

- Let's finish up the **Kasem** analysis:

	singular	plural	Gloss
a)	bakada	bakadi	'boy'
b)	sada	sadi	'grass mat'
c)	mimiana	mimini	'thin'
d)	fala	fali	'white man'
e)	tula	tuli	'granary'
f)	kukuda	kukudi	'dog'
g)	fana	fani	'knife'
h)	čana	čani	'moon'
i)	bakala	bakali	'shoulder'
j)	kambia	kambi	'cooking pot'
k)	pia	pi	'yam'
l)	buga	bwi	'river'
m)	diga	di	'room'
n)	malaa	male	'chameleon'
o)	kabaa	kabe	'slave'
p)	zizaa	zize	'grass roof'
q)	laŋa	le	'song'
r)	naga	ne	'leg'
s)	pia	pe	'sheep' (c.f. 'yam')
t)	babia	babe	'brave'
u)	nanjua	nanjwe	'fly'
v)	yua	ywe	'hair'
w)	koga	kwe	'back'
x)	čonja	čwe	'path'

Q: What are the morphemes?

Q: What are the rules?

Q: How are they ordered?

TEX help:

In order to use unicode fonts in your TEX documents you need to include the following in your preamble (before `\begin{document}`):

```
\usepackage[dirty,tipa]{ucs}
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\usepackage[utf8x]{inputenc}
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\usepackage[T1]{fontenc}
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Guinaag Kalinga is spoken in the Philippines. This data is from Geiser (1970). Assuming there are lots of forms like (a) in which the first stem vowel is unstressed, what rules and orderings allow you to derive (b)?

a)	dábo	(hypothetical)	dinábo	(hypothetical)
b)	dopá	'fathom'	dimpána	'he measured by fathom'
c)	gobá	'firing(pots)'	gimbána	'she fired'
d)	ʔomós	'bath'	ʔimmósna	'she bathed'
e)	botáʔ	'broken piece'	bintáʔna	'she broke'
f)	ʔodáw	'requesting'	ʔindáwna	'he requested'
g)	bosát	'sudden break'	binsátna	'he snapped'
h)	ponú	'filling'	pinnúna	'she filled'
i)	toʔóp	'satisfaction'	tinʔópna	'he satisfied'
j)	sogób	'burning'	siŋgóbna	'he burned'
k)	doŋól	'report'	diŋŋólna	'he heard'
l)	ʔolót	'tightening'	ʔillótna	'he made tight'
m)	ʔowá	'doing, making'	ʔiŋwána	'he made did'

Q: What are the underlying forms of the morphemes here?

Q: What kind of rule ordering (feeding, bleeding, etc.) is needed here?

Lunaa is spoken on Luna Prime. This data is from Xaphod (2031).

a)	pi-z	'peas'	i)	bloʊk-s	'blokes'
b)	t ^h ou-z	'toes'	j)	k ^h af-s	'coughs'
c)	daɪ-z	'dolls'	k)	glas-is	'galsses'
d)	p ^h æn-z	'pans'	l)	fɪz-iz	'fizzes'
e)	daɪ-z	'dogs'	m)	bɹæntʃ-iz	'branches'
f)	læb-z	'labs'	n)	bædʒ-iz	'badges'
g)	k ^h ɪln-z	'kilns'	o)	wɪʃ-iz	'wishes'
h)	k ^h læsp-s	'clasps'	p)	gəɑɜ-iz	'garages'

Q: What are the underlying forms of the morphemes here?

Q: What kind of rule ordering is needed here?

Q: Give an example of a feeding rule interaction:

Q: Give an example of a counter-feeding interaction:

Q: Give an example of a bleeding rule interaction:

Q: Give an example of a counter-bleeding interaction:

- Two of these interactions are referred to as *opaque*, which ones?

Q: In the **Polish** data at the right, can you formulate rules that account for the voicing alternation and the o/u alternation? (Ignore all other alternations.)

Q: Do your rules need to be ordered?

Consider the following data from **Polish**:

	sg.	pl.	Gloss
a)	klup	klubi	'club'
b)	trup	trupci	'corpse'
c)	dom	domi	'house'
d)	snop	snopi	'sheaf'
e)	żwup	żwoci	'crib'
f)	trut	trudzi	'labor'
g)	dzvon	dzwoni	'bell'
h)	kot	koci	'cat'
h)	lut	lodzi	'ice'
i)	grus	gruzi	'rubble'
j)	nos	nosi	'nose'
k)	vus	vozi	'cart'
l)	koś	kości	'basket'
m)	nuś	noży	'knife'
n)	wuk	wuci	'lye'
o)	wuk	wuki	'bow'
p)	sok	soki	'juice'
q)	ruk	rogi	'horn'
r)	bur	borci	'forest'
s)	vuw	vowci	'ox'
t)	sul	soli	'salt'
u)	buj	bojci	'fight'
v)	śum	śumi	'noise'
w)	żur	żurci	'soup'

	1 sg.	imper sg.	Gloss
a)	rob'e	rup	'do'
b)	kop'e	kop	'shuck corn'
c)	vodze	vuc'	'lead'
d)	psoce	psoc'	'frolic'
e)	otvoże	otvuś	'open'
f)	stoje	stuj	'stand'
g)	ogole	ogul	'shave'
h)	xron'e	xron'	'protect'
i)	zwov'e	zwuf	'catch'