Homework 3
11-721: Grammars and Lexicons, Fall 2010
Due Wednesday, October 27, 2010

1 Kroeger, Exercise 3B, Pages 77-79

Using the data in Kroeger's Exercise 3B, *follow these instructions:*

Task 1: In Sentence B1, the arguments of the verb are the subject, *guru kami* (our teacher), and the oblique *di ruang Pak rektor* (in the rector's office). What are the arguments of the verb in Sentence B2?

Task 2: Look at the verbs of Sentences B1 and B2. **(a)** Aside from the prefix *men-*, which is not relevant to this exercise, what affix is added to the verb in sentence B2? **(b)** What effect does the affix have on the sentence?

Task 3: Sentence B3 is a passive sentence. **(a)** Which morpheme is added to the verb to make it passive? **(b)** Assuming that the subject comes to the left of the verb in Indonesian, what is the subject of the sentence?

Note: You cannot rely on the English translation to tell you the grammatical relations (subject, object, oblique) in Indonesian. English does not have applicative morpheme, so the grammatical relations are different in English.

Task 4: Finish the following lexical entry for the verb in Sentence B1 by adding a grammatical relation for each semantic role:

```
duduk <  theme    location  >
```

Task 5: Finish the lexical entry for the verb in Sentence B2 by adding a grammatical relation for each semantic role:

```
duduk <  theme    location  >
```

Task 6: Finish the lexical entry for the verb in Sentence B3 by adding a grammatical relation for each semantic role:

```
duduk <  theme    location  >
```

Task 7: List three more sentences that illustrate the same phenomena as B1, B2, and B3.

Task 8: Consider two hypotheses:

- **Hypothesis 1:** Sentence B4 has a subject and an object.
- **Hypothesis 2:** Sentence B4 has a subject and an oblique.

Assume the following passive rule: Start with the lexical mapping for the corresponding active verb. Find the semantic role that is linked to the SUBJ in the active sentence and link it to the grammatical relation OBJ. Find the semantic role that was linked to SUBJ in the active sentence and link it to OBL. If there are any other arguments of the verb, their grammatical relations remain unchanged.

Sentence B7 is ungrammatical. Which hypothesis does it support? Why?

Task 9: Compare Sentences B12 and B13. **(a)** What suffix is added to the verb in B13? **(b)** What does it do?

Task 10: Complete the lexical entry for Sentence B12.

```
beli <  agent  theme  beneficiary  >
```

Task 11: Complete the lexical entry for Sentence B13. Reminder: OBJ2 (unemployed object) is a syntactically inert noun phrase. It is not OBL because it has no preposition. It is not OBJ because it does not behave like an OBJ. For example, it doesn't become the subject of a passive.

```
beli <  agent  theme  beneficiary  >
```

Task 12: **(a)** Complete the lexical entry for Sentence B14. **(b)** Is sentence B14 the passive of Sentence B12 or B13? Reminder: The passive rule affects only SUBJ and OBJ. If there are any other arguments, they are not affected.

```
beli <  agent  theme  beneficiary  >
```

Task 13: **(a)** Complete the lexical entry for Sentence B15. **(b)** Is sentence B15 the passive of Sentence B12 or B13?

```
beli <  agent  theme  beneficiary  >
```

Task 14: Why is Sentence B16 ungrammatical?

Task 15: Identify four more sentences that illustrate the same points as B12-B15.

2 Complex sentences

For *each verb* in each sentence below:

1. Select the appropriate lexical entry from the grammar that is handed out with this homework.
2. Select a VP rule from the grammar that will parse the VP headed by the verb.

Example: Sam was interviewed by Sony.

was:

```
was-2    V
(^ PRED) = ‘be< XCOMP >SUBJ’
(^ SUBJ) = (^ XCOMP SUBJ)
(^ XCOMP VOICE) =c passive
(^ VFORM) = fin
(^ TENSE) = past
(^ SUBJ NUM) = sg
{ (^ SUBJ PERS) = 1 | (^ SUBJ PERS) = 3 }

Rule 11:
VP -->  V     VP
       ^=| (^ XCOMP)=|
```

interviewed:

```
interviewed-2  V
(^ PRED) = ‘examine< agent  patient >
                     OBL-ag  SUBJ
(^ VOICE) = passive
(^ VFORM) = pastpart

Rule 4:

VP -->  V    PP
       ^=|  (^(| CASE))=|
```

Sentences to analyze:

(1) a. It seems that Sam was interviewed by Sony.

b. Sam was persuaded to seem to be interviewed by Sony.

c. We believe it to seem that Sony interviewed Sam.

3 Drawing F-structures

On the next page there is a lexicon and a reduced set of rules in LFG notation. Draw the f-structures for the two readings of *the friend of your wife's brother*.

PP	$\rightarrow$	P $\uparrow=\downarrow$	N″ $\uparrow=\downarrow$
N″	$\rightarrow$	(Det) $\uparrow=\downarrow$	N′ $\uparrow=\downarrow$
N″	$\rightarrow$	(Det) $(\uparrow \text{POSS})=\downarrow$ $(\downarrow \text{PRON})=\text{c}\ +$	N′ $\uparrow=\downarrow$
N′	$\rightarrow$	N $\uparrow=\downarrow$	(PP) $(\uparrow \text{OBL-poss}) = \downarrow$
N″	$\rightarrow$	N″ $(\uparrow \text{POSS}) = \downarrow$	′s N′ $\uparrow=\downarrow$

the	DET	$(\uparrow \text{DEF}) = +$
wife	N	$(\uparrow \text{PRED}) = \text{'wife'}$
of	P	
your	det	$(\uparrow \text{PRED}) = \text{'pro'}$ $(\uparrow \text{NUM}) = \text{sg}$ $(\uparrow \text{PERS}) = 2$ $(\uparrow \text{PRON}) = +$
friend	N	$(\uparrow \text{PRED}) = \text{'friend'}$
brother	N	$(\uparrow \text{PRED}) = \text{'brother'}$

4 Finite embedded clauses and relative clauses in English

Draw phrase structure trees for the sentences below using the phrase structure rules below. The treatment of fillers and gaps is taken from Generalized Phrase Structure Grammar. It is based on "slash categories" such as S NP (an S missing an NP to the left). Slash categories are also used in Categorial Grammar in a different way.

This grammar should not generate the following sentences which have fillers without gaps or gaps without fillers.

Ungrammatical sentences:

(2) a.*You read the book that I read the book.

b.*You saw the man that the man saw me.

c.*I think that the man bothers.

d.*I wonder who you saw the man.

Sentences that you should draw trees for:

(3) a. I love the fact that linguistics is fun.

b. You met the man that I saw.

c. I saw the man that you met.

d. You met the man that wrote the book.

e. The man that yawned bothers me.

f. The man that you met bothers me.

g. I wonder who you saw.

h. The book that bothers me is on the shelf.

i. The book that is on the shelf bothers me.

j. I think that linguistics is fun.

k. That linguistics is fun bothers me.

l. I think that the man that you met wrote the book.

m. You read the book that I think that the man wrote.

n. You saw the shelf that I think that the book is on.

o. The fact that bothers me bothers you.

```
Phrase Structure Rules:

S -->  NP   VP
S -->  S-bar  VP

S-bar --> C  S
C --> that

VP -->  V-intrans
VP -->  V-trans NP
VP -->  BE AdjP
VP -->  BE PP
VP -->  V-q S-q
VP -->  V-comp  S-bar

V-intrans --> yawned
V-trans --> love
V-trans --> bothers
V-trans --> met
V-trans --> saw
V-trans --> wrote
V-trans --> read
V-q --> wonder
BE --> is
V-comp --> think

AdjP --> Adj
Adj --> fun

NP -->  (Det) N-bar
NP -->  Pronoun

N-bar --> N-bar S-rel
N-bar --> N-bar-comp S-bar

N-bar --> N
N-bar-comp --> N-comp
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S-rel --> C  S\NP

S-q  --> NP-wh  S\NP
NP-wh --> who


S\NP --> VP
S\NP --> NP   VP\NP

VP\NP -->  V-trans
VP\NP -->  BE PP\NP
VP\NP -->  V-comp  S-bar\NP

PP --> P  NP
PP\NP --> P
P --> on

S-bar\NP --> C  S\NP

Det --> the
Pronoun --> I
Pronoun --> me
Pronoun --> you
N --> book
N --> man
N --> linguistics
N --> shelf
N-comp --> fact
N --> fact
```