

Linguistics 20

Your name _____

Fall 2006

Your TA _____

Hayes et al.

Day and time of your section _____

Final Exam

General Instructions

1. Write all your answers on the exam itself. For scratch paper, please use the back of the sheets.
2. On the handout table please pick up the Reference Guide, with phonetic charts, [xxx now at end of this text] transformations, island constraints, semantic interpretation rules, and feature charts.
3. Many points are lost from not reading the directions, so please *read them with care*—they are meant to help, not delude.
4. You have three hours.

1. Phonetic dictation (10 points)

Given transcription (phonemes, not allophones, using IPA) of the following English words to be spoken aloud by the prof. Dictation will be given at 8:40. There is a phonetic chart in the reference handout.

- a. *pentagon* _____
- b. *texts* _____
- c. *fineness* _____
- d. *aluminum* _____
- e. *thought* _____

2. Syntax I

Explain why the following sentence is ungrammatical. Your answer should use ideas taught in the course. You do not have to draw trees.

*What should time elapse?

3. Islands

Make up a new sentence that demonstrates that It-Clefting obeys the Wh- Island constraint (see Reference chart for these items) Your sentence should be a new one and not one given in the text or exercises.

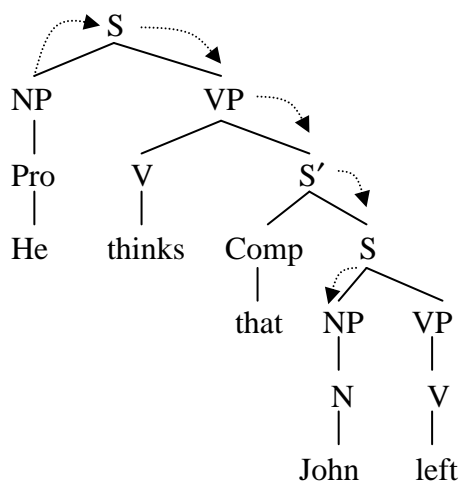
As part of your demonstration, show (a) deep structure; (b) the creation of the Wh- island through movement; (c) surface structure (you will need at least three trees to do this). Show the application of transformations with labeled arrows and circle and label the Wh- island. Please use the other side of this page if your answer gets that long.

4. Semantics: coreference

At the end of this exam, in the Reference section, are the three rules given in class for interpreting the possible reference of NP's. The idea of this question will be to make up a (new) sentence, diagram it, draw relevant arrows and brackets (as in the text), and explain why one NP cannot refer to another.

I will first give an example of what is meant here. Here is a sentence illustrating Full Noun Phrase Interpretation:

He thinks that John left.



John is c-commanded by *he* (see arrows) and therefore cannot be coreferent with it.

Now, the question: do the same thing for (a) Reflexive Interpretation and (b) Regular Pronoun Interpretation.

5. Semantics: scope

The sentence *We assigned 12 students to every class* is ambiguous, due to scope.

(a) Explain the two meanings clearly in words.

(b) Using the rules of interpretation for quantifiers taught in class (see reference handout), derive both meanings. You may assume that *12* and *every* are Articles. This question requires fairly long derivations; free free to continue on the back of the page.

6. Features

Give the shortest possible set of phonological feature values that can single out the following sets of English sounds. There is a feature chart in the reference section at the end of the exam

1. [ʃ, ʒ, tʃ, dʒ, ɹ, ə]
2. [oʊ, ɔ, ʌ, ə, ɑ]
3. [w, u, ʊ, ou, ɔ]

7. Phonemes of Yidj

This question will not require much original thinking but will cover a part of the readings. Here are the Yidj data given in the textbook's discussion of the phoneme. Please note that these forms do not include a suffix, and are in the Nominative case (Nominative in Yidj uses no affix.)

1.	[ʃʊmba:ɡɪ]	'tobacco'	28.	[wulmbu:ɹ]	'leafy broom'
2.	[ŋawu:ʒʊ]	'salt-water turtle'	29.	[ʃʊri:n]	'leech'
3.	[gula:ɹ]	'big-leafed fig tree'	30.	[ʒʊndu:ba]	'you-nom. sing'
4.	[ŋɹʊɹ]	'initiated man'	31.	[ɡʊʒ]	'tree vine species'
5.	[dugu:bil]	'bark bag'	32.	[wulmbu:ɹ]	'leafy broom'
6.	[muŋʒu:ɹ]	'plenty'	33.	[ʒʊlugunʊ]	'black myrtle tree'
7.	[wigilwigil]	'sweet'	34.	[bulu:ɹ]	'storytime person'
8.	[ʒambu:l]	'two'	35.	[ŋu:ɹu:l]	'just now'

9.	[ʃɔŋu:l]	‘waterfall’	36.	[gugu:lɔ]	‘mourning style’
10.	[gabu:l]	‘stick for carrying fish’	37.	[wubu:l]	‘lucky’
11.	[wurgu:l]	‘pelican’	38.	[dalŋudalŋɔ]	‘sound of bell ringing’
12.	[babu:ʃɔ]	(can’t find gloss)	39.	[dalɔ]	‘forehead’
13.	[gulgrɪ]	‘sand, sugar’	40.	[ʃɔma:l]	‘straight woomera’
14.	[magu:l]	‘a root vegetable’	41.	[jɪlŋɔ]	‘down’
15.	[mulŋa:rɪ]	‘blanket’	42.	[baŋga:mɔ]	‘English potato’
16.	[ŋumbu:bɔ]	‘new-born baby’	43.	[mula:rɪ]	‘initiated man’
17.	[ʃɔʃɔŋŋgul]	‘noise of snake’	44.	[gangu:l]	‘grey wallaby’
18.	[ʃɔga:bal]	‘house frame’	45.	[gɔʃɔ:n]	‘wind’
19.	[ʃɔwar]	‘wattle tree’	46.	[gaʃɔ:l]	‘dirty (e.g. water)’
20.	[ʃɔdu:lɔ]	‘brown pigeon’	47.	[bulgu:ɔ]	‘swamp’
21.	[dulnbi:laj]	‘white cedar’	48.	[ʃɔŋgu:m]	‘worm’
22.	[jimur]	‘large house’	49.	[ʃɔɹ]	‘sharp, pointed’
23.	[gunbu:l]	‘billy-can’	50.	[gawu:l]	‘blue gum tree’
24.	[gula:m]	‘walnut tree’	51.	[bawɔ:]	‘backbone’
25.	[ŋɔŋgu:l]	‘Torres Straits pigeon’	52.	[gawɔ:]	‘tree species’
26.	[muga:ʃɔ]	‘fish net’	53.	[galbr:]	‘catfish’
27.	[wi:ʃu:l]	‘shellfish species’	54.	[diwɪ:]	‘small ground bee’

The focus of this problem is the high vowels of Yidjɪ. Phonetically, there are eight of them, but at the phonemic level there are just four. Below, the high vowels are sorted by local environments:

[ʊ]	[u]	[ʊ:]	[u:]	[ɪ]	[i]	[r]	[i:]
1. j__m	3. g__l	4. ɲ__r	10. b__l	1. g__]	22. ʃ__m	53. b__]	21. b__l
9. ʃ__l	4. ɲ__'ɲ	45. ʃ__n	11. g__l	13. g__]	27. w__ɹ	54. w__]	29. r__n
12. ʃ__]	5. d__g	46. ʃ__l	12. b__ʃ	15. r__]	41. ʃ__l		
18. ʃ__g	6. m__ɲ	6. ʃ__ɹ	14. g__l	43. r__]	5. b__l		
19. ʃ__w	11. w__r	51. w__]	16. b__b	49. ɹ__]	7. w__g		
20. ʃ__d	13. g__l	52. w__]	2. w__j		7. g__l		
29. ʃ__r	15. m__l		20. d__l		7. w__g		
33. ʃ__t	16. ɲ__m		22. m__r		7. g__l		
40. ʃ__m	17. g__l		23. b__l				
48. ʃ__ɲ	17. ɹ__ɲ		25. g__l				
49. ʃ__ɹ	21. d__l		27. ɹ__l				
30. ɲ__n	23. g__n		28. b__ɹ				
2. j__]	24. g__l		30. d__b				
17. ʃ__j	26. m__g		32. b__ɹ				
17. ʃ__ɹ	28. w__l		34. t__ɹ				
31. j__]	31. g__j		35. ɹ__l				
16. b__]	32. w__l		36. g__l				
20. t__]	33. g__n		37. b__l				
26. ɹ__]	33. t__g		44. g__l				
33. n__]	34. b__l		47. g__ɹ				
36. t__]	35. ɲ__ɹ		48. g__m				
38. ɲ__]	36. g__g		5. g__b				
39. l__]	37. w__b		50. w__l				
41. g__]	38. ɲ__d		8. b__l				
42. m__]	43. m__l		9. g__l				
	45. g__ʃ						
	47. b__l						

(a) Give an outline phonemic description, in word, for for the eight sounds at the top of the table above. You can use this format: “The phoneme /X/ has two allophones, [Y] and [Z]. [Y] occurs in the context ...; and Z occurs” Repeat for all four phonemes. Where a phoneme has very few data, assume that the pattern is the same as with similar phonemes. You will find Yidij phonetic charts and features on the reference handout.

(b) For each of the four phonemes, choose an underlying form. Briefly justify your choice in words, based on the theory of the phoneme given in the course.

(c) Write phonological rules sufficient to derive all of the allophones. Give your rules names. (A correct answer will not need more than two rules.)

(d) Give derivations in standard format, starting with the phonemic forms, for the following words: 25. [ɲuŋgu:tʃ], 22 [ʃimu:r], 15. [muʃɲa:rɪ]

(e) Do your rules need to apply in order? Explain your answer.

(f) What natural classes are given in your rules?

(g) Here are some of the same data, but adding in the Dative-case forms, in addition to the Nominatives that were given earlier.

	Nominative	Dative	gloss
1.	[ʃumba:gɪ]	[ʃumba:ginda]	'tobacco'
2.	[ɲawu:jʊ]	[ɲawu:jʊnda]	'salt-water turtle'
15.	[mulɲa:rɪ]	[mulɲa:rinda]	'blanket'
16.	[ɲumbu:bʊ]	[ɲumbu:bunda]	'new-born baby'
31.	[gujʊ]	[gujʊnda]	'tree vine species'
49.	[ʃʊɹɪ]	[ʃʊɹɪnda]	'sharp, pointed'
51.	[bawu:]	[bawu:nda]	'backbone'
53.	[galbrɪ]	[galbi:nda]	'catfish'

Of these eight stems, which ones show phonological alternation? Based on the rules you wrote earlier, explain why the alternation occurs in these stems and not others.

8. Historical linguistics

Consider the following data from British and American English:

	British	American		British	American
<i>spa</i>	[¹ spɑ]	[¹ spɑ]	<i>raw</i>	[¹ ɹɔ]	[¹ ɹɔ]
<i>spar</i>	[¹ spɑ]	[¹ spɑɪ]	<i>roar</i>	[¹ ɹɔ]	[¹ ɹɔɪ]
<i>fa</i> (musical note)	[¹ fɑ]	[¹ fɑ]	<i>Luna</i>	[¹ lunə]	[¹ lunə]
<i>far</i>	[¹ fɑ]	[¹ fɑɪ]	<i>lunar</i>	[¹ lunə]	[¹ lunəɪ]
<i>daw</i>	[¹ dɔ]	[¹ dɔ]	<i>cola</i>	[¹ koulə]	[¹ koulə]
<i>door</i>	[¹ dɔ]	[¹ dɔɪ]	<i>polar</i>	[¹ poulə]	[¹ pouləɪ]

Let us call the common language that was the ancestor of British and American English "Proto-English".

(a) Which of the two daughter dialects has diverged from Proto-English (for these particular data)?

(b) Give two reasons justifying your answer.

(c) Write a sound change, in standard notation, covering the dialect that changed.

(d) Give the correct reconstruction of the words *spa* and *spar* in Proto-English.

(e) Comment briefly on the sentence “American English represents a degraded form of British English.” Your comment should cover (a) its historical accuracy; (b) who might be expected to make such a statement and why.

9. More Comparative Method¹

In the following related-language pair, A has not changed (in any relevant respect) since the time of “proto-A/B”. B has.

Language A	Language B	
[pi ¹ .i]	[¹ pi.i]	‘turtle’
[¹ pi.i]	[¹ pi.i]	‘snake’
[te ¹ pa]	[¹ tepa]	‘slug’
[mu ¹ fu]	[¹ muvu]	‘lizard’
[¹ lufu]	[¹ lufu]	‘frog’
[ra ¹ sa]	[¹ raza]	‘toad’
[¹ pasa]	[¹ pasa]	‘salamander’
[o ¹ ʃo]	[¹ oʒo]	‘worm’
[¹ ioʃo]	[¹ ioʃo]	‘starfish’
[le ¹ θa]	[¹ leða]	‘sea urchin’
[¹ keθa]	[¹ keθa]	‘crab’

(a) What two changes has B undergone? One will involve stress, and can’t be readily formalized; just write it down in words. The other change can be written with features. Give the changes names.

(b) In what order did the two changes take place? Explain in words why, and give historical derivations for the words meaning ‘lizard’ and ‘frog’, with both right and wrong orders, to illustrate. You can use the other side of this sheet if necessary.

¹ Pretend data, very loosely modeled on Verner’s Law, a sound change of early Germanic.

Reference sheet for Linguistics 20 Final Exam

10. Phonetic Charts for English

	Front	Back		Diphthongs
	Unrounded	Unrounded	Rounded	
Upper tense	/i/ b <u>ea</u> t		/u/ b <u>oo</u> t	/aɪ/, /aʊ/, /ɔɪ/ b <u>i</u> te, b <u>ou</u> t, C <u>oi</u> t
Lower nontense	/ɪ/ b <u>i</u> t		/ʊ/ f <u>oo</u> t	
Upper tense	/eɪ/ b <u>ai</u> t	/ə/ abb <u>o</u> t	/oʊ/ b <u>oa</u> t	Rhotacized upper mid back unrounded: /ɜ˞r/ B <u>er</u> t
Lower nontense	/ɛ/ b <u>e</u> t	/ʌ/ b <u>u</u> t	/ɔ/ b <u>ou</u> ght	
Low	/æ/ b <u>a</u> t	/ɑ/ f <u>a</u> ther		

		Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar	Palatal	Velar	Glottal
Stops	voiceless	/p/ p <u>i</u> n			/t/ t <u>i</u> n			/k/ k <u>i</u> n	
	voiced	/b/ b <u>i</u> n			/d/ d <u>i</u> n			/g/ g <u>i</u> ll	
Affricates	voiceless					/tʃ/ ch <u>i</u> n			
	voiced					/dʒ/ g <u>i</u> n			
Fricatives	voiceless		/f/ f <u>i</u> n	/θ/ th <u>i</u> n	/s/ s <u>i</u> n	/ʃ/ sh <u>i</u> n			/h/ h <u>y</u> mn
	voiced		/v/ v <u>i</u> m	/ð/ th <u>i</u> s	/z/ z <u>i</u> p	/ʒ/ v <u>i</u> sion			
Tap					[ɾ] d <u>a</u> t <u>a</u>				
Nasals		/m/ m <u>i</u> tt			/n/ n <u>i</u> p			/ŋ/ s <u>i</u> ng	
	lateral				/l/ L <u>yn</u> n				
Approximants	central	/w/ w <u>i</u> n			/ɹ/ r <u>i</u> m		/j/ y <u>i</u> ng		

11. Consonants of Yidj

	Bilabial	Alveolar	Retroflex	Palatal	Velar
Stops (voiced)	b	d		ɟ	g
Nasals	m	n		ɲ	ŋ
Liquids nonlateral		r	ɻ		
Lateral		l			
Lateral velarized		ɭ			
Glides	w			j	

12. Vowels of Yidj

	Front Unrounded	Back Unrounded	Back Rounded
High tense	i, i:		u, u:
High lax	ɪ		ʊ, ʊ:
Low		a, a:	

The diacritic : means a long vowel; you can use the feature [+long] for long vowels.

13. Phrase structure rules for English

S	→ NP (Aux) VP	NP	→ NP (Conj NP)*
NP	→ ({ Art NP})(A)* N (PP)* (\bar{S})	VP	→ VP (Conj VP)*
NP	→ Pronoun	PP	→ PP (Conj PP)*
VP	→ V (NP) (NP) (PP)* (S')	S	→ S (Conj S)*
PP	→ P NP	\bar{S}	→ \bar{S} (Conj \bar{S})*
\bar{S}	→ (Comp) S		

14. English Transformations

Subject-Aux Inversion

X	[NP	Aux	VP] _S	→	X	[Aux	NP	VP] _S
1		2	3	4			1		3	2	4	

Wh- Movement

$$\begin{array}{cccccc} W & [& [X]_{\text{Comp}} & X & wh- & Y]_S & Z \\ 1 & & 2 & & 3 & 4 & 5 & 6 \end{array} \rightarrow \begin{array}{cccccc} W & [& [wh-]_{\text{Comp}} & X & t & Y]_S & Z \\ 1 & & 4 & & 3 & 4 & 5 & 6 \end{array}$$

where

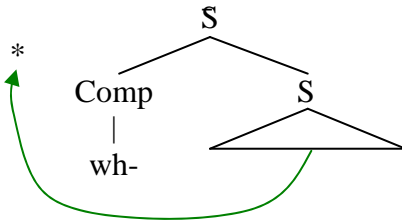
- *wh-* is a phrase containing a *wh-* word
- *t* is an empty element of the same category as *wh-*.
- *W*, *X*, *Y*, and *Z* are variables, standing for any word sequence.

It Clefting

$$\begin{array}{cccc} [& X & \left\{ \begin{array}{l} \text{NP} \\ \text{PP} \end{array} \right\} & Y]_S \\ 1 & & 2 & 3 \end{array} \rightarrow \begin{array}{ccccccc} [& [& [it]_{\text{Pro}} &]_{\text{NP}} & [& [be]_{\text{V}} & \left\{ \begin{array}{l} \text{NP} \\ \text{PP} \end{array} \right\} & [& that & X & t & Y &]_{\text{VP}} &]_S &]_S \\ & & & & 2 & & & & & 1 & 2 & 3 \end{array}$$

15. Wh- Island Constraint

Mark as ungrammatical any sentence in which a constituent has been extracted from inside an *S* whose *Comp* contains a *wh-* phrase.

**16. Rules of Semantic Interpretation****Reflexive Interpretation**

A reflexive pronoun must be coreferent with an NP that (a) is its clausemate; and (b) c-commands it.

Regular Pronoun Interpretation

A regular pronoun cannot be coreferent with a c-commanding clausemate.

Full Noun Phrase Interpretation

A full noun phrase cannot be coreferent with a c-commanding Noun Phrase.

Quantifier Translation

Replace

[every N]_{NP} with [for every x, x an N]_{NP}

[some N]_{NP} with [for some x, x an N]_{NP}

and similarly for other quantified expressions. If the variable x is already in use, use y instead; etc.

Quantifier Raising

Left-adjoin a quantified NP to S, leaving behind its variable in its original location.

Left-Adjunction

Given a constituent A, containing a B, and (optionally) C, the mother of A:

Form a new constituent, which is:

- has the same node label as A
- has as its daughter nodes a copy of B, followed by A
- if A was the daughter of C, the new constituent becomes the daughter of C

17. Feature chart for English and Yidip

	[syllabic]	[stop]	[affricate]	[fricative]	[liquid]	[glide]	[voiced]	[nasal]	[high]	[low]	[back]	[round]	[tense]	[bilabial]	[labiodental]	[dental]	[alveolar]	[palato-alveolar]	[palatal]	[velar]	[glottal]	[lateral]	[long]	
p	-	+	-	-	-	-	-	-						+	-	-	-	-	-	-	-	-	-	-
t	-	+	-	-	-	-	-	-						-	-	-	+	-	-	-	-	-	-	-
k	-	+	-	-	-	-	-	-						-	-	-	-	-	-	+	-	-	-	-
b	-	+	-	-	-	-	+	-						+	-	-	-	-	-	-	-	-	-	-
d	-	+	-	-	-	-	+	-						-	-	-	+	-	-	-	-	-	-	-
j	-	+	-	-	-	-	+	-						-	-	-	-	-	+	-	-	-	-	-
g	-	+	-	-	-	-	+	-						-	-	-	-	-	-	+	-	-	-	-
tʃ	-	-	+	-	-	-	-	-						-	-	-	-	-	+	-	-	-	-	-
dʒ	-	-	-	-	-	-	+	-						-	-	-	-	-	+	-	-	-	-	-
f	-	-	-	+	-	-	-	-						-	+	-	-	-	-	-	-	-	-	-
θ	-	-	-	+	-	-	-	-						-	-	+	-	-	-	-	-	-	-	-
s	-	-	-	+	-	-	-	-						-	-	-	+	-	-	-	-	-	-	-
ʃ	-	-	-	+	-	-	-	-						-	-	-	-	-	+	-	-	-	-	-
h	-	-	-	+	-	-	-	-						-	-	-	-	-	-	-	+	-	-	-
v	-	-	-	+	-	-	+	-						-	+	-	-	-	-	-	-	-	-	-
ð	-	-	-	+	-	-	+	-						-	-	+	-	-	-	-	-	-	-	-
z	-	-	-	+	-	-	+	-						-	-	-	+	-	-	-	-	-	-	-

