ины ааа еее еее ооо ооо өөө ккк к ююю ааа прһһуужтьрfvnlrrtttttddsszzcjkkggq ынипееовкю аппһһу w w m flitttddssfzzk

# gilchrist

a universal phonetic alphabet

created by John Borthwick Gilchrist in 1825

DIGITIZED BY TIM CASSEDY IN 2019

VERSION 1.0
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# INTRODUCTION

This is a digital revival of the first universal phonetic alphabet ever manufactured in the English-speaking world — that is, the first alphabet that was said to contain characters for every meaningful sound in every language in the world. It was designed by John Borthwick

Gilchrist (1759–1841) in the early 1820s and manufactured in a limited run in 1825 by typographer Vincent Figgins. Gilchrist used it in 1825–26 to print text in English, Gaelic, Arabic, German, Chinese, French, Italian, Hindi/Urdu, Farsi, Brij Bhasha, Bengali, Sanskrit, Greek, Latin, and Spanish. The alphabet subsequently fell into obscurity and has remained virtually unknown to this day.

Much better known to history is Gilchrist's earlier and more successful system for transliterating Hindustani — the language of which Hindi and Urdu are dialects — into the Latin alphabet. The romanization or transliteration system that he created in 1796 was adopted internationally as a standard method of printing Hindi and Urdu texts whenever

it was not practical to use their native Devanagari and Perso-Arabic alphabets — including on nineteenth-century British presses and on present-day computer systems that lack international language support.

Gilchrist's 1796 Hindi–Urdu romanization scheme used the 26 letters of the English alphabet, plus one additional letter  $(\infty)$ , and several diacritical marks. By contrast, his 1825 "universal" alphabet was much more ambitious, comprising 100 letters and no diacritics. This table illustrates some of the differences between the two schemes:

Devanagari script	Perso-Arabic script	Gilchrist's 1796 romanization	Gilchrist's 1825 universal alphabet	English meaning
बहादुर	بہادر	buhadŏŏr	buhudor	"brave"
मोती	پرل	motee	mote	"pearl"
घोड़ा	گھوڑ ے	g hořa	ghor u	"horse"

The 100 letters in Gilchrist's universal alphabet are all based on Latin characters, taking advantage of the diversity of forms in which Latin letters already exist, and adding hooks, loops, or bars to create additional variants. For example, Gilchrist's universal alphabet includes five different "z"-like letters, each with a different phonetic value: z, z, z, z. The designers of the International Phonetic Alphabet (1887) would later adopt a similar strategy.

# TYPING STRATEGY

Gilchrist's alphabet has 100 letters, but a standard computer keyboard has only 36 keys representing letters and numbers. The strategy adopted in this digitization is to make it possible to type all 100 of

# **SPECIMEN**

wor fater hwec art en hevn hallowed be the nem, the kendum kum, tho wel be dun on ert az et ez en hevn; gev us tes de hor dele bred; and forgev us hor dets az we forgev hor deturz, and led us not ento temtesun, but delevur us from evl, for then ez te kendum and te phour and te glore for evur, emen. Gilchrist's letters in MacOS using only the 36 alphanumeric keys on a U.S./U.K. English keyboard layout and the shift and option keys. At present, the keystrokes that use the option key do not work on Windows. Better support for Windows will be provided in a future release of this font.

Since Gilchrist's letters are based on Latin letters, it has been possible in most cases to assign them to keystrokes based on their source letter on the U.S./U.K. keyboard. For example, Gilchrist's four "h"-like letters and four "s"-like letters are typed as follows:

When there are more than four variants of a particular letter, the additional variants have usually been assigned to keystrokes that are physically close to their parent letter on the QWERTY keyboard.

For vowels, a different strategy has been followed. Most of Gilchrist's vowels are based on 10 characters, each of which comes in a narrow, a medium, and a wide version, yielding 30 different characters with different phonetic values:

```
NARROW a, e, \theta, o, u, \alpha, e, u, \theta, \omega
MEDIUM a, e, \theta, o, u, \alpha, e, u, e, \omega
WIDE a, e, \theta, o, u, \alpha, e, u, \omega, e, \omega, \omega
```

(One flaw in Gilchrist's alphabet is that the three different widths are difficult to distinguish from each other in print. Gilchrist insisted that it would get easier with practice.) The middle-width variants of these ten vowels have been assigned to the five vowel keys of the QWERTY keyboard, in their uppercase and lowercase forms: thus, typing a, e, i, o, u, A, E, I, O, U will yield  $a, e, e, o, u, \alpha, e, \omega, e, \omega$ .

The narrow and wide variants of each vowel are typed by doing what you would normally do to type that vowel with an accent — a circumflex accent for the narrow variant, or a dieresis for the wide variant:

```
â, ê, î, ô, û, Â, Ê, Î, Ô, Û = a, e, o, o, u, o, e, e, o, w
a, e, i, o, u, A, E, I, O, U = a, e, o, o, u, o, e, e, o, w
ä, ë, ï, ö, ü, Ä, Ë, Ï, Ö, Ü = a, e, o, o, u, o, o, e, e, o, w
```

Specific instructions for typing each character are listed in the table below.

## WHAT DO THE LETTERS MEAN?

Gilchrist never produced a systematic explanation of the sounds that he intended each character to represent. Instead, he published a series of eccentric pamphlets and articles touting various aspects of the system, and he also used the alphabet to print about 150 pages of phonetic text in fifteen languages. (Scans of these texts are linked in the

bibliography below.) Reconstructing the phonetic values of Gilchrist's letters therefore requires triangulating from nineteenth-century pronunciations of fifteen languages, as filtered through Gilchrist's imperfect linguistic knowledge, regional peculiarities, and unconventional phonological theories. Gilchrist's phonetic analysis is often problematic or self-contradictory, and sometimes impossible to square with what we now understand about phonology.

The following table represents a partial attempt to collate Gilchrist's usages, glosses, and explanations of the letters of his alphabet. The column on the right suggests some possible equivalencies between Gilchrist's characters and the now-standard International Phonetic Alphabet. These possible equivalencies are, however, speculative and open to debate.

The letters were numbered by Gilchrist.

# THE ALPHABET

		GILCHRIST'S EXAMPLES AND EXPLANATIONS	MAC OS KEYSTROKE	GILCHRIST'S GLOSSES*	POSSIBLE IPA EQUIVALENTS
1. <b>u</b>	hul "hull" Jug "jug"	curc "church" kum "come"	$\begin{picture}(60,0) \put(0,0){\line(1,0){100}} \put(0,0){\line(1,0){100$	u	[Λ]?
2. <b>H</b>	hul "hall"		U	a	[ɔ]?
3. <b>u</b>	hul "haul"	น "awe"	$oxed{f option}$ $oxed{f U}$ then $oxed{f U}$	a	[a]?
4. a	fan "fan" and "and"	az "as"	option I then A		[æ]?
5. a	far "far" art "art"	<i>faler</i> "father"	A		[ɐ]? [ɑ]?
6. <i>a</i>	ba "baa"		$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		[a] ? [e] ?
7. <b>e</b>	bed "bed" ert "earth"	<i>hevn</i> "heaven"		i	[٤]
8. <i>e</i>	med "made"	temtesun "temptation"	E	e	[e]?
9. e	med "maid" de "day"	<i>pepur</i> "paper" nem "name"	$\begin{picture}(0,0) \put(0,0){\line(0,0){100}} \put(0,0){\line(0,0){100}$	e	[e]?
10. €	sen "sin" evur "ever"	<i>sen</i> "shin" <i>lekur</i> "liquor"		i	[1]
11. <b>e</b>	sen "seen"		shift	e	[i]? [i]?
12. <b>€</b>	sen "scene" be "be"	led "lead" (v.) strem "stream"	option U then shift E	e	[i]?
13. 0	not "not" forgev "forgive"	on "on" from "from"		i	[ɒ], [ɔ]
14. 0	no "no" soŋ "song"	bon "bone" sunsoŋ "chanson" (French, song)	0	ee	[0]

<sup>\*</sup> Corresponding characters provided by Gilchrist for the Devanagari and Perso-Arabic alphabets, and for Gilchrist's earlier 1796 romanization scheme.

	GILCHRIST'S E	XAMPLES AND EXPLANATIONS	MAC OS KEYSTROKE	GILCHRIST'S GLOSSES*	POSSIBLE IPA EQUIVALENTS
15. O	not "note" brot "Brot" (German, bread)	glore "glory"	option U then O	ee	[oː]
16. θ	w₀d "wood"	ento "into"	option I then shift O	ω	[v]? [tt]?
17. 0	mod "mood" kyo "cue"	ezyor "azure" oz "ooze"	shift	ω	[ <del>u</del> ]?
18. 0	wod "woo'd"	soldegern "Schuldigern" (German, debtors)	option U then shift O	ω	[u]?
19. θ	sør "sur" (French, upon)		option I then I		[ŧ]? [θ]? [ø]?
20. θ	sθr "sûr" (French, sure) sθr "saor" (Scottish Gaelic, free)	en "une" (French, one)			[y]
21. Ө	sor "soeur" (French, sister)	ө <b>г</b> и¾ "usage" (French, usage)	$oxed{f option}$ $oxed{f U}$ then $oxed{f I}$		[œ]
22. <b>W</b>	vus "vice" hute "heute" (German, today)	fю "thy"	option I then shift I	ui	[aɪ]
23. <b>K</b>	bи "buy"		shift	ue	[ar]
24. <i>W</i>	ъ "eye"		option U then shift	ue	[ar.]
25. Ю	tω "thou"	ъf "auf" (German, to)	option I then shift U	uo	[aʊ]
26. ю	тюs "mouse"	wr "our"	shift U	uo	[aʊ <sup>,</sup> ]
27. <del>10</del> 0	vю "vow"		option U then shift U	uo	[aux]
28. æ	væs "voice"		option I then shift A		[1C]
29. œ	bæ "boy"		shift A		[116]
30. Œ	bæ "buoy"				[วบเ]?
31. n	bon ton "bon ton" (French)		shift M	ņ	[~]
32. <i>ŋ</i>	sreyk "shrink"		shift N	ng	[ŋ]
33. h	hul "hull"	ghoru "घोड़ा" (Hindi, horse)	Н	h	[h]
34∙ <i>ħ</i>	ham "Ham" (son of Noah)	mehnut "محنت" (Urdu, toil)	shift H	ķ	[χ]? [fi]?
35. <i>y</i>	hyomun "human"		Y	у	[j]
36. <i>y</i>	yurub "عرب" (Arabic, Arabs)	bouruy "buaireadh" (Sc. Gaelic, temptation)	shift Y	ų	[2]
	"y becomes the arabian gutturali being lost by strangers in its acco	ized initial $y\dots$ but so difficult is its peculiar orient ompanying audible vowel"	ntal expression, that $\emph{y}$ commor	nly remains e	ntirely mute,
37. <b>w</b>	hwec "which"		W	W	[w]
38. m	med "made"		M	m	[m]
39. <b>b</b>	beb "bib"		В	b	[b]
40. <i>p</i>	pap "pap"		Р	p	[p]

	GILCHRIST'S EXAM	MPLES AND EXPLANATIONS	MAC OS KEYSTROKE	GILCHRIST'S GLOSSES*	POSSIBLE IPA EQUIVALENTS
41. <i>f</i>	fan "fan"		F	f	[f]
42. <i>v</i>	vot "vote"		V	v	[v]
43. n	not "not"		N	n	[n]
44. <i>l</i>	hul "hull"		L	1	[1]
45. <b>r</b>	serc "search" ruh "Reich" (German, kingdom)	duevurz "divers"	R	r	[1]
46. i	ture "tarry" [with "tapped" r] munekjorer "মানিকজোড়" (Bengal	ghozu "घोड़ा" (Hindi, horse) ii, stork)	shift	ţ	[r], [r̪]?
47. t	tun "tun"		Т	t	[t]?
48. <i>t</i>	tyon "tune"	bhutu "भत्ता" (Hindi, surplus)	shift		[t <sup>h</sup> ]?
49. <i>t</i>	buttu "बट्टा" (Hindi, discount)		option G	t, ت	[t]
	"formed by carrying the tongue forc	ibly against the roof of the mouth, while a	rticulating the common dentals	of our own a	ılphabet"
50. t	tro "through"	bot "both"	option T		[θ]
51. <i>f</i>	tog "those"	tem "them"	option shift T		[ð]
52. d	dul "dull"	bed "bed"	D	d	[d]?
53. d	dyod "duel"	dun "dein" (German, thy)	shift		[d <sup>h</sup> ]?
54. <b>8</b>	serc "search"		S	S	[s]
55. s	temtesun "temptation"		shift	sh	[[]
56. <b>z</b>	perlz "pearls"		Z	Z	[z]
57· <b>¾</b>	ezyor "azure"		shift Z	zh	[3]
58. <b>c</b>	serc "search"		С	ch	[tʃ]
59· <b>J</b>	<i>jemz</i> "gems"		J	j	[d <sub>3</sub> ]
60. <i>k</i>	kek "kick"		К	k	[k]
61. <i>k</i>	nekt "nicht" (German, not)	teglek "täglich" (German, daily)	shift K	kh	[x]
	lar vibration between the tongue and	d and felt by every body in hawking up too d adjacent parts; a sound that a hoarse rav nglish child would easily imitate, through	en would naturally produce from	m its ordinary k	aw! kaw! And
62. g	geg "gig"		G	g	[g]
63. <b>g</b>	gurguru "غر غرة" (Arabic, to gargle)		shift G	gh	[γ]
		create $g$ , in like manner gargarized into the ich is either the fatal herald of death, the re			

	GILCHRIST'S EXAMPLES AND EXPLANATIONS	MAC OS KEYSTROKE	GILCHRIST'S GLOSSES*	POSSIBLE IPA EQUIVALENTS
64. <b>q</b>	qoran "Qu'ran"	Q		[q]
	" $k$ , $k$ , $g$ , $g$ have a third cognate guttural common to a variety of dialects, which made quack of a duck, the hickup of a sot more than half seas over his pot, or in the reit from a long-necked gugglet"			
65. <b>u</b>	[EXAMPLE NOT YET IDENTIFIED]	1	ä	
66. <b>u</b>	[EXAMPLE NOT YET IDENTIFIED]	2	u	
67. <b>u</b>	[EXAMPLE NOT YET IDENTIFIED]	3	ü	
68. <b>u</b>	[EXAMPLE NOT YET IDENTIFIED]	4	<u>a</u>	
69. €	[EXAMPLE NOT YET IDENTIFIED]	5	<u>i</u>	
70. <i>e</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	6		
71. <b>0</b>	हिंदर्शी" (Hindi, joy) هود "खुशी" (Hindi, joy) أخود " (Farsi, reflexive pronoun)	shift Q	Ö	
72. <b>0</b>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option shift Q		
73. <b>w</b>	[EXAMPLE NOT YET IDENTIFIED]	7		
74. <i>1</i> 0	[EXAMPLE NOT YET IDENTIFIED]	8		
75. œ	[EXAMPLE NOT YET IDENTIFIED]	option Q		
76. <b>n</b>	[EXAMPLE NOT YET IDENTIFIED]	option B	ü	
77. <b>n</b>	[EXAMPLE NOT YET IDENTIFIED]	shift J	n	
78. <b>n</b>	[EXAMPLE NOT YET IDENTIFIED]	option shift N	gņ	
79. <b>h</b>	[EXAMPLE NOT YET IDENTIFIED]	option H	ÿ	
80. <i>h</i>	[EXAMPLE NOT YET IDENTIFIED]	option shift	<u>h</u>	
81. <i>y</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option Y		
82. w	[EXAMPLE NOT YET IDENTIFIED]	shift W	<b>w</b>	[ʊ]?
83. <i>w</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	shift V		
84. <i>m</i>	[EXAMPLE NOT YET IDENTIFIED]	option M	nb, np	
85. f	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option F		
86. <i>l</i>	[EXAMPLE NOT YET IDENTIFIED]	shift L	ļ	
87. 1	sunskret "Sanskrit"	option R	ŗ	[٢]?
88. 1	اطاق" (Urdu, shelf)	option Z	ط, <u>ن</u>	[t̪]?
89. <i>t</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option X		

	GILCHRIST'S EXAMPLES AND EXPLANATIONS	MAC OS KEYSTROKE	GILCHRIST'S GLOSSES*	POSSIBLE IPA EQUIVALENTS
90. <i>t</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option C		
91. <i>t</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option V		
92. d	dul "בוֹל" (Urdu, throw)	shift B	d	[d]?
	"formed by carrying the tongue forcibly against the roof of the mouth, while arti-	culating the common dentals.	of our own a	alphabet"
93. đ	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option D		
94. s	usel "اصيل" (Farsi, noble)	option shift S	<u>ڊ,</u> ص	[s]?
95. S	משליי" (Arabic, fox)	option S	ث, ِع	[§]?
96. f	[EXAMPLE NOT YET IDENTIFIED]	shift F	sh, ष	[¢]?
97. <b>z</b>	muzkor "مشكور" (Urdu, thankful)	X	$\underline{z}, \dot{z}$	[z]? [z]?
98. Z	zokomme "zukomme" (German, come) zuror "ضرور" (Urdu, necessary)	shift X	<u>z,</u> 逆	[ts]? [z]?
99. Z	nuzur"نظر" (Urdu, look)	shift C	ظ, <u>ج</u>	[z]?
100. <i>k</i>	[UNASSIGNED: RESERVED BY GILCHRIST FOR FUTURE USE]	option K		

# **BIBLIOGRAPHY OF PRIMARY SOURCES**

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"The oriento-occidental plan of expressing the most useful asiatic dialects through the medium of a HINDEE-ROMAN ORTHOEPIGRAPHICAL ALPHABET." A lithographed foldout plate included in *Dialogues, English and Hindoostanee* (1826) and *The Oriental-Occidental Tuitionary Pioneer* ([1826]).

archive.org/details/dialoguesenglishoogilc/page/106 hdl.handle.net/10973/21415

Dialogues, English and Hindoostanee, 4th ed. (London, 1826). The 100-page appendix contains the following texts in phonetic type: Shakuntala Natak in Hindustani (pp. 1–74) and a partial translation into English (pp. 74–88); Aesop's fable of the Fox and the Stork in Hindustani, Farsi, Brij Bhasha, Bengali, Sanskrit, and Arabic (pp. 88–99); the Lord's Prayer in English, German, Scottish Gaelic, and Chinese (pp. xx, 104–6); letters on phonetic spelling by Benjamin Franklin and Mary Stevenson (pp. xvi–xix); and a letter to Gilchrist in Hindustani from Tarini Charan Mitra, a distinguished writer and translator Gilchrist had known in Calcutta years earlier (pp. 99–101).

archive.org/details/dialoguesenglishoogilc/page/n323 archive.org/details/dialoguesenglishoogilcuoft/page/n323 The Orienti-Occidental Tuitionary Pioneer ([London, 1826]). Includes the "Panglossal Diorama," the "HINDEE-ROMAN ORTHOEPIGRAPHICAL ALPHABET," and approximately 20 pp. of lessons in elementary Hindustani conversation using the phonetic alphabet. <a href="https://hdl.handle.net/10973/21415">hdl.handle.net/10973/21415</a>

Advertisement for *The Orienti-Occidental Tuitionary Pioneer* in the London *Examiner*, 17 Sept. 1826, p. 608. Includes four lines of poetry in Hindustani and a corresponding English translation.

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