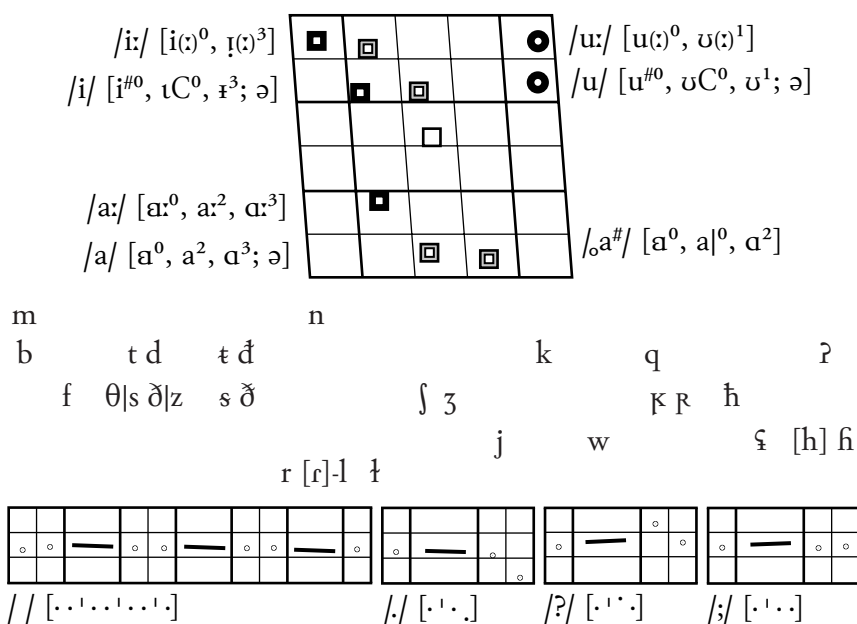


19.2. *Levantine Arabic* (Afro-Asiatic) has three short (besides /ə/) and three long V, with the following taxophones: ⁰ not adjoining uvular(ized) or pharyngeal C; ¹ in contact with uvular(ized) or pharyngeal C; ² in contact with pharyngeal C (or /r/ in the case of /a(:)/); ³ in contact with uvular(ized) C (or /ʔ/ in the case of /a(:)/). Long V are phonetically short when unstressed, but keep their original timbres; /ə/ [ə] is a frequent neutralization of unstressed short /i, a, u/ in checked syllables. There are also /ai, au/, which, according to context, are [a, a, a] + [ʔC, i[#]; uC, u[#]] (but, *a + yy, ww*, has /jj, ww/ [jj, ww]). As for C, in addition to [n≡C], to C gemination, including /jj, ww, hh/, we find /ʒ/ (but /dʒ/ in Jordan).



19.3. *Hebrew, Ivrit* (Israel: Afro-Asiatic), has five short V and their combinations with /i/ as a second element. There once was an extra V, the notorious <schwa>, /ə/, which has nowadays merged with /e/ [ɛ], also when its function is to separate C clusters (where sometimes, but not necessarily, it is realized as [e, ə], the latter as in *Yiddish*, § 19.4). The traditional pronunciation of /r/ is [r], but mediatic [ʁ, ʁ] are more widespread. The two C phonemes given in round brackets with an asterisk belong exclusively to <oriental> pronunciations, i.e. to speakers of autoctonous descent, not to those returned from the diaspora, who have /ʕ/ [ʕ]; whereas the three phonemes given simply in round brackets are only used in loan-words. There can also be attenuated realizations of /χ/ [χ], instead of usual [χ], especially in unstressed syllables, and of /h/ [ħ], instead of usual [h], especially between V.

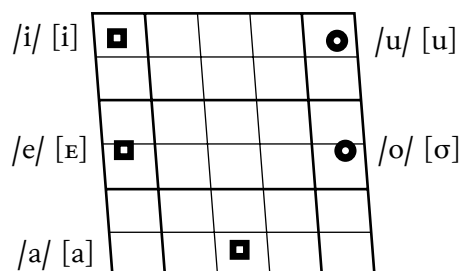
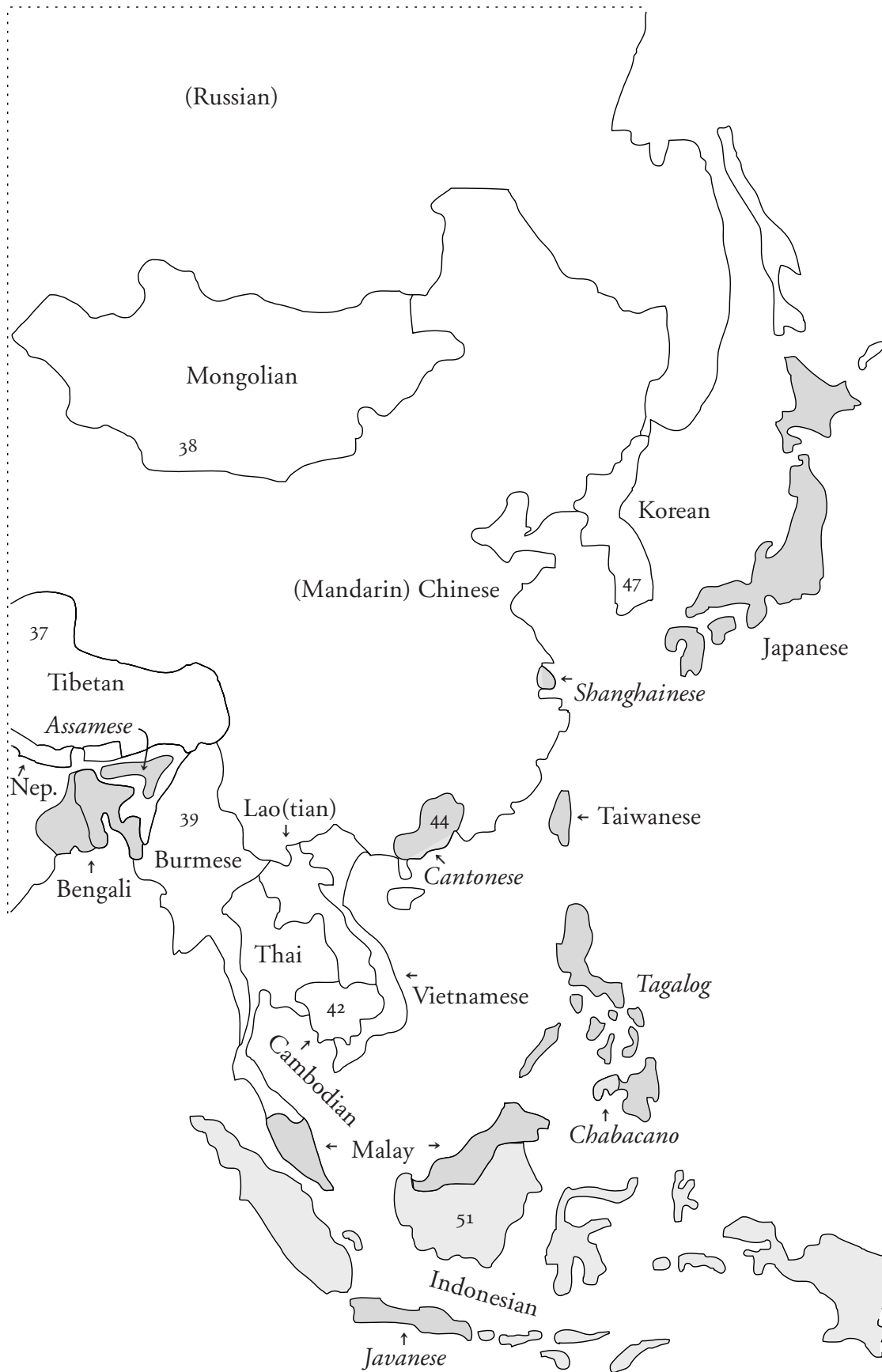
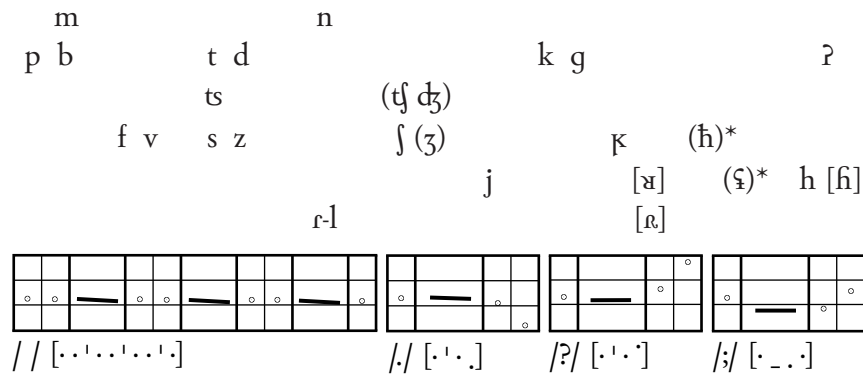




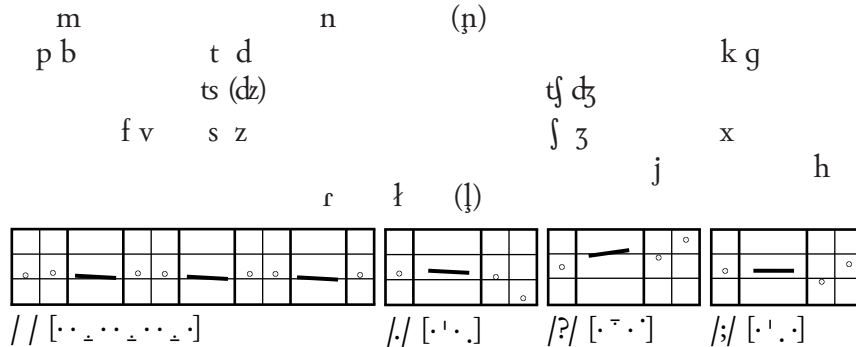
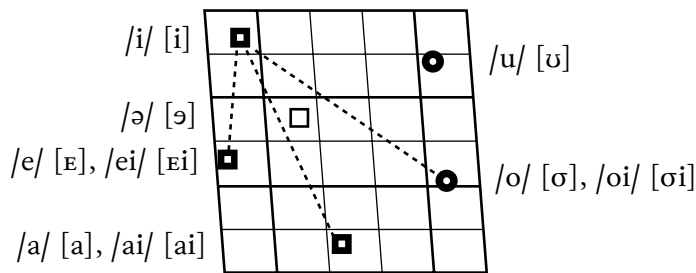
fig 19. Languages of Asia (1).

fig 19. Languages of Asia (2).

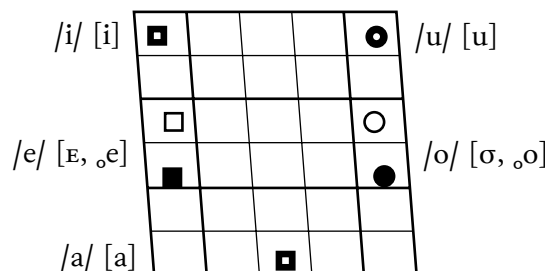


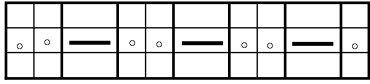
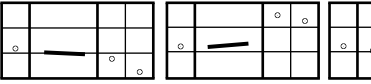



19.4. *Yiddish* /'jɪdɪʃ/ (Israel: Germ., IE) has six short V (including /ə/ [ə]) and the three diphthongs indicated. The most salient features are /ər/ [ər], but /əm, ən, əŋ, əl/ [m, n, ŋ, l]; preservation of voiced C before a pause; <aspiration> of their voiceless counterparts; no gemination despite the official orthography; [n≡C]. The phonemes given in round brackets are minority phonemes, used in Slav or pseudo-Slav loanwords.



19.5. *Cypriot(e)* /'sɪpɪət, -ɔt/ (Hellenic, IE) has the five V and C indicated, with CC occurring also word-initially. We also notice: [n≡C]; the sequences of N + (voiceless) stops are realized as voiced prenasalized stops; /p, t, k, tʃ/ can be



m				n				[ɲ]							
p [-b]				t [-d]				k [-g]							
f v				θ s ð z				ç ʝ							
				r-l				[ʎ]							
															
/p/ [·····'···]				/t/ [·_...]				/k/ [·'···]				/ç/ [·_...]			

«aspirated»; the palatal taxophones indicated stem from /Cj/, but the two elements do not always fully combine, especially in /nj, lj/ [ɲj, ʎj]; /r, l/ + voiceless C are frequently [ɾ, ʎ]. Unlike Greek, the devoicing of /i, u/ is not as common.

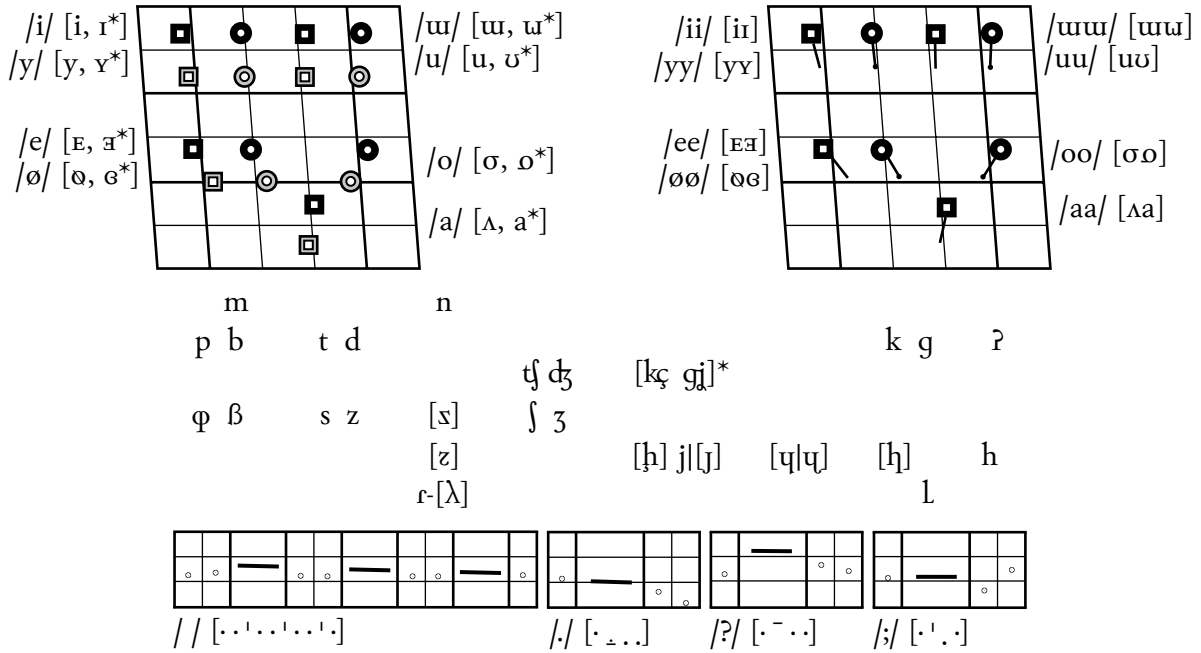
19.6. *Turkish* (Altaic) has eight V, both short and long (the latter being actually narrow opening diphthongs, as seen in the second vocogram). The lower taxophones of the short vowels (given in the first vocogram) occur in word-final unchecked syllables or checked by /N, R, L/ (even when they are unstressed).

The diphthongs spelt with Vy have /i/ [ɪ] as a second element after unrounded V, but /y/ [ɯ] after rounded V, eg *şey* [ʃɛɪ], *uygun* [uɣ'gʊn, -ŋ]. The same criterion holds for intervocalic y, which is /j/ [j, ɔj] or [ɥ, ɔɥ] (ie semi-approximant in unstressed syllables) depending on the timbre of tautosyllabic V, eg *kayıcı* [kajɯ'sɯ], *uyuşmak* [uɥuʃ'mak]; after C, y is /j/ [j, j; ɥ, ɥ] depending on the following V and stress force on the syllables. The «palatalization» (or not) of /k, g, l/ also depends on the quality of the adjoining tautosyllabic V: we have /k/ [k, kç], /g/ [g, gç], «/l/» [l, ʎ] (the alveolar unilateral, [ʎ], functioning here as a «palatalized» taxophone). In loanwords [kç, gç] appear also + non-front V, which are thus xenophonemes, /kç, gç/, or </c, j/»: *kâr* [kçar] «profit», *kar* [kar] «snow».

The phoneme /h/ [h] has homochromatic taxophones, after (and often also before) tautosyllabic V, ie front, [h̟], and back, [h̠] (it must be noticed, though, that a written *h* may also signal the lengthening of the preceding V). Voiced C, either obstruents or sonants, regularly devoice (and in a quite evident way) before pauses; their devoicing is less systematic before voiceless C. We also find: [n≡C]; </f, v/» [ɸ, β]; /r/ fluctuates between [r, z] (but initially, it is more often [ɾ]). The grapheme ğ nowadays indicates the lengthening of the preceding V, which often entails the absorption of a possible subsequent V, eg *dağın* [dʌa(ɯ)n, -ŋ], *değil* [dɛɛ(I)ʎ, -ʎ].

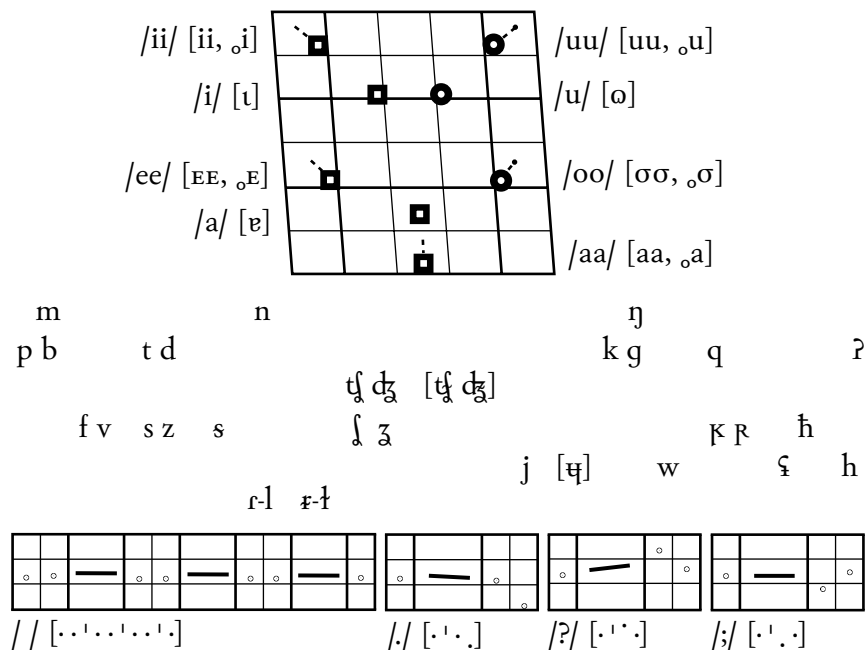
An opposition between C ≠ CC is possible; refined speakers use /ʔ/ in Arabic words, obligatorily in minimal pairs, where they are marked by the official orthography, eg *kuran* [ku'ran, -ŋ], *Kur'an* [kurʔan, -ŋ]. Two examples more: *rihtım* [ɾɯh'tum, -m], *çocuk* [tʃɔ'dʒuk].

In an «international» pronunciation of Turkish, no vowel-timbre differences will be present, in all positions; both short and long vowels are more peripheral and with tongue height intermediate between those given in the vocograms; furthermore, we may have [f, v] for </f, v/» and [ɫ, l] (rather than «[ɫ, l]» given in many descriptions).



Spelling: *c* /dʒ/ [dʒ], *ç* /tʃ/ [tʃ], *Vġ* </V:/> [VY], *h* /h/ [h], *i* (Ī) /i/ [i, ɪ, ii], *ɪ* (I) /u/ [u, ʊ, uu], *j* /ʒ/ [ʒ], *ö* /ø/ [ø, œ, øø], *s* /s/ [s], *ş* /ʃ/ [ʃ], *ü* /y/ [y, ʏ, yy], *y* /Vi, Vy, j/ [Vi, Vy, j, J, q, q], *z* /z/ [z].

19.7. *Kurdish* (Kurdistan [ie parts of Turkey, Iraq, Siria, Persia]: Indo-Iranian, IE) has three short and five long V; the latter are narrow diphthongs, with different timbres from short V. There are also phonemic diphthongs with /i, u/ as second elements. When stressed long V are followed by several C, they are realized as short monophthongs maintaining their original first timbres; the same holds when they are unstressed in final position. Initial V are preceded by /ʔ/; the sequences /ijV, uwV/ are realized as [iV, uV]. There is opposition between two *r*'s and two *l*'s; /kw, gw, w/ + /i, e/ give [tʃ, dʒ, ʔ]; [n≡C].



m		n											
p ^(c)	b	t ^(c)	d	k ^(c) g		[k ^(c) ǰ]	q ^(c)	[q]	ʔ	[ʔ]			
		t ^(c)	ɖ										
f ^(c)	v	s	z	ʃ ^(c)	ʂ	ʕ ^(c)	ʕ	ʕ	ʕ	x	ɣ		
										[x̣]	ʕ	ʕ	
										ʕ	ʕ	[ʕ̣ ʕ̣]	ħ
										j	w		h
										r			

// [······]				./ [·'·]				/? [·'··]				;/ [·_··]			

opposition between ejective, < aspirated >, and voiced C; /Cw/ sequences are realized as [C]; [n≡C].

19.12. *Chechen* (Russian Fed.: Caucasian) has nine short V, six of which (ie the close and open ones) can also be long and nasalized; non-back V have taxophones which occur when in contact with uvular and pharyngeal C: /i, e, ε, a/ [i, i; e, ə; ε, a; a, a]. There are diphthongs formed by juxtaposing V elements (even identical, resulting in monotimbric diphthongs), and phonetic nasalization; initial V are preceded by /ʔ/. In addition: opposition between C ≠ CC as well as between ejective, < aspirated >, and voiced C; [n≡C]; /f/ is a xenophoneme.

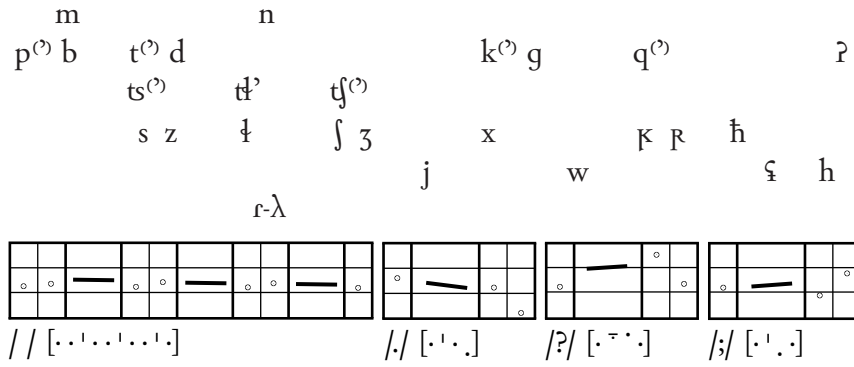
/i/ [i, i]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td><td style="width: 25px; height: 25px;">●</td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> </table>	■	□	●					●	/u/ [u]
■	□	●								
			●							
/y/ [y]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>		●							
	●									
/e/ [e, ə]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">●</td></tr> </table>	■	□		●			■	●	/ɣ/ [ɣ]
■	□		●							
		■	●							
/ε/ [ε, a]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td></tr> </table>	■	□		●			■	□	/o/ [o]
■	□		●							
		■	□							
	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>			■	□					/ɔ/ [ɔ]
		■	□							
	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">■</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">□</td></tr> </table>				■				□	/a/ [a, a]
			■							
			□							

m		n									
p ^(c)	b	t ^(c)	d	k ^(c) g		q'	ʔ				
		t ^(c)	ɖ	ṭ ^(c) ɖ̣		kɣ					
(f)		s	z	ʃ	ʂ	χ	ʕ	ħ			
		ʕ						ʕ	h		

// [······]				./ [·_·]				/? [·'··]				;/ [·'·]			

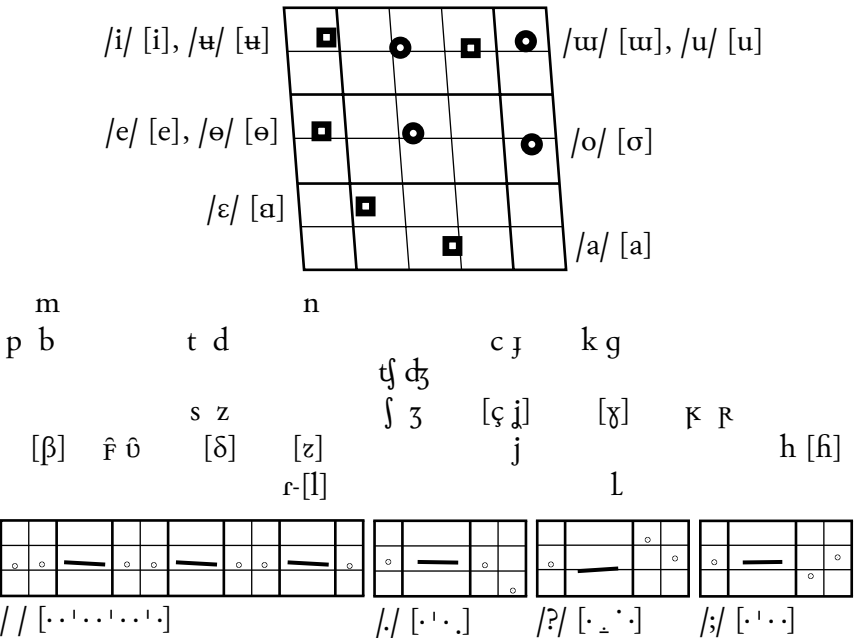
19.13. *Avar* /'ævɑ:ɣ, 'ɛɪ-/ (Russian Fed.: Caucasian) has five short V, each with

/i/ [i, ɪ]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> </table>	■	□		●				●	/u/ [u, ʊ]
■	□		●							
			●							
/e/ [ɛ, ɛ]	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">●</td></tr> </table>	■	□		●				●	/o/ [σ, ɔ]
■	□		●							
			●							
	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;">■</td><td style="width: 25px; height: 25px;">□</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>			■	□					/a/ [a, ʌ]
		■	□							

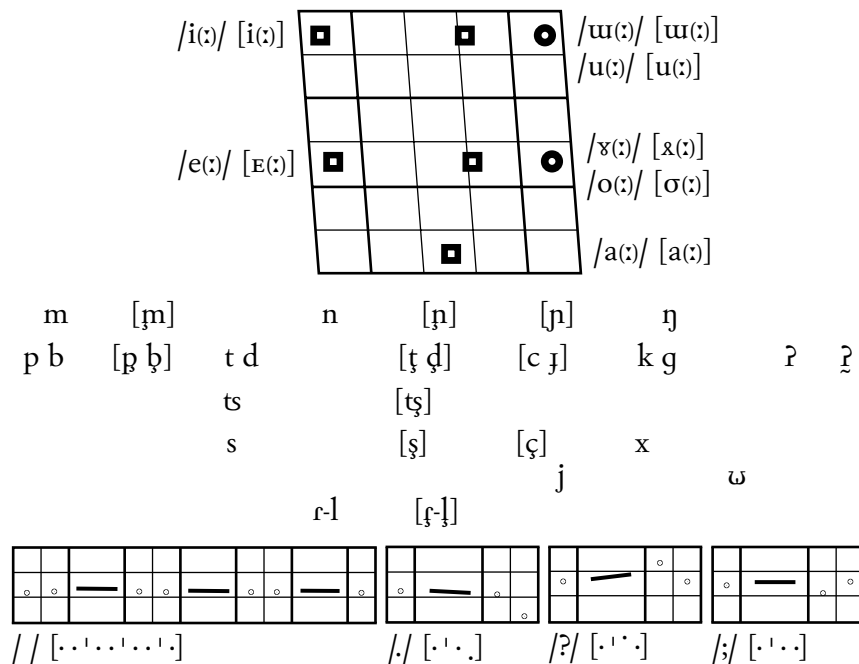


an important taxophone occurring in contact with uvular and pharyngeal C. Other important features are: opposition between ejective, < aspirated >, and voiced C, as well as between C ≠ CC; sequences of the /Cw/ [Cw] kind: /k'w, khw, gw; xw, χw, βw/ [k'w, khw, gw; xw, βw, βw]; [n≡C].

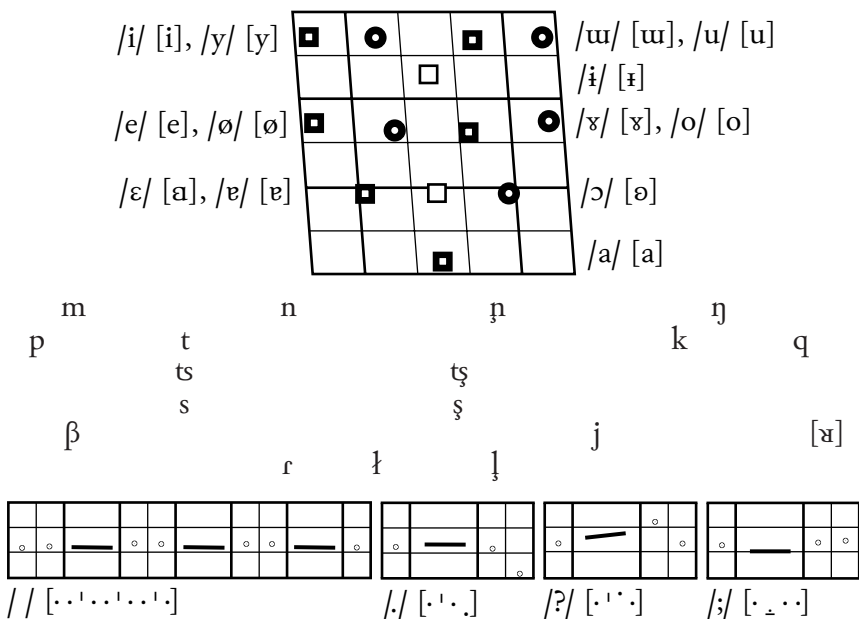
19.14. *Azerbaijani, Azeri* /æ'zɛɔi, α-/ (Azerbaijan: Altaic), has nine short V and several V sequences (functioning as long V when identical). It presents: opposition between C ≠ CC; [n≡C]; voiceless stops and stopstrictives are < aspirated > (except when followed by a C or when geminated) while their voiced counterparts are devoiced – they are fully voiced only in voiced contexts. Final V are [Vħ], while we find [Vh] for V' (but often → [Vħ]); /b, d, ʃ, g/ have the following prevocalic variants [β, δ, ʒ, γ]; /r/ [r, z, zʃ]; /cʃ, kʃ/ [ç, β]; < /l/ > is [l] in contact with front V, elsewhere [L].



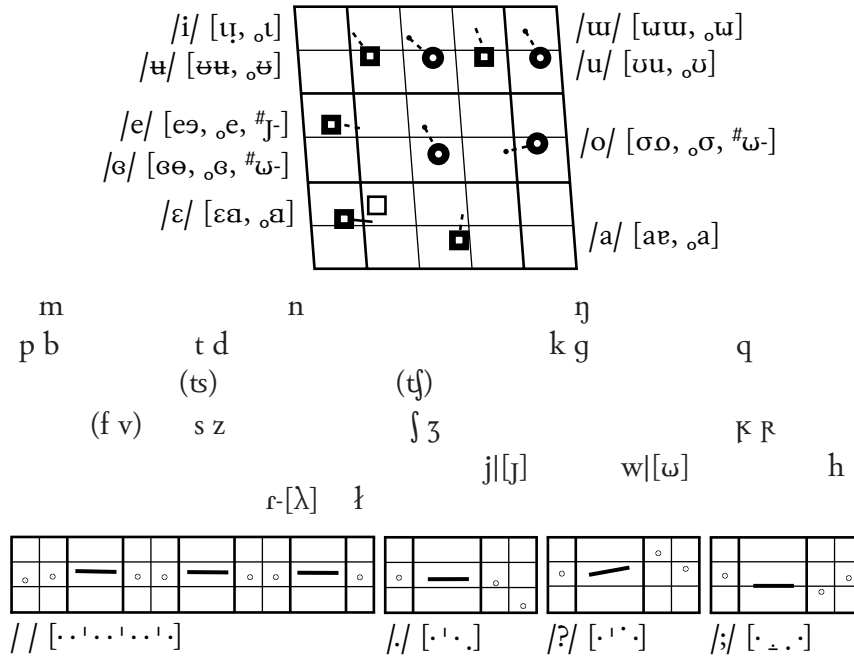
19.15. *Nenets, -ec* /'nɛnɛts/, *Yurak* /jə'ɪæk/ (Russian Fed.: Uralic), has seven V, both short and long. As for C, we find palatalized taxophones before /i, j/. It presents opposition between C ≠ CC, [ʔ#], and [n≡C].



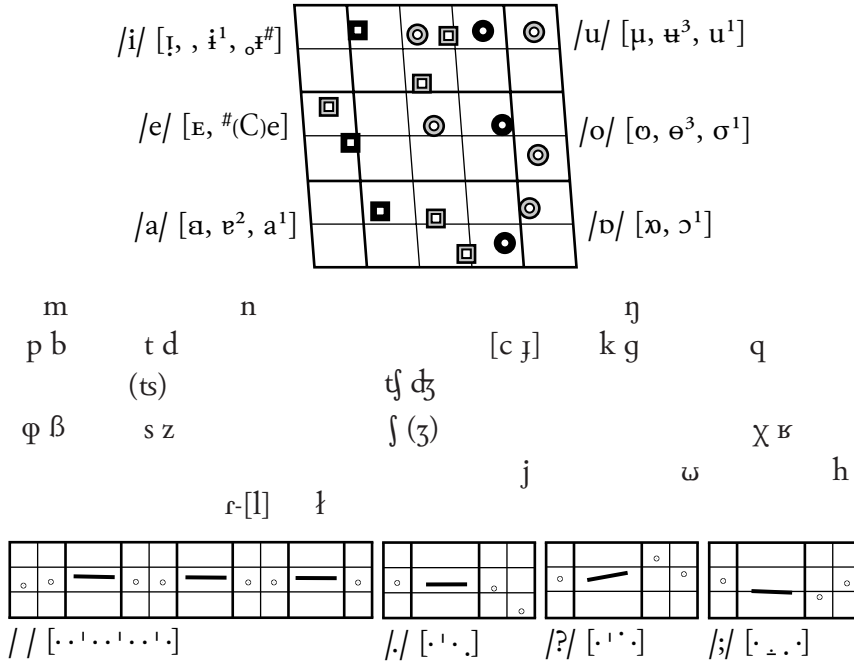
19.16. *Sel'kup* /sɛʎkʌp/ (Russian Fed.: Uralic) has thirteen short V (two of which always unstressed); some can also be long. It presents opposition between C ≠ CC; [ɤ] is a word-internal variant of /q/.



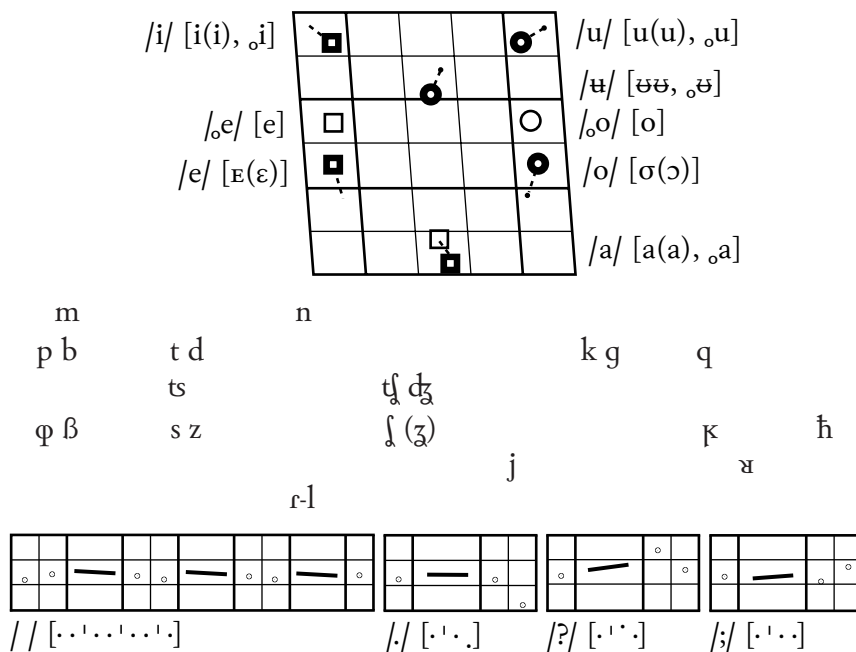
19.17. *Kazakh* /kəʎzæk, -ɑ:k/ (Altaic) has nine short V (narrow diphthongs in stressed syllables), with the variants indicated. Voiceless momentary C are < aspirated > in stressed syllables; their voiced counterparts are always fully voiced. It presents opposition between C ≠ CC; [n≡C]; /r/ [r, r[#]], </l/ > [ɭ] (but, [λ], in contact with front V); the C given in round brackets are xenophonemes, used in loan-words.



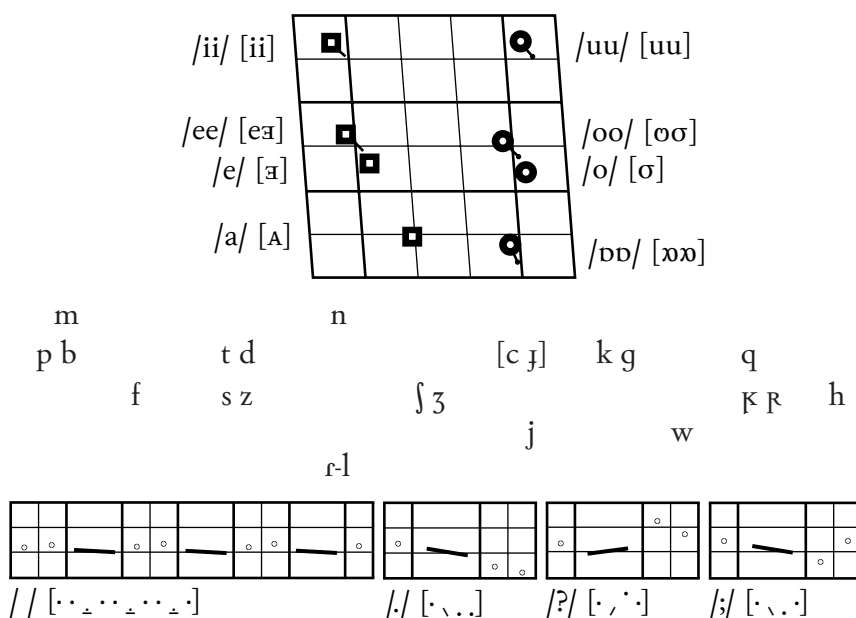
19.18. *Uzbek* /ʊzbək, ʰ-/ (Altaic) has six short V (¹ in contact with /q, χ, ʁ/, ² in contact with /k, g, ŋ, w/, ³ in contact with [c, ʃ] and /j/), as well as diphthongs with /i, u/ [ɪ, ʊ] as second elements, among which /ai/ is [aɪ]; between voiceless C, close V are devoiced. Voiced diphonic C are devoiced before pauses or voiceless C. It further presents: opposition between C ≠ CC; [n≡C]; /k, g/ [c, ʃ] and </l/ > → [l] in contact with front V; /ts, ʒ/ in loanwords.



19.19. *Tajik* /tɑ:ɖʒɪk, -ʰ-/ (Tajikistan: Indo-Iranian, IE) has six short V (narrow diphthongs when phonetically lengthened), with the variants indicated. Also, [n≡C]; /ʒ/ [ʒ] in loanwords.



19.20. *Dari* /'dɑ:ɹi, dɑ:ɹii/ (Afghanistan: Indo-Iranian, IE) has five long (either monotimbric or narrow diphthongs) and three short V, with partially different timbres, both series occurring in stressed and unstressed syllables: /ii, ee, ɔɔ, oo, uu; e, a, o/ [ii, eɹ, ɔɔ, ɔɔ, uu; ɹ, A, σ]. As for C, it must be noticed that /p, t, k/ are <aspirated>, [Ch], and that /k, g/ have palatal taxophones, [ch, j], before front V or in final position.

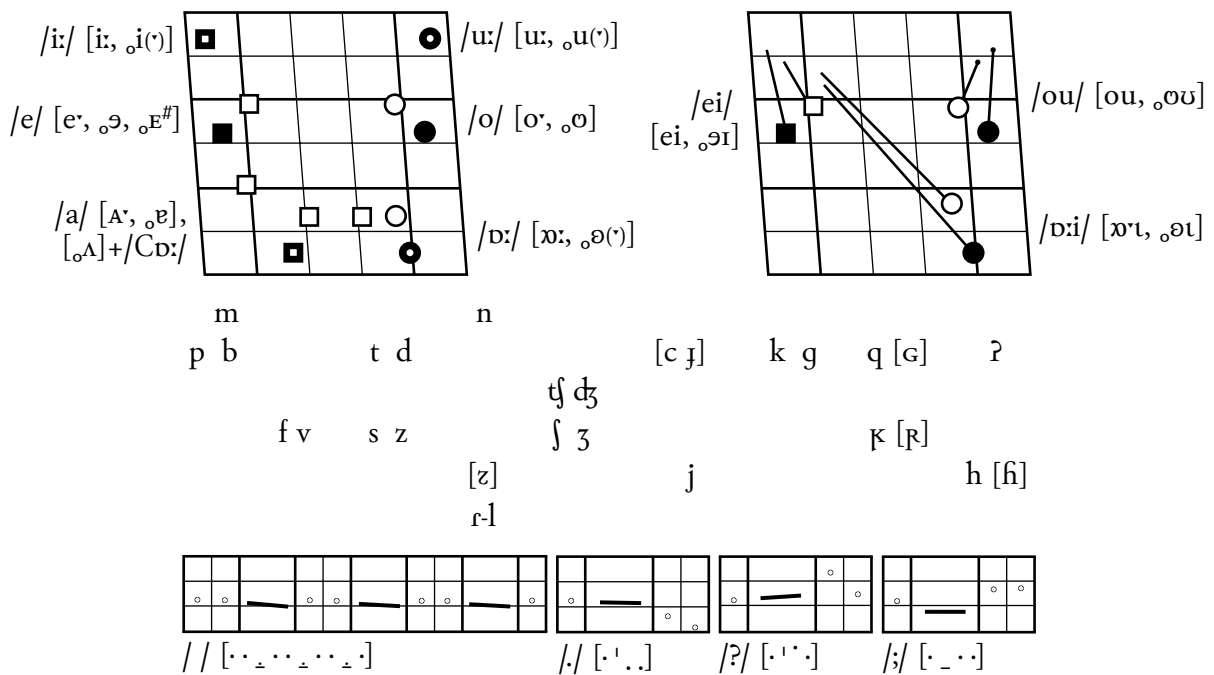


19.21. *Persian, Farsi* /'fɑ:ɹsi, fɑ:ɹsii/ (Indo-Iranian, IE), has six V, three <short> and three <long>, /i:, e, a, ɔ:, o, u:/, the two series having markedly different timbres: they are [i:, e, A, ɔ:, o, u:] in stressed syllables, but [i, ə, e, ə, o, u] in unstressed syllables (in completely unstressed syllables, in spontaneous speech, we can also have [i, ə, u]). Two important taxophones must be indicated: /ə/ which

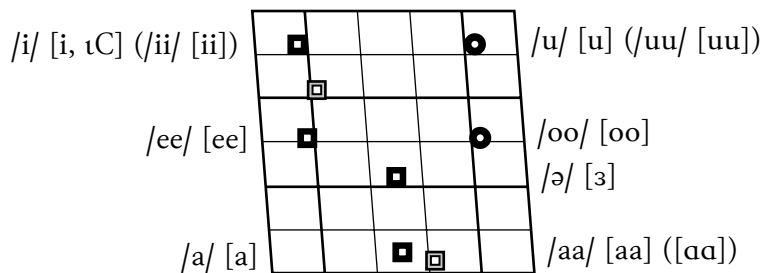
is [Λ] before /v:/, and /_oe[#]/ [E]. There are two short diphthongs, /ei, ou/ [ei, _oɔ; ou, _oou], and a <long> one, /v:i/ [xɪ, _oɔɪ] (given in the second vocogram, with their unstressed variants), but other sequences are possible as well. Initial V are /ʔV/, or colloquially /V/; in foreign words beginning with /sC/, we find [ʔəsC].

/VN[#]/ structures are [VN[#]], and we find [n≡C]. /VʔC/ sequences are realized as [VC], but /Vʔ[#], VʔV, CʔV, Cʔ[#]/ colloquially lose /ʔ/, in spite of minimal pairs such as *man* /'man/ [ˈmãˈn] <I> and *man'* /'manʔ/ [ˈmãˈnʔ] <prohibition>; also /CC/ (which occur especially in words of Arabic origin) colloquially become /C/, instead of canonical [V[#]C:V]. The phoneme /h/ occurs in all positions (also /hh/ [h:]); between V, it is [ɦ]. All final voiced C partially devoice (including /r, l/ [r, z; l] but excepting /N/, which devoice completely between voiceless C and pauses).

Total voicing assimilation (between C with different phonation types) never occurs; /p, t, k, tʃ/ are always [ph, th, kh, tʃh], also when final; /q/ can either be always [q̰] and [ʔ̰, ŋq̰, q̰; ʔ̰, ʔ̰[#]] or [ʔ] in contact with voiced phones; /k, g/ are [ch, ɟ] before front V (including /a/ [A, _oɐ]) or when final; /s, z; ʃ, ʒ; tʃ, dʒ/ are articulated with a lowered tip of the tongue. A couple of examples: *Tehrân, fârsi* [təhrã:n, fã:r'si:].

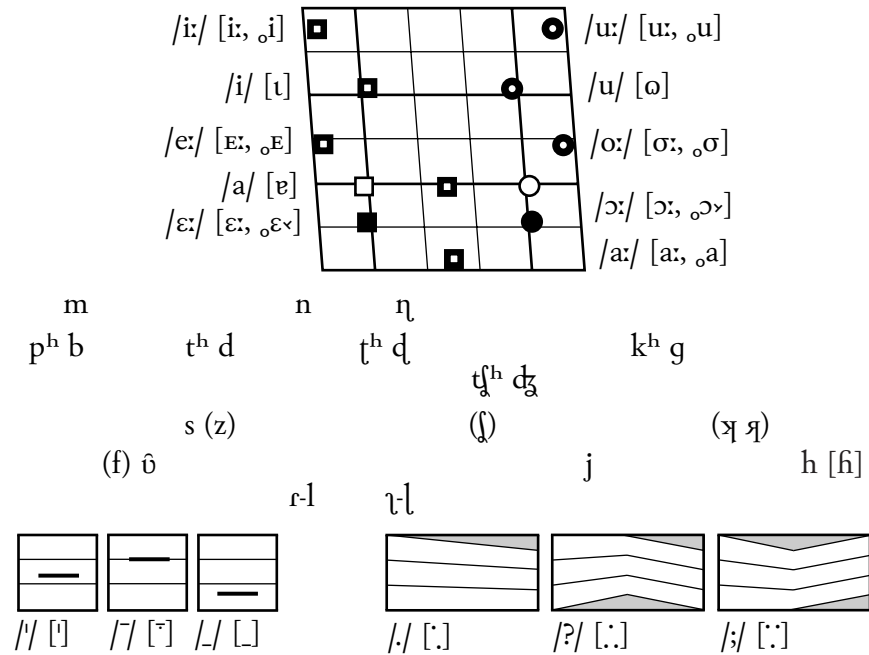


19.22. *Pashto* /'pʌʃtɔʊ, 'pæ-/ (Afghanistan: Indo-Iranian, IE), properly *pašto* [paʃ'too], has four short and five long V (or rather three, since the <elegant phonemes>

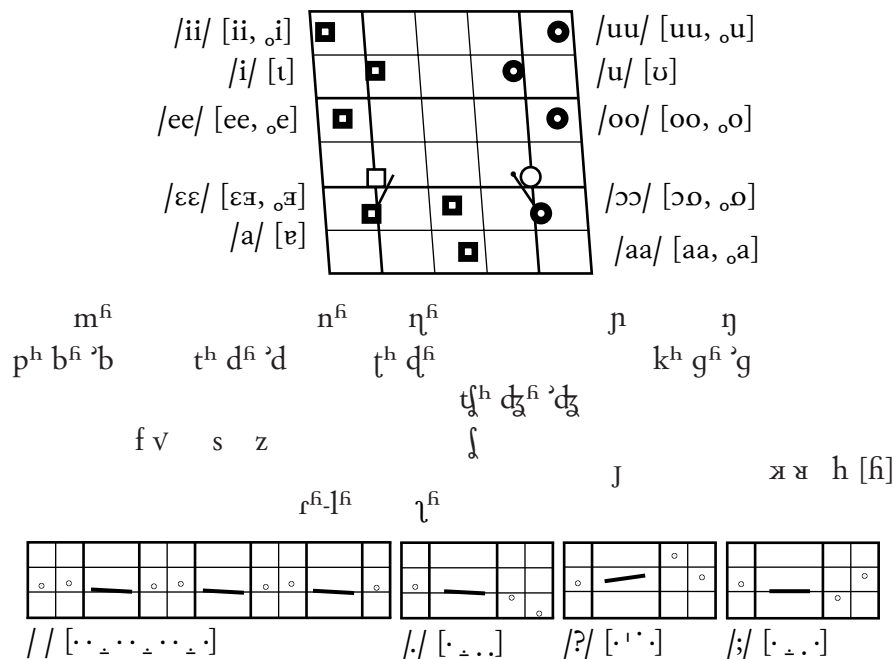


m		n		ŋ			
p b		t d		t̪ d̪	k g	(q)	(ʔ)
		ts dz		tʃ dʒ			
β (f)	s z		ʃ ʒ		ɣ ɣ̃ (ħ)		
				j			h
		r-l	ɽ				

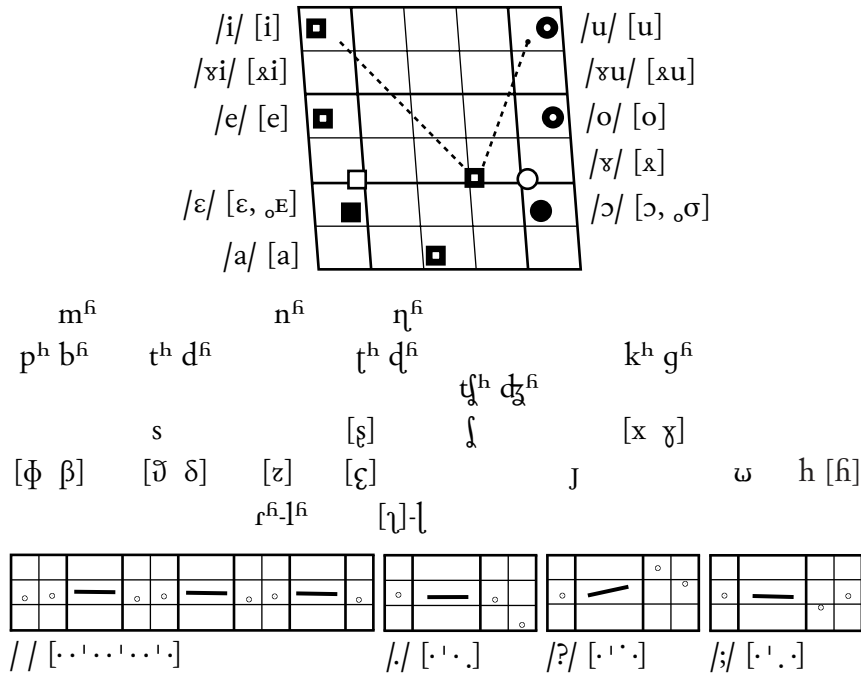
tion between $C \neq CC$, and $[n \equiv C]$. There are three tonemes (a creaky type of phonation is associated with the low one, $[_-V]$ $[_-V]$).



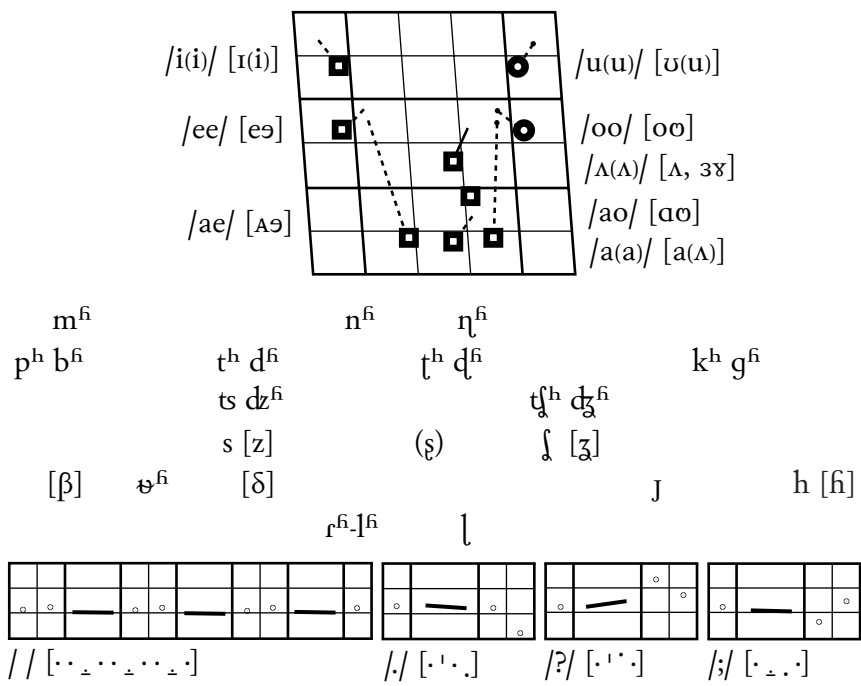
19.25. *Sindhi* /sindi/ (IND: Indo-Iranian, IE) has three short and seven long V (with the two unstressed taxophones given), all V can be distinctively nasalized. We further notice: five N , with $[n \equiv C]$; opposition between $C \neq CC$, and between $/C, Ch, C, C\hat{h}/ [C, Ch, C, C\hat{h}]$, as well as between $/r, rh; \gamma, \gamma h; l, lh/ [r, rh; \gamma, \gamma h; l, lh]$. There is also a series of voiced injectives, except for the postalveolar place of articulation; $/\eta, \eta/$ frequently have taxophones with incomplete contact, $[\eta, \eta, \tilde{\eta}; \eta, \eta]$.



19.26. *Gujarati* (IND: Indo-Iranian, IE) has eight short V and two diphthongs, including the two unstressed taxophones given. Often, but not for every word, we find lenis voicing for the sequences /[#]hV, xhV/ → [[#]V̄, V̄], /Vhi, Vhu/ → [V̄·i, V̄·u]. We further notice: [n≡C]; opposition between C ≠ CC, between /C̣, C̣h, C̣, C̣h/ [C̣, C̣h, C̣, C̣h], and between /r, rh; l, lh/ [r, rh; l, lh], as well as between the three basic N given; [ϕ, β; ʋ, δ; ɕ, ʎ; x, ɣ; z; ʂ, ʐ] are taxophones of /ph, b; th, d; t̪h, d̪; kh, g; r; ŋ/ respectively.

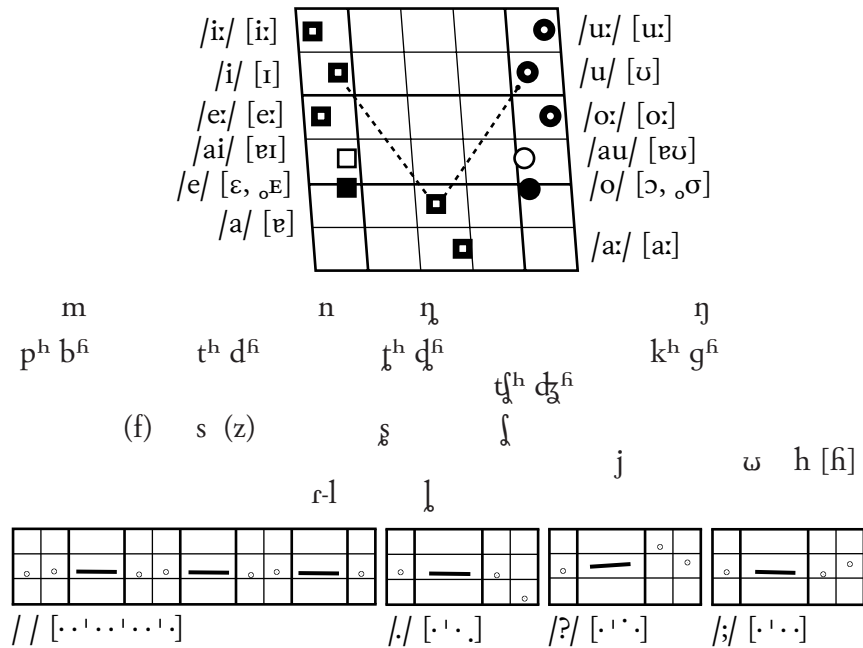


19.27. *Marathi* (IND: Indo-Iranian, IE) has four short and six long V (narrow diphthongs) and two phonemic diphthongs, /ae, ao/ [Aə, aɔ]; there are no /V̄/ but



/VN/ [VN̄] in all contexts. It presents opposition between /C̣, C̣h, C̣̣, C̣̣h/ [C̣, C̣h, C̣̣, C̣̣h], as well as between the three N indicated and between /v, uh; r, rh; l, lh/ [ʋ, ʋh; r, rh; l, lh]; rarely do we find also C ≠ CC. Further: [n≡C]; [β, δ, z, ʒ] as possible taxophones of /bh, dh, dzh, dʒh/; /ʃ/ may be found in Sanscrit words, but commonly becomes /ʃ̣/ [ʃ̣].

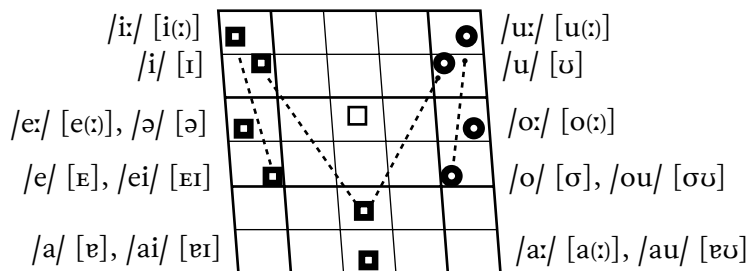
19.28. *Kannada* /'kɑ:nədə, 'kæ-/ (IND: Dravidian) has five V, both short and long (the two series differing in quality), and two diphthongs. Also: unstressed taxophones for /e, o/; opposition between /C̣, C̣h, C̣̣, C̣̣h/ [C̣, C̣h, C̣̣, C̣̣h]; two xenophonemes; and [n≡C].



19.29. *Malayalam* /mæɻɻɑ:ləm/ (IND: Dravidian) has six short and five long V, as well as four phonemic diphthongs, /ei, ai, au, ou/ [ɛɪ, ɐɪ, ɐʊ, σʊ]; for <#e, #o> we find /je, vo/ [jɛ, ʋσ]; phonemically long V are realized as short when unstressed. There is an internal and final epenthetic element: /CəC, VCCə#/ [CəC, V#Cə#].

It presents opposition between C ≠ CC, [V#CV, V#C:V]; the C given in round brackets indicate phonemes used in Sanscrit loanwords (/C(h) = plain /C/, or /Ch/ which occur in loanwords); the C given between / / are traditional neutral-pronunciation phonemes, which merge into other phonemes in modern neutral pronunciation: [ɳ, ʈ, c, ɟ] → [p, t, k, g] [ɳ, t, k, g].

There are six N phonemes (or even seven, if we maintain [ɳ] [ɳ]). For /p, t, k/



m	n	n̥	ŋ
p ^(h) [b]	r ^(h) [d]	ʈ [d̪]	t ^(h) [d̪]
(b ^h)	(d ^h)	(d̪ ^h)	(d̪ ^h)
			ʈʰ [d̪ʰ]
			(d̪ʰ)
	(s)	(ʃ)	
[β]	ʊ	[δ]	[ɣ]
	r̥	r	(h [ɦ])
		ɭ	

<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																
// [· · · · ·]	/./ [· · ·]	/ʔ/ [· · ·]	/:/ [· · ·]																																																																

we generally find the voiced taxophones indicated: [β, δ, γ] between V-V, and [b, d, g] between N-V. We further have </ʃ, ʈ/> [ɣ, ʒ], often /kʃ/ → [tʃ] [tʃɣ]; informally, /ntʃ, nk/ [n̪dʒ, ŋg] → [n̪, ŋ].

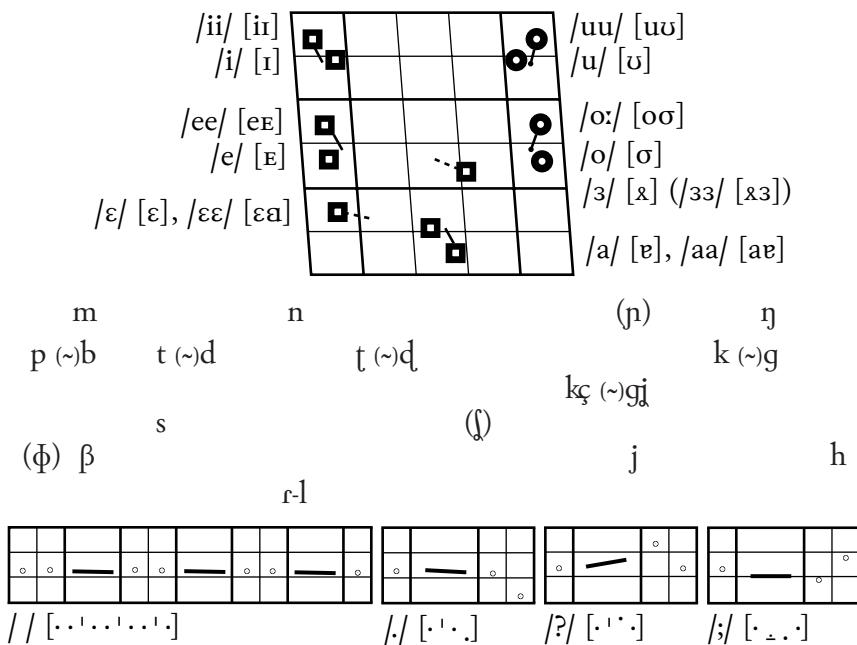
19.30. *Telugu* [ˈtɛlɔɡʊ] (IND: Dravidian) has five short V (which lengthen in stressed final position, with /i, a, u/ becoming [iː, ɐa, ʊu]) and six long V (narrow opening diphthongs, which lose their second element in unstressed syllables), as well as two phonemic (closing) diphthongs. When followed by N, final V are nasalized; word-initial V (except /a, ɔ/ [ɐ, ɔa]) are preceded by an approximant: [j] for front V (which include /aa/ [ɔa]) and [w] for back (rounded) ones.

We find [n≡C], and opposition between C ≠ CC (also for /j, j̪; h, h̪/) as well as between /C̣, C̣h, C̣, C̣h/ [C̣, C̣h, C̣, C̣h]; /ṭ, ḍ/ [ṭ, ḍ], but → [ts, dz] + back V, including /a, ɔ/ [ɐ, ɔa]. In spoken conversational *Telugu*, /p, b; t, d; ʈ, d̪; k, g/ → [ɸ, β; ʈ, δ; ɳ, ɳ; x, ɣ], word-internally between V; in addition, /m/ [m] has the taxophone [m̪] between V, and before continuant C or pauses. *Telugu* is [ˈtɛlɔɡʊ, tɛlɔˈɡʊ].

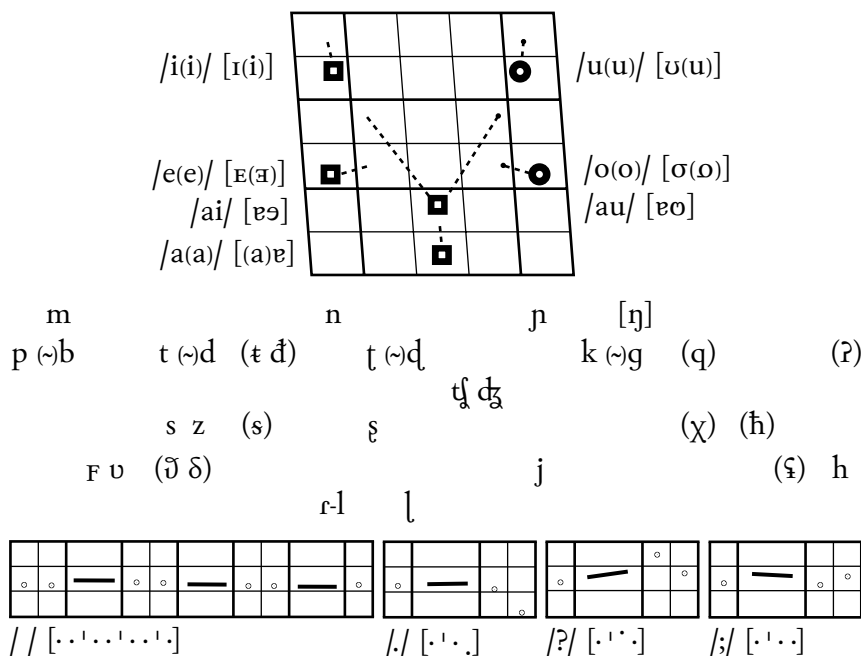
/ii/ [iː]		/uu/ [uː]	
/i/ [i; iː#]		/u/ [u; uː#]	
/ee/ [ɛɐ]		/oo/ [oɔ]	
/e/ [ɛ]		/o/ [ɔ]	
/aa/ [ɔa], /ai/ [ɛi]		/au/ [ɐu], /ɔa/ [ɔa]	
/a/ [ɐ; ɐa#]			

m	n	n̥	ŋ
p ^h b ^h	t ^h d ^h	ʈ ^h d̪ ^h	k ^h g ^h
	[ts dz]		
		ʈʰ d̪ʰ	
β f s	ɣ	ɳ	[x ɣ]
[ɸ β]	[ʈ δ]		j [j]
	r̥	[ɳ ɳ]	[w] h [ɦ]

<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> <tr><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td><td style="width: 25%; height: 15px;"></td></tr> </table>																
// [· · · · ·]	/./ [· · ·]	/ʔ/ [· · ·]	/:/ [· · ·]																																																																

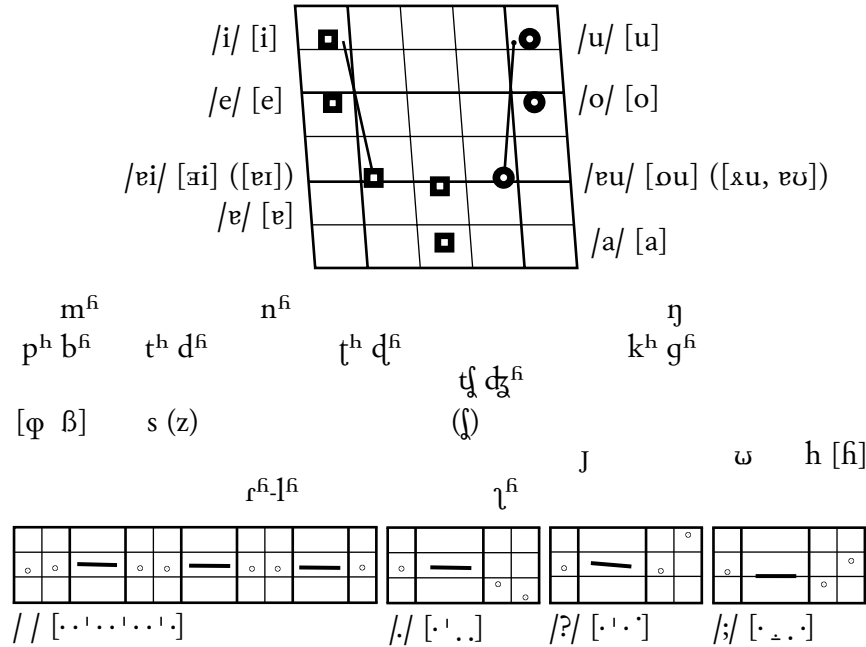


19.33. *Dhivehi* /dʁviihi, -vɛii/, *Maldivian* (Maldives: Indo-Iranian, IE), has five V, both short and long (ie narrow phonetic diphthongs) and two phonemic diphthongs. It presents opposition between C ≠ CC, as well as between plain and prenasalized voiced C; NC sequences; [n≡C], but /n[#]/ [ŋ]. The C in round brackets are used especially in Arabic loanwords.



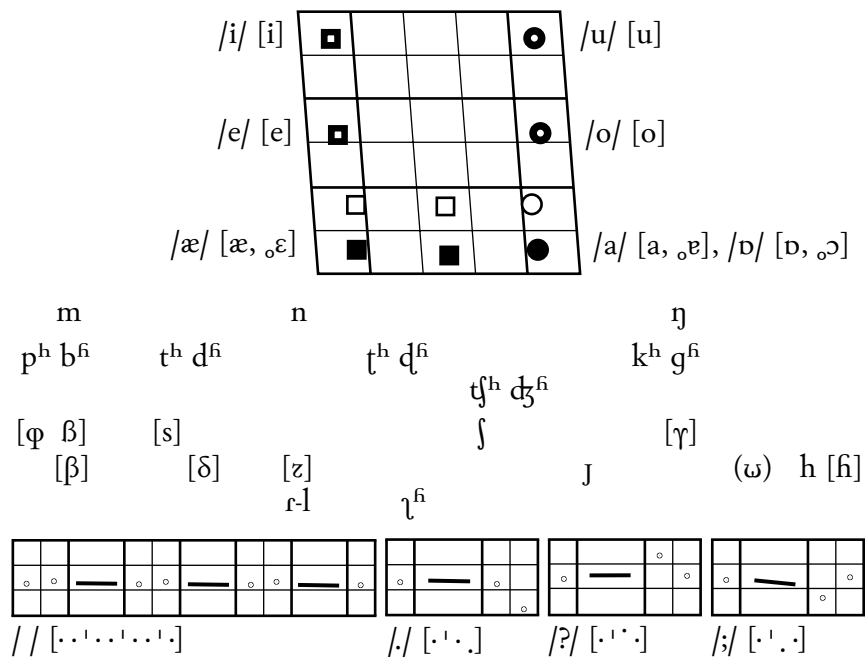
19.34. *Nepali*, -ese (Indo-Iranian, IE), has six short V and two phonemic diphthongs, showing some free variants: /ɛi, ɛu/ [ɛi, ɛi; ɔu, ɜu, ɛu], which are not explicitly shown in the vocogram but are easily deducible ([ɜ] corresponds to [ɔ] without lip rounding). Vowel nasalization is phonemic (with no N accompaniments). Other important features are opposition between C ≠ CC, as well as be-

tween /C̣, C̣h, C̣̣, C̣̣h/ [C̣, C̣h, C̣̣, C̣̣h] (also for N, R, L); [n≡C]; the /ijV, uwV/ sequences are realized as [iV, uV]; between V, /h/ → [ɦ]; /z, ʃ/ [z, ʃ] occur in loanwords; /ph, bh/ can also be realized as [φ, β].



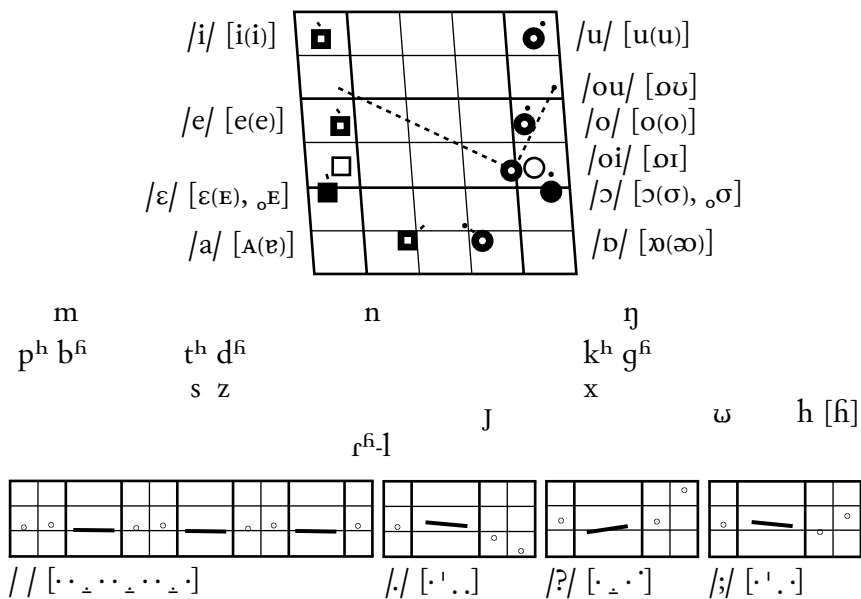
19.35. *Bengali* (IND & Bangladesh, Western Bengal: Indo-Iranian, IE), has seven short V, with contextual phonetic half-lengthening, all of which also possibly distinctively nasalized (with no N accompaniments); the <inherent> V is [ɔ], not <[ɛ]>; there are several diphthongs formed by juxtaposition.

It presents opposition between C ≠ CC, as well as between /C̣, C̣h, C̣̣, C̣̣h/ [C̣, C̣h, C̣̣, C̣̣h] (for /ɹ/ too); <aspirated> voiced obstruents can be half-voiced, ie devoiced; /h/ [ɦ, h[#], C̣h]; [n≡C]; [s] occurs for /ʃ/ [ʃ] before coronals; /r/ [r, [#]z, r[#]]; /ph,

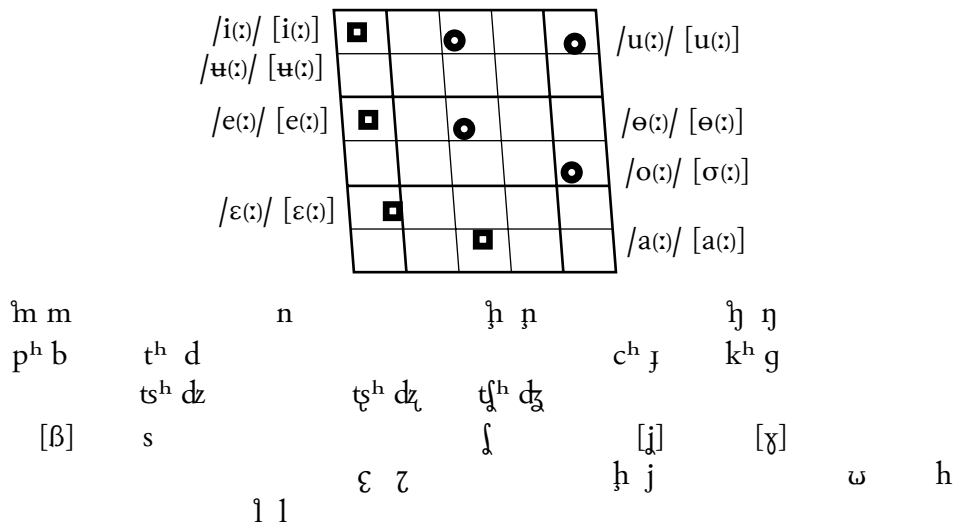


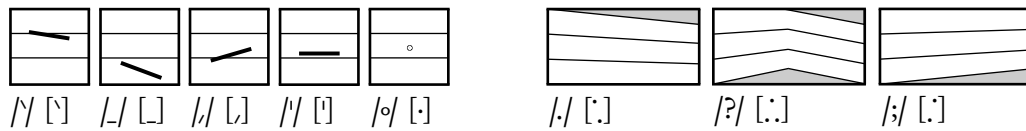
bh/ are often [ɸ, β]. In fast speech, /m, b, d, g/ tend to become [m̥, β̥, δ̥, γ̥] ([β̥] is found after /m/ too: *kimbo* [ˈkimbo, -m̥β̥o]). A creaky phonation type is used with interrogative and suspensive intonemes.

19.36. *Assamese* (IND: Indo-Iranian, IE) has eight short V, all of which may be distinctively nasalized (which are lengthened into narrow diphthongs in stressed syllables) and two phonemic diphthongs. It presents opposition between C ≠ CC, as well as between /C̣, C̣h, Č̣, Č̣h/ [C̣, C̣h, Č̣, Č̣h] (for /ɾ/ too); [n≡C].



19.37. *Tibetan* (Sino-Tibetan) has eight V, both short and long, with identical timbres, all of which may be distinctively nasalized (with [Ṽ] for /VN# and for VN + continuant C). Sequences of N + momentary C are realized as [-C]. It presents opposition between /C̣, C̣h, Č̣/ [C̣, C̣h, Č̣] for stops and stopstrictives; for sonants, it presents voicing opposition for three of the four N, and for L, as well as for </s, z; ʃ, j/ [ʃ, z; ɦ, j]. In voiced contexts, /p, t, c, k; ts, tʃ, tʃ/ are [C̣] (/p, c, k/ also [β̥, ɟ̥]).

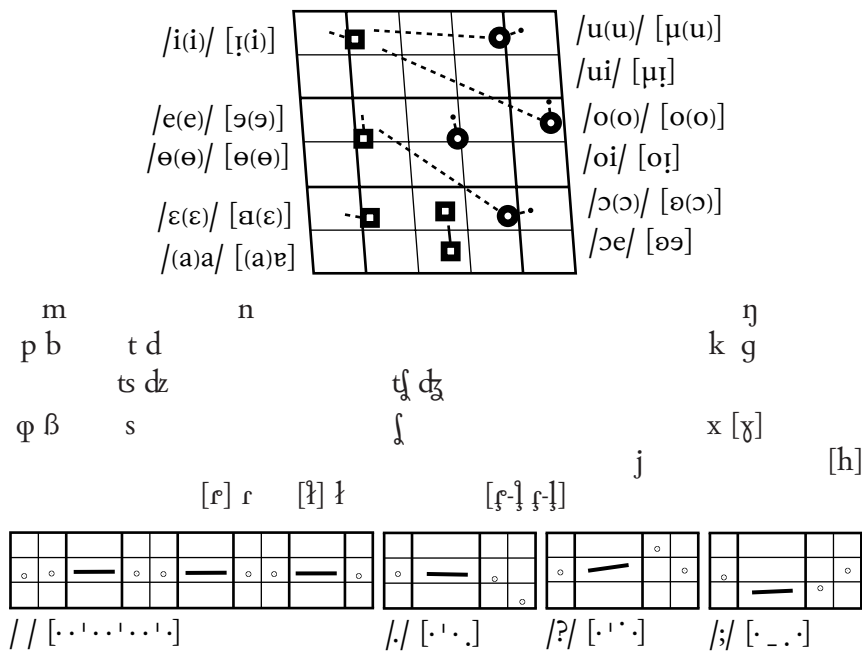




ɣ̃]). It has five tonemes (including an unmarked one occurring in unstressed syllables).

19.38. *Mongolian* (Altaic) has eight V, both short and long (narrow diphthongs, including *ai* [ai] /εε/ [ɛɛ]), as well as three phonemic diphthongs (a fourth one, /ei/ [ɛɨ], usually merges into /ee/ [ɛɛ]); generally long V occur only in stressed syllables.

Voiceless stops and stopstrictives are <aspirated>, while the voiced ones are de-voiced; in consonant clusters, however, all C are either voiced or voiceless, as is the case between voiceless C and pauses; final stop(strictive)s are fairly distinctively audibly released. Further: /r, l; rj, lj/ [r, l; r̥, l̥] are voiceless before a pause, [r, r̥; l, l̥]; we find palatalized versions also with </Ci[#]/>, which is better interpreted as /Cj[#]/: *Түүл* [ˈtʊʊl̥], *туулъ* [ˈtʊʊl̥]; in contact with front V (even after) /l/ [l̥] → [l̥].

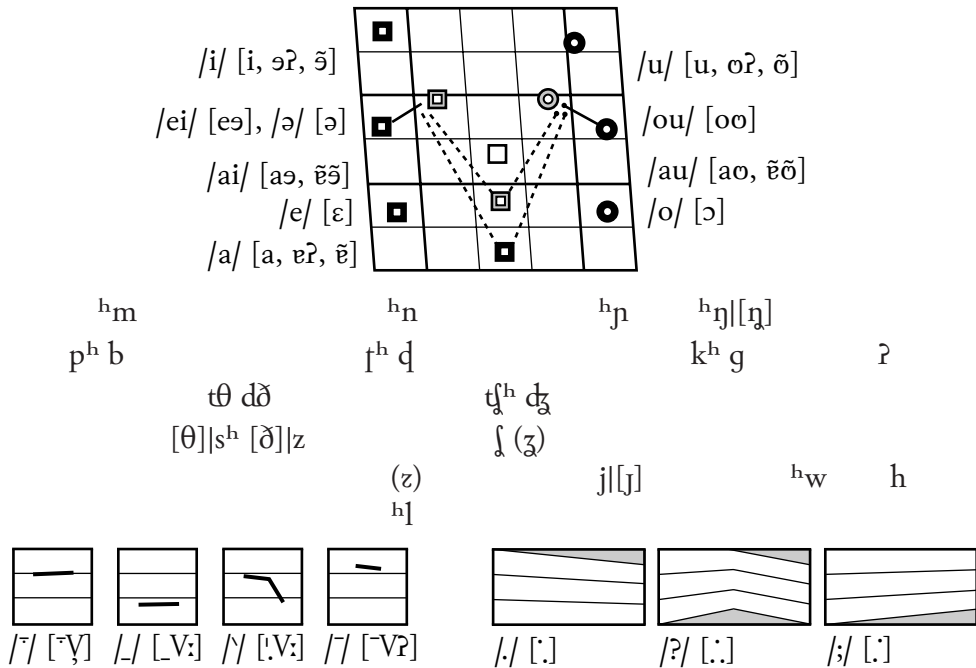


19.39. *Burmese* (Sino-Tibetan) has six V (including unstressed /ə/ [ɜ]) and four diphthongs; the timbres of /i, a, u/ change when V are nasalized or followed by /ʔ/; all vowel elements are phonetically nasalized when followed by /ŋ/ [ŋ], both of which is [n≡C] if non-final; syllable-initially, we find /ŋ/ [ŋ] instead. For two peculiar graphemes, traditional (or very careful) pronunciation has two separate phonemes /z, z/ [z̥, z], which have nowadays merged into /j/ [j]; /Cj/ sequences are [Cj] (not [C̥]).

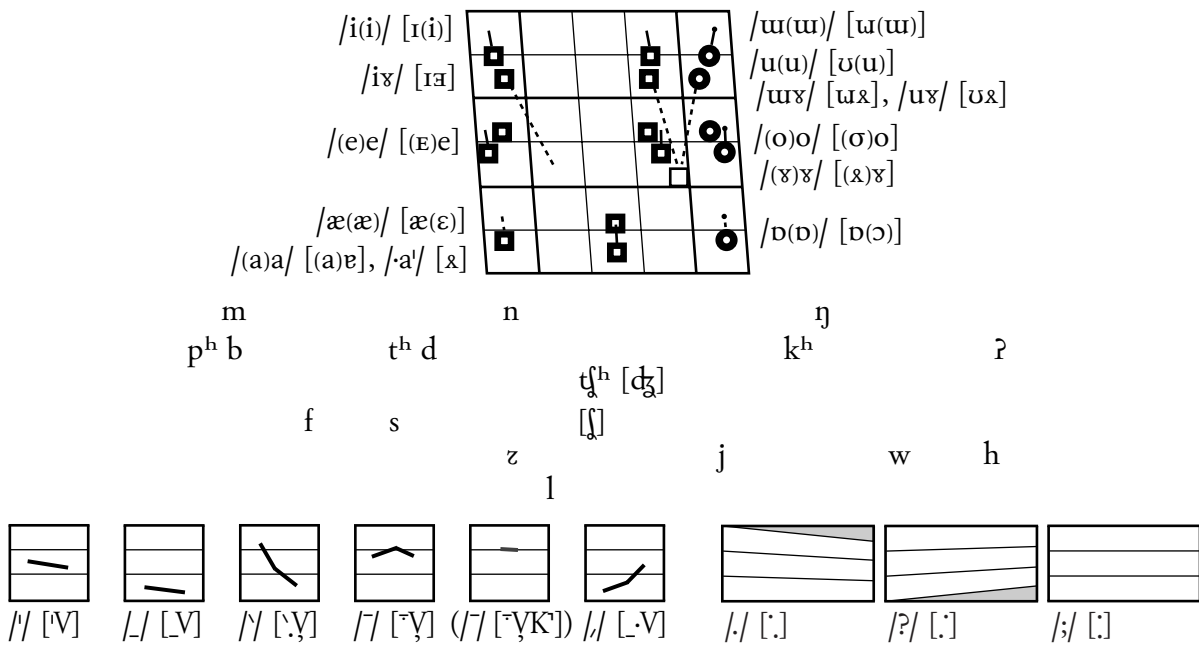
Many voiceless C present opposition between plain and <aspirated>: /C, Ch/ (also for /s, sh/); on the contrary, many voiced C present opposition between plain and <pre-aspirated>: /hC/, which are realized as diphonic sequences of voiceless C +

voiced C: [ʰmm, ʰnn, ʰŋŋ, ʰŋŋ; ʰwɔw; ʰll]; </hʲ/ [ʰj] > has become /ʃ/ [ʃ]; /d/ [ɹ, ɹ]; </θ, ð/ > [tθ, θ; dð, ð]; sometimes /l/ is realized as [z], but this is no neutral pronunciation.

There are four tonemes which show some peculiarities, as indicated: the first is accompanied by creaky voice, the second and third lengthen the V, the fourth modifies and interrupts it with /ʔ/, eg *khá* [ˈkʰaː] <tax>, *kha* [ˌkʰaː] <to shake>, *khà* [ˌkʰaː] <to be bitter>, *khaʔ* [ˈkʰeʔ] <to extract>.



19.40. *Thai* /ˈtae/ (Thai) has nine V, both short and long (ie narrow diphthongs), and three peculiar phonemic diphthongs, /iɤ, uɤ, ɔɤ/ [iɤ, uɤ, ɔɤ], as well as many others resulting from the juxtaposition of either short or long V with /i, u/ [i, u]; the most frequent are /ai, au; aai, aaui/ [ɛi, ɛu; aɛi, aɛu]; /a/ [ɤ] is frequent, ie /a/

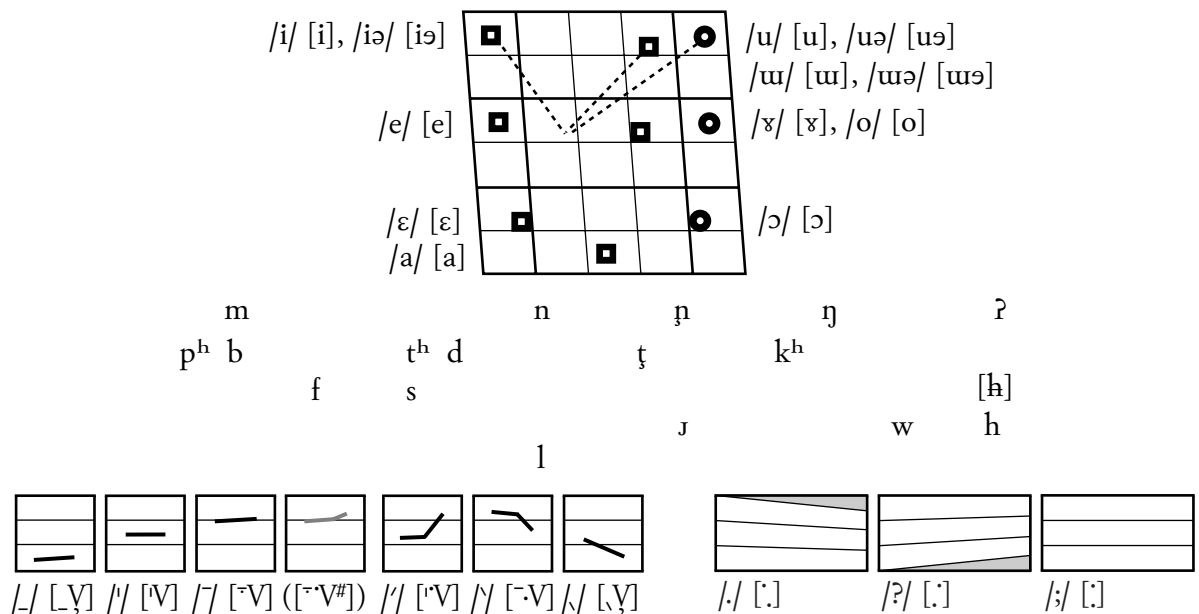


with a mid, unmarked toneme, in unchecked syllables, immediately before stressed (generally final) syllables which is realized as [x]; initial V are /[#]ʔV/ and final short V are /Vʔ[#]/.

The phoneme /ʔ/ often becomes <zero>, in word-internal or utterance-final unstressed syllables; it presents opposition between /C̣, C̣h, C̣/ [C̣, C̣h, C̣], for stops and stopstrictives; final /p, t, k, ʔ/ are [C']; /t, th, d/ are denti-alveolar; /b, d/ can be creaky voiced, [b̤, d̤]; there are frequent free variants of /t̤/ [t̤, d̤], /t̤h/ [t̤h, h̤]. In fast or colloquial (or less careful) speech, /z, l/ [z, l] often alternate with either [l] or [l̤], or merge into one of them; [r] can also be found for /z/.

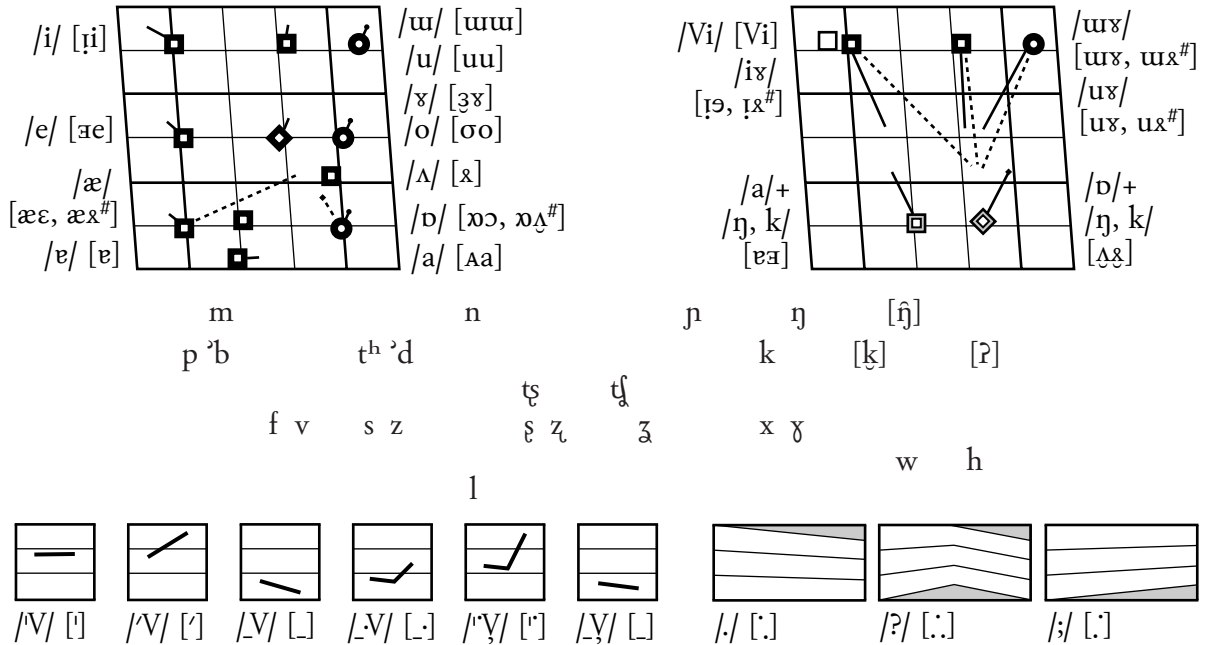
There are five tonemes, the third and fourth are accompanied by creaky voice, [V̤], eg *khāa* [ˈkhaə] <to be dangling>, *khàa* [ˌkhaə] <galangal>, *khâa* [ˈkha̤ə] <to kill>, *kháa* [ˈkha̤ə] <to trade>, *khǎa* [ˌkhaə] <leg>. Besides, /ʔ [ˈ] (or [ˈˈ]) is compressed into a short [ˈ] in checked syllables with short V + /p, t, k, ʔ/.

19.41. *Lao(tian)* /laɔ, ˈlaɔʃəŋ, lɛˈtɔʃəŋ, ˌtɔʃiəŋ/ (Laos: Thai) has nine V and three peculiar diphthongs, /iə, uə, uə/ [iə, uə, uə]; often vowel length is phonemic, which is rendered as gemination, /VV/; there are also other diphthongs which are produced by combining the monophthongs given; initial V are /ʔV/. It presents opposition for /p, ph; t, th; k, kh/ (with [Ch]); there are sequences of /Cw/ [Cw], as /ŋw/ (even initial); final /p, t, k, ʔ/ are [C']; the series </p, c, j/ [p, t, j] is phonetically peculiar. It has six tonemes, the first and last ones have creaky voice as well, [V̤]; the third toneme, /ʔ [ˈ], has a final variant which rises slightly more, [ˈˈ].



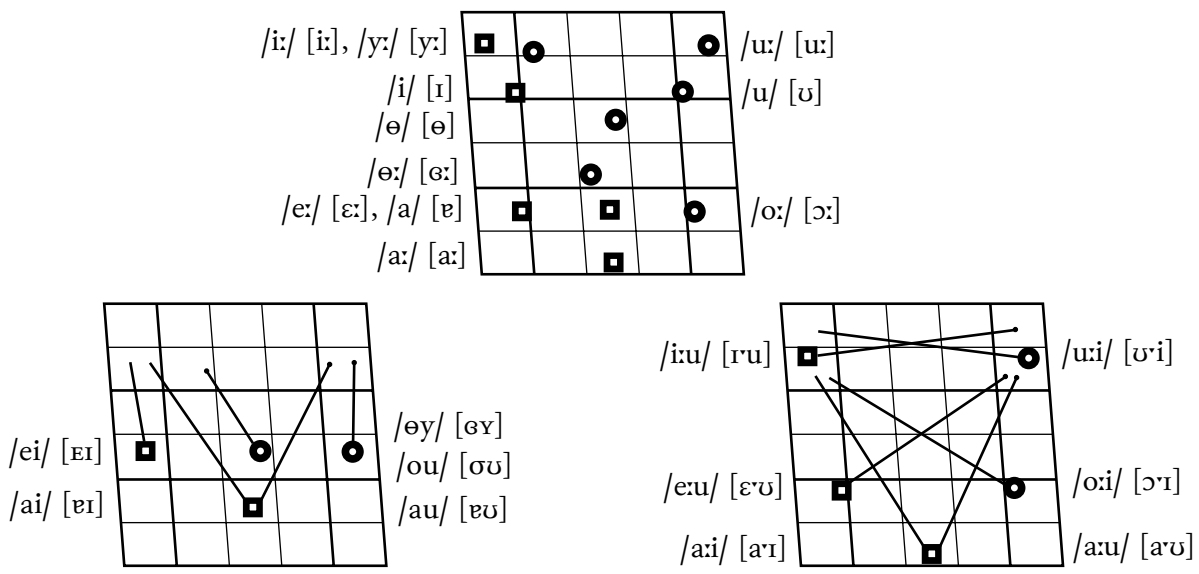
19.42. *Cambodian, Khmer* /kʰmɛəj/ (Austro-Asiatic)'s modern neutral pronunciation, based on Battambang usage (not on Phnom Penh usage any longer), has the seven short and eight long V given in the first vocogram (the latter are narrow diphthongs, [V·V]). In the second vocogram, we give four phonemic diphthongs, [VV], and six triphthongs, [VVV] (four of these are the combination of /ii, uu, uu, uu/).

Spelling: *a* /a/, *ǎ* /ɛ/, *â* /ʌ/, *e* /æ/, *ê* /e/, *i*, *y* /i/, *o* /ɔ/, *ô* /o/, *σ* /ɤ/, *u* /u/, *u* /ɯ/, *c* /k/, *ch* /tʃ/, *d* /z/, *đ* /ʤ/, *g*, *gh* /ɣ/, *gi* /ʒ/, *h* /h/, *kh* /x/, *ng* /ŋ/, *nh* /[#]ɲ/, *ŋ[#]* /, *ph* /f/, *qu* /kw/, *r* /z/, *s* /s/, *t* /t/, *th* /tʰ/, *tr* /tʃ/, *x* /s/; tonemes: *o* /V/, *ó* /'V/, *ò* /_V/, *ô* /_·V/, *õ* /'·V/, *ø* /_·V/.

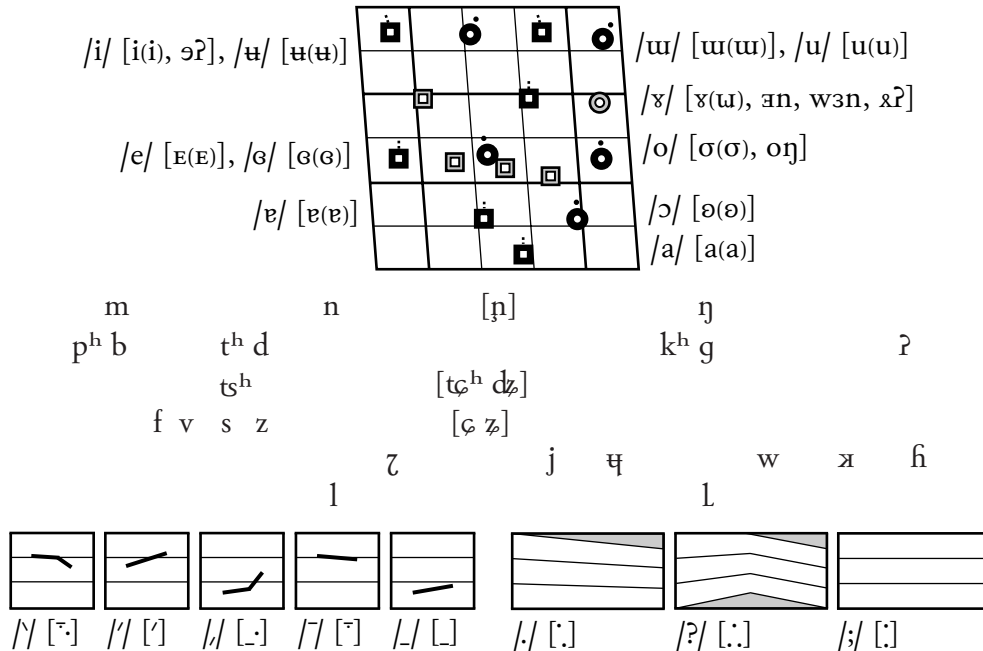


19.44. *Cantonese* (China: Sino-Tibetan) has four short V (which occur only in checked syllables), seven long V, and eleven diphthongs. In initial position, /i, ɿ/ → [jV], /y, ʅ/ → [ɥy:], /u, ʊ/ → [wV]; long V shorten before final stops, [V·K].

For momentary C, there is opposition between /C̣, C̣h/ [C̣, C̣h]; <non-aspirated> C are [C̣] after V or voiced C, and [C̣, C̣] in an unstressed syllable; /n, ts, s, h/ [h] show palatalized taxophones before /i, j/; /kw/ [k̟]; /j/ + non-back rounded V becomes [ɥ]; /ŋ/ occurs also initially and there are /ɲ, ɲ/ as well. For certain speakers, /[#]n/ → /l/, /[#]ŋ/ → /ø/, while /[#]a/ → /ŋa/, /kw/ [k̟] → /k/. It has six tonemes (the



Coronals + /i, ɰ, j, ɥ/ [i, ɰ, j, ɥ] are palatalized as indicated; [ɣ] could be represented with /h/. There are /m, n, ɲ, l/ [m, n, ɲ, l] (the latter two are only intense; in the table, the articulations are indicated without any implications for the occurrence of <non-syllabic phones>); /ʔ/ occurs initially, finally and before sonants, as in /#ʔŋ/ (which opposes /#ŋ/). It has five tonemes.



19.47. *Korean* (Altaic) has ten V, both short and long (ie narrow diphthongs); regionally, /e, ɛ; o, ɔ/ merge into [ɛ, ɔ]; in mediatic pronunciation, the central rounded phonemes, /ɰ(ɰ), ɐ(ɐ)/, may be substituted with /wi(i), we(e)/.

It has a series of stop and stopstricive C, </p, t, k; tʃ/>, which may also occur in typical either <aspirated>, /ph, th, kh; tʃh/, or glottalized sequences, /pʔ, tʔ, kʔ; tʃʔ/, which are concisely indicated with /Cʔ/ in the table. The plain ones are realized either as voiced in voiced contexts: [b, d, g; dʒ] (but as half-voiced in a slower or more careful style of speech, [b̤, d̤, ɡ̤; dʒ̤]), or as lenis voiceless word-initially, [#p̤, #t̤, #k̤; #tʃ̤] (possibly also with <voiced aspiration>, [#pʰ̤, #tʰ̤, #kʰ̤; #tʃʰ̤]). So, especially from an interphonemic point of view, it is more realistic (although structurally not as economical) to mark them with voiced symbols, /b, d, g; dʒ/.

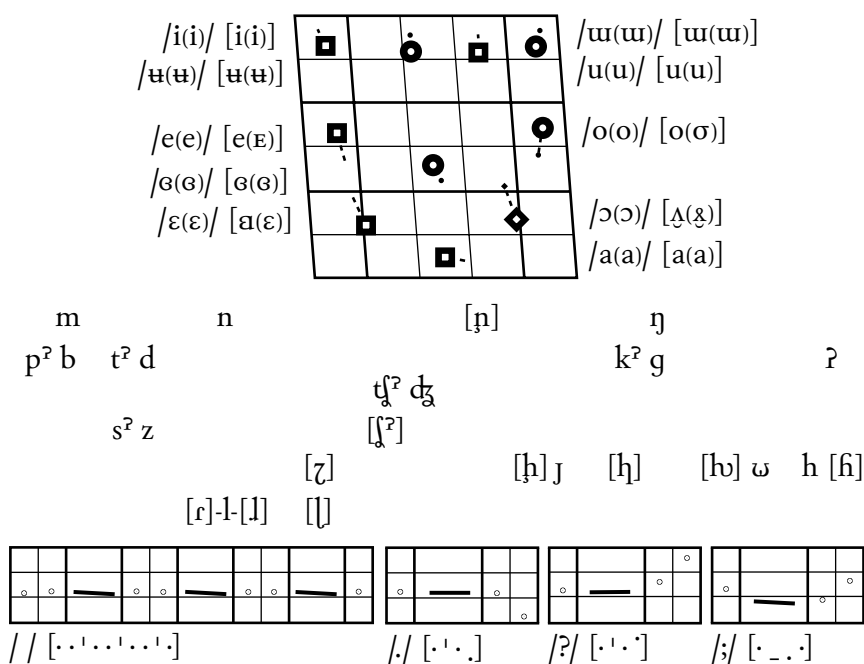
<Aspirated> sequences, /ph, th, kh; tʃh/, are realized as <aspirated> voiceless, [ph, th, kh; tʃh], with their <aspiration> having a palatal color before /i, j/, [pʰ̤, tʰ̤, kʰ̤; tʃʰ̤], a <velar rounded> color before /u, w/, [pʰ̤̹, tʰ̤̹, kʰ̤̹; tʃʰ̤̹], and a <velar> one before /ɰ/ (or, in slower or more careful speech, in the previous cases, too), [pʰ̤, tʰ̤, kʰ̤; tʃʰ̤]. The same holds for /h/ in the same contexts, eg *him* /'him/ [ʰim], *him* /'hum/ [ʰum], *huchu* /hu'tʃhu/ [hu'tʃhu]; in voiced contexts, /h/ is [ɦ] (or [∅]).

The phoneme /l/ has the following taxophones [rV, ɳV, lV; lC, lC, lC; l#, l#, l#]. The sequence /ni(i)/ is [ɲi(i)]. Glottalized sequences /pʔ, tʔ, kʔ; tʃʔ/ are realized either with simultaneous glottalization and lengthening, [p̤ː, t̤ː, k̤ː; tʃ̤ː], or with the laryngealization of subsequent vocalic elements ([V̤], including possible voiced C).

/s/ [s] occurs in a glottalized phonemic sequence, /sʔ/ as well, which is realized as [s:] (or, if word-initial, as [#sh]) + [V]. Before /i/ (and for /sʔj/), we have [ʃ:] (or [#h]) + [V]. Moreover, much unlike most phonemic analyses (which follow spelling too closely), we prefer to maintain /z/ [s; z̥], for structural reasons and notwithstanding the seeming complementarity (in a similar way to Middle Korean).

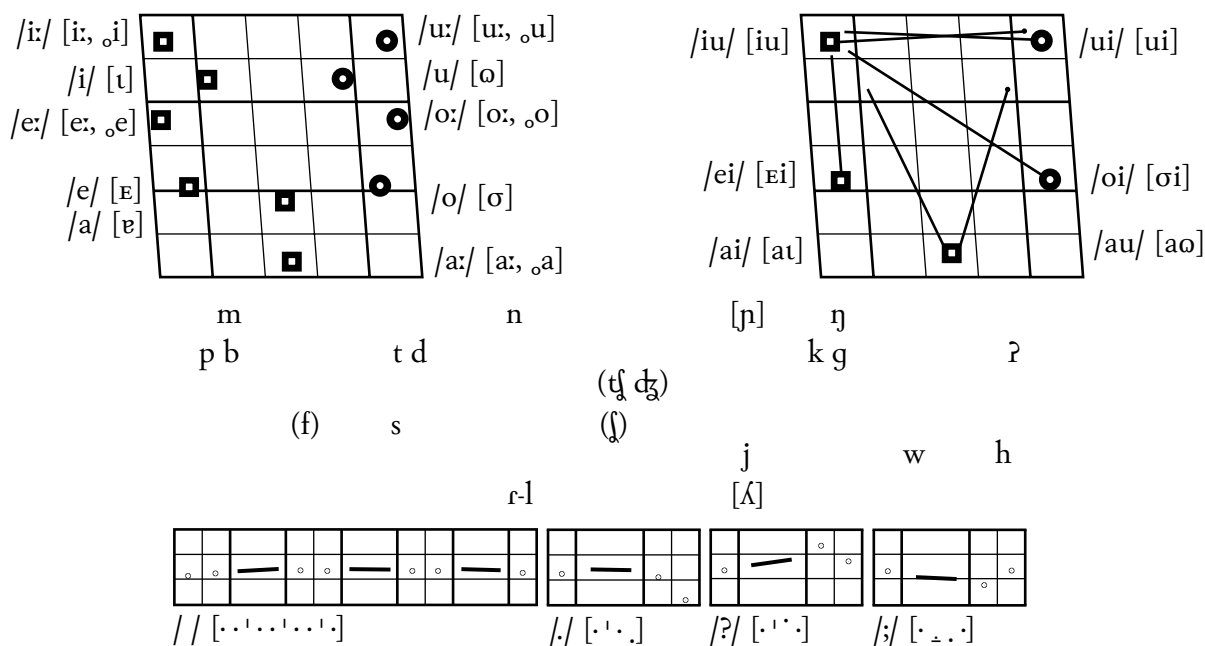
Structurally, as said, the C table could be presented in a more compact way, solely with /p, t, k; tʃ/ (+ the sequences /Ch, Cʔ/); however, we have decided to make it more explicit, putting /b, d, g; dʒ/, for simple C, instead. At this point, it may suffice to mark /pʔ, b; tʔ, d; kʔ, g; tʃʔ, dʒ/, given that, as customary for us, superscripts indicate a *privative pair*, ie //pʔ, p// (in the case of stops, stopstrictives and constrictives, <aspiration> derives from their being voiceless), which thus leads to /pʔ, ph/, besides /b/ [p̥, VbV], &c.

Some examples follow (in round brackets we give some transliteration variants which are frequently found): *phul* (*pʔul*) /'phul/ ['phul] <grass>, *pul* (*ppul*) /'pʔul/ [p̥:ul] <horn>, *bul* (*pul*) /'bul/ [p̥ul; p̥hul] <fire>; *iphul* (*ipʔul*) /i'phul/ [i'phul] <this grass>, *ipul* (*ippul*) /i'pʔul/ [i'p̥:ul] <this horn>, *ibul* (*ipul*) /i'bul/ [i'bul] <this fire>; as a rule, final C are inaudibly released (including sonants, generally).

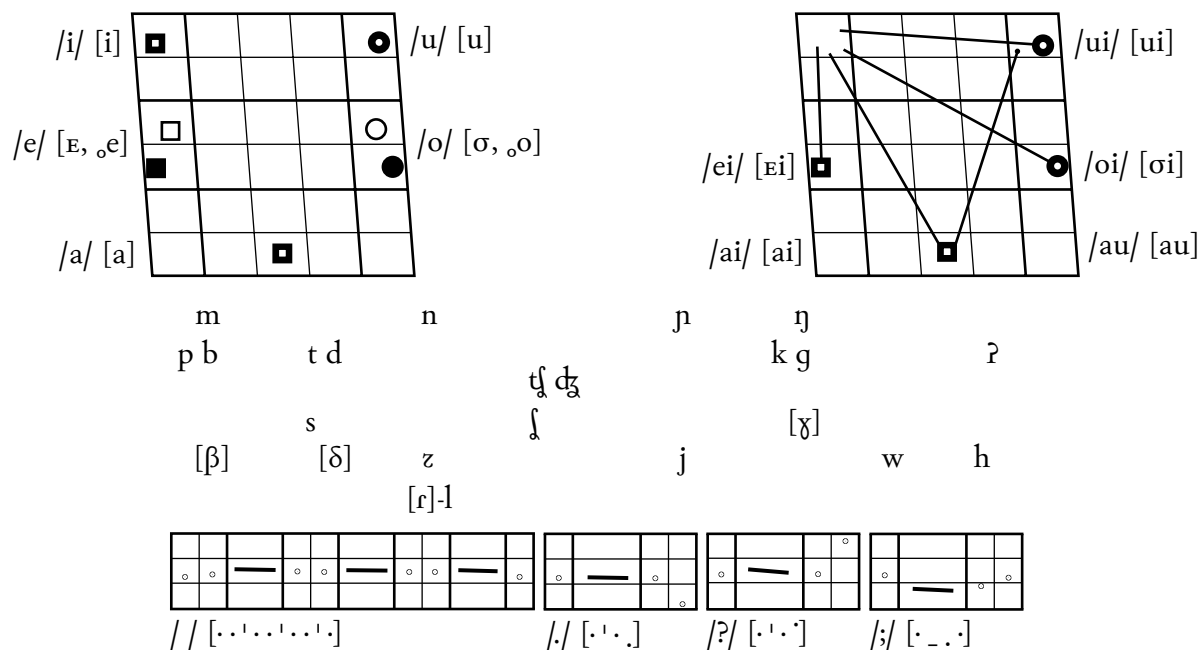


19.48. *Tagalog* /tə'gɑ:lɔg, -'gæ-, -ɔ:g/, *Pilipino, Filipino* /pɪlɪ'pɪnɔʊ, f-/ (Philippines: Austronesian), has five V, both short and long (with different timbres), and six diphthongs. The sequences /ijV, uwV/ are [iV, uV]; initial V are /ʔV/; V sequences, which are different from diphthongs, are separated by /ʔ/, even though /ʔVʔV/ sequences are thus formed. In words with final written V, we find either /Vʔ/ or /Vh/, eg *bata* /'batæʔ/ <child>, /'batɛh/ <bathrobe> (but /h/ is maintained only before a pause); /s/ is denti-alveolar; /nj, lj/ → [ɲʃ, ʎʃ].

Voiceless stops are inaudibly released, [Cʔ], if final or before another stop; final voiced stops have audible release, [C*]; there is no voicing assimilation between different obstruents. There are four xenophonemes.



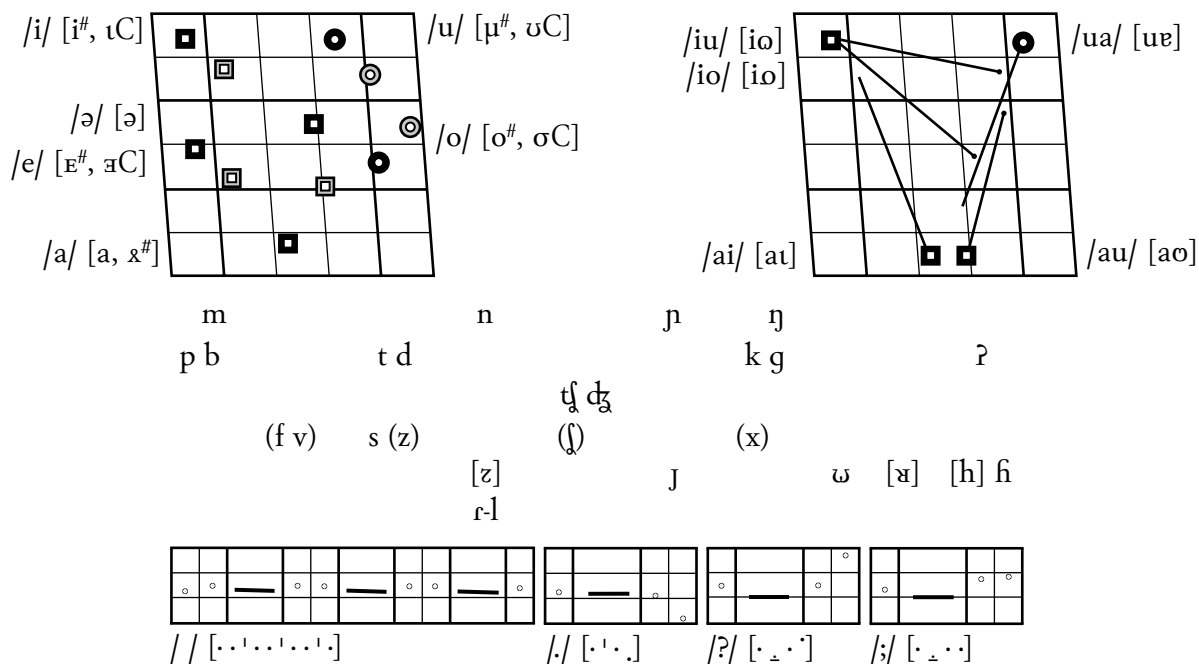
19.49. *Chabacano* /tʃa:bə'ka:nɔs, tʃæ-/ (Philippines: pidgin, Romance Creole) has five short V (with seven timbres) and five diphthongs; initial V are /ʔV/, final ones may be /Vʔ/. Between V, the phonemes /b, d, g/ have the taxophones [β, δ, χ], and /r/ has the possible variants [z, r].



19.50. *Malay(sian)* /mə'lɛɪ, -ziən, 'mɛɪlɛɪ/ (Malaysia: Austronesian) has six short V (including /ə/ [ə], which may occur also stressed) and five frequent diphthongs (the latter are given in the second vocogram, and much like in Indonesian however, they alternate with hiatuses, [V^vV]), and there are also other sequences. For five V, there are peculiar taxophones, indicated with their contexts. It has five xenophonemes, given in round brackets, but, generally, /z, ʃ/ [z, ʃ] → /dʒ, s/; syllable- or

word-final /p, t, k/ (and /b, d, g/ too) → [p̚, t̚, k̚]; in loanwords, [k] occurs as well.

It has /ŋ/, also in word-initial position, and presents opposition between /V[#]ŋV, Vŋ[#]gV/; /ʔ/ occurs regularly in internal and final position (but it is possible for /VʔV, Vʔ[#]/ to become [ṾṾ, Ṿ]). Initial V have /[#]ʔ/, which may become [∅], as long as they are not preceded by an identical V; /h/ [[#]h̄, -h̄, h[#]], but [[#]h̄] may drop if it is not between identical V, in which case it becomes [h] (also word-internally); identical V are separated by /ʔ/, as are also /əV, ae, oa/ [əʔV, aʔE, oʔa]; /r/ [r, z, ʁ] (it is possible to have [r[#], z[#], ʁ[#]], while a change to [∅] is dialectal).

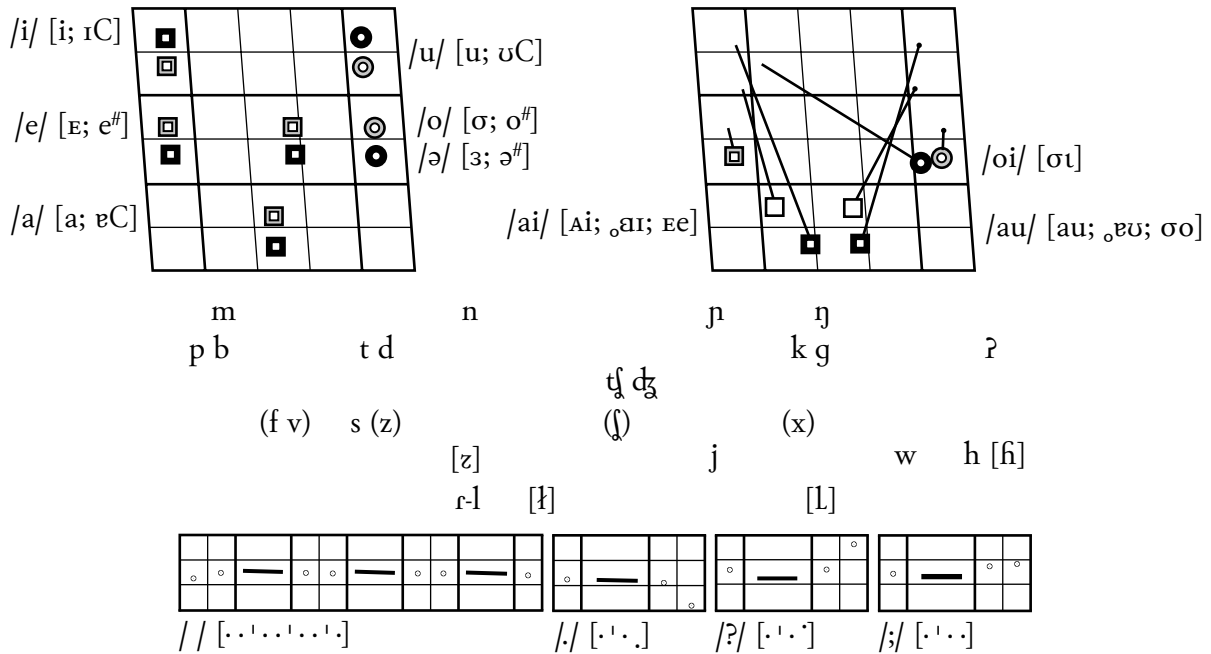


19.51. *Indonesian, Bahasa Indonesia* (Austronesian), has six short V (including [even stressed] /ə/) and three official diphthongs; in stressed internal unchecked syllables, V are [V[#]]; in the <international> accent, the six timbres /i, e, a, o, u, ə/ [i, E, a, σ, u, ɜ] are to be found; while in native accents, we find [i[#], ɪC; e[#], E C; a[#], ɛC; o[#], σC; u[#], υC; ə[#], ɜC], but also [i[#], E[#], e[#], σ[#], υ[#], ɜ[#]] if there is an identical V in a following checked syllable (ie [ɪ] + [ɪC]...).

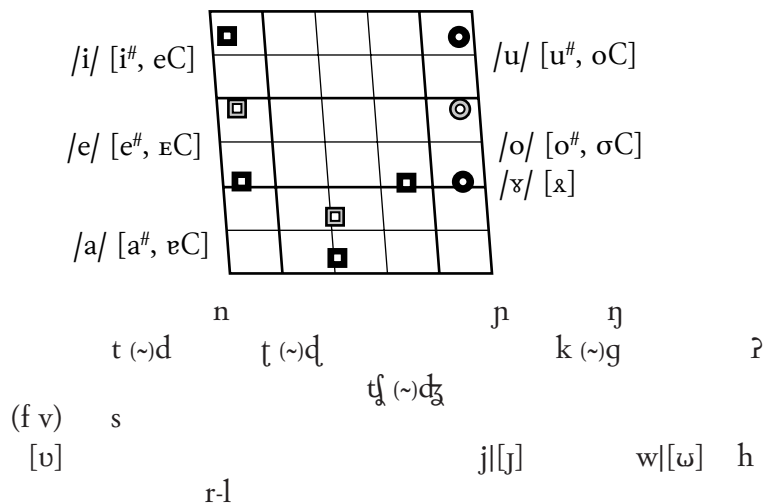
The three diphthongs /ai, au, oi/ are juxtaposed sequences, [ai, au, σi] (which are not shown in the vocogram) in the international accent, but they are [ai, au, σi] in native accents, with the frequent –especially unstressed– variants [aɪ, əʊ]; we have placed them in the second vocogram, as their timbres do not directly derive from the juxtaposition of the elements; in fast connected speech, /ai, au/ often become [Ee, σo] or /e, o/, also in stressed syllables. Anyway, also for /ai, au, oi/, it is better to speak of vowel sequences, as they often pass from true diphthongs, [ṾṾ], to hiatuses, [ṾṾ], depending on their position in sentences and for rhythmic reasons, eg *baik* <good, well> /'baiʔ, ba'iʔ/; the same happens for the other frequent sequences /ia, io, iu; ea, eo; ui, ue, ua/, eg *dia* <he, she> /'dia, di'a/; in current pronunciation, V preceded by N or followed by /ŋ/ often nasalize.

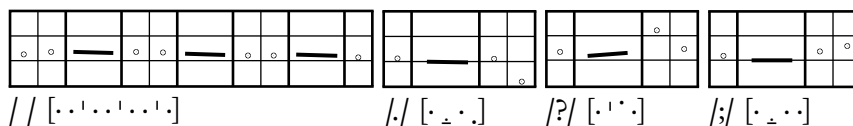
It has five xenophonemes, given in round brackets, but, generally, /z, ʃ/ [z, ʃ] →

/d͡ʒ, s/. Syllable- or word-final /p, t, k/ (but also /b, d, g/) become [p̚, t̚, k̚] (in loan-words we find [k̚] as well); /ŋ/ occurs even word-initially, and it presents opposition between /V[#]ŋV, Vŋ[#]gV/; /ʔ/ occurs regularly in internal and final position (but it is possible that /VʔV, Vʔ[#]/ → [V̥V, V̥]). Initial V have /[#]ʔ/, which can however become [∅], as long as they are not preceded by identical V; /h/ [[#]ɦ, -ɦ-, h[#]], but [ɦ] may drop if not between identical V, in which case /h/ is [h]; identical V (but also sequences of different V [different from those given above, which may be realized as diphthongs]) are separated by [ʔ]: *keadaan* [kəʔa'daʔən]; /r/ [[#]r, -r-, r[#]] ([r̥[#], r̥[#]] are also possible); for /l/ [l], even [ɭ, L] are possible in all contexts: *Bali* [ˈbaːli, baːli, -ɦi, -li]; *matahari* <sun> [ˌmataˈɦari].



19.52. *Javanese* (Indonesia: Austronesian) has six short V, with two neutralization taxophones [e, o] for /iC, e[#]; uC, o[#]/ [eC, e[#], oC, o[#]] (though it is not rare to have [e[#], o[#]]). Inventories with eight V phonemes have been suggested, in practice





one for each phone (or even nine, depending on whether [ɐ] is perceived as different from [a] or not), but this would separate the phonic system both from spelling and morphological structures, besides being of no use. For stop and stopstricatives, there is opposition between $/C_{\Delta}, C_{\nabla}, \sim C_{\nabla}/ [C_{\Delta}h, C_{\circ}, \sim C_{\nabla}]$; $/j/ [{}^{\#}j, -j]$, $/w/ [{}^{\#}w, -w, v^{\#}]$.