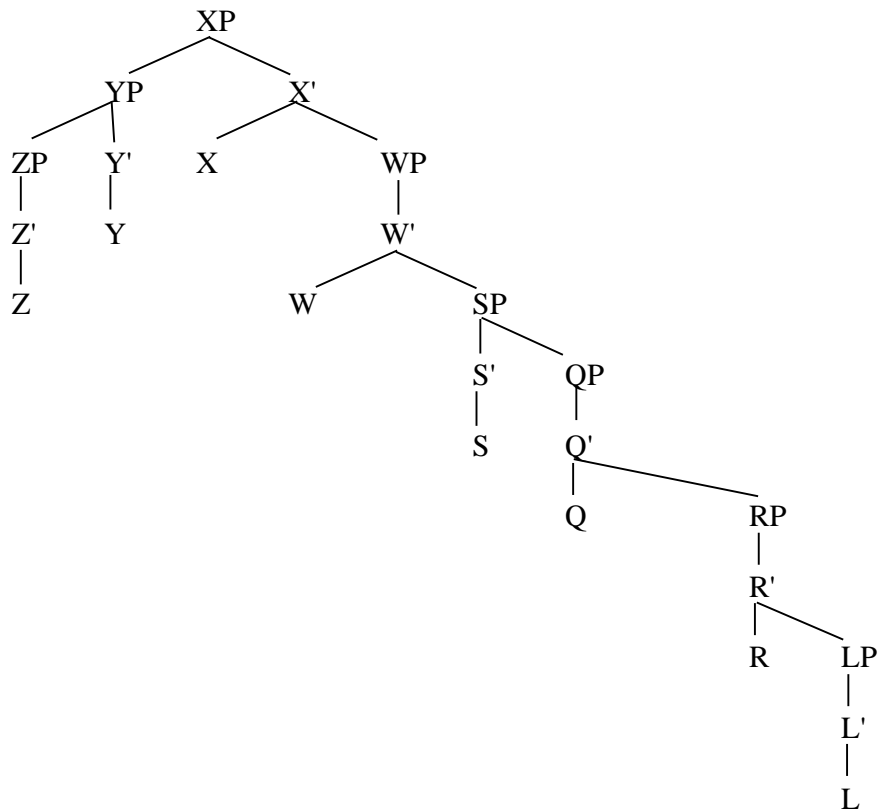
So the categories A, V, P, and N are not primitives, but rather convenient names for a bundle of features with particular values — the "X" of X-bar theory (for lexical items, though not necessarily functional items) stands in for 'bundle of categorial features'.

13. Functional categories seem to fall into broadly 'nominal' and 'verbal' classes as well: Determiners are clearly nominal, Infl is clearly verbal. C is supposed to be neither. In Government and Binding Theory (which most of Roberts' book is couched in, functional categories can be "L-related" — i.e. related to either +N or +V, the basic values for lexical categories, or "non-L-related". C is non-L-related; D and I are L-related.
14. We'll see arguments for the existence of other functional categories as we go along: Neg, Agr, v, and possibly Deg and Num.
15. We'll see Roberts' arguments for the ways in which these items can be 'useful' in the next chapter, and also discuss some more modern approaches to the notion of category and projection. Before that, however, we'll want to see a model of how the whole system works.

## 6 C-command

→ Right now I'm just going to help you understand the definition of c-command; you'll see what it's good for shortly.

16. *The technical definition:*  
c-commands iff does not dominate and every category dominating dominates .
17. *The intuitive definition:*  
A node c-commands its sister and everything its sister dominates.

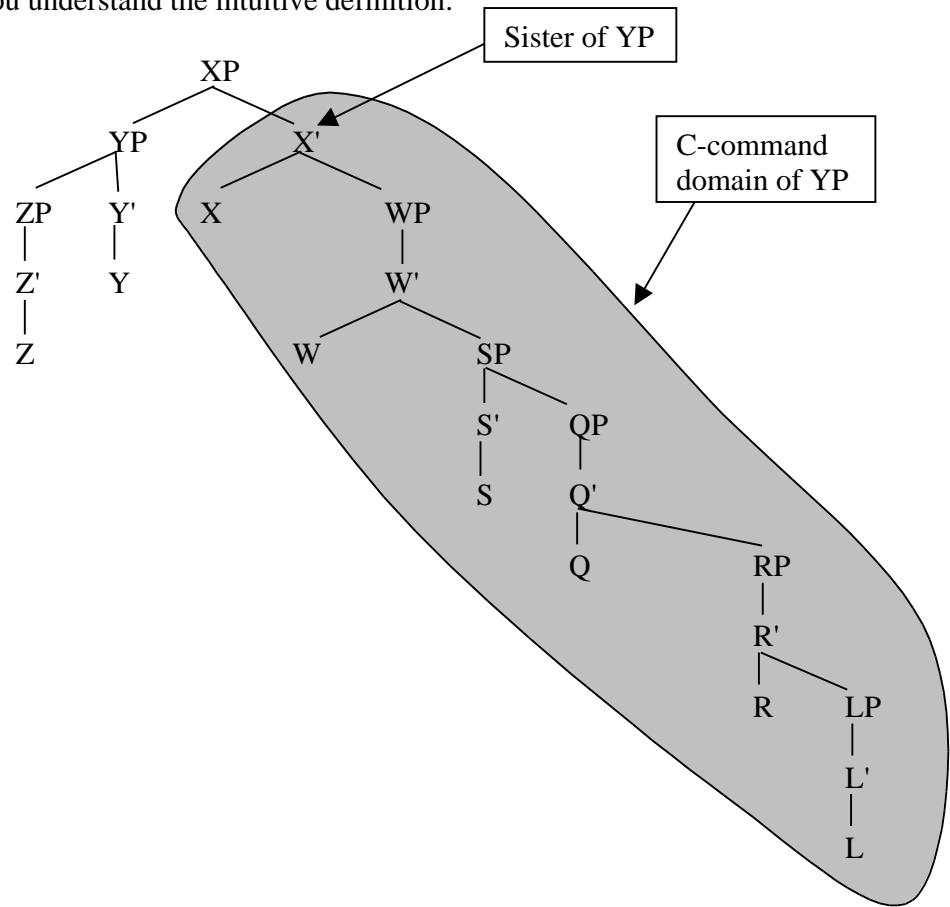


(I've included non-branching bar-levels here for complete compliance with X-bar theory. After you finish your next homework, I hereby give you leave to leave out intermediate non-branching bar levels in your work)

Questions to help you understand the technical definition:

- What dominates YP? \_\_\_\_\_
- What does YP dominate? \_\_\_\_\_
- What dominates WP? \_\_\_\_\_
- Does every category dominating YP also dominate WP? \_\_\_\_\_
- Does YP dominate WP? \_\_\_\_\_
- Does YP c-command WP? \_\_\_\_\_
  
- What dominates ZP? \_\_\_\_\_
- Does every category dominating ZP also dominate WP? \_\_\_\_\_
- Does ZP dominate WP? \_\_\_\_\_
- Does ZP c-command WP? \_\_\_\_\_
  
- What dominates X'? \_\_\_\_\_
- Does every category dominating X' also dominate WP? \_\_\_\_\_
- Does X' dominate WP? \_\_\_\_\_
- Does X' c-command WP? \_\_\_\_\_

Illustration to help you understand the intuitive definition:



## LING 503, HOMEWORK 2

Due: Thursday September 12

1. Draw trees for the following sentences, *scrupulously* following X-bar theory. That is, every XP has an X' in it, and every X' has an X in it. (Note: this means you will have a lot of non-branching nodes in your trees, in cases when a phrase has neither a complement nor a specifier).

*Some hints to remember:*

- items that *modify* a phrase, *as well as subjects and possessors*, should appear as sisters to X' (or X'', or X''' — they should be sisters to some bar-level, not sisters of the head).
- items that are *selected for* by a head should appear in complement position, as sisters to X.
- one way to tell the difference between modifiers and selected-for items: modifiers are always optional; selected-for items are not usually optional.
- another way to tell the difference: adverbs and adjectives are nearly always modifiers (except when they are predicates selected for by the verb *to be*).
- prepositional phrases are *often* modifiers, but sometimes are selected for by some other head. Use the optionality test as well as your own intuitions about the meaning of the phrases to tell the difference between the two.

- a. The dog's barking was bothering several older people.
- b. John believed that Mary could do anything.
- c. That an honest man could behave in that way was hard to believe.

2. Consider the following sentences:

- a. I did not think I would ever pass syntax.
- a'. \*I thought I would ever pass syntax.
- b. Nobody will find anything.
- b'. I doubt whether anyone will find anything.
- b''. \*He has found anything.
- b'''. \*The man that I did not like has found anything.
- b'''. The man that I liked did not find anything.

Make the following assumptions:

i) *not* is an example of a new category, Negation, that projects a NegP in between IP and VP, like this:

[<sub>IP</sub> [<sub>DP</sub> Subject] [<sub>I</sub> [<sub>I</sub> Infl] [<sub>NegP</sub> [<sub>Neg'</sub> [<sub>Neg</sub> Neg] [<sub>VP</sub> verb phrase] <sub>Neg'</sub>] <sub>NegP</sub>] I ] <sub>IP</sub> ]

(use this bracketed structure to draw the tree for practice — I've helped by labelling the rightmost element).

ii) Assume that *nobody* is a whole, unanalysed DP ( like a proper name).

iii) Assume that *ever* is an adverb.

What can you say about when *ever* and *anything* are grammatical, based on these sentences?

Hint: it will help you to figure it out if you draw the trees for these sentences.