

File 4.5—Morphological Analysis

Exercises

Beginning Exercises

29. Isthmus Zapotec

Examine the following data from Isthmus Zapotec, a language spoken in Mexico. Answer the questions that follow.

a. [palu]	'stick'	g. [spalube]	'his stick'	m. [spalulu]	'your stick'
b. [ku:ba]	'dough'	h. [sku:babe]	'his dough'	n. [sku:balu]	'your dough'
c. [tapa]	'four'	i. [stapabe]	'his four'	o. [stapalu]	'your four'
d. [geta]	'tortilla'	j. [sketabe]	'his tortilla'	p. [sketalu]	'your tortilla'
e. [bere]	'chicken'	k. [sperebe]	'his chicken'	q. [sperelu]	'your chicken'
f. [do?o]	'rope'	l. [sto?obe]	'his rope'	r. [sto?olu]	'your rope'

i. Isolate the morphemes that correspond to the following English translations:

- _____ possession (genitive)
 _____ third person singular
 _____ second person plural

ii. List the allomorphs for the following translations:

- _____ 'tortilla' _____ 'rope'
 _____ 'chicken'

iii. What phonological environment triggers the alternation between these allomorphs?

30. Turkish

Examine the following data from Turkish and answer the questions that follow:

a. [deniz]	'an ocean'	i. [elim]	'my hand'
b. [denize]	'to an ocean'	j. [eller]	'hands'
c. [denizin]	'of an ocean'	k. [dişler]	'teeth'
d. [eve]	'to a house'	l. [dişimizin]	'of our tooth'
e. [evden]	'from a house'	m. [dişlerimiz]	'of our teeth'
f. [evdzikden]	'from a little house'	n. [eldzike]	'to a little hand'
g. [denizdzikde]	'in a little ocean'	o. [denizlerimizde]	'in our oceans'
h. [elde]	'in a hand'	p. [evdziklerimizde]	'in our little houses'

i. Give the Turkish morpheme that corresponds to each of the following translations:

- _____ 'ocean' _____ 'in' _____ 'my'
 _____ 'house' _____ 'to' _____ 'of'
 _____ 'hand' _____ 'from' _____ 'our'
 _____ 'tooth' _____ 'little' _____ (plural marker)

ii. What is the order of morphemes in a Turkish word (in terms of noun stem, plural marker, etc.)?

iii. How would one say 'of our little hands' in Turkish?

31. Luiseño

Examine the following data from Luiseño, a Uto-Aztecan language of Southern California, and answer the questions that follow.

a. [nokaamaj]	'my son'	m. [pokaamaj]	'his son'
b. [ʔoki]	'your house'	n. [poki]	'his house'
c. [potaana]	'his blanket'	o. [notaana]	'my blanket'
d. [ʔohuukapi]	'your pipe'	p. [pohuukapi]	'his pipe'
e. [ʔotaana]	'your blanket'	q. [nohuukapi]	'my pipe'
f. [noki]	'my house'	r. [ʔokaama]	'your son'
g. [ʔomkim]	'your (pl.) houses'	s. [pompeewum]	'their wives'
h. [nokaamajum]	'my sons'	t. [pomki]	'their house'
i. [popeew]	'his wife'	u. [tjampeewum]	'our wives'
j. [ʔopeew]	'your wife'	v. [tjamhuukapim]	'our pipes'
k. [ʔomtaana]	'your (pl.) blanket'	w. [ʔomtaanam]	'your (pl.) blankets'
l. [tjamhuukapi]	'our pipe'	x. [pomkaamaj]	'their son'

- i. Give the Luiseño morpheme that corresponds to each English translation. Note that the plural marker has two allomorphs; list them both.

_____ 'son'	_____ 'my'	_____ 'their'
_____ 'house'	_____ 'his'	_____ (plural marker)
_____ 'blanket'	_____ 'your (sg.)'	_____ 'pipe'
_____ 'wife'	_____ 'your (pl.)'	_____ 'our'

- ii. Are the allomorphs of the plural marker phonologically conditioned?
 iii. If so, what are the conditioning environments?

32. Quiché

Some sentences from Quiché, a Native American language spoken in Guatemala, Central America, are given with their English translation in (a)–(h). Analyze the morphemes in these sentences and then fill in the exercises that follow the language data. Note that [x] is a voiceless velar fricative.

<i>Quiché</i>	<i>English</i>
a. [kiʁsikix le líbr]	'I read (present tense) the book'
b. [kusikix le líbr]	'He reads the book'
c. [kiʁwetamáx le kém]	'I learn the (art of) weaving'
d. [kataxín kiʁwetamáx le kém]	'I continually learn the (art of) weaving'
e. [kataxín kawetamáx le kém]	'You continually learn the (art of) weaving'
f. [ʃiʁwetamáx]	'I learned (it)'
g. [ʃuwetamáx le kém]	'He learned the (art of) weaving'
h. [ʃasikix le líbr iwír]	'You read the book yesterday'

- i. Fill in the blanks with the corresponding Quiché morphemes:

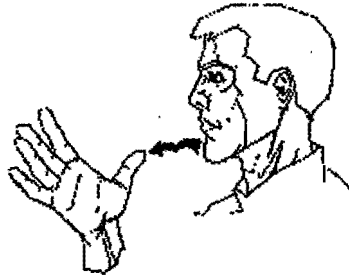
_____ 'I'	_____ 'learn'	_____ (present tense)
_____ 'he'	_____ 'read'	_____ (past tense)
_____ 'you'	_____ 'the'	_____ 'continually'
_____ 'book'	_____ 'weaving'	_____ 'yesterday'

- ii. What is the order of Quiché morphemes (in terms of subject, verb, object, and tense marker)?

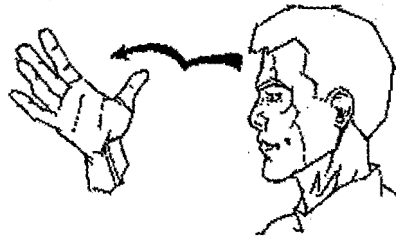
33. American Sign Language

Each of the four signs below includes one affix. The two signs on the left have the same affix. The two signs on the right share a different affix.

a. GRANDMOTHER



GRANDFATHER



b. MOTHER



FATHER



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- i. Which phonological parameter differentiates these two affixes: place of articulation, movement, hand shape, or hand orientation?
- ii. Describe the difference in form between the affix in the signs on the left and the affix in the signs on the right.
- iii. Are these two affixes prefixes, suffixes, infixes, or simultaneous affixes?
- iv. What is the meaning of the affix used on the left? What is the meaning of the affix used on the right?

34. Michoacan Aztec

Examine the following words from Michoacan Aztec, a language of Mexico, and answer the questions that follow.

- | | | | |
|-----------------------|--------------|------------------------|------------------|
| a. [nokali] | 'my house' | f. [mopelo] | 'your dog' |
| b. [nokalimes] | 'my houses' | g. [mopelomes] | 'your dogs' |
| c. [mokali] | 'your house' | h. [ikwahmili] | 'his cornfield' |
| d. [ikali] | 'his house' | i. [nokwahmili] | 'my cornfield' |
| e. [nopelo] | 'my dog' | j. [mokwahmili] | 'your cornfield' |

i. Fill in the blanks with the corresponding Michoacan morphemes:

- | | | | |
|-------|-----------------|-------|--------|
| _____ | 'house' | _____ | 'my' |
| _____ | 'dog' | _____ | 'your' |
| _____ | 'cornfield' | _____ | 'his' |
| _____ | (plural marker) | | |

- ii. What is the English translation for the Michoacan word [ipelo]?
- iii. How would you say 'his cornfields' in Michoacan?

35. Cebuano

The following nouns are from Cebuano, a language of the Philippine Islands. Examine them and answer the questions that follow.

- | | | | |
|--------------|--------------------|----------------|------------------------|
| a. [bisaja] | 'a Visayan' | f. [binisaja] | 'the Visayan language' |
| b. [inglis] | 'an Englishman' | g. [ininglis] | 'the English language' |
| c. [tagalog] | 'a Tagalog person' | h. [tinagalog] | 'the Tagalog language' |
| d. [ilokano] | 'an Ilocano' | i. [inilokano] | 'the Ilocano language' |
| e. [sibwano] | 'a Cebuano' | j. [sinibwano] | 'the Cebuano language' |

- i. State the rule (in words, precisely) for deriving language names from the names of ethnic groups.
- ii. What type of affixation is this?

36. Isleta

Consider the following data from Isleta, a dialect of Southern Tiwa, a Native American language spoken in New Mexico, and answer the questions that follow.

- | | | | |
|--------------|--------------|---------------|----------------|
| a. [temiban] | 'I went' | d. [mimij] | 'he was going' |
| b. [amiban] | 'you went' | e. [tewanban] | 'I came' |
| c. [temiwe] | 'I am going' | f. [tewanhi] | 'I will come' |

- i. List the morphemes corresponding to the following English translations.

_____ 'I'	_____ 'go'	_____ (present progressive)
_____ 'you'	_____ 'come'	_____ (past progressive)
_____ 'he'	_____ (past)	_____ (future)

- ii. What sort of affixes are the subject morphemes?
- iii. What sort of affixes are the tense morphemes?
- iv. What is the order of morphemes in Isleta?
- v. How would you say each of the following in Isleta?
 - 'He went.'
 - 'I will go.'
 - 'You were coming.'

37. German

Isolate the morphemes and word formation processes used to mark the plural in German. Don't worry about trying to describe which plural morpheme goes with which type of word. Just list the morphemes. (Note that the data below are given in normal German orthography, not IPA; vowels [ü] and [ö] are front rounded vowels and 'äu' is pronounced [ɔɪ].)

<i>Singular</i>	<i>Plural</i>	<i>Gloss</i>
a. Bild	Bilder	'picture'
b. Büro	Büros	'office'
c. Tüte	Tüten	'bag'
d. Loch	Löcher	'hole'
e. Uhr	Uhren	'watch'
f. Rind	Rinder	'bull/cow'
g. Wagen	Wagen	'vehicle'
h. Stift	Stifte	'pen'
i. Haus	Häuser	'house'
j. Laus	Läuse	'louse'

(cont.)

k. Hut	Hüte	'hat'
l. Hütte	Hütten	'hut'
m. Buch	Bücher	'book'
n. Dach	Dächer	'roof'
o. Kind	Kinder	'child'

Intermediate Exercises

38. Swahili

Examine the following data from Swahili, a language spoken in East Africa, and answer the questions that follow.

a. [atanipenda] 's/he will like me'	o. [atanipiga] 's/he will beat me'
b. [atakupenda] 's/he will like you'	p. [atakupiga] 's/he will beat you'
c. [atampenda] 's/he will like him/her'	q. [atampiga] 's/he will beat him/her'
d. [atatupenda] 's/he will like us'	r. [ananipiga] 's/he is beating me'
e. [atawapenda] 's/he will like them'	s. [anakupiga] 's/he is beating you'
f. [nitakupenda] 'I will like you'	t. [anampiga] 's/he is beating him/her'
g. [nitampenda] 'I will like him/her'	u. [amekupiga] 's/he has beaten you'
h. [nitawapenda] 'I will like them'	v. [amenipiga] 's/he has beaten me'
i. [utanipenda] 'you will like me'	w. [amempiga] 's/he has beaten him/her'
j. [utampenda] 'you will like him/her'	x. [alinipiga] 's/he beat me'
k. [tutampenda] 'we will like him/her'	y. [alikipiga] 's/he beat you'
l. [watampenda] 'they will like him/her'	z. [alimpiga] 's/he beat him/her'
m. [wametulipa] 'they have paid us'	aa. [atakusumbua] 's/he will annoy you'
n. [tulikulipa] 'we paid you'	bb. [unamsumbua] 'you are annoying him/her'

i. Give the Swahili morphemes corresponding to the following English translations:

_____ 'I'	_____ 'we'	_____ (past marker)
_____ 'pay'	_____ 'like'	_____ (present progressive)
_____ 's/he'	_____ 'annoy'	_____ (future marker)
_____ 'me'	_____ 'him/her'	_____ (present perfect)
_____ 'beat'	_____ 'they'	_____ 'you' (if subject)
_____ 'us'	_____ 'them'	_____ 'you' (if object)

ii. What is the order of morphemes in Swahili (in terms of subject, object, verb, and tense)?

iii. Give the Swahili word for the following English translations:

- | | |
|---------------------------|--------------------------|
| • 'I have beaten them.' | • 'You have beaten us.' |
| • 'They are beating me.' | • 'We beat them.' |
| • 'They have annoyed me.' | • 'I am paying him/her.' |

iv. Give the English translation for the following Swahili words.

- [atanilipa]
- [utawapiga]
- [walikupenda]
- [nimemsumbua]

39. Cree

Examine the following data from Cree, an Algonquian language spoken in Canada, and answer the questions that follow.

a. [tʃi:ma:n]	'canoe'	l. [nitospwa:kan]	'my pipe'
b. [nitʃi:ma:n]	'my canoe'	m. [akimew]	's/he counts'
c. [so:nija]	'money'	n. [nitakimen]	'I count'
d. [niso:nija]	'my money'	o. [apiw]	's/he sits'
e. [wiʃa:ʃ]	'meat'	p. [nitapin]	'I sit'
f. [niwiʃa:ʃ]	'my meat'	q. [ispelohkew]	's/he rests'
g. [e:mihkwɑ:n]	'spoon'	r. [nitispelohken]	'I rest'
h. [nité:mihkwɑ:n]	'my spoon'	s. [kaakimew]	's/he will count'
i. [astotin]	'hat'	t. [nikaakimen]	'I will count'
j. [nitastotin]	'my hat'	u. [kaapiw]	's/he will sit'
k. [ospwa:kan]	'pipe'	v. [nikaapin]	'I will sit'

i. What are the Cree morphemes for the following?

_____	'I'	_____	'my'
_____	's/he'	_____	(future tense)

ii. What are the allomorphs for 'I' and 'my'?

iii. What are the conditioning environments for the allomorphs?

iv. How does the morpheme 'I' differ from the morpheme 'my' (with respect to form, not meaning)?

40. Zoque

Examine the following data from Zoque, a language spoken in Mexico, and answer the subsequent questions.

a. [kenu]	'he looked'	g. [kenpa]	'he looks'
b. [sihku]	'he laughed'	h. [sikpa]	'he laughs'
c. [wihtu]	'he walked'	i. [witpa]	'he walks'
d. [kaʔu]	'he died'	j. [kaʔpa]	'he dies'
e. [cihcu]	'it tore'	k. [cicpa]	'it tears'
f. [sohsu]	'it cooked'	l. [sospa]	'it cooks'

i. What is the Zoque morpheme indicating the present tense?

ii. For each verb, give the meaning and list the allomorphs of the stem.

iii. Given any Zoque verb with two stem allomorphs, what morphological category determines the choice of stem? That is, how do you know which stem to use when?

iv. Describe the relationship between the stem allomorphs in terms of phonological form.

v. What is the Zoque morpheme meaning 'he' or 'it'?

41. Swedish

Swedish is a Germanic language with morphological marking of nouns similar to that of English, but with some significant differences. Consider the following forms (given in Standard Swedish spelling) of nouns and answer the questions.

a. en lampa	'a lamp'	l. en bil	'a car'
b. stolen	'the chair'	m. bilar	'cars'
c. en tidning	'a newspaper'	n. kattarna	'the cats'
d. lampan	'the lamp'	o. en katt	'a cat'
e. bilen	'the car'	p. soffor	'sofas'
f. en stol	'a chair'	q. tidningarna	'the newspapers'
g. sofforna	'the sofas'	r. bilarna	'the cars'
h. katten	'the cat'	s. lamporna	'the lamps'
i. tidningen	'the newspaper'	t. stolarna	'the chairs'
j. kattar	'cats'	u. en soffa	'a sofa'
k. tidningar	'newspapers'	v. soffan	'the sofa'
		w. lampor	'lamps'

- i. What Swedish word corresponds to the English indefinite article ('a(n')?)
- ii. What are the allomorphs of the definite morpheme? Where do they appear?
- iii. How is the indefinite plural formed? The definite plural?
- iv. How would you say the forms of the following words?

		<i>Definite</i>	<i>Plural</i>	<i>Definite Plural</i>
en flicka	'a girl'	_____	_____	_____
en klänning	'a dress'	_____	_____	_____
en blomma	'a flower'	_____	_____	_____
en buss	'a bus'	_____	_____	_____

42. Hanunoo

Hanunoo is a language spoken in the Philippine Islands. Compare the data from this language horizontally (e.g., (a)-(h)-(o) go together), and answer the questions that follow.

a. [ʔusa]	'one'	h. [kasʔa]	'once'	o. [ʔusahi]	'make it one'
b. [duwa]	'two'	i. [kadwa]	'twice'	p. [duwahi]	'make it two'
c. [tulu]	'three'	j. [katlu]	'three times'	q. [tuluhi]	'make it three'
d. [ʔupat]	'four'	k. [kapʔat]	'four times'	r. [ʔupati]	'make it four'
e. [lima]	'five'	l. [kalima]	'five times'	s. [limahi]	'make it five'
f. [ʔunum]	'six'	m. [kanʔum]	'six times'	t. [ʔunumi]	'make it six'
g. [pitu]	'seven'	n. [kapitu]	'seven times'	u. [pituhi]	'make it seven'

- i. Two affixes are illustrated in these data. Identify each of them, state what kind of affix each one is, and tell what information or change is associated with each affix.
- ii. Considering the horizontal sets of words, describe the phonological alternations in the stems in each set. (If you have already completed the phonology files, use the relevant terms for phonological processes in your descriptions.)

*Advanced Exercises***43. Hungarian**

Examine the Hungarian data below and answer the questions that follow. Note that [y] represents a high front rounded vowel.

	<i>Singular</i>	<i>Plural</i>
a. 'table'	[ɔstɔ]	[ɔstɔlok]
b. 'worker'	[munka:ɟ]	[munka:ɟok]
c. 'man'	[ember]	[emberek]
d. 'white'	[feher]	[feherek]
e. 'this'	[ez]	[ezek]
f. 'line'	[ɟor]	[ɟorok]
g. 'eyeglasses'	[semyveg]	[semyvegek]
h. 'shirt'	[iɟ]	[iɟek]
i. 'head'	[fey]	[feyek]
j. 'box'	[doboz]	[dobozok]
k. 'drum'	[dob]	[dobok]
l. 'age'	[kor]	[korok]
m. 'coat'	[kɔbart]	[kɔbartok]
n. 'flower'	[vira:ɟ]	[vira:ɟok]

- i. What are the allomorphs of the Hungarian plural marker?
- ii. State the conditioning environment for each allomorph.

44. Popoluca

Examine the following data from Popoluca, a language spoken in Mexico, and answer the questions that follow. (Note: 'you' is singular throughout this exercise.)

a. [ʔiɟkuʔtpa]	'you eat it'	i. [ʔinhokspa]	'you hoe it'
b. [ʔanhokspa]	'I hoe it'	j. [no:mi]	'boss'
c. [ʔikuʔt]	'he ate it'	k. [ʔano:mi]	'my boss'
d. [ʔimo:ja]	'his flower'	l. [ʔika:ma]	'his cornfield'
e. [mo:ja]	'flower'	m. [ʔiɟka:ma]	'your cornfield'
f. [ʔampetpa]	'I sweep it'	n. [ʔamo:ja]	'my flower'
g. [ʔimpet]	'you swept it'	o. [ʔino:mi]	'your boss'
h. [ʔantek]	'my house'		

- i. List all of the Popoluca allomorphs corresponding to the following translations:

_____ 'cornfield'	_____ (past tense)
_____ 'flower'	_____ (present tense)
_____ 'boss'	_____ 'I/my'
_____ 'house'	_____ 'you/your'
_____ 'eat'	_____ 'he/his'
_____ 'sweep'	_____ 'hoe'

- ii. For those morphemes with more than one allomorph, state the phonetic environments that determine the occurrence of each allomorph.

45. Mongolian

Examine the Mongolian data on the following page. Note that [y] represents a high front rounded vowel, [ø] represents a mid front rounded vowel, and [x] represents a voiceless velar fricative.

	Stem	Future Imperative
a. 'enter'	[or-]	[oro:roi]
b. 'go'	[jav]	[javairai]
c. 'sit'	[su:-]	[su:garai]
d. 'come'	[ir-]	[irerrei]
e. 'do'	[xi:-]	[xi:gerrei]
f. 'come out'	[gar-]	[garairai]
g. 'take'	[av-]	[avairai]
h. 'study'	[sur-]	[surairai]
i. 'finish'	[byte:-]	[byte:gerrei]
j. 'drink'	[y:-]	[y:gø:røi]
k. 'find out'	[ol-]	[olo:roi]
l. 'conquer'	[jal-]	[yalairai]
m. 'ask'	[asur-]	[asurairai]
n. 'finish'	[tøgsq-]	[tøgsqø:røi]
o. 'beat'	[dev-]	[deverrei]
p. 'give'	[øq-]	[øqø:røi]
q. 'say'	[xel-]	[xele:rrei]
r. 'meet'	[u:lz-]	[u:lzarrai]
s. 'become'	[bol-]	[bolo:roi]
t. 'write'	[bitf-]	[bitferrei]
u. 'develop'	[xøgdz-]	[xøgdzø:røi]

- i. List all of the allomorphs of the Mongolian future imperative marker.
- ii. What environments condition the appearance of the different allomorphs?

46. Japanese

Consider the following inflected Japanese verb forms and answer the questions that follow. (X, Y, and Z are used as "dummy" pronouns in the glosses—they are not actually expressed morphologically in the data.)

a. [tabeta]	'X ate Y'
b. [aketa]	'X opened Y'
c. [tabesaseta]	'X made Y eat Z'
d. [akesaseta]	'X made Y open Z'
e. [taberareta]	'X was eaten'
f. [akerareta]	'X was opened'
g. [tabesaserareta]	'X was made to eat Y'
h. [akesaserareta]	'X was made to open Y'
i. [tabesasenai]	'X doesn't/won't make Y eat Z'
j. [tabenai]	'X doesn't/won't eat Y'
k. [tabesaserareru]	'X is/will be made to eat Y'

- i. Give the Japanese morphemes for the following English translations:

- _____ 'open'
- _____ 'eat'
- _____ passive marker ('... be VERB-ed,' e.g., 'They were opened/eaten')
- _____ causative marker ('... make X VERB,' e.g., 'Robin makes Tracey laugh')
- _____ nonpast marker (present or future tense)
- _____ past marker
- _____ negative marker

(cont.)

- ii.** Suppose a Japanese verb form were to include the following sets of morphemes. For each set, indicate the order in which the morphemes would occur in a verb form.
- passive, root, past, causative
 - causative, nonpast, root
 - root, negative, causative
- iii.** Give the Japanese verb form that would be used for each of the following English translations. Remember that you don't need to worry about words like *she*, *him*, and *them*.
- '(She) will make (him) open (them).'
 - '(He) will be made to open (them).'
- iv.** In Japanese, [uketa] means '(She) took (a test).'

Using this fact along with what you've observed above, how would you say the following in Japanese? Again, don't try to translate the items in parentheses.

 - '(She) was made to take (a test).'
 - '(She) makes (him) take (a test).'
 - '(She) will not take (a test).'