

**Assignment #6: Malayalam**  
Due Tuesday, Nov. 18 in class

The data below illustrate some alternations in Malayalam. Your job is to write rules to account for the alternations, as usual, but also to use the tools of lexical phonology to account for why some of the rules don't apply in certain morphological contexts. You will have to make a proposal about how many levels there are in the lexical component of Malayalam phonology, decide which morphological operations belong to which level, and decide which rules apply at which level(s) of the lexical phonology, or in the postlexical phonology.

Malayalam is a Dravidian language but has been heavily influenced by Sanskrit. I've marked words as D (Dravidian origin) or S (Sanskrit origin) whenever the source gave that information (sometimes that information is phonologically relevant, sometimes not)—in some cases D could mean that the word is treated by the language as Dravidian even if it actually came from Sanskrit, and vice versa. In the cases where the etymology is not given, you may assume that D and S words behave the same. You may assume that lexical entries can be marked [+D,-S] or [-D,+S], and that rules can be sensitive to those features *if they apply at a stage in the derivation before that information has been erased*.

Be sure to discuss...

- At what stage in the derivation can or must morphological bracketing and/or abstract features like [D] and [S] be erased? (Remember that once information is gone, it's gone—it can't come back later in the derivation.)
- Do the lexical rules show any NDEB?

A lot of the rules look kind of similar, which normally is a danger sign. In this case, avoid having very similar rules wherever you can, but don't worry if your solution still includes some.

Data is from a source that will remain nameless for now (I'll tell you after I collect the assignments). Some consonant allophony is not indicated. As always, the order in which you present your solution doesn't have to reflect the order in which the data are presented.

1. In order for some of the data to make sense, you will first need an analysis of the following schwa/zero alternations (analyze the glide/zero alternations also, for contrast). It's up to you, but I think you'll have an easier time if you assume that alternating schwas are inserted, not underlying. Note: Even though they don't form a natural class, [m] and [n] are the only consonants that are allowed to be word-final.

<i>word</i>		<i>inflected</i>		<i>in phrase</i>		<i>modifier-head compound</i>	
ewiṭe	where						
muurt <u>t</u> akuu <u>t</u> ti	sharpened						
waa ə	sword			waa ewiṭe	Where is the sword?		
				waa əmuurt <u>t</u> akuu <u>t</u> ti	sharpened the sword		
wa a	bangle			wa ajewiṭe	Where is the bangle?		
ur <u>a</u> ṅgi	slept						
w <u>a</u> ṅ <u>n</u> u	came						

maaṣə	teacher			maaṣuraṅṅi	The teacher slept.		
				maaṣəwaṅṅu	teacher came		
ḍaasi	servant			ḍaasijuraṅṅi	The servant slept.		
aana	elephant						
kaatə	forest					kaattaana	wild elephant
kuzi	hole					kuzijaana	insect that makes holes in the sand (lit. "hole elephant"?)
ṭookkə	gun	ṭookkinte	gun- <i>poss</i>				
ṭikku	Tickoo	ṭikkuwinte	Tickoo- <i>poss</i>				

2. Some differences between D and S stems. Warning: you will see a nasal~Ø rule that is sensitive to how many syllables the stem being affected has.

<i>word</i>			<i>modifier-head compound</i>	
r <sup>l</sup> ati	Rati (name)			
jakṣi	yakshi (demoness)			
b <sup>h</sup> aar <sup>l</sup> ja	wife			
waḍ <sup>h</sup> u	bride			
manuṣjan	man			
pustakam	book			
puṣpam	flower			
mar <sup>l</sup> am	tree			
jakṣan	yaksha (demon)			
kutti	child	D	r <sup>l</sup> atikutti	Ratikutti (name)
paala	pala tree	D	jakṣippaala	the pala tree in which yakshi lives
wiiṭə	house	D	b <sup>h</sup> aar <sup>l</sup> jawiiṭə	wife's house
kur <sup>l</sup> aṅṅə	monkey	D	manuṣjakkur <sup>l</sup> aṅṅə	human monkey/ape
taajam	paint	D	pustakattaajam	paint for books
kuṭam	pitcher	D	puṣpakkuṭam	pitcher of/for flowers
			mar <sup>l</sup> akkuṭam	wooden pitcher
kutir <sup>l</sup> a	horse	D	mar <sup>l</sup> akkuṭir <sup>l</sup> a	wooden horse
paattə	song	D	jakṣappaattə	yaksha's song
ḍeewi	goddess	S	r <sup>l</sup> atiḍeewi	goddess Rati

paadaṁ	foot	S	jaḡsiipaadaṁ	yakshi's foot
gr <sup>h</sup> əham	house	S	b <sup>h</sup> aar <sup>j</sup> jaagr <sup>j</sup> əham	wife's house
			wad <sup>h</sup> uugr <sup>j</sup> əham	bride's house
kaṅṭ <sup>h</sup> am	neck	S	manuṡjakaṅṭ <sup>h</sup> am	human neck
tar <sup>j</sup> iṭam	story	S	pustakatar <sup>j</sup> iṭam	history of books
kumb <sup>h</sup> am	pitcher	S	puṡpakumb <sup>h</sup> am	pitcher of/for flowers
			mar <sup>j</sup> akumb <sup>h</sup> am	wooden pitcher
ṭaar <sup>j</sup> a	Tara (name)			
kaaṅṭan	husband	S	ṭaar <sup>j</sup> aakaṅṭan	Tara's husband
			ṭaar <sup>j</sup> aakaṅṭanmaar <sup>j</sup> ə	Tara's husbands ( <b>-maar<sup>j</sup> = plural</b> )
ṭii	fire			
kaṭṭa	lump	D	ṭiikkaṭṭa	lump of fire
ṅaaḷam	flame	D	ṭiīṅaaḷam	flame of fire
swarnṅam	gold			
pazaṁ	fruit	D	swarnṅappazaṁ	fruit of gold
maza	rain	D	swarnṅamaza	rain of gold
kar <sup>j</sup> i	charcoal			
kuuṭṭaan	dish	D	kar <sup>j</sup> ikkuuṭṭaan	coal dish
laḡḡu	sweet	D	karilaḡḡu	charcoal sweet (don't worry about the [r])
muuṭṭram	urine			
s <sup>j</sup> aṅka	suspicion	D	muuṭṭras <sup>j</sup> aṅka	desire to urinate
suuṭi	needle	D	swarnṅasuuṭi	golden needle
pallə	tooth			
malar <sup>j</sup> ə	popped rice			
poṭi	powder	D	palppoṭi	tooth powder
			malarppoṭi	powdered popped rice
pakalə	day			
kinaawə	dream	D	pakalkkinaawə	day dream
aaḷə	man			
kuuṭṭam	group	D	aaḷkkuuṭṭam	crowd

wirakə	firewood			
kolli	twig	D	wirakəkolli	log for firewood
kaṭukə	mustard			
paaṭram	vessel	D	kaṭukəpaaṭram	vessel for mustard
kaaṭə	ear			
kuttə	piercing	D	kaaṭəkuttə	piercing of the ear
kaaṭə	forest			
kur <sup>ʹ</sup> ṅṅan	monkey	D	kaaṭṭəkur <sup>ʹ</sup> ṅṅan	wild monkey
mar <sup>ʹ</sup> am	tree			
taṅṅala	chain	D	mar <sup>ʹ</sup> attaṅṅala	wooden chain

3. Malayalam also has multiply headed compounds that have a coordinative meaning. Carefully compare the coordinative compounds below to the modifier-head compounds below and in (1). Some of the differences are subtle.

<i>word</i>			<i>coordinative compound</i>		<i>modifier-head compound</i>	
att <sup>h</sup> an	father					
amma	mother		att <sup>h</sup> anammamaar <sup>ʹ</sup> ə	parents		
jakṣan	yaksha	S				
kinnar <sup>ʹ</sup> an	kinnara	S				
gaṇḍ <sup>h</sup> arwwan	gandharwa	S	jakṣakinnar <sup>ʹ</sup> agaṇḍ <sup>h</sup> arwwaaḍikaḷə	yakshas, kinnaras, gandharwas, etc. (demons) (aaḍi = 'etc.', <b>kaḷ</b> = plural)		
ulacca	pounding stick					
par <sup>ʹ</sup> ita	shield					
ṭala	head	D				
waaḷə	sword		waaḷulaccapar <sup>ʹ</sup> itakaḷə	sword, pounding stick & shield	waaḷṭṭala	sword point
			ulaccawaaḷəpar <sup>ʹ</sup> itakaḷə	pounding stick, sword & shield		
kutti	child	D				
wjaṭjaasam	difference					
aanḷə	man		aanḷəpenṅəwjaṭjaasam	difference between men & women	aanḷkutti	boy
penṅə	woman				penḷkutti	girl
paaṭram	vessel	D				

ṭajir <sup>1</sup> ə	yogurt					
wenṇa	butter				petṭi	box
warggam	group					
paalə	milk		paaləṭajir <sup>1</sup> əwenṇawarggam	the class of milk, yogurt & butter	paalppaaṭram	vessel for milk
tempə	copper				tempəpaaṭram	copper vessel
kaattə	breeze					
kuḷir <sup>1</sup> ə	cold				kuḷirkaattə	cool breeze (don't worry about [r])
meeni	body					
ṭajir <sup>1</sup> ə	tender leaf		ṭajir <sup>1</sup> əmeenikaḷə	tender leaves & bodies	ṭajirmeenikaḷə	tender body
puutta	cat					
kaaṭə	forest				kaattəpuutta	wild cat
kolḷi	twig					
wirakə	firewood				wirakəkolḷi	twig for firewood
kuttə	piercing					
kaaṭə	ear				kaatəkuttə	piercing of the ear
petṭi	box					
pattāajam	grain bin	D	petṭipattāajaṇṇaḷə	boxes and grain bins	petṭippattāajaṇṇaḷə	grain bins used as boxes
aana	elephant					
kuṭir <sup>1</sup> a	horse	D	aanakuṭir <sup>1</sup> akaḷə	elephants and horses	aanakuṭir <sup>1</sup> a	horse that is like an elephant
eli	rat					
paṇṇi	pig					
per <sup>1</sup> ittāazi	bandicoot	D	elipaṇṇiper <sup>1</sup> ittāazi	rat, pig and bandicoot		
suk <sup>h</sup> am	pleasure					
dukk <sup>h</sup> am	sorrow		suk <sup>h</sup> adukk <sup>h</sup> aṇṇaḷə	pleasure and pain		
manuṣjan	man					
mrəgam	animal					
sambaṇḍ <sup>h</sup> am	contact		manuṣjamrəgasambaṇḍ <sup>h</sup> am	interaction between man & animal		
ṭaar <sup>1</sup> a	Tara					
kaaṇṭan	Kantan	S	ṭaar <sup>1</sup> aakaṇṭanmaar <sup>1</sup> ə	Tara and Kantan		

baalica	girl				
baalan	boy	S	baalicaabaalanmaara <sup>jə</sup>	boys and girls	
b <sup>h</sup> aa <sup>r</sup> a	wife				
b <sup>h</sup> ar <sup>t</sup> taawə	husband	S	b <sup>h</sup> aa <sup>r</sup> jaab <sup>h</sup> ar <sup>t</sup> taakkanmaara <sup>jə</sup>	husband and wife (don't try to analyze the assimilations of the [w] from 'husband' and the [l] from the plural suffix [ka <sup>l</sup> ])	

4. Compare (1-3) to forms with inflectional and derived affixes:

<i>word</i>		<i>inflected</i>		<i>derived</i>	
awa <sup>l</sup> ə	she	awa <sup>l</sup> əkkə	to her		
awa <sup>r</sup> ə	they	awa <sup>r</sup> əkkə	to them		
akal-	to recede	akalum	will recede	akaltta	distance
		akalun <sup>nu</sup>	recedes		
pakar <sup>j</sup>	to spread	pakar <sup>j</sup> um	will spread	pakar <sup>t</sup> ta	spreading
		pakar <sup>j</sup> un <sup>nu</sup>	spreads		
ku <sup>l</sup> irə	cold	ku <sup>l</sup> ir <sup>j</sup> um	will feel cold	ku <sup>l</sup> irmma	coldness
		ku <sup>l</sup> ir <sup>j</sup> un <sup>nu</sup>	feels		
ta <sup>l</sup> ir <sup>j</sup> ə	tender leaf			ta <sup>l</sup> ir <sup>kk</sup> -	to sprout tender leaves

5. Here is an alternation that applies to sonorants:

<i>word</i>			<i>inflected</i>		<i>derived</i>		<i>modifier-head</i>	
waja <sup>l</sup> ə	field							
ṇe <sup>l</sup> ə	paddy						ṇelwaja <sup>l</sup> ə	paddy field
pra <sup>ṭ</sup> ima	statue							
ara	room							
kallə	stone		kallinte (-inte=gen.)	stone-genitive			kalpra <sup>ṭ</sup> ima	stone statue
							kallara	stone room
po <sup>ṭ</sup> i	powder	D						
aana	elephant							
pallə	tooth		palləka <sup>l</sup> ə	teeth			pal <sup>ṭ</sup> po <sup>ṭ</sup> i	tooth powder

							aanappallan	elephant-toothed man
malar <sup>l</sup> ə	popped rice						malarppot̩i	powdered popped rice
muna	corner							
kaŋŋə	eye		kaŋŋəkəla	eyes			kaŋŋmuna	corner of the eye
warggam	group							
amma	mother							
peŋŋə	woman		peŋŋəŋŋala	women	peŋŋan (-an derives masc. sg. Ns)	womanish man	peŋwarggam	female species (?)
							peŋŋamma	wife's mother

6. Here is an alternation that applies to [t] and [r] (they each alternate with something else, not with each other).

<i>word</i>			<i>coordinative compound</i>		<i>modifier-head</i>	
aana	elephant					
kaatə	forest				kaatt̩aana	untamed elephant
maatə	cow					
tozuttə	stable					
aatə	sheep		aatəmaatəkəla	sheep and cows	aatt̩ətozuttə	sheep shed
wakkə	edge					
rootə	road				roott̩əwakkə	roadside
tozilaali	laborer					
tumatə	burden				tumatt̩ətozilaali	porter
kampi	metal rod					
taŋŋala	chain	D			mar <sup>l</sup> att̩aŋŋala	wooden chain
katt̩ilə	cot					
kajarə	rope		kajarəkampitaŋŋalawarggam	the set of rope, metal rod and chain	kajattəkatt̩ilə	cot made with rope
kott̩a	basket					
tawarə	trash				tawattəkott̩a	trash can
paat̩ram	vessel	D				
toorə	rice				toott̩əpaat̩ram	lunch box
<i>cf.</i>						
aɕuppə	stove					
wirakə	firewood				wirakəɕuppə	stove that uses firewood

kuttalə	piercing				
kaaṭə	ear			kaaṭəkuttalə	the ear piercing ceremony

7. Now some more data on stems with inflectional affixes, stems with derivational affixes, and multiword utterances. Check if the rules you have developed above apply here, and whether you need any new rules.

<i>word</i>		<i>inflected</i>		<i>derived</i>		<i>phrase</i>	
aas <sup>ʃ</sup> a	hope			ṅir <sup>ʃ</sup> aas <sup>ʃ</sup> a	disappointment		
guṇam	quality			ṅirgguṇam	without quality		
b <sup>h</sup> ajam	fear			ṅirbb <sup>h</sup> ajam	fearless		
ladda	shame			ṅirlladda	shameless		
aagr <sup>ʃ</sup> aham	desire			ḍur <sup>ʃ</sup> aagr <sup>ʃ</sup> aham	bad desire		
mooham	desire			ḍurmmooham	bad desire		
				aṭimooham	greed		
gand <sup>h</sup> am	smell			ḍurggand <sup>h</sup> am	bad smell		
balam	strength			ḍurbbala	weak woman		
aakaas <sup>ʃ</sup> am	sky			bahir <sup>ʃ</sup> aakaas <sup>ʃ</sup> am	outer space		
gamanam	going			bahirggamanam	going out		
				anugamanam	following		
muk <sup>h</sup> am	face			bahirmuk <sup>h</sup> an	extrovert		
ṅaajakān	hero			upaṅaajakān	second hero		
manṭram	spell			pratimanṭram	counterspell		
maṭi	mind			anumaṭi	permission		
ḍ <sup>h</sup> wani	sound			praṭid <sup>h</sup> wani	echo		
ṅalki	gave	ṅalkum	will give				
		ṅalkunṅu	gives				
pulki	embraced	pulkum	will embrace				
		pulkunṅu	embraces				
manuṣjan	man					manuṣjan mar <sup>ʃ</sup> ittu	The man died.
mar <sup>ʃ</sup> ittu	died						



jakṣan	yakṣa- <i>nom</i>					jakṣan kinnar <sup>1</sup> ane ṅuḷḷi	
kinnar <sup>1</sup> ane	kinnara- <i>acc</i>						
ṅuḷḷi	pinched						
kaṭam	debt					kaṭam koṅḷə muṭin <sup>1</sup> n <sup>1</sup> u	We are destroyed with debt.
koṅḷə	with						
muṭin <sup>1</sup> n <sup>1</sup> u	destroyed						
mar <sup>1</sup> am	tree	mar <sup>1</sup> aṅṅaḷə	trees				
kur <sup>1</sup> aṅṅan	monkey	kur <sup>1</sup> aṅṅanmaar <sup>1</sup> ə	monkeys				
aar <sup>1</sup> oogjam	health			anaar <sup>1</sup> oogjam	ill health		
aikjam	unity			anaikjam	disunity		
ṭaamar <sup>1</sup> a	lotus			ṭeṅṭaamar <sup>1</sup> a	red lotus <sup>1</sup>		
maṅḷə	mud			ṭemmaṅḷə	red clay		
joogam	joining			samjoogam	joining together		
ṭaapam	heat			saṅṭaapan	grief		
bood <sup>h</sup> am	consciousness			upabood <sup>h</sup> amanassə	subconscious mind <sup>2</sup>		
manassə	mind						
ṭaar <sup>1</sup> a	Tara	ṭaar <sup>1</sup> aje	Tara- <i>acc</i>			ṭaar <sup>1</sup> a gamittu	Tara went
		ṭaar <sup>1</sup> acce	Tara- <i>dat</i>				
gamittu	went						
b <sup>h</sup> aar <sup>1</sup> ja	wife	b <sup>h</sup> aar <sup>1</sup> jamaar <sup>1</sup> ə	wives			b <sup>h</sup> aar <sup>1</sup> ja kaar <sup>1</sup> aṅam	because of the wife
baakr <sup>1</sup> aṅam	reason						
ṅaṭi	actress					ṅaṭi praart <sup>h</sup> ittu	actress prayed
praart <sup>h</sup> ittu	prayed						
parawa	dove	parawakaḷə	doves				

<sup>1</sup> The source treats this as prefixed, not compounded.

<sup>2</sup> This has a derivational prefix and is a compound.