

Homework 5: Turkish

Your task of this homework is to provide an analysis for the Turkish data given below. Please follow the instructions — they are meant to be helpful.

The consonant and vowel inventories for Turkish are given in Tables 1 and 2. Geminate consonants (e.g., tt, tt̃) have the same features as their singleton counterparts except that they are [+long]. You should treat them as one consonant, not two. The vowel inventory is completely symmetrical, and you should use the [back], [high], and [round] specifications as given in Table 2. Long vowels (V:) are [+long].

	Bilabial	Labio-dental	Alveolar	Palato-alveolar	Palatal	Velar	Glottal
Stop	p, pp b, bb		t, tt d, dd	t̃, tt̃ d̃, dd̃		k, kk g, gg	
Fricative		f, ff v, vv	s, ss z, zz	ʃ, ʃʃ ʒ, ʒʒ			h
Nasal	m, mm		n, nn				
Approximant			r, rr		j		
Lateral approximant			l, ll				

Table 1. Turkish consonant inventory

	[-back]		[+back]	
	[-round]	[+round]	[-round]	[+round]
[+high]	i, i:	y, y:	u, u:	u, u:
[-high]	e, e:	ø, ø:	ɑ, ɑ:	o, o:

Table 2. Turkish vowel inventory

- (a) List the allomorphs for the affixes shown below. Propose underlying representations for them, and provide two phonological rules that result in the alternations shown. You will find that there is some indeterminacy in the choice of underlying form. Any choice that works is fine. Please bear in mind that although just three suffixes are given, Turkish actually has many suffixes and they virtually all alternate this way. So be sure to express the rules in a general, phonological way.

	Nominative	Accusative	Genitive	Dative	Gloss
1.	hep	hepi	hepin	hepe	'the whole'
2.	ṭjent	ṭjenti	ṭjentin	ṭjente	'a few'
3.	kik	kiki	kikin	kike	'skiff'
4.	ṭjenk	ṭjenki	ṭjenkin	ṭjenke	'hand'
5.	ev	evi	evin	eve	'house'
6.	sev	sevi	sevin	seve	'slope'
7.	deniz	denizi	denizin	denize	'sea'
8.	ṭjin	ṭjini	ṭjinin	ṭjine	'China'
9.	el	eli	elin	ele	'hand'
10.	hap	hapu	hapun	hapa	'pill'
11.	at	atu	atun	ata	proper name
12.	satṭ	satṭu	satṭun	satṭa	'hair'
13.	hatṭ	hatṭu	hatṭun	hatṭa	'cross'
14.	fusk	fusku	fuskuun	fuska	'sin'
15.	av	avu	avun	ava	'hunting'
16.	huuz	huuzu	huuzuun	huuza	'speed'
17.	ajvaz	ajvazu	ajvazuun	ajvaza	'steward'
18.	urup	urupu	urupuun	urupa	'large fishing net'
19.	yn	yny	ynyn	yne	'fame'
20.	køj	køjy	køjyn	køje	'village'
21.	gøk	gøky	gøkyn	gøke	'sky'
22.	øn	øny	ønyn	øne	'front'
23.	son	sonu	sonun	sona	'end'
24.	føl	fölu	fölun	föla	'nest-egg'
25.	kurt	kurtu	kurtun	kurta	'worm'

(b) An additional rule can be seen applying here. State the rule and underlying forms for these stems. Justify the direction of the rule that captures the stem alternation (why $A \rightarrow B$, not $B \rightarrow A$, for an $A \sim B$ alternation). Does this rule need to be ordered with the rules in (a)? **Make sure that you do not lose the account for any of the words in part (a).**

26.	dip	dibi	dibin	dibe	'bottom'
27.	prensip	prensibi	prensibin	prensibe	'principle'
28.	serit	seridi	seridin	seride	'tape'
29.	damat	damadu	damaduun	damada	'son-in-law'
30.	tatṭ	tadṭu	tadṭun	tadṭa	'crown'
31.	utṭ	udṭu	udṭun	udṭa	'tip'
32.	gyṭṭ	gydṭy	gydṭyn	gydṭe	'power'

33. renk	renji	rengin	rengə	‘color’
34. mitink	mitingi	mitingin	mitinge	‘political meeting’

(c) Another rule: follow same directions as for (b) above. Justify rule orderings, if any.

35. hat	hattu	hattun	hatta	‘line’
36. hak	hakku	hakkuun	hakka	‘truth’
37. af	affu	affun	affa	‘pardon’
38. his	hissi hissin		hisse	‘feeling’
39. zam	zammuu	zammun	zamma	‘price increase’
40. ʃer	ʃerri	ʃerrin	ʃerre	‘evil’
41. af	affu	affun	affa	‘pardon’
42. hat	haddu	haddun	hadda	‘limit’
43. rat	raddu	raddun	radda	‘rejection’
44. haṭṭ	haddṭu	haddṭun	haddṭa	‘pilgrimage’

(d) In Turkish, long vowels are separate phonemes, occurring in words like [ga:zi:] ‘warrior for the Faith,’ [bera:ber] ‘together,’ and [te:sir] ‘effect.’ Determine the underlying forms of the words below and account for their behavior with an additional phonological rule. Again, justify the direction the rule that captures the alternation and any necessary rule ordering.

45. temjiz	temji:zi	temji:zin	temji:ze	‘discernment’
46. halas	hala:su	hala:sun	hala:sa	‘deliverance’
47. hajat	haja:tu	haja:tun	haja:ta	‘life’
48. zaman	zama:nu	zama:nun	zama:na	‘time’
49. mal	ma:lu	ma:lun	ma:la	‘property’
50. tebdil	tebdi:li	tebdi:lin	tebdi:le	‘change’
51. tedṭhiz	tedṭhi:zi	tedṭhi:zin	tedṭhi:ze	‘equipping’
52. telif	teli:fi	teli:fin	teli:fe	‘compromise’
53. harap	hara:bu	hara:bun	hara:ba	‘ruin’
54. tedip	tedi:bi	tedi:bin	tedi:be	‘punishment’
55. tadat	tada:du	tada:duun	tada:da	‘counting’
56. tedṭdit	tedṭdi:di	tedṭdi:din	tedṭdi:de	‘renewal’

(e) In some of the data below, there is an alternation between vowels and zero. A few pieces of data from the previous sections have been repeated here to help with your analysis. Determine the underlying forms, and state the rule responsible for the alternation, justifying your answer fully. State how the rule formulated for this section must be ordered with respect to the rules you formulated for the preceding sections, and justify your orderings.

57. ilim	ilmi	ilmin	ilme	‘science’
58. isim	ismi	ismin	isme	‘name’

59.	ibin	ibni	ibnin	ibne	‘son’ or ‘faggot’)
60.	karuun	karnu	karnuun	karna	‘abdomen’
61.	burun	burnu	burnun	burna	‘nose’
62.	kojun	kojnu	kojnun	kojna	‘bosom’
63.	vezin	vezni	veznin	vezne	‘meter’
64.	defin	defni	defnin	defne	‘burial’
65.	tuful	tuflu	tufluun	tufla	‘infant’
66.	akul	aklu	akluun	akla	‘intelligence’
67.	vasul	vaslu	vasluun	vasla	‘union’
68.	gønyl	gøny	gønlyn	gønle	‘heart’
69.	ʃehir	ʃehri	ʃehrin	ʃehre	‘city’
70.	devir	devri	devrin	devre	‘transfer’
71.	futtur	futtru	futtruun	futra	‘breaking of a fast’
72.	pakt	paktu	paktuun	pakta	‘pact’
73.	sart	sartu	sartuun	sarta	‘rope made of reeds’
74.	tʃent	tʃenti	tʃentin	tʃente	‘a few’
75.	gark	garku	garkuun	garka	‘drowning’
76.	ilk	ilki	ilkin	ilke	‘beginning’
77.	tʃenk	tʃenki	tʃenkin	tʃenke	‘hand’
78.	fuusk	fuusku	fuuskuun	fuuska	‘sin’
79.	renk	rengi	rengin	reng	‘color’
80.	mitink	mitingi	mitingin	mitinge	‘political meeting’
81.	sarf	sarf	sarf	sarfa	‘expenditure’
82.	iks	iksi	iksin	ikse	‘x (in algebra)’
83.	irs	irsi	irsin	irse	‘inheritance’
84.	ørs	ørsy	ørsyn	ørse	‘anvil’
85.	gørym	gørymy	gørymyn	gøryme	‘sight’
86.	yzym	yzymy	yzymyn	yzyme	‘grape’
87.	sarum	sarumu	sarumuun	saruma	‘bandage’
88.	irin	irini	irinin	irine	‘pus’
89.	uʃuun	uʃuunu	uʃuunuun	uʃuuna	‘gleam, flash’
90.	furun	furuunu	furuunuun	furuuna	‘large oven’
91.	odun	odunu	odunun	oduna	‘firewood’
92.	orun	orunu	orunun	oruna	‘place’
93.	idil	idili	idilin	idile	‘idyll’
94.	fuzul	fuzulu	fuzulun	fuzula	‘silly meddlesome man’
95.	satur	saturu	saturuun	satura	‘large knife’

(f) If you hear the hypothetical form [ep], what are the possibilities for its underlying representation? Explain your answer.