

# Syntax exercises

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# Chapter 1

## Exercises

### 1.1 FunGLISH

The purpose of this task is to review the notions *complement*, *specifier* and *adjunct*.

Imagine a make-believe language called FunGLISH. Assume  $X'$ -theory as usual for this task: each head should project an  $X'$ -category and an XP category. Specifiers are not obligatory.

FunGLISH has all its specifiers and adjuncts on the right and all its complements on the left.

Construct the following structure for FunGLISH:

- Start with an AP.
- AP has a BP complement.
- BP has a CP complement.
- Adjoin a DP to AP.
- Adjoin a EP to B'.
- BP has an FP specifier.
- FP has an GP specifier.

### 1.2 Hixkarjana

Examine the data below from Hixkarjana

- |                            |                             |
|----------------------------|-----------------------------|
| 1. toto jahosije kamara    | The jaguar grabbed the man. |
| 2. birjekomo jahosije toto | The man grabbed the boy.    |
| 3. jawaka jerjeje wosi     | The woman put the axe down. |
| 4. kamara jotahano toto    | The man hit the jaguar.     |
| 5. wosi jotahano birjekomo | The boy hit the woman.      |

- (a) Draw the phrase structure tree for (1).  
(b) Draw the phrase structure tree for (4).

### 1.3 Phrase structure rules

This task concerns phrase structure rules, also called rewrite rules.

- (i) What is the point of phrase structure rules? That is, why do we make use of phrase structure rules in addition to phrase structure trees? [2 POINTS]
- (ii) Explain what the following three phrase structure rules say: [2 POINTS]
- (1)  $V' \rightarrow V^0 \text{ (NP)}$
  - (2)  $V' \rightarrow V^0 \text{ NP}^*$
  - (3)  $V' \rightarrow V^0 \text{ NP}^+$

Make sure your answer captures the differences between the rules.

- (iii) Write all and only the rewrite rules needed for the following Ika data:<sup>1</sup> [3 POINTS]

(1.1) *José guiadzina wasana.*  
 José puma chase  
 ‘José chased a puma.’

(1.2) *tigrise? tšinu kAgana*  
 jaguar pig ate  
 ‘A jaguar ate a pig.’

(1.3) *Abrandi Juanse? kafé a?be wžin*  
 Abran.TOPICALIZER Juan.LOCATIVE coffee deliver auxiliary  
 ‘Abran delivered coffee to Juan.’

### 1.4 Kannada syntax

- (1.4)
- |     |                               |                                 |
|-----|-------------------------------|---------------------------------|
| (A) | naavu pustaka oodtiivi        | ‘We are reading the book.’      |
| (B) | avaḷu pustaka oodtaaḷe        | ‘She is reading the book.’      |
| (C) | naanu bande                   | ‘I arrived.’                    |
| (D) | naanu pustaka oodde           | ‘I read the book.’ (past tense) |
| (E) | naanu pustaka huḍukuttiddeene | ‘I am looking for a book.’      |

- (a) Draw the phrase structure tree for the Kannada sentence in (A). [2 POINTS]
- (b) Write the phrase structure rules necessary to generate the Kannada data in (A–E). [3 POINTS]

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<sup>1</sup>Ika is spoken by a few thousand people in Colombia. It is a Chibchan language.

## 1.5 Relation-changing operations

For each of the pairs in (1.11–1.15), indicate whether they exemplify a passive, pseudo-passive, impersonal passive, applicative, or none of the above.

(1.5) Indonesian

(i) *Ima memasak sate untuk kami.*

Ima cook satay for us

‘Ima cooked satay for us.’

(ii) *Ima memasakkan kami sate.*

Ima cooked us satay

‘Ima cooked satay for us.’

(1.6) (i) People have talked about that Shakespeare play for years.

(ii) That Shakespeare play has been talked about for years.

(1.7) Russian

(i) *Car’ soslal Puškina.*

czar.NOM exiled Pushkin.ACC

(ii) *Puškin byl soslan carem.*

Pushkin.NOM was exiled czar.INSTR

(1.8) (i) *Mikael äter en kaka.*

Mikael eats a cookie

‘Micahel eats a cookie.’

(ii) *Vem äter en kaka?*

who eats a cookie

‘Who eats a cookie?’

(1.9) (i) The siblings were caring for the children.

(ii) The children were being cared for.

(1.10) Dyirbal

(i) *yabu nguma-nggu balga-n yugu-nggu*

mother.ABS father.ERG hit stick-INSTR

‘Father hit mother with a stick.’

(ii) *yugu nguma-nggu balgal-ma-n yabu-gu*

stick.ABS father.ERG hit mother-DATIVE

‘Father hit mother with a stick.’

## 1.6 Relation-changing operations II

For each of the pairs in (1.11–1.15), indicate whether they exemplify a passive, pseudo-passive, impersonal passive, dative shift, applicative, or none of the above. A “MORPH” in the gloss, simply means that the verb is marked with some potentially relevant morphology (could be a passive morpheme, for example). When a translation is marked “(approx)”, that means it’s nothing near a literal translation, it’s more of an approximation of the meaning.

(1.11) (i) We argued about those issues for years.

(ii) Those issues were argued about for years.

(1.12) Chichewa

(i) *Fisi anadula chingwe ndi mpeni.*  
 hyena SUBJ.PAST.cut.ASPECT rope with knife  
 ‘The hyena cut the rope with a knife.’

(ii) *Fisi anadulira mpeni chingwe.*  
 hyena SUBJ.PAST.cut.MORPH.ASP knife rope  
 ‘The hyena cut the rope with a knife.’

(1.13) (i) I like these bagels very much.

(ii) These bagels, I like very much.

(1.14) (i) Frederic baked flaky croissants for his teacher.

(ii) Frederic baked his teacher flaky croissants.

(1.15) Swedish

(i) *Vi dansade mycket den sommaren.*  
 we danced much that summer.  
 ‘We danced a lot that summer.’

(ii) *Det dansades mycket den sommaren.*  
 it/there danced.MORPH much that summer  
 (approx) ‘One/people danced a lot that summer.’

## 1.7 Barasano

(1.16) *buea bu*  
 study you  
 ‘You study.’

(1.17) *adire abiabu yu*  
 these brought I  
 ‘I brought these.’

(1.18) *bekoare bakabi tarobuku*  
 flies eat tarobuku-toad  
 ‘The tarobuku toad eats flies.’

(1.19) *keti bure koaruukuha yu*  
 letter you will.send I  
 ‘I will send you a letter’

(1.20) *buto yure tudiaba ida*  
 much me scold they  
 ‘They scold me a lot.’

(1.21) *adi-rahe hubeahu tire saya bu*  
 this-barrel inside those put you  
 You put those inside this barrel.’

(1.22) *gubo-sudi yure isiya bu*  
 foot-clothes me give you  
 ‘You give me boots.’

- (a) List all and only the phrase structure rules needed to generate the sentences in (1.16–1.22).
- (b) Give the c-structure for (1.18).
- (c) Give the c-structure for (1.20) using X-bar theory. You may but do not have to use functional projections.

(1.23) *ire bua eharebokaba ida*  
 him build help they  
 ‘They help him build (things).’

(1.24) *sore budi rotibi Tomás*  
 her.TOPIC leave ordered Thomas  
 ‘Thomas told her to leave.’

- (d) Give the lexical entry for each verb in (1.24).
- (e) Give the c-structure for (1.24).
- (f) Give the f-structure for (1.24).

(1.25) *sore idare sia rotibi Tomás*  
 her(TOPIC) them kill ordered Thomas  
 ‘Thomas ordered them to kill her;’ ‘It was *her* that Thomas ordered them to kill.’

- (g) Give the c-structure for (1.25).
- (h) Give the f-structure for (1.25).

Jones, Wendell and Paula Jones. 1991. Barasano Syntax. Studies in the languages of Colombia. Summer Institute of Linguistics & University of Texas Publications. Dallas, Texas.

## 1.8 Ivatan syntax

(1.26) (A) *maypaqpaw qo-qalat ko*  
 become.light basket my  
 ‘My basket is becoming light.’

(B) *tomoaw qo-tao do-vahay*  
 go.out man house  
 ‘The man is going out of the house.’

(C) *mangamoqmo qo-tao so-motdeh no-boday do-vahay*  
 frighten man child snake house  
 ‘The man is frightening a child with a snake in the house.’

- (a) Draw the phrase structure tree for the Ivatan sentence in (A). [2 POINTS]
- (b) Think about what the trees for the Ivatan examples in (B-C) would look like (you do not need to draw the trees). It is not straightforward to draw the tree structures for (B-C). Explain what the problem is. (You do not need to solve the problem.) [2 POINTS]

## 1.9 Subjecthood

Inari Saami and Finnish are distinct but related Finno-Ugric languages, and they both have rich case and agreement marking. Both languages have fairly flexible word order, but the examples in (1.27–1.28) illustrate the “unmarked” or most common order (SVO):

(1.27) *Minä näen poron.* [Finnish]  
 I.NOM see.1SG reindeer.ACC  
 ‘I see a reindeer.’

(1.28) *Mun uáinám poccuu.* [Inari Saami]  
 I.NOM see.1SG reindeer.ACC  
 ‘I see a reindeer.’

Now carefully consider (1.29–1.32). Adessive (ADE) and locative (LOC) are inherent cases.

(1.29) *Minulla on poro.* [Finnish]  
 I.ADE is.3SG reindeer.NOM.  
 ‘I have a reindeer.’ (lit.: ‘On me is a reindeer.’)

(1.30) *Minulla on porot.* [Finnish]  
 I.ADE is.3SG reindeer.PL.NOM  
 ‘I have (several) reindeer.’ (lit.: ‘On me are some reindeer.’)

(1.31) *Muste lii puásui.* [Inari Saami]  
 I.LOC is.3SG reindeer.NOM  
 ‘I have a reindeer.’ (lit.: ‘On me is a reindeer.’)

(1.32) *Muste láá poccuh.* [Inari Saami]  
 I.LOC are.3PL reindeer.PL.NOM  
 ‘I have (several) reindeer.’ (lit.: ‘On me are some reindeer.’)

- (a) It is not obvious which NP is the subject in the Finnish possessive (‘to have’) construction (see 1.29–1.30). Considering case, agreement and word order, what indications do you find that ‘minulla’ is the subject and what indications do you find that ‘poro/porot’ is the subject?
- (b) It is not obvious which NP is the subject in the Inari Saami possessive (‘to have’) construction (see 1.31–1.32). Considering case, agreement and word order, what indications do you find that ‘muste’ is the subject and what indications do you find that ‘puásui/poccuh’ is the subject?
- (c) Pick Finnish or Inari Saami as your (pretend) research language. Device a small set of sentences that you would want to ask native speakers to translate in order to perform a syntactic ‘subjecthood’ test. (See the Zaenen et al reading.)
- (d) Motivate your choice of sentences in (c).

## 1.10 Manam

- Frantisek Lichtenberk (1983)
- Manam is a member of the Oceanic subgroup of the Austronesian language family
- Spoken on Manam and Boesa Islands off the north coast of New Guinea
- 1977 census: 5922 inhabitants on Manam and 393 on Boesa

1.  $\eta$ au udi rua uʔaŋ          I ate two bananas
2.  $\eta$ au niu ulapa                I smoked coconuts
3. tamoata niu iwaredi        the man counted the coconuts
4. di diŋara                        they swam
5. tamoata boʔisi iemaʔi    the man made the box
6. baŋ naedi dalaba            these taros grow big [*grow big* is one word]

- Assume the following PSRs for Manam:

- $S \rightarrow NP VP$
- $VP \rightarrow (NP) V$
- $NP \rightarrow N (\text{Det})$

- (a) Translate the following words into English:  $\eta$ au, ulapa, naedi, iemaʔi, tamoata
- (b) Draw the phrase structure tree for the Manam sentence in (1).
- (c) Draw the phrase structure tree for the Manam sentence in (5).

## 1.11 Lalana Chinantec

Examine the data below from Lalana Chinantec.

1. *hoo hi hmii*  
‘his father reads (literally, ‘sees paper’)
2. *hmee ta hmii*  
‘his father does work’
3. *nuu huuh mih*  
‘the woman hears the word’
4. *hoo ta sii*  
‘the boy sees the work’

- (a) List all the Lalana Chinantec words in (1–4) with their English translations.
- (b) Draw the phrase structure tree for sentence (3).
- (c) Do complements precede or follow the head in Lalana Chinantec?
- (d) Do specifiers precede or follow  $X'$  in Lalana Chinantec?

## 1.12 Korean

Consider the following data from KOREAN.

- (1.33) *Terryka ku yecalul coahanta.*  
 Terry-Nom that girl-Acc likes  
 ‘Terry likes that girl.’
- (1.34) *I noini hakkyo ey kassta.*  
 this man-Nom school to went  
 ‘This man went to school.’
- (1.35) *Sueka chinkwu eykey chaykul ilkessta.*  
 Sue-Nom friend to book-Acc read  
 ‘Sue read the book to a friend.’

- (a) Is Korean head-initial or head-final?  
 (b) Draw the phrase structure tree for (1.35).

## 1.13 English

Part I: Phrase Structure Trees

Draw the phrase structure trees for the sentences in (a–e) below. The point of this exercise is to review constituency and syntactic categories. You may draw the trees the way you did in Ling 201 last year, or you can draw them the way Haegeman does (there are more similarities than differences). Please use IP and CP where appropriate. Also use three levels of structure; i.e., use X'-theory.

- (a) The ugly duckling yawned.  
 (b) The man with yellow shoes was reading a long book.  
 (c) Mary said that Laura would leave early.  
 (d) Those sailors gave the elephants their food.  
 (e) Lanny’s mother had good intentions after all.

Part II: Arguments and Adjuncts

For (b–e) identify the constituents that are arguments of the main verb and the constituents that are adjuncts of the main verb.

Example: (a) Arguments: one, *the ugly duckling*. Adjuncts: none.

## 1.14 Expletives

Identify the expletive subjects in the examples below. Note: only some of the examples contain expletive subjects.

- (1) Is it true that Anya is really old?
- (2) There are the shoes he was looking for.
- (3) There came three sailors to town.
- (4) The statues were over there before.
- (5) You need to get over it.
- (6) It's already too late to rescue them.
- (7) It is blue.
- (8) She saw it before you did.
- (9) There is an old statue standing in the garden.
- (10) Are there still a lot of stains showing on my shirt?

## 1.15 Structural ambiguity

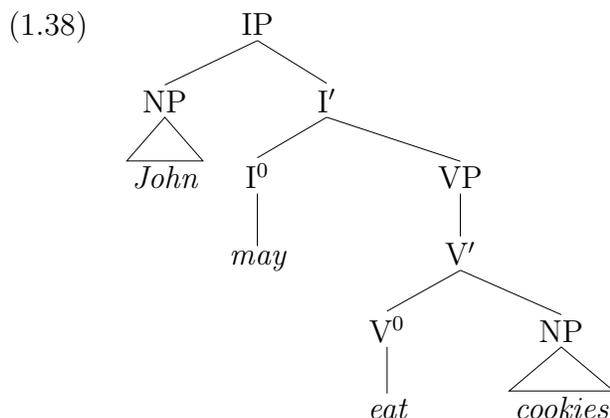
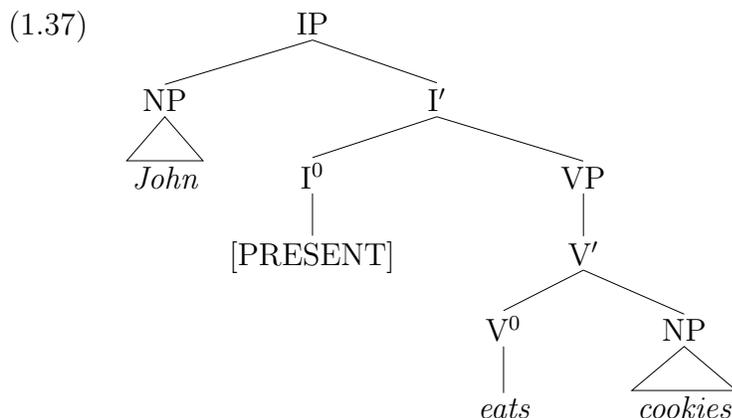
The sentence in (1.36) is structurally ambiguous:

- (1.36) Georgia tickled her friend with a feather.
- (a) Draw the two possible structures.
  - (b) Explain what the two readings are.
  - (c) Which reading corresponds to which structure?

## 1.16 Head Movement

This task is long, but it should be fairly easy. You can consider it a review of 201.

In 201 and in this class, we assume the existence of the functional category  $I^0$  (or plain I or Infl).  $I^0$  acts as a host for tense and agreement. We have also assumed that tensed auxiliaries (including modals) go in the  $I^0$  position in English. See (1.37-1.38) for examples:



Now consider (1.39-1.40):

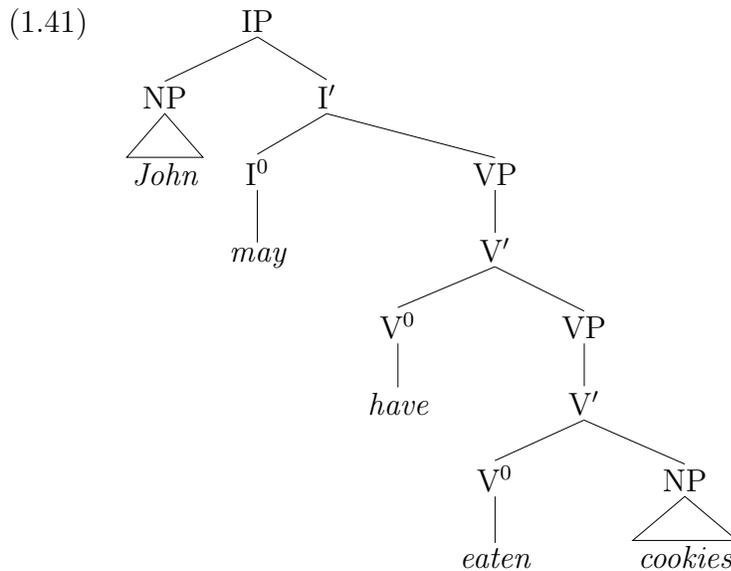
(1.39) *John may have eaten the cookies.*

(1.40) *\*John has may eaten the cookies.*

The examples in (1.39-1.40) show that the modal auxiliary *may* precedes the auxiliary *have*. It is generally true that the auxiliaries *be* and *have* can appear after a modal auxiliary, but modals cannot follow other auxiliaries.

- (a) Invent three more examples that show that modals precede other auxiliaries.

Let us assume the following structure for (1.39), where the second auxiliary *have* is a  $V^0$  which takes a VP as its complement. Note that the only tensed element is in  $I^0$ :



In other words, we assume that *have* and *be* can appear both in  $I^0$  and  $V^0$ .

- (b) Draw the phrase structure tree for *That boy could be running*.

Now consider (1.42):

(1.42) *John may not eat cookies.*

Example (1.42) shows that the negation *not* comes between IP and VP, since the modal *may* is in  $I^0$  and the main verb *eat* is in  $V^0$ . If you want to, you can try other examples to see that this is true (you do not need to write this up).

There are several ways to represent the negation word *not* in the phrase structure. For the purposes of this problem set, you should assume that it is in a NegP ('Negation Phrase'), adjoined to the VP (the highest VP if there is more than one).

Consider (1.43-1.45):

(1.43) *John has not eaten cookies.*

(1.44) *John does not eat cookies.*

(1.45) *\*John not eats cookies.*

In (1.43), *has* is in  $I^0$ . In (1.44), a 'dummy' auxiliary *does* is inserted in  $I^0$  (we know it is in  $I^0$ , since it precedes the negation). Examples (1.44-1.45) shows that a dummy auxiliary is needed in English if the sentence is negated and there is no other auxiliary.

Now consider the Swedish sentences in (1.46-1.51):

(1.46) *John har ätit äpplet.*  
 J. has eaten apple.the  
 'John has eaten the apple.'

(1.47) *John har inte ätit äpplet.*  
 J. has not eaten apple.the  
 'John hasn't eaten the apple.'

(1.48) *\*John inte har ätit äpplet.*  
 J. not has eaten apple.the

(1.49) *John äter äpplet.*  
 J. eats apple.the  
 ‘John eats the apple.’

(1.50) *John äter inte äpplet.*  
 J. eats not apple.the  
 ‘John doesn’t eat the apple.’

(1.51) *\*John inte äter äpplet.*  
 J. not eats apple.the

- (c) Draw the tree structures of (1.46) and (1.49). Make sure your structures capture the differences between Swedish and English!

Consider further the Swedish yes/no questions in (1.52–1.53):

(1.52) *Har John ätit äpplet?*  
 has J. eaten apple.the  
 ‘Has John eaten the apple?’

(1.53) *Äter John äpplet?*  
 eats J. apple.the  
 ‘Does John eat the apple?’

- (d) Draw the phrase structure tree for (1.53).

Now consider the French sentences in (1.54-1.57):

(1.54) *Jean a complètement perdu la tête.*  
 J. has completely lost the head.  
 ‘Jean has completely lost his head.’

(1.55) *\*Jean complètement a perdu la tête.*  
 J. completely has lost the head

(1.56) *Jean regarde souvent ce film.*  
 J. watches often this movie  
 ‘Jean often watches this movie.’

(1.57) *\*Jean souvent regarde ce film.*  
 J. often watches this movie

- (e) Draw the phrase structure tree for (1.56). (Hint: pay attention to the placement of the adverb!)

## 1.17 Yapese syntax and morphology

1. gadow bea marweel    *we (dual inclusive) are working*
2. gu maa marweel     *I work (habitually)*
3. kea guyeeg            *he saw me*
4. ga bea marweel     *you (singular) are working*
5. bea guyeeg            *he is seeing me*
6. gu bea guyeem        *I am seeing you.*
7. gamow raa guyeem    *we (dual exclusive) will see you*
8. kea gaywgeeg         *he helped me.*
9. kea guy Tamag        *he saw Tamag*
10. kea feek boechquw   *he took some*

- (a) List and gloss all Yapese morphemes, free and bound, that are used in sentences 1-10 above.
- (b) Give all (and only) the phrase structure rules needed for the Yapese data given above.
- (c) Draw the phrase structure trees for the Yapese sentences (2-3) and (9).
- (d) How would you say ‘we (dual inclusive) will help you’ in Yapese?

## 1.18 Sinhala

Data taken from Henadeerage.

1. *lamayi gahagatta*  
children strike-take.PAST  
'Children fought.'
2. *Nimal Siriwā tamange gedārādi dækka*  
N. S. self's house-at see.PAST  
'Nimal<sub>1</sub> saw Siri at his<sub>1</sub> house.'
3. *Wimāle Siritā taman gænā kiwwa*  
W. S.DATIVE self about say.PAST  
'Wimale<sub>1</sub> told Siri about himself<sub>1</sub>.'
4. *Daya Piyaltā tamange kaarekā hodānnātā (kiyāla) kiwwa*  
D. P.DATIVE self's car wash.INFINITIVE that tell.PAST  
'Daya<sub>1</sub> told Piyal to wash her<sub>1</sub> car.'
5. *Gune hituwa, Wimāle lamāyatā kiwwa kiyāla Siri tamanwā*  
G. think.PAST W. child.DATIVE say.PAST that S. self  
*wiwecānekālaa kiyāla*  
criticize-do.PAST that  
'Gune<sub>1</sub> thought that Wimale told the child that Siri criticized him<sub>1</sub>.'

- (a) Draw the phrase structure tree for sentence (1).
- (b) Try to come up with a VP rule for Sinhala. What problems do you encounter?
- (c) Try to come up with solutions for the problems you've listed in (b).

## 1.19 Telugu

This problem is taken from Mark Hale’s course notes.

1. *neenu ookaṭi niilam eenugu cuusaanu*  
I one blue elephant see-past-1sg  
‘I saw a blue elephant.’
2. *Ravi ii pustakam caduvutunnaanu*  
Ravi this book read-pres-3sg  
‘Ravi is reading this book.’
3. *paṅṭi ceḍipoojindi*  
crop spoil-passive-past-3sg  
‘The crop got ruined.’
4. *Pallavi Ravi ku ookaṭi pustakam iccindi*  
Pallavi Ravi to one book give-past-3sg  
‘Pallavi gave a book to Ravi.’
5. *miiru Ravi ku aa niilam eenugu konnaru*  
you(pl) that buy-past-2pl  
‘You bought that blue elephant for Ravi.’

- (a) Draw the phrase structure tree for (1).
- (b) Draw the phrase structure tree for (5).
- (c) Write the VP phrase structure rule for Telugu.

More Telugu data (**note:** italics in the translation indicate emphasis):

6. *ookaṭi niilam eenugu neenu cuusaanu*  
‘I saw *a blue elephant*.’
  7. *ii pustakam Ravi caduvutunnaanu*  
‘Ravi is reading *this book*.’
  8. *ookaṭi pustakam Pallavi Ravi ku iccindi*  
‘Pallavi gave *a book* to Ravi.’
  9. *Ravi ku Pallavi ookaṭi pustakam iccindi*  
‘Pallavi gave a book *to Ravi*.’
- (c) The PSRs (phrase structure rules) that you constructed for (a-b) will not generate the data. Explain what the problem is.
  - (d) Try to detect a pattern in the data. Explain what the pattern is in as general terms as possible.
  - (e) How can you account for the pattern you see when you compare (1–5) to (6–9)? Try to come up with a formal mechanism that can model the generalization.

## 1.20 Case

**Part I.** Identify the Case assigner for each NP in the sentences in (1–3).

EXAMPLE: (a) *John*, Case assigner: tensed I; *Fiji*, Case assigner: preposition *for*; *Tuesday*, Case assigner: preposition *on*.

- (a) John leaves for Fiji on Tuesday.
- (1) Smith preferred for the solicitors to eat with the children.
- (2) The father of this child can iron the baby clothes.
- (3) Some nice people are investigating the issue.

**Part II.** Explain why the following examples are ungrammatical.

- (4) \*Jolanda was seen Mary.
- (5) \*The ballet dancer preferred very much Alice to enter the room alone.

## 1.21 Imbabura Quechua

Consider the following Imbabura Quechua data. (The data are slightly simplified.)

(1.58) *chai warmi ñuca-man aswa-ta cara-wa-rca-mi*  
 that woman I beer serve  
 ‘That woman served me some beer.’

(1.59) *ñuca-baj ushi cam-baj churi-ta ricu-rca-mi*  
 daughter you son see  
 ‘My daughter saw your son.’

(1.60) *ñuca micu-ju-ni-mi*  
 ‘I am eating.’

(1.61) *can micu-ju-ngui-mi*  
 ‘You are eating.’

(1.62) *can ñuca-man calpa-rca-ngui-chu*  
 ‘Did you run to me?’

(1.63) *can wagra-ta michi-rca-ngui-chu*  
 ‘Did you herd cattle?’

(1.64) *wawa can-man cuintu-ta villa-rca-chu*

‘Did the child tell you the story?’

- (a) Give *all* and *only* the phrase structure rules needed to generate the Imbabura Quechua data given in (1.58–1.64).
- (b) Draw the phrase structure tree for (1.64).
- (c) How does Imbabura Quechua mark nominative case?
- (d) How does Imbabura Quechua mark accusative case?
- (e) How does Imbabura Quechua mark dative case? Dative case is (roughly) used to express what is in English often expressed with the preposition ‘to’ or ‘for’?
- (f) How is a yes-no question formed in Imbabura Quechua?

## 1.22 Jacalteco

Consider the following data from Jacalteco:

(1.65) *ch-in ha-colo*  
 asp- -help  
 ‘you help me’

(1.66) *ch-ach hin-maka*  
 ‘I hit you’

(1.67) *ch-on munlayi*  
 ‘we work’

(1.68) *ch-on ha-maka*  
 ‘you hit us’

(1.69) *ch-ach wayi*  
 ‘you sleep’

- The morpheme *ch-* is an aspect marker. You can treat it as an auxiliary.
- (a) List all the morphemes that appear in the Jacalteco examples above together with their English translations.
  - (b) Give a full explanation of how Jacalteco marks subjects and objects.

## 1.23 Finnish

Consider the FINNISH sentences in (1–5).

- (1) *Minä luin kirjan.*  
 I.NOMINATIVE read.PAST book.ACCUSATIVE  
 ‘I read the book.’
- (2) *Kirja luettiin.*  
 book.NOMINATIVE read.PAST.PASSIVE  
 ‘The book was read.’
- (3) *Talo nähtiin.*  
 house.NOMINATIVE see.PAST.PASSIVE  
 ‘The house was seen’
- (4) *Sinä näit talon.*  
 you.NOMINATIVE saw house.ACCUSATIVE  
 ‘You saw the house.’
- (5) *Sinä näit kuvan.*  
 you.NOMINATIVE saw picture.ACCUSATIVE  
 ‘You saw the picture.’

Base your solutions in (a–c) below on the data given to you in (1–5).

- (a) Draw the D-structure for the sentence in (3).
- (b) Draw the S-structure for the sentence in (3).
- (c) How would you say *the picture was seen* in Finnish?

## 1.24 More Finnish

In (6–9), you find more data from FINNISH. Elative case in Finnish is normally used to indicate the meaning ‘from, out of’ as in (6). However, elative is sometimes used in other contexts as well.

- (6) *Minä otin kirjan laukusta.*  
 I.NOMINATIVE took book.ACCUSATIVE bag.ELATIVE  
 ‘I took the book from the bag.’
- (7) *Minä pidän kirjasta.*  
 I.NOMINATIVE like book.ELATIVE  
 ‘I like the book.’
- (8) *Minä pidän laukusta.*  
 I.NOMINATIVE like bag.ELATIVE  
 ‘I like the bag.’

- (9) *Laukusta pidettiin.*  
 bag.ELATIVE like.PST.PASSIVE  
 ‘The bag was liked.’
- (a) What is the theta grid (thematic roles) for the verb *pitää* ‘to like’ in Finnish?
- (b) What is the subcategorization frame (syntactic categories) for the verb *pitää* ‘to like’ in Finnish?
- (c) In what way does the case marking in (7–9) differ from the case marking pattern in (1–5)?
- (d) Explain why *laukusta* bears relative case in (9).

## 1.25 Easy indexation exercise

Assigned indices to every NP included in the sentences above. If two NPs refer to the same entity/individual, they should bear the same index.

- (9) John’s sister is very smart.
- (10) Mary left before she saw her.
- (11) The parents laughed at the pictures of themselves.
- (12) Mandy carefully explained it to him.
- (13) They really like each other.

## 1.26 Case and Binding

Explain why the examples in (1.70–1.73) are ungrammatical. Each answer should refer to Case Theory and/or Binding Theory.

- (1.70) \*Henry<sub>i</sub> was kicked John<sub>j</sub>.
- (1.71) \*John<sub>i</sub> claims to like him<sub>i</sub>.
- (1.72) \*There was destroyed Lilly<sub>j</sub>’s pictures of herself<sub>j</sub>.
- (1.73) \*[The pumpkin farmer]<sub>i</sub> believed firmly Sean<sub>j</sub> to have left town<sub>k</sub>.

## 1.27 North Sami possessors

In NORTH SAMI, a pronominal possessor is marked *either* with an independent genitive pronoun, *or* with a possessive suffix. Consider the data from North Sami in (14–18). Px = possessive suffix.

(14) *Mun gulan beatnaga-n*  
 I hear dog-1sgPx  
 ‘I hear my dog.’

(15) *Mun gulan mu beatnaga.*  
 I hear my dog  
 ‘I hear my dog.’

(16) *Mun gulan du beatnaga.*  
 I hear your(sg) dog  
 ‘I hear your dog.’

(17) *\*Mun gulan beatnaga-t.*  
 I hear dog-2sgPx

(18) *Don gulat beatnaga-t.*  
 you(sg) hear dog-2sgPx  
 ‘You hear your dog.’

- (a) Make a hypothesis about why (17) is ungrammatical.
- (b) What further examples (grammatical and ungrammatical) would support your hypothesis?

## 1.28 English binding

Mark examples (1–6) below for grammaticality. Determine whether or not our binding theory correctly predicts the grammaticality (or ungrammaticality) of (1–6). If the binding principles predict the correct judgement, explain how. If the binding principles predict a grammatical sentence to be ungrammatical or an ungrammatical example to be grammatical, explain how.

- (1) Mary<sub>i</sub> said that Tom<sub>j</sub> should forget about herself<sub>i</sub>.
- (2) Susan<sub>i</sub> had the wallet on her<sub>i</sub>.
- (3) Susan<sub>i</sub> had the wallet on herself<sub>i</sub>.
- (4) Mary<sub>i</sub> never defends herself<sub>i</sub>.
- (5) Tommy<sub>i</sub> suspects that rumours about himself<sub>i</sub> are circulating around town.
- (6) Mary<sub>i</sub> likes her<sub>i</sub>.

## 1.29 Sinhala binding

This task contains an interesting puzzle. You do not need to *solve* the puzzle, you only need to answer questions (a), (b), and (c). The task concerns the word *tamanwā*, which is a reflexive pronoun. In other words, it is an *anaphor* and so it needs an antecedent. The reflexive *tamanwā* is gender-neutral; i.e., it can refer to males or females.

- (1.74) *Piyal<sub>1</sub> kiwwa Sriya<sub>2</sub> tamanwā<sub>1/\*2</sub> tuwaalākāla kiyālā*  
 P. said Sriya self-ACC injury-made that  
 ‘Piyal<sub>1</sub> said that Sriya<sub>2</sub> hurt him<sub>1</sub>/\*herself<sub>2</sub>.’

- (a) Considering only the example in (1.74), what type of reflexive does *tamanwā* seem to be?

- (1.75) *Piyal<sub>1</sub> kiwwa Sriya<sub>2</sub> tamanwā<sub>\*1/2</sub> tuwaalākārāgatta kiyālā.*  
 P. said Sriya self-ACC injury-make-took that  
 ‘Piyal<sub>1</sub> said that Sriya<sub>2</sub> hurt \*him<sub>1</sub>/herself<sub>2</sub>.’

- (b) Example (1.75) looks very similar to (1.74), except the form of the verb is different. If you were to consider only example (1.75) (disregarding (1.74)), how would you characterize *tamanwā*?
- (c) Your answer to (a) should be incompatible with your answer to (b). Explain how the two answers are incompatible.

## 1.30 Big PRO

Consider the sentences in (1–7). Underline each verb which has a PRO subject. For each PRO subject, determine whether it is *arbitrary* or *controlled*.

- (1) Singing is fun.
- (2) John promised to wash the car.
- (3) The clock has ceased to tick.
- (4) Susie walked in singing and dancing.
- (5) John and Pete inquired about starting a business.
- (6) To know her is to love her.
- (7) Tell Afton to shower.

### 1.31 Subject or object control?

Consider the sentences in (8–11). Determine whether PRO is controlled by a *subject* or an *object*.

- (8) The accountant persuaded the manager to sit down.
- (9) The accountant promised the manager to sit down.
- (10) John left Susie to think about the problems of the world.
- (11) Louisa decided to fire Patrick.

### 1.32 ECM or Object Control?

Determine whether the constructions in (12–16) are instances of *ECM* or *object control*.

- (12) They tempted Paul to try the cake.
- (13) They expected Paul to try the cake.
- (14) I forbid you to work late.
- (15) I forced him to work late.
- (16) Alice knew Harry to be working late.

### 1.33 Phrase structure trees with traces

Draw the phrase structure trees for the following sentences. You only need to draw the S-structure trees (that is, you do not need to include the D-structures). You do have to include the relevant empty categories. Assign indices to all NPs, including traces.

- (1.76) These things tend to happen quickly.
- (1.77) Jodie forced her sister to eat the green frog.
- (1.78) Joe wanted the Master to be obeyed.
- (1.79) The other Master wanted for Elaine to smoke a pipe and eat pudding.
- (1.80) Mary is likely to win the race.
- (1.81) The man in the green hat is eager to start drinking tea.

### 1.34 More trees

Draw phrase structure trees for the sentences in (1–6). Make sure to include all necessary empty categories. Assign an index to every nominal. (Sample solutions can be found in section 2.1.)

- (1) The happy felon requested for his buddies to knit jumpers.
- (2) Mariana was sad to be left behind.
- (3) Susie let the participants celebrate.
- (4) The angry prince tried to change money.
- (5) Fiona happened to arrive early.
- (6) Those people seem to have tried to force the children to leave.

### 1.35 Begging

Consider the following sentences:

- (1.82) Josephine begged Charlotte to let her go.
- (1.83) Sarah was begging Patrick to leave her alone.
- (1.84) Frank was begging Peter to be relieved of his duties.
- (1.85) Jones begged Fitzgerald to be let out of his prison.
- (1.86) Tammy begged Linda to disarm the enemy.
  - (a) Does ‘beg’ seem to be a subject control verb, an object control verb, an ECM verb or a raising verb? Hint: ‘beg’ belongs to more than one of those groups.
  - (b) Once you have determined what types of verb ‘beg’ can be, try to detect a pattern in when it belongs to each group. A generalization should emerge. State that generalization.

### 1.36 Trees again

Draw the phrase structure trees (S-structure) for the sentences in (1–6). Mark every NP (including traces and PROs) with an appropriate index. You can compare your trees to the trees in section 2.2 when you are done.

- (1) I told you to look for him.
- (2) Sonya's friend expected the lawyer to embarrass herself.
- (3) To know her is to love her.
- (4) The incessant singing of songs irritated everybody last week.
- (5) The brilliant physicist convinced John to help her.
- (6) I tried to look for him.
- (7) Johnny was found the other night.

### 1.37 An English Puzzle

For most speakers of English, examples (1–2) are perfectly acceptable:

- (1) Mary seems like she's getting pretty fed up.
- (2) Johnny appears as if he wants to leave.

Examples such as (1–2) are problematic for syntactic theory. Explain how. Your answer should make reference to one or more specific principles that we have discussed in class.

### 1.38 Modern Greek pronominals.

Modern Greek has three pronominal elements: TON, TON IDHIO, and TON EAFTON TOU. The goal of this problem is to figure out how these words differ in distribution.

*Note 1:* Here I use the term ‘pronominal’ pre-theoretically. I do *not* intend for it to mean the same as ‘pronoun’ in Binding Theory.

*Note 2:* These pronominals each show up in a variety of forms, depending on gender, number, and case.

*Note 3:* Modern Greek has no infinitival verbs.

(1.87) *O Yanis aghapa* [TON EAFTON TOU].  
 the John loves  
 ‘John<sub>i</sub> loves himself<sub>i/\*j</sub>’

(1.88) \*[O EAFTOS TOU] *sevete ton Yani.*  
 respects.3SG the John  
 ‘Himself<sub>i</sub> respect John<sub>i</sub>’

(1.89) *Ediksa sto Yani* [TON EAFTON TOU].  
 showed.1SG to-the John  
 ‘I<sub>i</sub> showed John<sub>j</sub> to himself<sub>\*i/j/\*k</sub>’

(1.90) *O Yanis theli o Spiros na* [TON] *voithisi.*  
 the John wants the Spiros *particle* helps  
 ‘John<sub>i</sub> wants Spiros<sub>j</sub> to help him<sub>i/\*j/k</sub>’

- (a) Based on the data in (1.87–1.90), explain how TON EAFTON TOU in (1.87–1.89) differs from TON in (1.90). (O EAFTOS TOU is the nominative form of TON EAFTON TOU.)

(1.91) *O Yanis theli o Kostas na voithisi* [TON IDHIO].  
 the John wants the Kostas *particle* helps  
 ‘John<sub>i</sub> wants Kostas<sub>j</sub> to help him<sub>i/\*j/\*k</sub>’

- (b) Compare TON IDHIO in (1.91) to TON in (1.90). Explain the difference between TON IDHIO and TON.

(1.92) *O Yanis theli o Kostas na voithisi* [TON EAFTON TOU].  
 the John wants the Kostas *particle* helps  
 ‘John<sub>i</sub> wants Kostas<sub>j</sub> to help himself<sub>\*i/j/\*k</sub>’

(1.93) *O Yanis pistevi oti* [O IDHIOS] *tha kerdhisi.*  
 the John believes that will win  
 ‘John<sub>i</sub> believes that he<sub>i/\*k</sub> will win.’

- (c) Explain the difference between TON EAFTON TOU and TON IDHIO. (O IDHIOS is the nominative form of TON IDHIO.)

## 1.39 Hindi

Consider the following data from Hindi:<sup>2</sup>

(1.94) *Ravii apnii saikilpar bait<sup>h</sup>aa*  
 Ravi self.GEN bicycle.LOC sat  
 ‘Ravi<sub>i</sub> sat on his<sub>i</sub> bike.’

(1.95) *vijayne raviiko apnii saikilpar bit<sup>h</sup>aayaa*  
 Vijay Ravi self.GEN bicycle.LOC sat.CAUS  
 ‘Vijay<sub>j</sub> seated Ravi<sub>i</sub> on his<sub>j/\*i</sub> bike.’

(1.96) *raajaane kahaa ki mantrii apnii g<sup>h</sup>ar gayaa*  
 king said that minister self.GEN house.LOC went  
 ‘The king<sub>i</sub> said that the minister<sub>j</sub> went to his<sub>j/\*i</sub> house.’

(a) Give a characterization of the reflexive *apnii* that accounts for the data in (1.94–1.96).

(1.97) *\*raajaakaa hasnaa apnii mantriiko buraa lagaa*  
 king.GEN laughing self.GEN minister bad was.struck  
 (‘The king’s laughing made his minister feel bad.’)

(b) Why is (1.97) ungrammatical?.

(1.98) *raajaane mantriiko apnii g<sup>h</sup>ar jaanekii aagyaa dii*  
 king minister self.GEN house.LOC go.INF order(noun) gave  
 ‘The king<sub>i</sub> ordered the minister<sub>j</sub> to go to his<sub>i/j</sub> house.’

(1.99) *raajaanee mantriise apnii g<sup>h</sup>ar jaanekaa vaadaa kiyaa*  
 king minister self.GEN house.LOC go.INF promise(noun) did  
 ‘The king<sub>i</sub> promised the minister<sub>j</sub> to go to his<sub>i/\*j</sub> house.’

(c) In (1.98), *apnii* can refer to either the king or the minister, but in (1.99), *apnii* can only refer to the king. Explain why.

(1.100) *ravii vijayse apnii saikilpar bit<sup>h</sup>aayaa gayaa*  
 Ravi Vijay.INST self.GEN bicycle.LOC sit.CAUS went  
 ‘Ravi<sub>i</sub> was seated by Vijay<sub>j</sub> on his<sub>i/j</sub> bike.’

(d) Example (1.100) poses a problem. Explain what the problem is.

(e) Suggest a solution to the problem you pointed out in (d).

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<sup>2</sup>The data are adapted from Mohanan 1994. GEN = genitive, LOC = locative, INST = instrumental, CAUS = causative, INF = infinitive

## 1.40 Finnish possessors

This problem concerns possessors in FINNISH. The abbreviation *px* stands for possessive suffix. Finnish has *vowel harmony*, so the third person possessive suffix will sometimes be realized as *-nsa* and sometimes as *-nsä*. First consider the data given in (1.101–1.106):

- (1.101) *Pekka näkee ystävän.*  
 P. sees friend  
 ‘Pekka sees the friend.’
- (1.102) *Pekka näkee hänen ystävä-nsä.*  
 P. sees his friend-px  
 ‘Pekka<sub>i</sub> sees his<sub>\*i/j</sub> friend.’
- (1.103) *Pekka näkee ystävä-nsä.*  
 P. sees friend-px  
 ‘Pekka<sub>i</sub> sees his<sub>i/\*j</sub> friend.’
- (1.104) *\*Auto-nsa on ruma.*  
 car-px is ugly
- (1.105) *Minä näen hänen ystävä-nsä.*  
 I see his friend-px  
 ‘I<sub>i</sub> see his<sub>\*i/j</sub> friend.’
- (1.106) *\*Minä näen ystävä-nsä.*  
 I see friend-px

- (i) Explain why (1.106) is ungrammatical.

Now consider the data in (1.107–1.108):<sup>3</sup>

- (1.107) (a) *Pekka näyttää Jukalle auto-nsa.*  
 P. shows J. car-px  
 ‘Pekka<sub>i</sub> shows Jukka<sub>j</sub> his<sub>i/\*j/\*k</sub> car.’
- (b) *Pekka näyttää Jukalle hänen auto-nsa.*  
 P. shows J. his car-px  
 ‘Pekka<sub>i</sub> shows Jukka<sub>j</sub> his<sub>\*i/j/k</sub> car.’
- (1.108) (a) *Pekka muistutti professoria luennosta-nsa.*  
 P. reminded professor lecture-px  
 ‘Pekka<sub>i</sub> reminded the professor<sub>j</sub> about his<sub>i/\*j/\*k</sub> lecture.’
- (b) *Pekka muistutti professoria hänen luennosta-nsa.*  
 P. reminded professor his lecture-px  
 Pekka<sub>i</sub> reminded the professor<sub>j</sub> about his<sub>\*i/j/k</sub> lecture.

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<sup>3</sup>Don’t be concerned if some of the actual forms of the nouns don’t match what’s in the English translation (e.g., *Jukalle – Jukka*): This is simply due to the fact that the Finnish data show some case marking distinctions that we are not concerned with here.

- (ii) Explain why (1.108a) differs in interpretation from (1.108b).

Finally, consider examples (1.109–1.112):

- (1.109) *Hän auttaa minua pesemään auto-nsa.*  
 he helps me wash.INFINITIVE car-px  
 ‘He<sub>i</sub> helps me<sub>j</sub> wash his<sub>i/\*j/\*k</sub> car.’
- (1.110) *Minä autan Pekkaa pesemään auto-nsa.*  
 I help P. wash.INFINITIVE car-px  
 ‘I<sub>i</sub> help Pekkaa<sub>j</sub> wash his<sub>\*i/j/\*k</sub> car.’
- (1.111) *\*Pekka sanoi että minä pesin auto-nsa.*  
 P. said that I washed car-px
- (1.112) *Kalle auttaa Pekkaa pesemään auto-nsa*  
 K. helps P. wash-INFINITIVE car-px  
 ‘Kalle<sub>i</sub> helps Pekkaa<sub>j</sub> wash his<sub>i/j/\*k</sub> car.’

- (iii) Explain why (1.111) is ungrammatical.
- (iv) As shown by the indexation, two interpretations are possible for (1.112). Explain how your analysis accounts for this ambiguity.
- (v) How would you say ‘*His car is ugly*’ in Finnish?

## 1.41 The *Way* Construction

Sentence (a) is an example of the English *way* construction:

- (a) Santa elbowed his way through the crowd.

The *way* construction has the structure: [NP<sub>i</sub> V [POSS<sub>i</sub> *way* PP]], and its meaning involve directed motion. This construction is rather productive, but not all verbs can appear in it. Consider the examples in (1–9), some of which are grammatical and some ungrammatical:

- (1) Meredith played her way to fame and glory.
- (2) Brian is working his way into the building.
- (3) Ian dreamt his way through life.
- (4) Carsten kicked his way out of the pile.
- (5) Lambrecht slept his way to the top.
- (6) \*Sippy arrived her way to the party.
- (7) \*Lois froze her way through life.
- (8) \*The ship is sinking its way to the bottom of the ocean.
- (9) \*These events occurred their way into my consciousness.

Try to state a generalization that describes the type of verbs that can occur in the *way* construction. Your answer should be only a sentence or two, something like: “Only past tense verbs can appear in the *way* construction.”

## 1.42 French

(1.113) *Jean croit que Paul a volé l'argent.*  
 J. believes that P. has stolen the.money.  
 ‘Jean believes that Paul has stolen the money.’

(1.114) *Marie croit qu'elle est malade.*  
 M. believes that.she is ill.  
 ‘Marie believes that she is ill.’

(1.115) *Marie croit être malade.*  
 M. believes be.INFINITIVE ill  
 ‘Marie believes that she is ill.’

(1.116) *\*Jean croit Marie être malade.*  
 J. believes M. be.INFINITIVE ill.  
 (Intended meaning: ‘Jean believes Marie to be ill.’)

(1.117) *\*Jean croit Paul avoir volé l'argent.*  
 J. believes P. have.INFINITIVE stolen the.money  
 (Intended meaning: ‘Jean believes Paul to have stolen the money.’)

- (a) Consider examples (1.113–1.117).<sup>4</sup> When the French verb *croire* (‘to believe’) takes a non-finite complement, is it a subject control verb, an object control verb, a raising verb, or an ECM verb? It is possible that it is none of the above, or more than one! The verb *croire* takes two thematic arguments, a *believer* and something *believed*, just like English *believe*. [3 POINTS]

Now consider the following examples:

(1.118) *Quel homme crois-tu avoir volé l'argent?*  
 which man believe.you have.INFINITIVE stolen the.money  
 ‘Which man do you believe to have stolen the money?’

(1.119) *Qui crois-tu être malade?*  
 who believe-you be.INFINITIVE ill  
 ‘Who do you believe to be ill?’

- (b) In light of the examples given in (1.113–1.117), the data in (1.118–1.119) are surprising. Explain why.

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<sup>4</sup>The data in this problem are taken from Jones (1996).

## 1.43 Pseudo-passive

Speakers of English generally find examples such as the ones in (1.120–1.123) grammatical. If you do not find these examples grammatical, you should still do the task based on the judgments indicated here.

(1.120) These issues have been talked about for a long time.

(1.121) This bridge was once slept under by a famous dog.

(1.122) This bed has been slept in by senators.

(1.123) That person is never spoken to.

The sentences in (1.120–1.123) are referred to as *pseudo-passives*, and they differ from regular passives (i.e., the type of passive we have treated in class).

- (i) Describe the difference between pseudo-passives and regular passives.
- (ii) Our analysis for the regular passive cannot straightforwardly be extended to pseudo-passives. Explain why.
- (iii) Burzio’s Generalization is said to generalize over passives, unaccusatives and raising verbs. Does Burzio’s generalization seem to cover the pseudo-passive without further stipulation? If your answer is ‘yes’, explain how so. If your answer is ‘no’, explain why not.

## 1.44 Kannada

(1.124) KANNADA

*raamu*<sub>1</sub> *shyaamu*<sub>2</sub> *tannannu*<sub>1/\*2/\*3</sub> *priitisuttaane* *anta* *nambuttaane*  
 Raamu Shyamu self loves that believes  
 ‘Raamu believes that Shyamu loves him.’

Consider the Kannada data in (1.124).<sup>5</sup> Characterize the word *tannannu*. Your characterization should account for the coreference indicated in the example with indexation.

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<sup>5</sup>Kannada is a Dravidian language, spoken in India. It has about 45 million speakers.

## 1.45 Yoruba

- (1.125) (a) *Ṣégún<sub>1</sub> sọ pé Túndé<sub>2</sub> rò pé ó<sub>\*1/\*2/3</sub> sanra.*  
 Segun said that Tunde thought that he fat  
 ‘Segun<sub>1</sub> said that Tunde<sub>2</sub> thought that he<sub>\*1/\*2/3</sub> was fat.’
- (b) *Tolú<sub>1</sub> sọ fún Ṣégún<sub>2</sub> pé Dúpé<sub>3</sub> rò pé ó<sub>\*1/2/\*3/4</sub> sanra.*  
 Tolu said to Segun that Dupe thought that he fat  
 ‘Tolu<sub>1</sub> said to Segun<sub>2</sub> that Dupe<sub>3</sub> thought that he<sub>\*1/2/\*3/4</sub> was fat.’

- (i) Consider the Yoruba examples in (1.125).<sup>6</sup> Characterize the word *ó*.  
 (ii) What is the binding domain in Yoruba?

## 1.46 Trees

Draw the trees for the English sentences in (1–6).

- (1) Laura was expected to want the master to be obeyed.
- (2) Laura expected to want the master to be obeyed.
- (3) Laura expected to want the master to obey.
- (4) Laura expected the master to obey.
- (5) Laura was expected to want to be obeyed.
- (6) The victim seems to have been murdered.

## 1.47 Difficult

(1.126) Susan was difficult to convince.

- (i) Is *difficult* a raising adjective?
- (ii) If your answer to (i) is *yes*, then draw two tree structures: one for (1.126), and one for an example containing another raising adjective. You need to construct the latter example yourself.  
 If your answer to (i) is *no*, then construct an example containing a raising adjective and explain the difference between your example and (1.126).
- (iii) Is *difficult* a subject control adjective?
- (iv) If your answer to (iii) is *yes*, then draw two tree structures: one for (1.126), and one for an example containing another subject control adjective. You need to construct the latter example yourself.  
 If your answer to (iii) is *no*, then construct an example containing a subject control adjective and explain the difference between your example and (1.126).

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<sup>6</sup>Yoruba is a Niger-Congo language spoken in several countries in West Africa. Yoruba has about 20 million speakers. The data in (1.125) alone lead to a simplified view of Yoruba binding. If you know Yoruba, you should still base your answer upon the data given here.

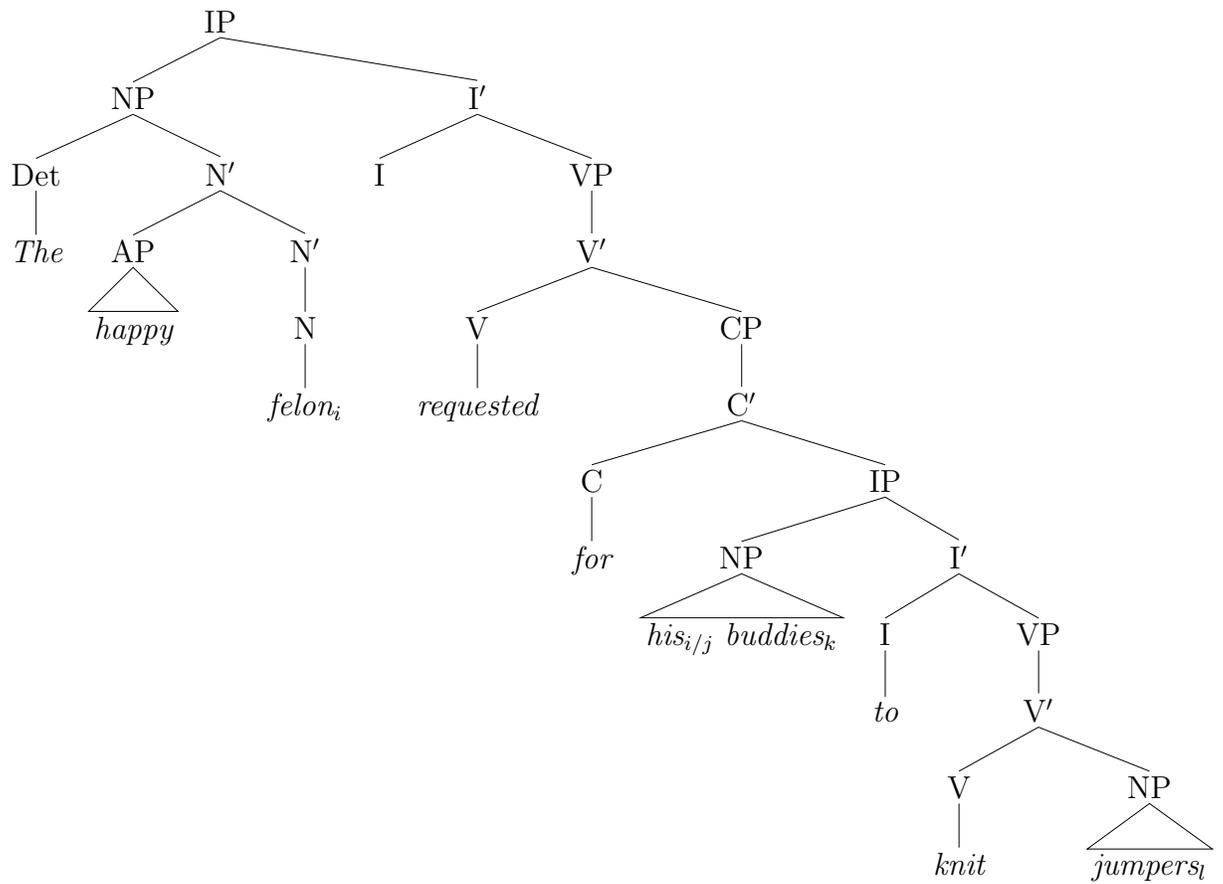
# Chapter 2

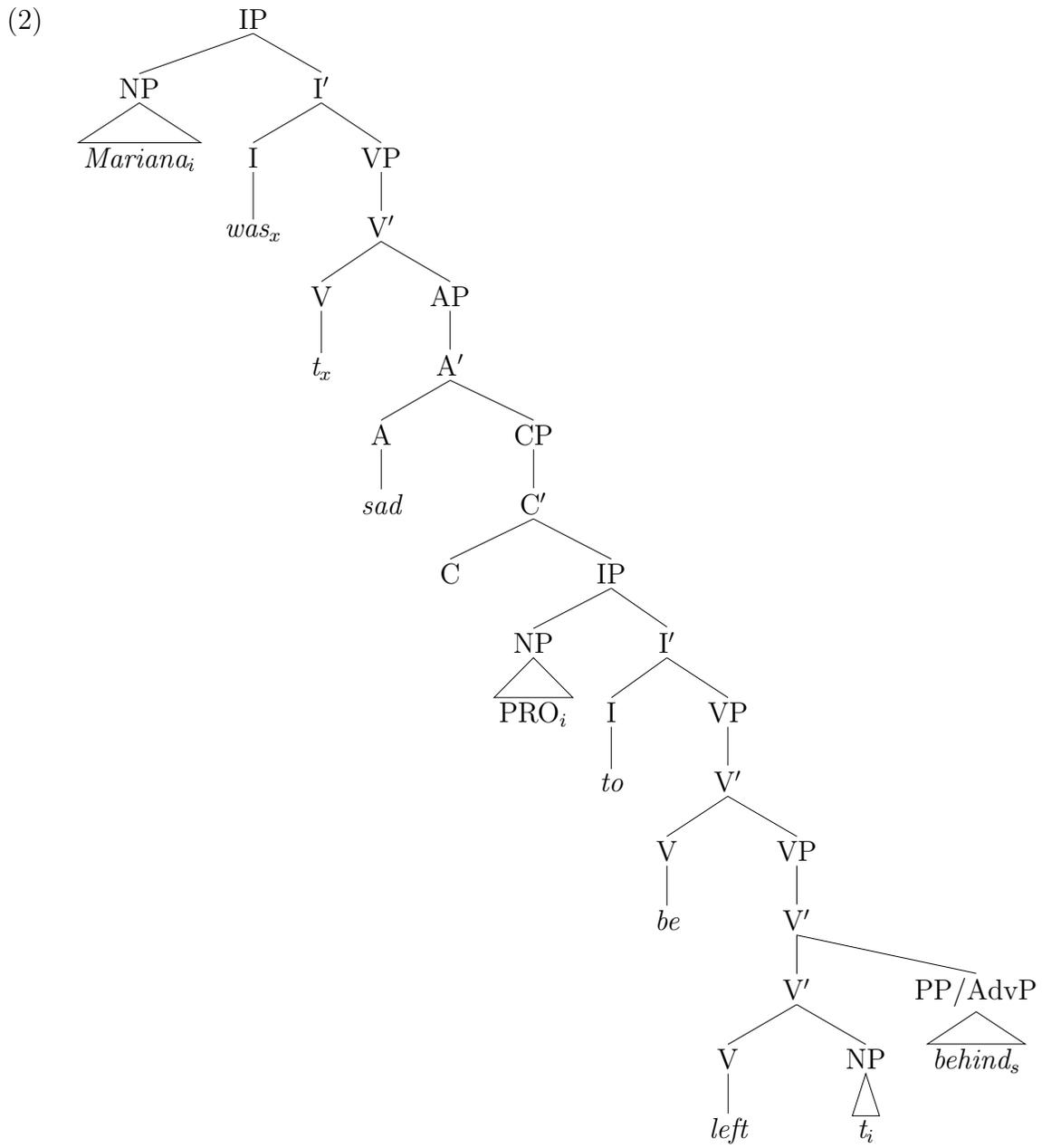
## Solutions

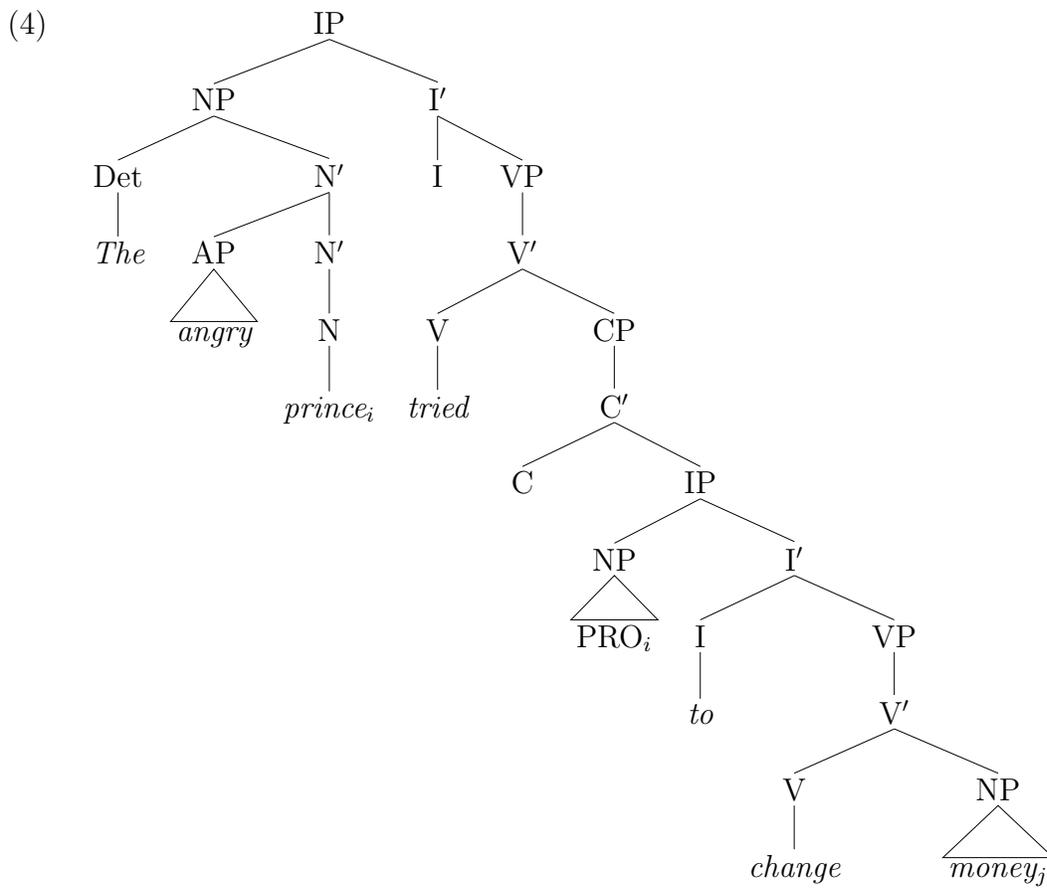
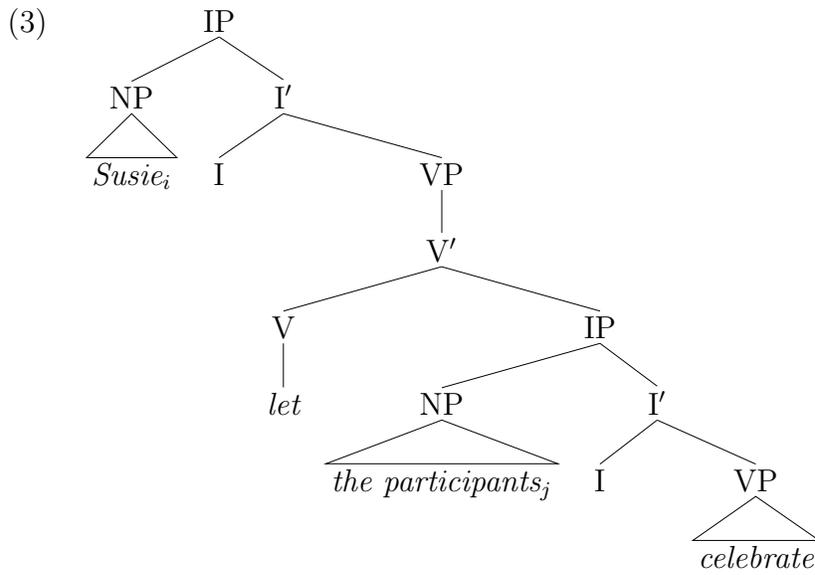
- These are *sample* solutions – your structures might differ in some details and still be perfectly acceptable.
- The indexation is marked on the actual words. You can index the NP nodes instead, it doesn't matter.
- Below I write V, I, P, etc., instead of  $V^0$ ,  $I^0$ ,  $P^0$ . This is not significant, it is simply a notational variant.

## 2.1 Sample trees for 1.34

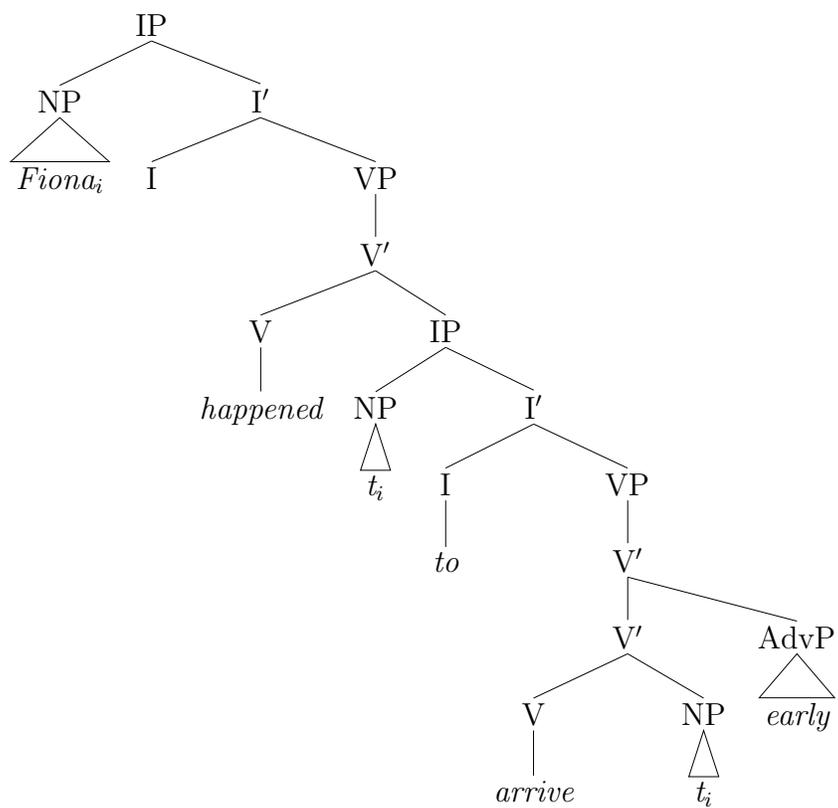
(1)







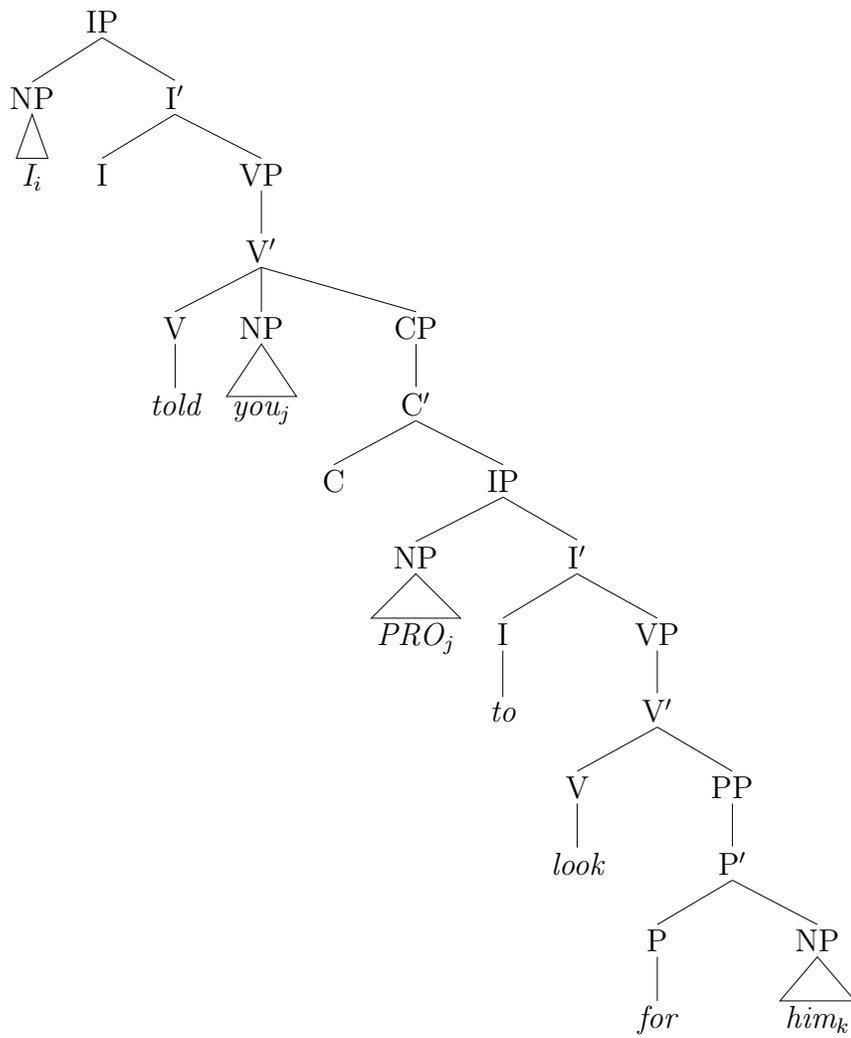
(5)



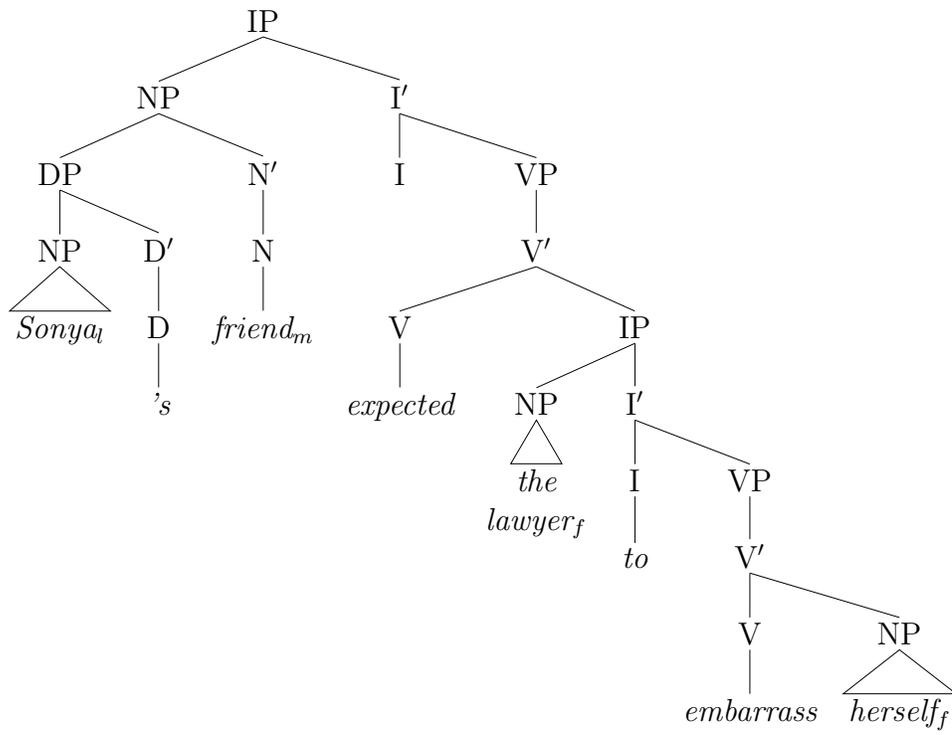


## 2.2 Sample trees for 1.36

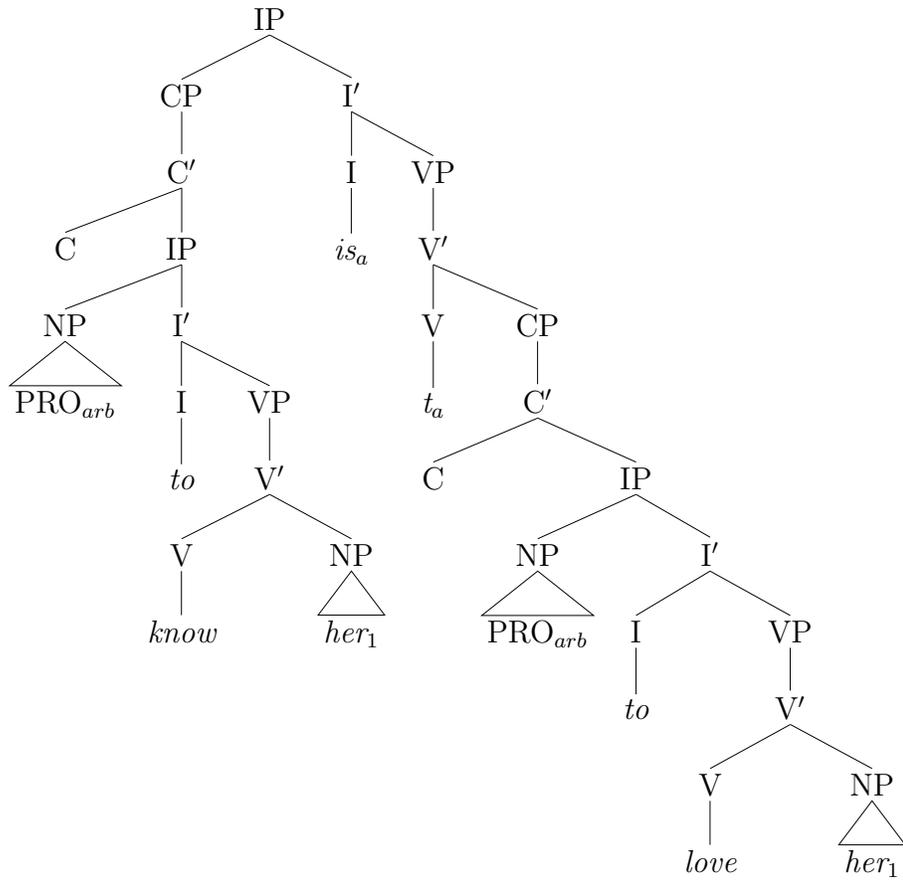
(1)



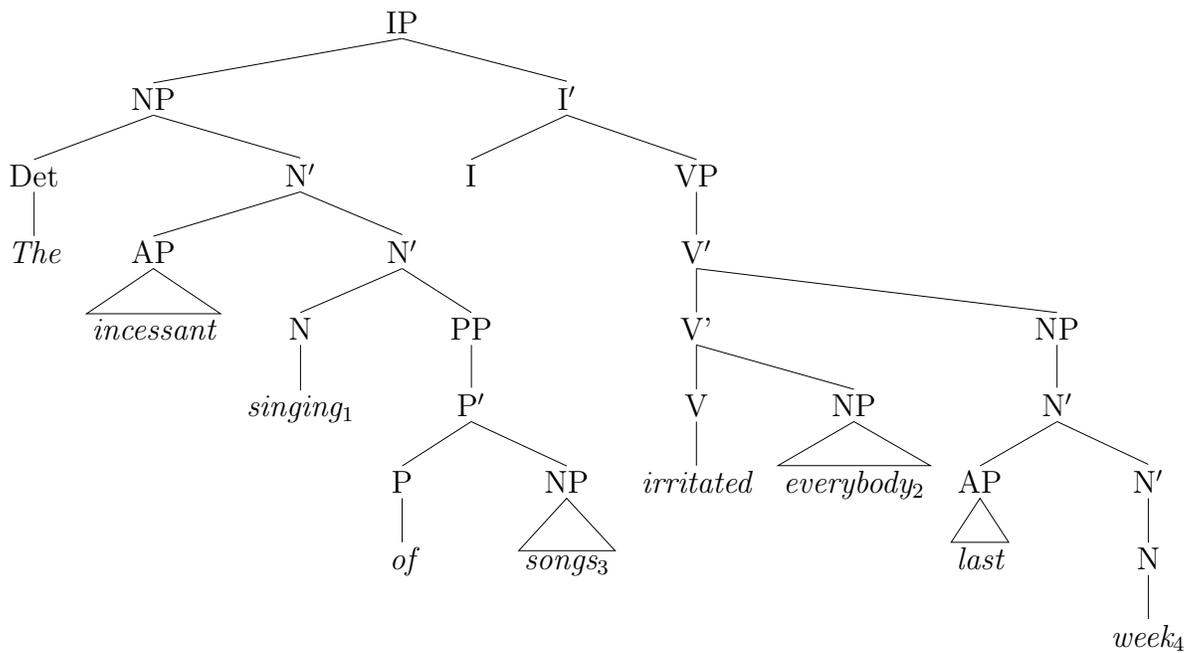
(2)



(3)



(4)



(5)

