Ling 105
Sounds of Language

Thursday, October 10, 2024

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Midterm

- Tuesday during class
  1. Narrow IPA transcription of 10 English words
     2 points each = 20 total (31% of exam)
  2. 25 multiple choice questions
     1 point each = 25 total (38% of exam)
  3. 5 short answer
     4 points each = 20 total (31% of exam)
- IPA chart not provided (but will be for final)

IPA for midterm: know these symbols

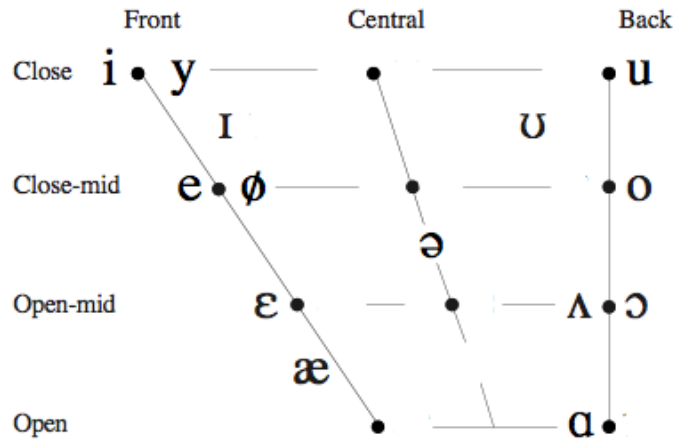
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant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

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks		Voiced implosives		Ejectives	
ʘ	Bilabial	ɓ	Bilabial	’	Examples:
|	Dental	ɗ	Dental/alveolar	p’	Bilabial
!	(Post)alveolar		Palatal	t’	Dental/alveolar
ǂ	Palatoalveolar	ɠ	Velar	k’	Velar
‖	Alveolar lateral		Uvular	s’	Alveolar fricative

VOWELS



Shaded cells

- "Shaded areas denote articulations judged impossible"

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
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Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Motivating shaded cells

- Voiced glottal stop requires contradictory gestures
- Voiced pharyngeal stop lacks a sufficient cavity for voicing
- Nasal stops cannot be post-uvular
- Laterals can only be lingual
- Velum cannot be reliably tapped/trilled
- Glottal trill/tap? Approximant?

Inarticulable phones

- Some cells are debatable

e.g. Velar tap/trill possible at least accidentally:

> "Palatal and velar vibrations of the tongue body are sporadically produced [...] A 'double burst' is seen particularly often at the release of a velar stop; this could be said to be a brief trill, but it never appears to be a required articulatory target"
> (Ladefoged & Maddieson 1996: 230)

- Pharyngeal stop is borderline articulable
- Retro-velar? Labio-alveolar? Linguo-nasal?

Empty positions in the IPA chart

- Articulable, but rarely if ever phonemic
- Different rationale for dental & postalveolar white space

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
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Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
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Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Empty cells

- More specifically, articulable & either
  (1) Never phonemic (e.g. labiodental plosive)
  (2) Phonemic, but rarely enough to leave to diacritics (e.g. voiceless nasals, retroflex lateral fricative)
  (3) Phonemic, but never as distinct from some other phone (e.g. voiced pharyngeal fricative [ʕ] vs. approximant [ʕ̞])

Empty cells: some useful diacritics

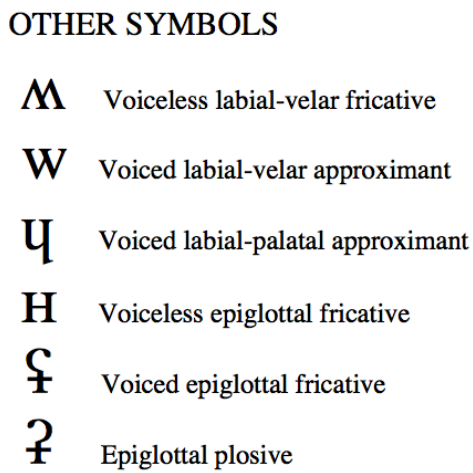
- These diacritics cover most of the empty cells
  - Voiceless: m̥
  - Dental: t̪
  - Post-alveolar: t̠ or ṭ
  - Approximant: β̞, ʕ̞

Empty cells: more diacritics (FYI)

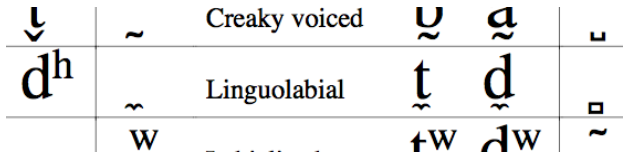
- Labiodental stop? (bilabial stop + dental ◌̪)
- Bilabial tap? (labiodental tap + advanced ◌̟ or bilabial stop + short ◌̆)
- Voiceless velar lateral fricative?

IPA missing columns

- Would-be epiglottal column appears under "other symbols"



- Linguolabials (not labiodentals) hidden among diacritics



- Interdentals lumped with dentals in chart

Simultaneous places of articulation

- Diacritic consonants, e.g. [t^{x}, $t^{ʕ}$]
- Tie bar, e.g. [g͡b], as in Laurent Gbagbo
- In Eggon, [g͡b] and [gb] are distinct phonemes
- Certain dedicated symbols, e.g. [w]

Articulable but non-linguistic

- Aside from shaded cells, other articulable but never phonemic items are off the chart, e.g.
  - bidental percussive
  - dentolabial (lower teeth to upper lip)
  - velo-pharyngeal fricative or trill (as in snoring)
  - tongue cluck
  - whistling (Shona & some other Bantu languages have sibilants accompanied by allophonic whistling; whistled auxiliary languages also exist, where whistling is a proxy for tone or F2)
  - non-standard airstream mechanisms, e.g., buccal, esophageal

Extended IPA for disordered speech (partial; FYI)

CONSONANTS (other than on the IPA Chart)

	bilabial	labiodental	dentolabial	labioalv.	linguolabial	interdental	bidental	alveolar	velar	velophar.
Plosive		p̪ b̪	p̄ b̄	p̼ b̼	t̼ d̼	t̪̄ d̪̄				
Nasal			m̄	m̼	n̼	n̪̄				
Trill					r̼	r̪̄				
Fricative median			f̄ v̄	f̼ v̼	θ̼ ð̼	θ̪̄ ð̪̄	h̪̄ ɦ̪̄			ɸʃ
Fricative lateral+median								ɬ ɮ		
Fricative nareal	m̃̊							ñ	ŋ̃	
Percussive	ʷ ʷ						ɾ̪ ɾ̪			
Approximant lateral					l̼	l̪̄				

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

Voice Quality Chart (partial; FYI)

Airstream Types

ʘ	buccal airstream	↓	pulmonic ingressive speech
ɶ	œsophageal airstream	ʬo	tracheo-œsophageal speech

Phonation Types

V	modal voice	F	falsetto	W	whisper	C	creak
V̤	whispery voice	V̰	creaky voice	V̈	breathy voice	V!	harsh voice
F̤	whispery falsetto	F̰	creaky falsetto	F!	harsh falsetto	C!	harsh creak
V̤!	harsh whispery voice			V̰!	harsh creaky voice		
V̤̰	whispery creaky voice			V̰!	harsh whispery creaky voice		
F̤̰	whispery creaky falsetto			F̰!	harsh whispery creaky falsetto		
V̗	slack/lax voice			V̿	pressed phonation / tight voice		
V!!	ventricular phonation			V̰!!	diplophonia		
V̤!!	whispery ventricular phonation			Vᴬᴬ	aryepiglottic phonation		
ʌW	spasmodic dysphonia			И	electrolarynx phonation		

English transcription

- Everyday words
- Narrow transcription
  - Aspiration
  - Approximant devoicing
  - Dark ɬ
  - Flapping of t, d, and (beware) n
  - t as glottal stop before n
  - Syllabic consonants
  - Vowel nasalization
  - Minor diphthongs
  - Schwa vs. wedge
  - Rhotic vowels (ɜˠ or ɚ)
  - Primary stress (every word)
- Other allophonic processes need not be transcribed, but you should be familiar with them (e.g. initial devoicing, allophonic lengthening/shortening, vowel devoicing, etc.)

Multiple choice

- Voicing is most/least likely to accompany which phone type?
    a. (velaric) click
    b. (glottalic) ejective
    c. (pulmonic) plosive
    d. (glottalic) implosive

Multiple choice

- Which of the following implosives is the least marked?
  a. ɓ
  b. ɗ
  c. ɠ
  d. ɠ

Multiple choice

- Which release has the lowest F2?
  a. labial
  b. coronal
  c. dorsal

Multiple choice

- Which of the following clicks is impossible?
  a. voiced nasal with uvular and palatal closures
  b. oral voiced velar with frontal closure released laterally
  c. voiceless lateral click
  d. voiceless with palatal and bilabial closures

Short answer

1. Which clicks are most/least marked?

example language(s)	bilabial ʘ	dental |	(post)alveolar !	lateral ‖	(alveo)palatal ǂ
Dahalo, SiNdebele		√			
S. Sotho			√		
Zulu, Xhosa		√	√	√	
Nama, !Xu		√	√	√	√
!Xóõ, |Xam	√	√	√	√	√

Short answer

2. Is each of the following phones aerodynamically possible? Explain. If it is possible, give the IPA symbol (with diacritics if necessary).
   a. Uvular nasal stop
   b. Pharyngeal nasal stop
   c. Voiceless bilabial trill
   d. Rounded, front, high, tense vowel that is both voiceless and nasalized

Short answer

3. Why is labial place marked for ejectives?
4. How does the English Great Vowel Shift support the principle of dispersion?
5. Why does an e/ø contrast generally imply an i/y contrast?
6. Why is English ʃ slightly rounded?