Phonology

• bəfor juw krɪtəsajz sʌmwʌn, juw ʃəd wɔk ə majl ɪn ðejr ʃuz. ðæt wej, wɛn juw krɪtəsajz ðəm, jər ə majl əwej ənd juw hæv ðer ʃuz.

• prabəblij ðij ərlijəst flajswatərz wər nʌθɪŋ mor ðæn sʌm sort əv strajkɪŋ sərfəs ətætʃt tə ðij ɛnd əv ə lɔŋ stɪk.

• ðə fejs əv ə tʃajld kən sej ɪt al, əspɛʃəlij ðə mawθ part əv ðə fejs.

• dæd alwejz θɔt læftər wəz ðə bɛst mɛdəsən, wɪtʃ aj gɛs ɪz waj sɛvrəl əv əs dajd əv təbərkjəlosɪs.

• ɪf triz kəd skrim, wʊd wij bij sow kævəlir əbawt kʌtɪŋ ðəm dawn? wij majt, ɪf ðej skrimd al ðə tajm, fər now gʊd rizən.

• æz ðə lajt tʃejndʒd frəm rɛd tə grin tə jɛlow ənd bæk tə rɛd əgjɛn, aj sæt ðer θɪŋkɪŋ əbawt lajf. wəz ɪt nʌθɪŋ mor ðən ə bʌntʃ əv hɔŋkɪŋ ənd jɛlɪŋ? sʌmtajmz ɪt simd ðæt wej.
-"dip θɔts", dʒæk hændij

We have been talking about phonetic inventories…

…but we've also seen some ways in which sounds can interact with each other. Let's see more of those.

Some common kinds of phonological rules…
- **final devoicing**

   Polish

wuk 'bow'
wuk 'lye'

trup 'corpse'
klup 'club'

kot 'cat'
trut 'labor'

nos 'nose'
grus 'rubble'

Some common kinds of phonological rules…
- **final devoicing**

Polish

wuk 'bow'   wuki 'bows'
wuk 'lye'   wugi 'lyes'

trup 'corpse'   trupi 'corpses'
klup 'club'   klubi 'clubs'

kot 'cat'   koti 'cats'
trut 'labor'   trudi 'labors'

nos 'nose'   nosi 'noses'
grus 'rubble'   gruzi 'rubbles'

Some common kinds of phonological rules…
- **final devoicing**
    Polish

wuk 'bow'   wuki 'bows'

wuk 'lye'   wugi 'lyes'

trup 'corpse'   trupi 'corpses'

klup 'club'   klubi 'clubs'

kot 'cat'   koti 'cats'

trut 'labor'   trudi 'labors'

nos 'nose'   nosi 'noses'

grus 'rubble'   gruzi 'rubbles'

→ word-final stops and fricatives

become voiceless.

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**

Turkish

aslan 'lion'
kol 'arm'
kul 'slave'
kɯz 'daughter'
yel 'wind'
diʃ 'tooth'
gyl 'rose'

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**

Turkish

aslan 'lion'   aslanlar 'lions'
kol 'arm'   kollar 'arms'
kul 'slave'   kullar 'slaves'
kɯz 'daughter'   kɯzlar 'daughters'
yel 'wind'   yeller 'winds'
diʃ 'tooth'   diʃler 'teeth'
gyl 'rose'   gyller 'roses'

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**
- **assimilation**

English plurals!

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**
- **assimilation**

Mokilese

pi̥san	'full of leaves'
dupu̥kda	'bought'
pu̥ko	'basket'
ki̥sa	'we two'
su̥pwo	'firewood'
kamwɔki̥ti	'to move'
uduk	'flesh'
kaskas	'to throw'
poki	'to strike something'
pil	'water'
apid	'outrigger support'
ludʒuk	'to tackle'

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**
- **assimilation**
- **lenition**

 Spanish

bota 'boot'
dama 'lady'
gota 'drop'

Some common kinds of phonological rules…
- **final devoicing**
- **vowel harmony**
- **assimilation**
- **lenition**

Spanish

bota   'boot'   la βota 'the boot'
dama   'lady'   la ðama 'the lady'
gota   'drop'   la γota 'the drop'

Lardil

Nom.	Acc.	
mela	melan	'seawater, beer'
barnga	barngan	'stone'
katha	kathan	'nest'
wunda	wundan	'stingray species'
thungal	thungalin	'tree'
ketharr	ketharrin	'river'
miyar	miyarin	'spear'

Lardil

Nom.	Acc.	
mela	melan	'seawater, beer'
barnga	barngan	'stone'
katha	kathan	'nest'
wunda	wundan	'stingray species'
thungal	thungalin	'tree'
ketharr	ketharrin	'river'
miyar	miyarin	'spear'
wunda	wunin	'rain'
belda	belin	'tip'
dalda	dalin	'curve'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
thungal	thungalin	thungal	'tree'
ketharr	ketharrin	ketharr	'river'
miyar	miyarin	miyar	'spear'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
yaka	yakin		'fish'
birrka	birrkin		'string'
lelka	lelkin		'head'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
yaka	yakin	yak	'fish'
birrka	birrkin	birrk	'string'
lelka	lelkin	lelk	'head'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
kanda	kandun		'blood'
nguka	ngukun		'water'
ngawa	ngawun		'dog'
karda	kardun		'woman's child, man's sister's child'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
kanda	kandun	kandu	'blood'
nguka	ngukun	nguku	'water'
ngawa	ngawun	ngawu	'dog'
karda	kardun	kardu	'woman's child, man's sister's child'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
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wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
ngalu	ngalukin		'story'
wangal	wangalkin		'boomerang'
thalkurr	thalkurrkin		'kookaburra'
kundul	kundulkin		'umbilical cord'

Lardil

Nom.	Acc.	Underlying Form	
mela	melan	mela	'seawater, beer'
barnga	barngan	barnga	'stone'
katha	kathan	katha	'nest'
wunda	wundan	wunda	'stingray species'
wunda	wunin	wun	'rain'
belda	belin	bel	'tip'
dalda	dalin	dal	'curve'
ngalu	ngalukin	ngaluk	'story'
wangal	wangalkin	wangalk	'boomerang'
thalkurr	thalkurrkin	thalkurrk	'kookaburra'
kundul	kundulkin	kundulk	'umbilical cord'

Lardil

some rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *lelk -> lelka* 'head'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

Lardil

some rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *lelk -> lelka* 'head'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

lelk-->
rule 2:   *lelka* 'head'

Lardil

some rules:

1. one-syllable stems add -*da*: *bel ->belda* 'edge'
2. ..unless they end in -*k*, then just add -*a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

        lelk-->

rule 2:   *lelka* 'head'

why not rule 4?   *lelk--> lel*

        (then maybe rule 1: *lel-->lelda*)

Lardil

some rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

        ngaluk-->

rule 4:   *ngalu* 'story'

Lardil

some rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

ngaluk-->

rule 4: *ngalu* 'story'

why not then apply rule 3? *ngalu --> ngala*

Lardil

some rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

one response to this kind of problem:
rule ordering

Rules 2 and 3 apply before Rule 4.

Lardil

some **ordered** rules:

1. one-syllable stems add -*da*: *bel ->belda* 'edge'
2. ..unless they end in -*k*, then just add -*a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

input	*lelk*
rule 2	*lelka*
rule 3	--
rule 4	--
output	*lelka*

Lardil

some **ordered** rules:

1. one-syllable stems add -*da*: *bel* ->*belda* 'edge'
2. ..unless they end in -*k*, then just add -*a*: *birrk* -> *birrka* 'string'
3. final *u* ->*a*: *kandu* -> *kanda* 'blood'
4. final *k* drops: *wangalk* -> *wangal* 'boomerang'

input	*lelk*	*ngaluk*
rule 2	*lelka*	--
rule 3	--	--
rule 4	--	*ngalu*
output	*lelka*	*ngalu*

Lardil

some **ordered** rules:

1. one-syllable stems add *-da*: *bel ->belda* 'edge'
2. ..unless they end in *-k*, then just add *-a*: *birrk -> birrka* 'string'
3. final *u ->a*: *kandu -> kanda* 'blood'
4. final *k* drops: *wangalk -> wangal* 'boomerang'

input	*lelk*	*ngaluk*
rule 2	*lelka*	--
rule 3	--	--
rule 4	--	*ngalu*
output	*lelka*	*ngalu*

(...these all happen to be cases in which only one rule applies...)

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