

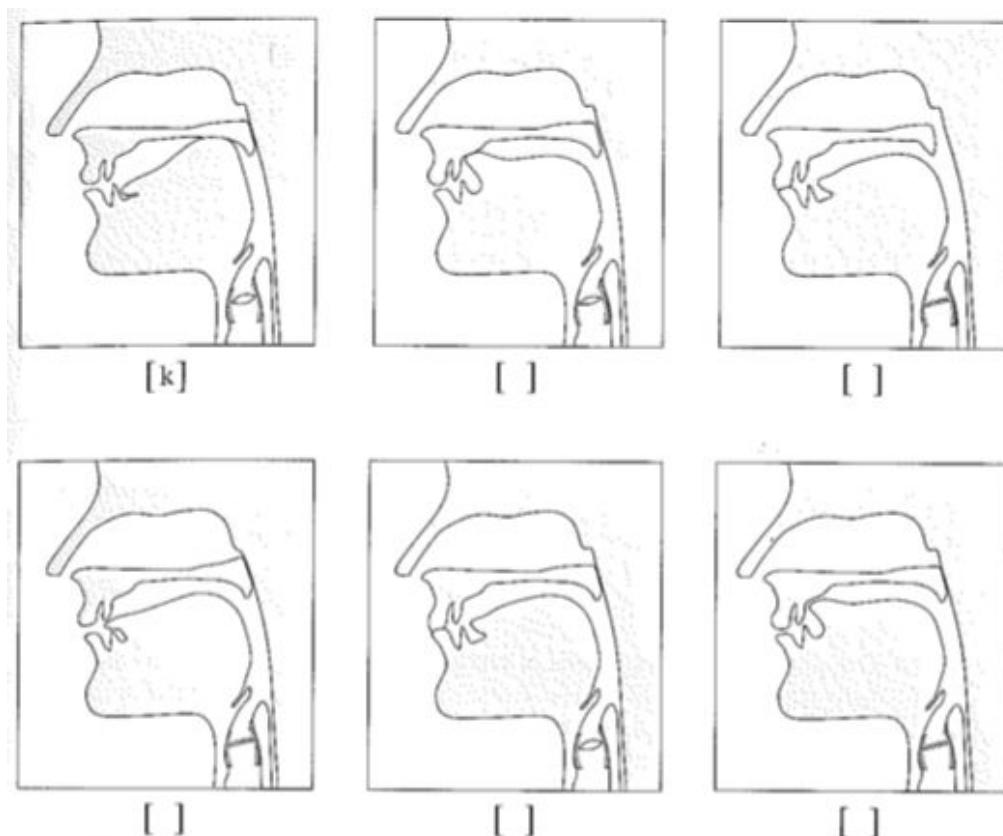
Week 5: Consonants

Practice Problems

(1) For each of the following words, determine whether the first and last sounds are voiced.

- (a) thought
- (b) view
- (c) silk
- (d) judge
- (e) buns

(2) For each drawing, write the only consonant sound of English that could be produced by the vocal tract positioned shown. Take into account voicing, manner, and place of articulation. Note that voicing is shown by two wavy or bumpy lines (representing vocal fold vibration) where the larynx would be, whereas voiceless sounds are represented by two lines shaped like an ellipse at the larynx level, indicating an open glottis. Also note whether the air passage to the nasal cavity is open or closed (i.e., velum is lowered or raised). The first one is done for you.



(3) Explain why your vocal folds don't vibrate when you whisper.

(4) Write the phonetic symbol representing each of the following sounds (don't forget to use square brackets). The last one is given as an example.

- (a) voiceless post-alveolar affricate
 - (b) voiced velar nasal
 - (c) voiced glottal fricative
 - (d) voiced labiodental fricative
 - (e) voiced interdental fricative
 - (f) voiced alveolar lateral liquid
 - (g) voiced post-alveolar fricative
 - (h) voiced alveolar lateral liquid
 - (i) voiced palatal glide - [j]
-

(5) Write the three-part articulatory descriptions for the consonant sounds represented by the following symbols. The last one is given as an example.

- (a) [f]
 - (b) [z]
 - (c) [n]
 - (d) [ŋ]
 - (e) [ʃ]
 - (f) [ɹ]
 - (g) [ʒ]
 - (h) [tʃ]
 - (i) [g]
 - (j) [ʔ]
 - (k) [j] - **voiced palatal glide**
-

(6) For each group of sounds, identify the segment that differs in place of articulation from the other three.

- (a) [s], [n], [ɹ], [v]
- (b) [k], [ŋ], [ɲ], [g]
- (c) [m], [p], [l], [w]
- (d) [ʃ], [dʒ], [d], [tʃ]
- (e) [t], [n], [d], [k]

You will be provided with the following charts on the exam.

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2018)

CONSONANTS (PULMONIC)

© 2018 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
○ Bilabial	ɓ Bilabial	' Examples:
Dental	ɗ Dental/alveolar	p' Bilabial
! (Post)alveolar	f Palatal	t' Dental/alveolar
≠ Palatoalveolar	ɡ Velar	k' Velar
Alveolar lateral	ɠ Uvular	s' Alveolar fricative

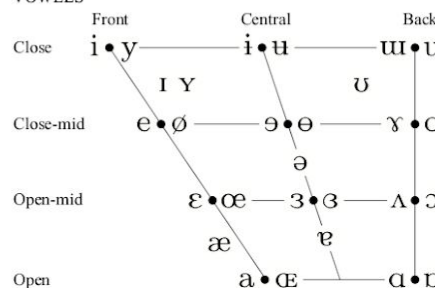
OTHER SYMBOLS

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

DIACRITICS Some diacritics may be placed above a symbol with a descender, e.g. $\overset{\circ}{\eta}$

◌ [◌]	Voiceless	<u>n</u> <u>d</u>	◌ [◌]	Breathily voiced	<u>b</u> <u>a</u>	◌ [◌]	Dental	<u>t</u> <u>d</u>
◌ [◌]	Voiced	<u>s</u> <u>t</u>	◌ [◌]	Creaky voiced	<u>b̥</u> <u>ḁ</u>	◌ [◌]	Apical	<u>t̪</u> <u>d̪</u>
◌ ^h	Aspirated	<u>t^h</u> <u>d^h</u>	◌ [◌]	Linguolabial	<u>t̼</u> <u>d̼</u>	◌ [◌]	Laminal	<u>t̪</u> <u>d̪</u>
◌ [◌]	More rounded	<u>ɔ̹</u>	◌ [◌]	Labialized	<u>t^w</u> <u>d^w</u>	◌ [◌]	Nasalized	<u>ẽ</u>
◌ [◌]	Less rounded	<u>ɔ̜</u>	◌ [◌]	Palatalized	<u>t^j</u> <u>d^j</u>	◌ [◌]	Nasal release	<u>dⁿ</u>
◌ [◌]	Advanced	<u>u̟</u>	◌ [◌]	Velarized	<u>t^ɣ</u> <u>d^ɣ</u>	◌ [◌]	Lateral release	<u>d^l</u>
◌ [◌]	Retracted	<u>ɐ̠</u>	◌ [◌]	Pharyngealized	<u>t̠</u> <u>d̠</u>	◌ [◌]	No audible release	<u>d̚</u>
◌ [◌]	Centralized	<u>ẽ</u>	◌ [◌]	Velarized or pharyngealized	<u>ɫ</u>			
◌ [◌]	Mid-centralized	<u>ẽ̞</u>	◌ [◌]	Raised	<u>e̝</u> (<u>J</u> = voiced alveolar fricative)			
◌ [◌]	Syllabic	<u>n̩</u>	◌ [◌]	Lowered	<u>e̞</u> (<u>β</u> = voiced bilabial approximant)			
◌ [◌]	Non-syllabic	<u>e̯</u>	◌ [◌]	Advanced Tongue Root	<u>e̘</u>			
◌ [◌]	Rhoticity	<u>ɐ̰</u> <u>ɐ̱</u>	◌ [◌]	Retracted Tongue Root	<u>e̙</u>			

VOWELS



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

SUPRASEGMENTALS

| Primary stress ˈfoʊnə ˈtʃən
 | Secondary stress
 ː Long eː
 ˑ Half-long eˑ
 ̤ Extra-short ̤e
 | Minor (foot) group
 || Major (intonation) group
 . Syllable break ˌi.ækt
 Linking (absence of a break)

TONES AND WORD ACCENTS

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