LINGUIST 168 Introduction to Linguistic Typology

Lecture 8: Phonological typology

Segmental inventories & syllable structure

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For Monday, 4/26

- homework 4 – posted on Canvas

- Reading: Velupillai 2012: Ch.5

- discussion post on reading

Plan for today

- Questions about previous lectures

- Segmental inventories:

  › consonants   **group activity**

  › vowels

- Syllable structure

- Tone and pitch accent

Slides from Monday

https://bit.ly/3vbW562

Activity

Evaluate the rare/common aspects of the following consonant inventory. Consider the following:

1. Size of inventory.
2. Rarity/commonality of particular sounds.
3. Implicational generalizations about voiced/voiceless consonant pairs.

Language X

Place of articulation		Manner of articulation					
		Plosive		Fricative		Affricate	Liquid	Nasal
labial		*b*		*w*				*m*
labiodental				*f*				
dental	plain	*t*	*d*	*s*	*z*		*l*	
	pharyngealized	*tˤ*	*dˤ*	*sˤ*	*zˤ*			
interdental	plain			*θ*	*ð*			
	pharyngealized				*ðˤ*			
alveolar				*ʃ*	*ʒ*	*dʒ*	*r*	*n*
palatal							*j*	
velar		*k*	*(g)*	*x*	*ɣ*			
uvular		*q*						
pharyngeal				*ħ*	*ʕ*			
glottal		*ʔ*		*h*				

Modern Standard Arabic

Place of articulation		Manner of articulation						
		Plosive		Fricative		Affricate	Liquid	Nasal
labial		*b*		*w*				*m*
labiodental				*f*				
dental	plain	*t*	*d*	*s*	*z*		*l*	
	pharyngealized	*tˤ*	*dˤ*	*sˤ*	*zˤ*			
interdental	plain			*θ*	*ð*			
	pharyngealized				*ðˤ*			
alveolar				*ʃ*	*ʒ*	*dʒ*	*r*	*n*
palatal							*j*	
velar		*k*	*(g)*	*x*	*ɣ*			
uvular		*q*						
pharyngeal				*ħ*	*ʕ*			
glottal		*ʔ*		*h*				

Holes, Clive (2004), *Modern Arabic: Structures, Functions, and Varieties*, Georgetown University Press.
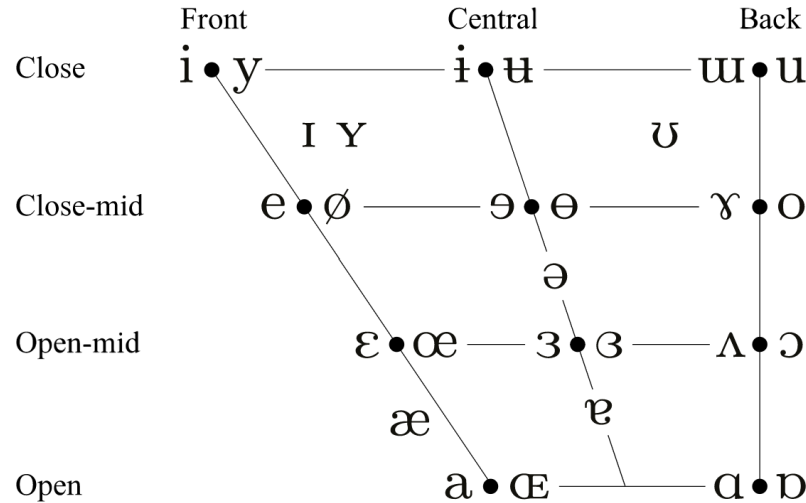
Questions?

Phonological typology

- object of study

- **segmental patterns:**

  › consonants

  › vowels

- syllable structure and rhythm

- tone, pitch, and prosody

The most common vowel inventory: 5 vowels

	front	central	back
close	i		u
mid	e		o
open		a	

Spanish
Japanese
Russian
Samoan

The smallest vowel inventory consists of **2 vowels**. Which vowels do you think such an inventory is likely to contain?

Smallest vowel inventory: 2 vowels

	central
mid	ə
open	a

- **Abkhaz (Northwest Caucasian)**
- **Mparntwe Arrernte (Pama-Nyungan)**
- **Yimas (Lower Sepik)**

Universal: All languages have a contrast in vowel height.

https://wals.info/chapter/3

Small vowel inventory: West Circassian

	front	central
mid-close	e	
mid-open		ə
open		a

longer

Small vowel inventory: Modern Standard Arabic

	front	central	back
close	i		u
open		a	

Vowel quality inventories cross-linguistically

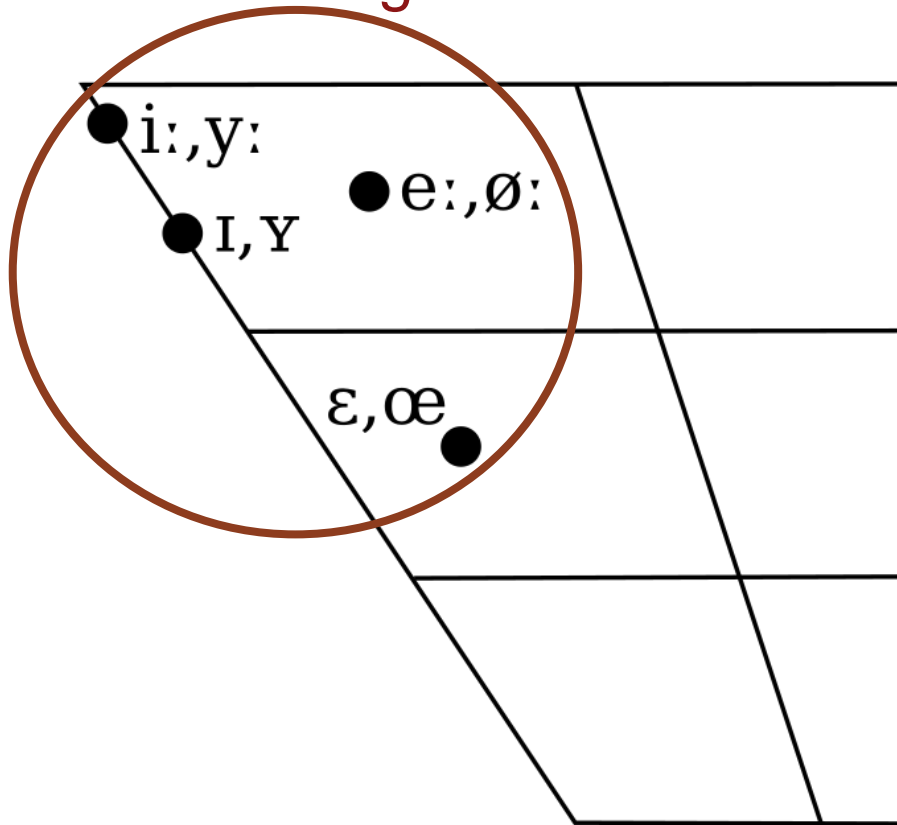| Value	Representation
🔵 Small vowel inventory (2-4)	93
⚪ Average vowel inventory (5-6)	287
🔴 Large vowel inventory (7-14)	184
Total:	564

https://wals.info/chapter/2

Generalizations about vowels

- All languages have a contrast in vowel height.

- All languages which have a rounding contrast for vowels also have a front-back contrast.

- Front rounded vowels are typologically rare.

No rounding contrast without front-back contrast

unattested

Front rounded vowels are rare

	Value	Representation
○	None	525
🟣	High and mid	23
🔴	High only	8
🔵	Mid only	6
	Total:	562

https://wals.info/chapter/11

Additional parameters

- vowel length
  - › e.g. in Samoan: i   iː   u   uː

                       e   eː   o   oː

                          a   aː

- secondary articulation:
  - › nasalized   French: /ɛ̃ ɑ̃/
  - › pharyngealization   Icari Dargwa: /aˤ uˤ/
    (Northeast Caucasian)

Response to question about length contrasts

- UPSID: 11.3% of languages have long vowels

- BUT not necessarily contrastive pairs in length

Contrastive		Not contrastive	
i	iː	ɪ	iː
u	u:	ʊ	u:

English

Questions?

Plan for today

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- Segmental inventories:

  › consonants

  › vowels

- Syllable structure

- Tone and pitch accent

What's a syllable

onset	nucleus	coda
consonant(s)	vowel (usually)	consonant(s)
C	**V**	**C**

only obligatory element

Types of syllables

- closed   **CVC**   *bat*   /bæt/

- open   **CV**   *coffee*   /kɑ.fiː/

- onsetless

  › closed   **VC**   *eat* /iːt/

  › open   **V**   *about*   /ə.baʊt/

Syllable complexity

- nucleus: long vowel or diphthong

CVV   **CVVC**

see /siː/   *seek*   /siːk/

- onset: ≥1 consonant

CCCVCCC

- coda: ≥1 consonant

strands   /stɹændz/

Typology of syllable complexity

- Frequency/commonality of syllable type correlates with complexity:

simpler   more complex

likely to be possible in   likely to be possible in
most languages   few languages

appears more frequently   appears less frequently

Poll: https://bit.ly/3svXYcl

Ranking of syllable types (poll)

less complex

more complex

CV

CVC

CVCC

VC   **CCVC**

VCCC

CCCV

no coda > simple coda

simple coda > complex coda

complex coda > complex onset

simple coda > complex coda

complex coda > complex onset