

Phonology

601.764

4/13/23

Phonetics

- ◆ Linguistic branch about how humans produce/receive sounds

Phone

- ◇ Distinct speech sound
- ◇ Not critical to the meaning of words

Phoneme

- ◊ Speech sound
- ◊ In a given language
- ◊ Can change meanings of words
- ◊ Phones language agnostic
- ◊ Phonemes language specific

Allophone

- ◇ Multiple phones that can be a single phoneme
- ◇ Hit
- ◇ Tip
- ◇ Little
- ◇ <https://www.britannica.com/topic/allophone>

पाणिनि

2,400-2,600
years ago



A representational statue of Pāṇini
at Panini Tapobhumi, Arghakhanchi
District of Nepal.

Wikipedia. Accessed 4/13/23

अष्टाध्यायी

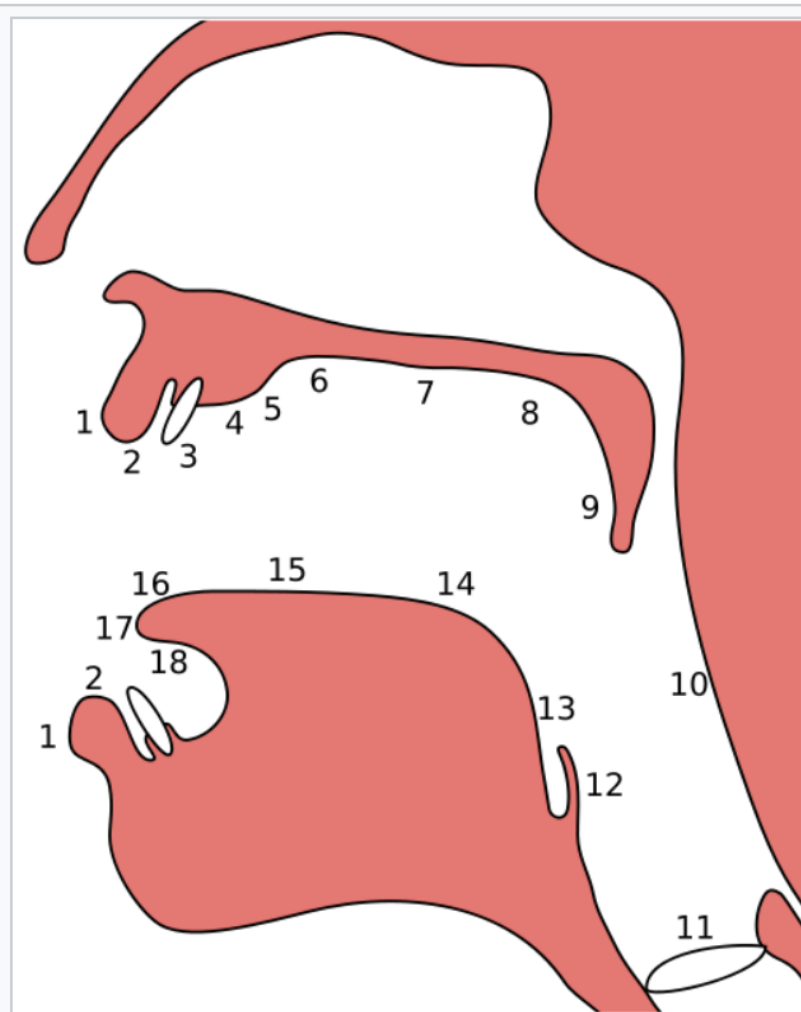
॥ २ ॥

आदिरत्नेन स हता येन विधिस्तदं तस्यैव हृदयस्याचामादिस्तद्वदं यदादीनि ॥ २ ॥
 ॥ २ ॥ हृदिराद्यंतवदय्याभावप्रत्ययस्य लुक्पंचदश ॥ इति प्रथमोऽध्यायः ॥
 गाङ्कुटादियौगिन्द्रिणादिना विभक्तौः ॥ सार्वधातुकमुपित ॥ असंयोगादिद्विकृतार्थम
 वीतिभ्यांचामुडमुदयुधकुपक्षिशवदवसक्ता रुदविदमुषयहिस्वपिप्रलः संश्रवाइकोशत्वा
 हलन्ताच्चालिङ्गिनावात्मनेपदेषु ॥ उश्वावागमः ॥ हनः ॥ सचयमोर्गंधनो विभाषोपयमनोऽसौद्यो
 रिच्चानक्तासेट ॥ निष्ठासीदुस्विदिमिदिस्विदिधृषः ॥ मृषस्मितिस्त्राया ॥ १ ॥ उदुपधाद्वावदिक
 मणोरन्यतरस्याः ॥ प्रः ॥ क्वाचनोपधात्वात्तादाविति ॥ तुच्युतश्च ॥ धिमः ॥ कृषेः काश्यपस्य
 ॥ रलोच्युपधात्वादिः संश्रवात् ॥ कालेऽस्वदीर्घयुतः ॥ जचश्चाउच्चैस्तानः ॥ नीचैरनुदात्तः ॥ स
 माहारस्वरितः ॥ तस्यादितरुदात्तमर्धद्वस्वाएकश्रुतिद्वरात्संबुद्धोऽयत् ॥ नैव्यन्यन्यस्वसाम

॥ २ ॥

सुपुञ्चैतरेवावषट्कारः ॥ विभाषा ॥ हंसानसुब्रह्मण्यायास्वरितस्य तदात्त ॥ विष्वङ्गणोरनुदात्त
 ॥ स्वरितात्संदितायामनुदात्तानोऽदात्तस्वरितपरस्य सन्तरे ॥ २ ॥ अष्टकैकास्त्रत्ययः ॥ तत्पु
 रुषः समानाधिकरणः ॥ कर्मधारयः ॥ प्रथमानिर्दिष्टं ॥ मासउपसर्जनं ॥ एकतिमं किंचोपर्वनिपा
 तोऽर्थवदधातुरप्रत्ययः ॥ प्रीतिपरिक्लं ॥ कृत्तद्धितसमासाश्चाहुस्वोनपुंसकंप्रातिपदिकस्य
 गोत्रिप्रयोरुपसर्जनस्य लुक्कहितलुकि ॥ इद्रेण्यः ॥ लुपियुक्तवद्वाक्तिवचनो विशेषणानां च
 जानेः ॥ तदशिष्यसंज्ञाप्रमाणत्वात् ॥ लुप्योगोप्रख्यानात् ॥ योगप्रमाणे च तदभावे दर्शनं न स्यात् ॥ प्रधा
 नप्रत्ययार्थवचनमर्थस्यान्यप्रमाणत्वात् ॥ कालोपसर्जने च लुप्याजालारख्यायामेकस्मिन्
 बहुवचनमन्यतरस्या ॥ अरमरोद्धोश्चाफल्गुनीप्रोष्ठपदानां च नक्षत्रे ॥ ३ ॥ ह्रस्वः ॥ नवस्वा
 रेकवचने विभाषा ॥ अतिथ्यपुनर्वस्वोर्नक्षत्रद्वेबहुवचनस्य द्विवचनं ॥ नि ॥ रुपाणा

Places of Articulation



Places of articulation (passive & active):

1. Exo-labial, 2. Endo-labial, 3. Dental, 4. Alveolar, 5. Post-alveolar, 6. Pre-palatal, 7. Palatal, 8. Velar, 9. Uvular, 10. Pharyngeal, 11. Glottal, 12. Epiglottal, 13. Radical, 14. Postero-dorsal, 15. Antero-dorsal, 16. Laminal, 17. Apical, 18. Sub-apical

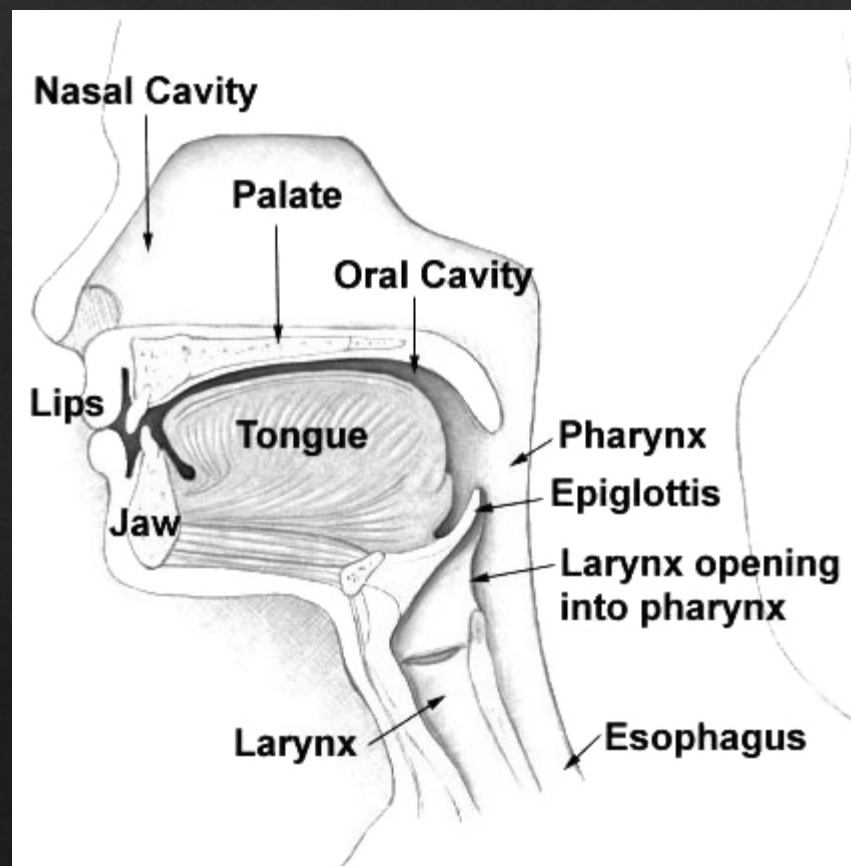
CONSONANTS (PULMONIC)

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	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ɸ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

Wikipedia. Accessed 4/13/23. Created by [User:ish shwar](#) (original .png deleted), .svg by [Rohieb](#) - sagittal section image based on Minifie et al. (1973:); articulation places are from Catford (1977)



<http://training.seer.cancer.gov/head-neck/anatomy/overview.html>

Articulation Video

◇ [https://en.wikipedia.org/wiki/File:Real-time MRI - Speaking \(English\).ogv](https://en.wikipedia.org/wiki/File:Real-time_MRI_-_Speaking_(English).ogv)



International Phonetic Association

intə'næʃənəl fə'netɪk əsoʊsi'eɪʃn

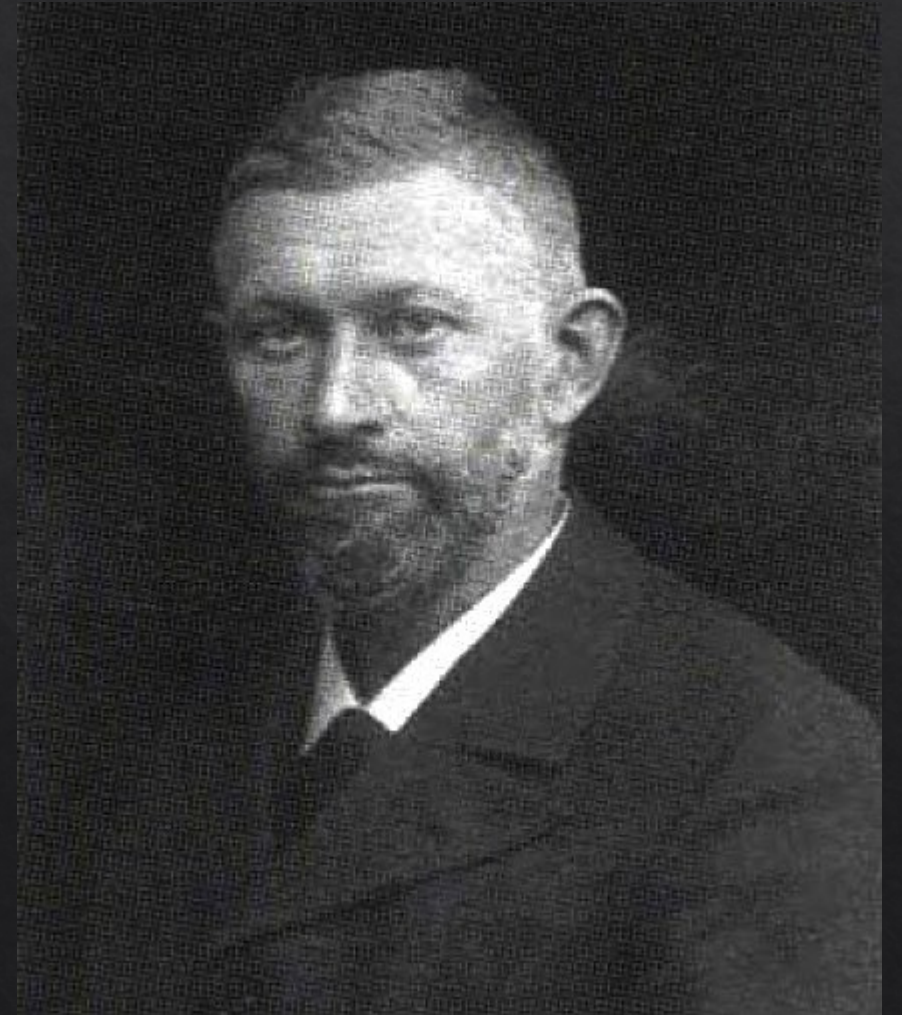
- ◆ The International Phonetic Association (IPA) has been established as a Private Company limited by guarantee in the United Kingdom (incorporated on 30 June 2015).
- ◆ International Phonetic Alphabet (IPA)

Presidents of the IPA

2019-:	Michael Ashby
2015-19:	Patricia Keating
2011-15:	John Esling
2010-11:	none
2007-10:	Gösta Bruce (d. 2010)
2003-07:	John Wells
1999-03:	Klaus Kohler
1995-99:	John Ohala
1991-95:	John Laver
1985-91:	Peter Ladefoged
1984-85:	A. C. Gimson (d. 1985)
1977-83:	none listed in JIPA issues
1969-77:	S. K. (Suniti Kumar) Chatterji (d. May 1977)
1967-69:	none listed in Le Maître Phonétique (MF) issues
1950-67:	Daniel Jones
1940-50:	none listed in MF issues
1927-40:	Paul Passy (d. 1940)
1917-27:	none
(MF was not published 1915-22)	
1888-1917:	Wilhelm Viëtor (d. 1917) [Henry Sweet, Honorary President, 1888-1912]
1886-88:	Paul Passy [E. Oswald Kenyon, President of the Phonetic Teachers' Association (FTA), from January to April 1888]

Paul Passy

- ◆ Founder of IPA
- ◆ Helped create IPA
- ◆ Collins & Mees (1998, p. 48)



Otto Jespersen

in their articles. The idea of establishing a phonetic alphabet which should be applicable to all languages was first put forward by OTTO JESPERSEN in a letter to PAUL PASSY which was reproduced in *Dhi Fonètik Tiltcer*, June, 1886. This idea was taken up with enthusiasm



"The Principles of the International Phonetic Association: 1949". *Journal of the International Phonetic Association*. 40 (3): 299–358. 2010.

Suplément au journal l'Instituteur sténographe.
4, rue des Feuillantines, Paris

ðə

fonetik tītcer

ði ɔrgən əv ðə fonetik tītcerz əsouceicən

0ærd jir. — 7-8. — 5gæst-sæptembər 1888

256. **Frøken A. Arwedson**, skolefærestondarinna, Linkøping, Sverge (Palmgren).
257. **Dr. Schweingel**, cand. phil., Marburg, Deutschlant (Victor).
258. **Adamovitch**, professeur, 31 B^e S. Michel, Paris (P. Passy).
259. **Gust. Bentfeldt**, catedrático de idiomas del Atenco, Tudescos 39, Madrid, Espana (P. Passy). — L.
260. **J. H. Long**, Prinsipal ov the Collegiate Institute, Peterboro, Ontario, Canada (A. Hamilton).
261. **Alfred Westholm**, fil. kand., Vesterferuebo, Vestmanland, Sverge (D. Elfstrand).
262. **Baseler**, realschullehrer, Hanau, Deutschlant (M. Walter).
263. **Miss Laura Soames**, member ov the Brighton Scool Board, Marine Parade, Brighton, England (P. Passy).
264.

aur ridərz wil ətwæns si ðæt wi v teikn ðə greit step əv dæblin ðə saiz əv ðə f. t., ənd əv tcein3in aur moud əv trænskripcən. ðə færst impruv-mənt iz, pər hæps, ounli əpærənt ðis taim, fər ðis icu əv ðə f. t. wil hæv tə dū servis fər tū mænθs. hwæðər ðə fəloin icuz wil hæv 8 or 16 peid3iz mæst dipənd əpən ðə næmbər əv njū səbskripcənz wi get; hæst wi θink aur ridərz mei rekn əpən ə 16-peid3 peipər, regjularli, fər nekst jir.

ði ælfəbit, wi θink, iz nau setld fainəli, əz fər əz ðə væljuz əv ðə letərz gou. ðə ceips əvkors ədmit əv færdər impruv-mənt : ðei wil dipənd ən ðə rizælt əv aur səbskripcən, fər hwitc si bilou.

wi mæst nau giv ə mor dītēild əkaunt əv

aur rivāizd ælfəbit.

in tēuzin bitwīn ðə verjəs propouzlz ðæt həv bin meid fər rivāizin aur ælfəbit, wi v bin gaidid bai ðə fəloin prinsiplz, hwitc wi θink ər ədmitid bai moust əv aur ridərz əz isəncel tu ə præktilk sistəm əv fonetik spelin :

1° ðər cəd bi ə seprit sain fər itc distintiv saund; ðæt iz, fər itc saund hwitc, bliin jūzd instəd əv ənæðər, in ðə seim længwid3, kən tcein3 ðə minin əv ə wærd.

2° hwen eni saund z faund in sevral længwid3iz, ðə seim sain cəd bi jūzd in 3l. ðis əpləiz 3lso tə veri similər ceidz əv saund.

3° ði ælfəbit cud kənsist əz mætc əz pəsəbl əv ði ɔrdinəri letərz əv ðə roumən ælfəbit; əz fju njū letərz əz pəsəbl bliin jūzd.

4° in əsainin væljuz tə ðə roumən letərz, intərnæcənl jūzid3 cəd disaid.

5° ðə njū letərz cəd bi səd3estiv əv ðə saundz ðei reprizənt, bai ðər rizəmbləns tə ði ould wənz.

6° ðaiəkritik marks cəd bi əvəidid, bliin traiin fər ði aiz ən trœblsəm tə rait.

in əkərdəns, əz mætc əz pəsəbl, wið ðiz prinsiplz, wi v tceuzn ðə fəloin list əv sainz (ðə letərz markt wið ə star* ər provi3ənl ceips, ən wil bi ripleist hwen serkəmtənsiz wil əlau).

ceip	væljuz			
	<i>inglic</i>	<i>frēnc</i>	<i>d3ærmən</i>	<i>æðər læNgwoid3iz</i>
p	az in put	pas	pferd	
b	but	bas	boot	
t	ten	tant	tot	
d	den	dent	da	
k	kind	képi	kuh	
g	good	gai	gut	
m	my	ma	mein	
n	no	non	nein	
N		règne		ital. regno.
*N	thing		ding	ital. anche.
l	lull	la	lang	
*l		fille (in ðə sauθ)		sp. llano, ital. gli.
r	red	rare	rot	(tæn-point r)
R		rare	rot	(bak r). — dan. træ
u			quer	flem. wrocht, span. bibir.
q		buis		
w	wel	oui		ital. questo
f	full	fou	voll	
v	rain	vin	wēin	
θ	thin			span. rason
ð	then			dan. gade
s	seal	sel	weiss	
z	zeal	zèle	weise	
*c	she	chat	fisch	swed. skæl, dan. sjæl, ital. lascia
3	leisure	jeu	genie	
ç			ich	
j	you	yak	ja	swed. ja, ital. jena.
x			ach	span. jota
q			wagen	

h	high	(haut)	hoch	
u	full	cou	nuss	
o	soul	pot	soll	
ə	not	note		ital. notte
ʌ		pas	vater	swid. sal
ʼa	father			ital. mano, swid. mann.
a	eye, how	patte	mann	
æ	man			
ɛ	air	air	bær	
e	men	né	nett	
i	pit	ni	mit	
ʼæ	but, fur			
œ		seul	kænnen	
ʼœ		peu	sæhne	
y		nu	dünn	
ʼü			für	
ə	never	je	gabe	
·	glottl kætē			
-u, u-	wik strest u			} ðiz mōdifikeicānz æplai tu ʒl letərz
ʼu, uʼ, ū,	strox strest u			
uʼ,	lon u			
œ	neizl æ (or eni æðar vauəl)			
û	lon ən næro u (or eni æðar vauəl)			
hl, lh	voislis l (or eni æðar konsənənt)			
:	mark əv lenθ.			

in jūzin ðis ælfæbit, aur kōrispondānts wil pliz bær in maind ða fōloin points.

1°. — ðouz mōdifikeicānz əv saundz ðæt ər *nesisri* in eni givn pozicān in eni længwidʒ ər kōnsidərd əz *implaid*. ðæs ða glottl kætē iz implaid biðr eni iniel vauəl in dʒermən. ða mark əv lenθ iz implaid, in inglic ən dʒermən, aftər “e”; in inglic aftər “a”, in dʒermən aftər “a”; in frenc, aftər æksəntid vauəlz biðr fainl v, z, ʒ, j, r, ən biðr æðar fainl konsənənts aftər o, ʌ, æ, ɔ, ā, ē, æ; in itəljan, aftər evri æksəntid vauəl in ə cœt siləbl.

2°. — stres, hwen nōt æðarwiz markt, iz səpouzd tə bi ən ða fərst siləbl əv ə wərd or stres-grūp in inglic ən dʒermən, ən ða last in frenc; ən ða bifer-last in spānic ənd itəljan.

3°. — itc þθər iz nōt ounli əlaud, bæt invāitid tə jūz hiz oun ərθoepi. in ðis wei wi houp tə faind ə definit ansər tə ða vekst kwestcānz : daiəlekt or næcənl pronœnsiēcān? hwitc daiəlekt? hwitc stændərd əv næcənl pro-

nœnsiēcān? ful strest or wiknd fōrmz əv wərdz? wərd diviʒən or stres diviʒən? itsētrə.

wi beg aur kōrispondānts tu interprit ðis rûl in its moust librəl sens. wi cəd laik skōtemən tə rait *mtt, mēk, nōt, pûl, htr, pûr, mōr*, ən lœndənərz tə rait *mijt, meik, nout, puwl, hiə, puə, mʒə*. pərizjənz mait rait *pase, RAR, fij, ɛskaje, gɛR, ɔm, fij*; sæðərnərz *pase, rarə, ɛskalje, gɛrrə, ɔmə, filə*. in editorjəl artiklz, itsētrə, wi intēnd, əz mœtē əz pəsəbl, tə fōlo ə midl kors bitwin ikstrim pronœnsiēcānz, əz wi v ʒlwiz traid tə dū hiðərtū.

səbskripcān

fər kastin nju taips

Dr. F. Beyer, Weissenfels.....	2 fr.
Herr Max Walter, Wiesbaden.....	2 fr.
C. E. Dormer, London.....	6 fr. 25
P. Passy, Neuilli.....	5 fr.
Miss L. Soames, Brighton.....	25 fr.

ða taips wi intēnd tə hæv kast ər ful-saizd *ɛ, n* wið ə teil, roumənəizd *ɑ*, lɔn *s* (fər *c*), krɔst *o* (fər *œ*). wi houp tə hæv ə part əv ðiz redi bai nekst ieu.

aur treðerər.

wi v nou læk wið aur treðerərz, ðis jir : aftər Mr. Bruce, Mr. Kenyon iz əbaut tə liv æs. ðis iz hwət hi raitz :

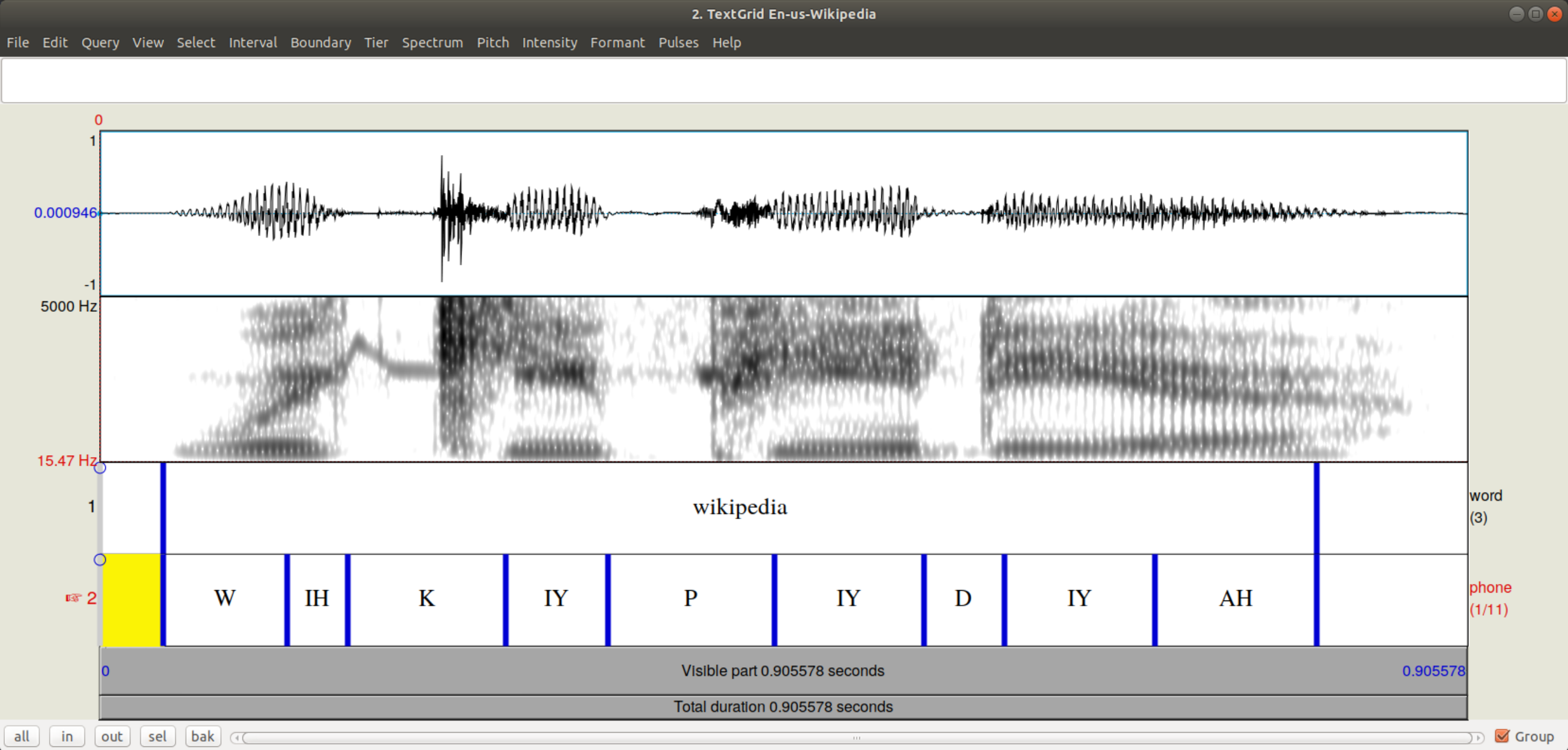
Paris, dʒulai ða 21st 1888,
dir sər,

æz ai m in deili ekspektiēcān əv bliin rikɔld tə lœndən, ai m sərɪ tə bi oblaidʒd tə giv æp ða treðerərɔp əv ða *fonetik tītərz əsouciēcān*.

jorz feiθfəli,

E. OSWALD KENYON.

in konsəkwəns, ði editər əv ða *f. t.* hæv teikn in hænd ða mœniz əv ða *f. t. ə.*, ən wil kip ðəm cœntil ə nju treðerər bi əpointid. tə him, ðen, səbskripcānz cəd bi sent, fər ða preznt. ði əpointin əv ə nju treðerər mæs bi put ʒf til aftər ði holidiz.



The waveform, spectrogram, and transcription of the word "wikipedia" pronounced by an American English speaker viewed in Praat running on Ubuntu 18.04.3. The settings for the spectrogram are a view range from 0 to 5000 Hertz, a window length of 0.005 seconds, and a dynamic range of 50 decibels. The audio comes from [File:En-us-Wikipedia.ogg](#). The transcription comes from the Carnegie Mellon University Pronouncing Dictionary and the individual sounds are time-aligned with the audio.

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2020)

CONSONANTS (PULMONIC)

© 2020 IPA

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b		t d			ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ	n			ɳ	ɲ	ŋ	ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap		ⱱ	ɾ			ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative			ɬ ɮ								
Approximant		ʋ	ɹ			ɻ	j	ɰ			
Lateral approximant			l			ɭ	ʎ	ʟ			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	ʼ Examples:
ǀ Dental	ɗ Dental/alveolar	pʼ Bilabial
ǃ (Post)alveolar	f Palatal	tʼ Dental/alveolar
ǂ Palatoalveolar	ɡ Velar	kʼ Velar
ǁ Alveolar lateral	ɠ Uvular	sʼ Alveolar fricative

OTHER SYMBOLS

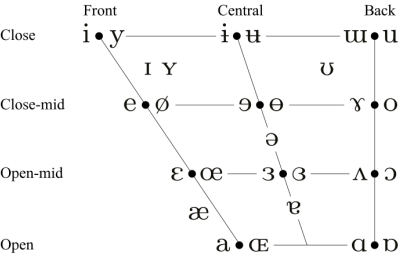
ɱ Voiceless labial-velar fricative	ɕ ʑ Alveolo-palatal fricatives
ʋ Voiced labial-velar approximant	ɭ Voiced alveolar lateral flap
ɰ Voiced labial-palatal approximant	ɥ Simultaneous ɥ and x
ʜ Voiceless epiglottal fricative	Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.
ʕ Voiced epiglottal fricative	
ʡ Epiglottal plosive	

DIACRITICS

◌̥ Voiceless	◌̤ ◌̦	◌̬ Breathy voiced	◌̣ ◌̧	◌̨ Dental	◌̩ ◌̪
◌̭ Voiced	◌̮ ◌̯	◌̰ Creaky voiced	◌̱ ◌̲	◌̳ Apical	◌̴ ◌̵
◌̥ Aspirated	◌̦ ◌̧	◌̨ Linguolabial	◌̩ ◌̪	◌̬ Laminar	◌̭ ◌̮
◌̥ More rounded	◌̦	◌̨ Labialized	◌̩ ◌̪	◌̬ Nasalized	◌̭
◌̥ Less rounded	◌̦	◌̨ Palatalized	◌̩ ◌̪	◌̬ Nasal release	◌̭
◌̥ Advanced	◌̦	◌̨ Velarized	◌̩ ◌̪	◌̬ Lateral release	◌̭
◌̥ Retracted	◌̦	◌̨ Pharyngealized	◌̩ ◌̪	◌̬ No audible release	◌̭
◌̥ Centralized	◌̦	◌̨ Velarized or pharyngealized	◌̩		
◌̥ Mid-centralized	◌̦	◌̨ Raised	◌̩ (◌̩ = voiced alveolar fricative)		
◌̥ Syllabic	◌̩	◌̨ Lowered	◌̩ (◌̩ = voiced bilabial approximant)		
◌̥ Non-syllabic	◌̩	◌̨ Advanced Tongue Root	◌̩		
◌̥ Rhoticity	◌̩ ◌̪	◌̨ Retracted Tongue Root	◌̩		

Some diacritics may be placed above a symbol with a descender, e.g. ɳ̩

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

SUPRASEGMENTALS

ˈ Primary stress	ˌfou̯nəˈtɪʃən
ˌ Secondary stress	
ː Long	eː
ˑ Half-long	eˑ
◌̥ Extra-short	ẽ
◌̥ Minor (foot) group	
◌̥ Major (intonation) group	
◌̥ Syllable break	ˌti.ækt
◌̥ Linking (absence of a break)	

TONES AND WORD ACCENTS

LEVEL	CONTOUR
ě or ǃ Extra high	ě or ǃ Rising
é ǂ High	ê ǂ Falling
ē ǃ Mid	ē ǃ High rising
è ǂ Low	ẽ ǂ Low rising
ë ǃ Extra low	ẽ ǃ Rising-falling
↓ Downstep	↗ Global rise
↑ Upstep	↘ Global fall

CONSONANTS (PULMONIC)

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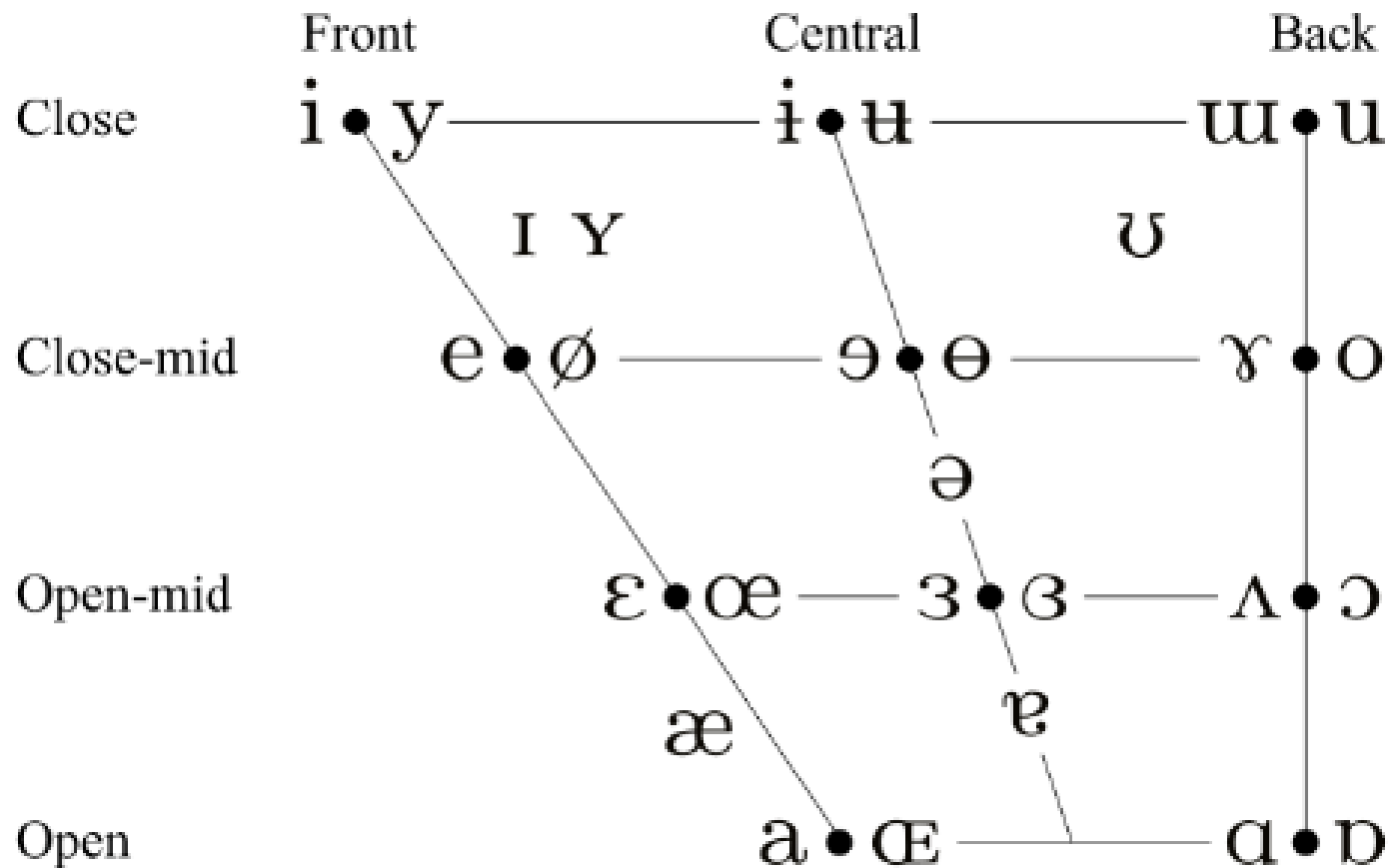
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b		t d			ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ	n			ɳ	ɲ	ŋ	ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap		ⱱ	ɾ			ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative			ɬ ɮ								
Approximant		ʋ	ɹ			ɻ	j	ɰ			
Lateral approximant			l			ɭ	ʎ	ʟ			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
◌◌ Bilabial ◌ Dental ◌! (Post)alveolar ◌≠ Palatoalveolar ◌ Alveolar lateral	◌ɓ Bilabial ◌ɗ Dental/alveolar ◌ɟ Palatal ◌ɡ Velar ◌ɠ Uvular	◌' Examples: ◌p' Bilabial ◌t' Dental/alveolar ◌k' Velar ◌s' Alveolar fricative

VOWELS



Rounded

- ◊ Lips rounded
- ◊ Toon
- ◊ Teen

velarization

phonetics

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Written and fact-checked by [The Editors of Encyclopaedia Britannica](#)
Last Updated: [Article History](#)

velarization, in [phonetics](#), secondary [articulation](#) in the [pronunciation](#) of consonants, in which the [tongue](#) is drawn far up and back in the mouth (toward the velum, or [soft palate](#)), as if to pronounce a back [vowel](#) such as *o* or *u*. Velarization is not phonemic in English, although for most English speakers the *l* in “feel” is velarized, but the *l* in “leaf” is not. It is distinctive in some languages (*e.g.*, Arabic). Velarized consonants may be distinguished from velar consonants, in which the primary [articulation](#) involves the back of the tongue and the velum; in velarized consonants there must always be some other primary articulation.

Related Topics: [articulation](#) • [velar consonant](#)

[See all related content →](#)

Vowels

☒ Show English Vowels Only ☐ Show All Vowels

		Front	Central	Back
High	Tense	i		u
	Lax	ɪ		ʊ
Mid	Tense	e		o
	Lax	ɛ	ə ʌ	ɔ
Low	Lax	æ	a	

<https://www.cambridge.org/features/IPAchart/>

Consonants

☒ Show English Consonants Only

☐ Show All Consonants

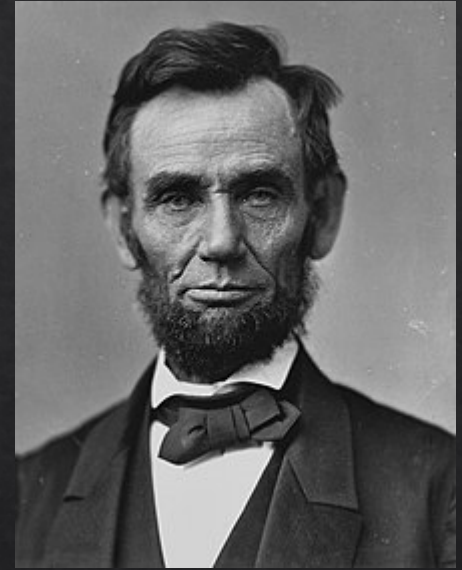
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glotal
(Oral) Stop	p b			t d			k g	ʔ
(Nasal) Stop	m			n			ŋ	
Tap or Flap				ɾ				
Affricate					tʃ dʒ			
Fricative		f v	θ ð	s z	ʃ ʒ			h
Approximant	ɹ			ɹ		j	ɰ	
Lateral approximant				l				

Online Example

◇ <https://www.cambridge.org/features/IPAchart/>

Let's Try it Out

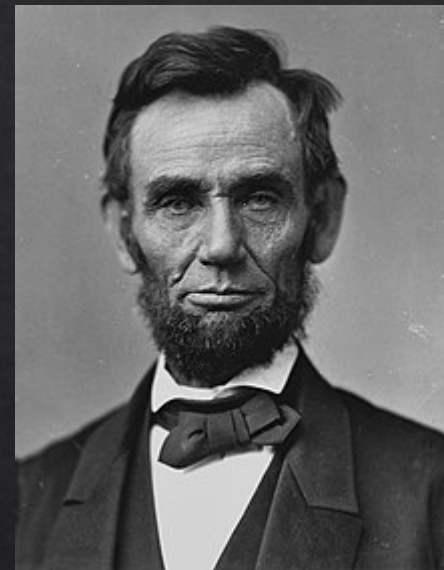
◆ Lincoln



Let's Try it Out

◇ Lincoln

◇ */'lɪŋkən/*



Let's Try it Out

◆ Baltimore

Baltimore

Independent city



The Inner Harbor skyline



Fell's Point



Baltimore City Hall



Emerson Tower



Washington and Lafayette Monuments



National Aquarium

Let's Try it Out

- ◇ Baltimore
- ◇ [/'bɔ:ltɪmɔ:r/](#)

Baltimore

Independent city



The Inner Harbor skyline



Fell's Point



Baltimore City Hall



Emerson Tower



Washington and Lafayette Monuments



National Aquarium

Let's Try it Out

◆ Condoleezza



Let's Try it Out

◇ Condoleezza

◇ /ˌkɒndəˈliːzə/



Let's Try it Out

◆ Emmanuel Macron



Let's Try it Out

◇ Emmanuel Macron

◇ [emanuɛl makɔ̃]



Let's Try it Out

◊ Link

Let's Try it Out

- ◇ https://en.wikipedia.org/wiki/File:Rishi_Sunak_Pronunciation.ogg
- ◇ [/'rɪʃɪ 'su:næk/](#)



Let's Try it Out

◇ Link

Let's Try it Out

◇ La Belgique (/bɛlʒik/

Royaume de Belgique

(nl) *Koninkrijk België*

(de) *Königreich Belgien*



Drapeau de la Belgique



Armoiries de la Belgique

Let's Try it Out

Let's Try it Out

◇ ['svæɾjɛ]



Let's Try it Out

Let's Try it Out

◇ ['nərendrə dāmodər'dās 'modi:]

