Introduction to Hebrew Linguistics

('Inleiding Hebreeuwse Taalkunde')

UvA, Week 8

Phonology 1:

Introduction and

synchronic description of (Israeli) Hebrew

Tamás Biró

Phonology = *klankleer*

- Phonetics
  - Articulation
  - Acoustics
  - Perception
- Phonology
  - Phoneme inventory: vowels and consonants
  - Phonotactics: permitted segment sequences
  - Phonological processes, allophony
  - Suprasegmental phonology: stress, tone, intonation...
- Not orthography!
  - Do not confuse *sounds* and *letters*!

Phoneme

- Phoneme: the smallest unit of sound employed to form meaningful contrast between utterances.

- Sound X and sound Y are phonetically different: is this difference also important for linguistics?
    - Differences among dialects.
    - Differences between male and female speakers.
    - Differences among individual speakers.
    - Free variation.
    - Context-dependent variation: allophones.

Phoneme

- Phoneme: the smallest unit of sound employed to form meaningful contrast between utterances.

- Minimal pair: words with different meanings that differ in a single segment. They prove that the difference is not due to context-dependent variation.

- Complementary distribution: If element X and element Y never occur in the same environment, then they are said to be *in complementary distribution;* and they may be seen as context-dependent variants of the same abstract entity.

What does a phonologist do?

- **Structuralist phonology** in the first half of the 20th c.:
  - Goal: determine the set of phonemes for a language.
  - Determine the allophones of each phoneme:
    - Free variation?
    - Variation depending of what context?
      E.g.: phoneme /n/ is realized as allophone [ŋ] before a velar.
- **Generative phonology** (since 1968):
  - Displace the term 'phoneme', and use 'segments'.
  - Underlying representation (as the word is encoded in the mental lexicon) + set of rules (or else... computation in the brain)
    → surface representation (as uttered).
    E.g.: underlying segment /n/ turns into segment [ŋ] preceding a velar consonant, and then uttered as a surface representation.

Consonants:

Examples for determining what the phonemes are

Minimal pairs: [p] vs. [f]

- In Dutch, /p/ and /f/ are different phonemes. Minimal pairs: *fel – pel*; *fier – pier; fair* [fe:r] – *peer* (again: forget orthography!)

- In Hebrew: [p] and [f] are context-dependent allophones of the same phoneme /p/: no minimal pairs!
- Rule determining allophony:
  - Complementary distribution:
    [p] word-initially and after consonant, [f] after vowel.
  - Rewrite rule in traditional generative phonology:

    [p] → [f] / V ___ (Read: rewrite [p] as [f] before vowel)
  - NB: In BH, may happen also across word boundaries

Minimal pairs: [p] vs. [f]

- Gemination: (geminate = long consonant)

[p] → [f] does not occur if [p] is geminated (= gets *dagesh forte*):

lesapper, *kippur* (D-stem); *lippol* (*n*-assimilation); etc.

– *Problem*: Israeli Hebrew does not have geminates...

- In Hebrew: [p] and [f] are context-dependent allophones of the same phoneme /p/: no minimal pairs! Well... what about
  - *parsa* 'parasang (Persian mile)' – *farsa* 'farce, joke'; *punkcya – funkcya; pakt – fakt*

  … are these convincing counter-examples?

  – IH: *falafel, fotografya, fotosinteza, fonetika, fantazya...*

  – IH: *filosofya.* But substandard *pilosofya* → hence argument that the native phonotactics still does not allow word-initial [f].

Phonological process: devoicing

- In Dutch, consonant devoicing at the end of a word:
  - *ba*[d]*en*, but *ba*[t]. Hebr. *tov* > Dutch *tof 'leuk, aardig'.*
    - Structuralist phonology: phoneme /d/ has two allophones, namely [d] and [t], the later appearing at the end of the word.
    - Generative phonology: underlying segment [d] is rewritten as [t] preceding the end of the word: [d] → [t] / __ #

- Hebrew: minimal pair proving no end-of-word devoicing:
  - *bad* (1. 'linen', 2. 'pole, rod, branch', 3. 'part') – *bat* 'daughter'.
  - IH: [kaf] 'palm of hand' – [kav] 'line'.
    - NB: כף and קו. But this is only an issue of orthography in Israeli Hebrew. No different pronunciation, so why different phonemes? Well... different behavior sometimes...

Vowels

Vowel length

- Language typology:
  - Languages making no distinction between short V and long V:
  - Languages making a distinction between short V and long V:
  - (Very few languages with short, long and superlong V.)
- Dutch has phonemic distinction between short V and long V:
  - e.g. *word – woord.*
- Biblical (Tiberian) Hebrew:
  - There are signs for very short, short and long V.
  - Phonemic or phonetic distinction? Are there minimal pairs?
    - Niphal perfect: short [a] *vs.* Niphal participle long [a:]
- Israeli Hebrew: no (no major) difference in pronunciation. At most phonetic distinction: minor lengthening in open and stressed syllables. Complementary distribution → same phoneme.

A complex problem: schwa?

- Hebrew has a 5-vowel system: [a] [e] [i] [o] [u]
- What about schwa? *Do not confuse:*
  - "Schwa" as the symbol ":" with two meanings
    - Schwa mobile/na: [ə]/[ɛ]/[ö] depending on BH tradition.
    - Schwa quiescens/nax: [Ø]
    - When to pronounce? Also depends on tradition.
  - "Schwa" as the sound [ə].
- Israeli Hebrew:
  - Tiberian Hbr [ə] merged into [e] in Israeli Hebrew.
  - Minor phonetic differences here and there?
  - Epenthetic V to avoid prohibited consonant clusters.

Minimal pairs: diphthongs

- Are there diphthongs in Israeli Hebrew?
- Some say: there are minimal pairs (Ora Schwarzwald):
  - *pe* 'mouth' – *pey* 'the letter Pe'
  - *more hamosad* 'the teacher of the institute' – *morey hamosad* 'the teachers of the institute'
  - *ben* 'son' – *beyn* 'between'
- Others (Itsik Pariente): depends on speakers ([teʃa] vs. [teʸʃa]).
- Additionally:
  - *goy* 'gentile', *xay* 'alive', *miluy* 'filling'.
  - Phonologically vowel + consonant. Phonetically diphthong.
    - *gavoa* 'tall', *maluax* 'salty', *nagua* 'contaminated'.
  - Phonologically vowel + vowel. Phonetically diphthong.

Suprasegmental phonology

Minimal pairs: word stress

- Ultimate stress: on the last syllable.
    - This is the default/unmarked case.
- Penultimate stress: on the second last syllable.
    - Restricted to some special patterns:

      E.g., segolate words and segolate suffixes.

- (I)Hbr stress is lexical: not predictable by rules, because there are minimal pairs:

óxel 'food' – *oxél* 'he eats'

bóker 'morning' – *bokér* 'cowbox'

xéreš 'quietly' – *xeréš* 'deaf'

bérex 'knee' – *beréx* 'he blessed'

rácu 'they ran' – *racú* 'they wanted'

šošaná 'rose' – '[personal name]'

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UvA, Week 9

Phonology 2:

Diachronic phonology, and phonological processes

Tamás Biró

Previously: synchronic description of (I)H
(using structuralist and generative approaches)

Next: diachronic phonology
(using phonological features)

Then: phonological processes.

Vowels

Vowels: phonological features

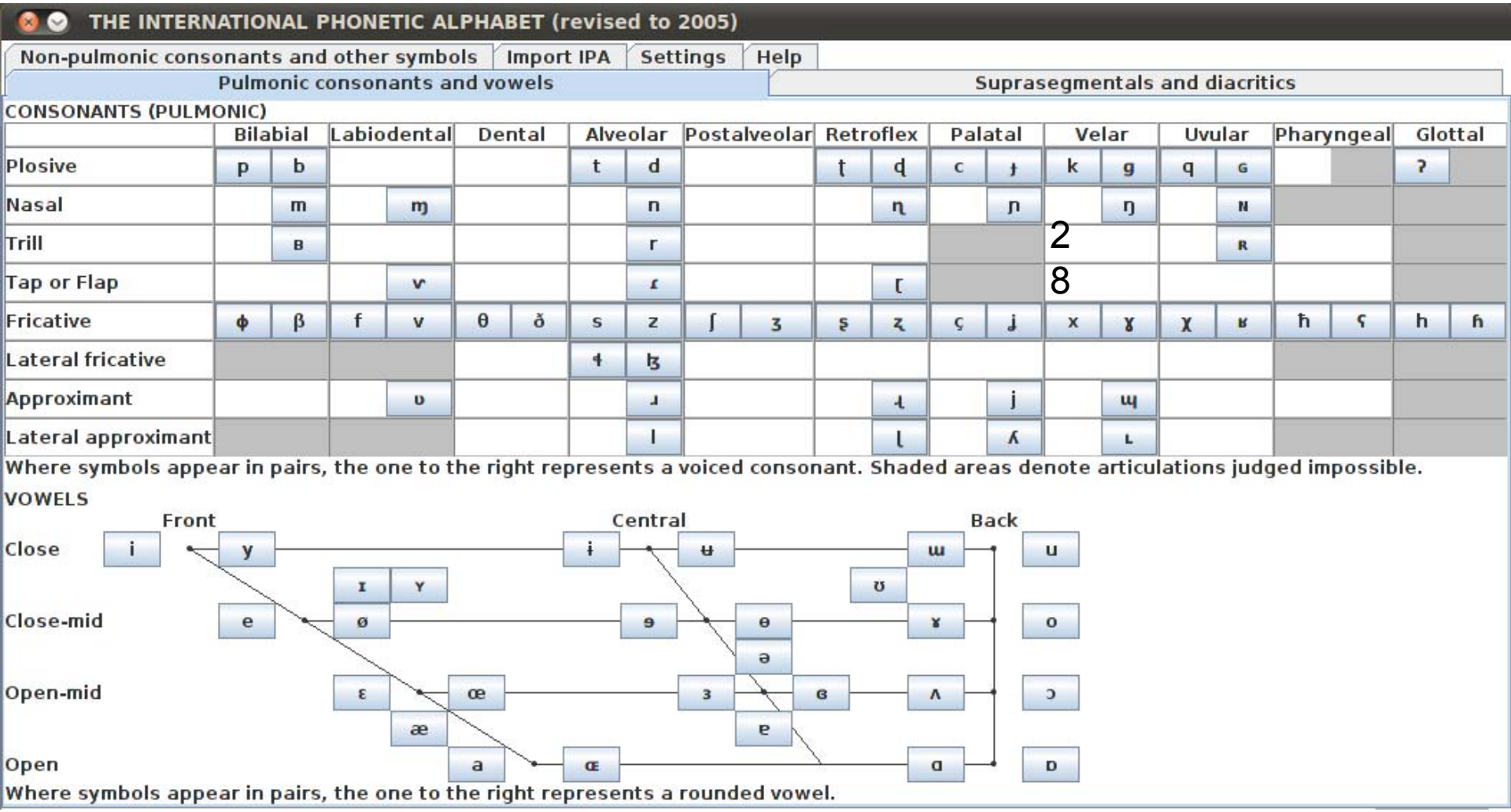
- Distinctive features: Minimal differences in articulation between two similar sounds. (Tools to analyze phonemes, already introduced by structuralists, and heavily used in generative phonology.)
- Lip rounding:

  Rounded vs. Non-rounded: [i] vs. [ü], [e] vs. [ö].
- Position of the tongue in the mouth:

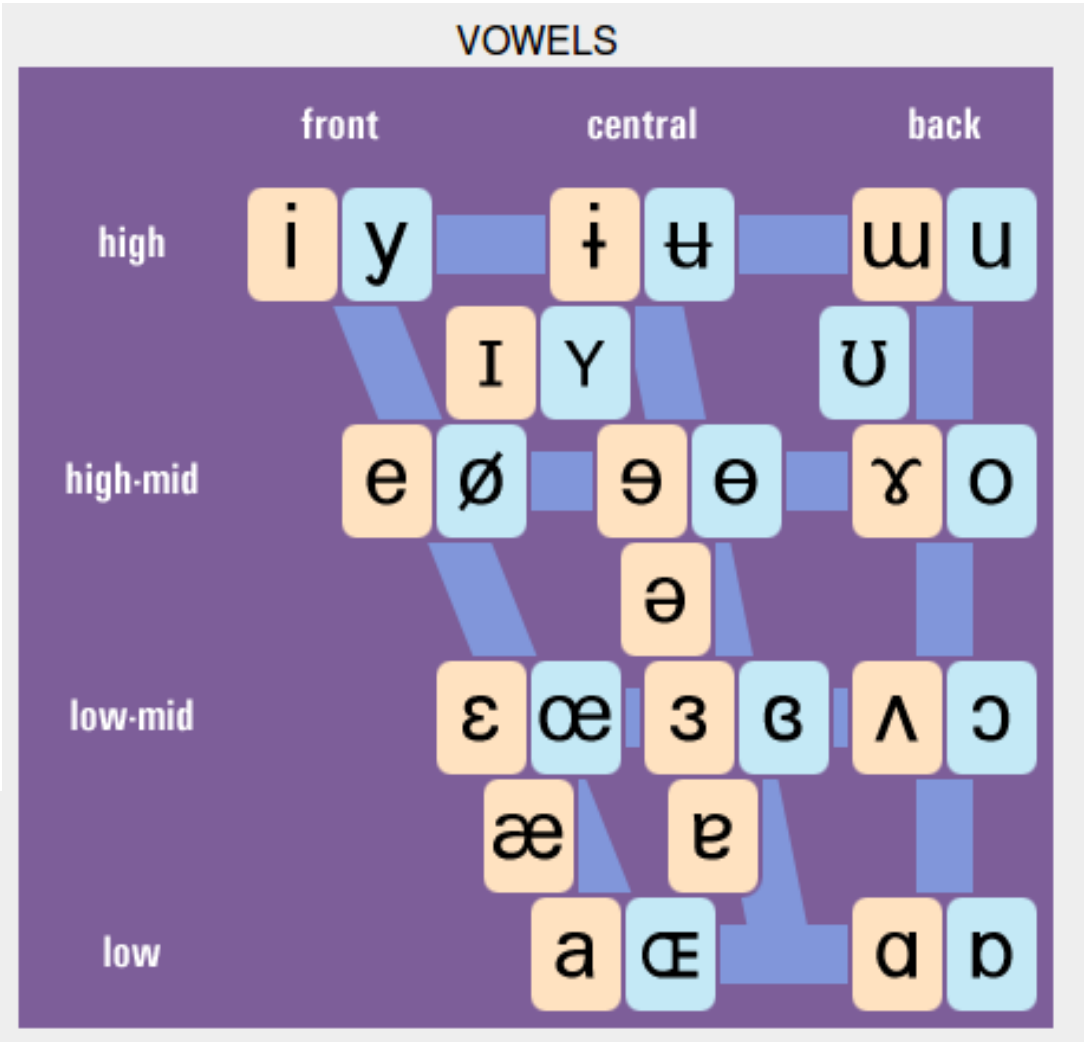
  Front [i, e, ü, ö...a] vs. Central [ə...] vs. Back [u, o, ɯ...]

  High [i, ü, u...] vs. Mid [e, ö, ə, o...] vs. Low [a...]
- Length: Short vs. Long (vs. extra long is some languages)
- Diphthong: vowel + semi-vowel (or glide)

http://languagelink.let.uu.nl/tds/ipa/index.html



Clickable IPA chart: http://jbdowse.com/ipa



ɯ Unrounded vowels have peach buttons.

u Rounded vowels have blue buttons.

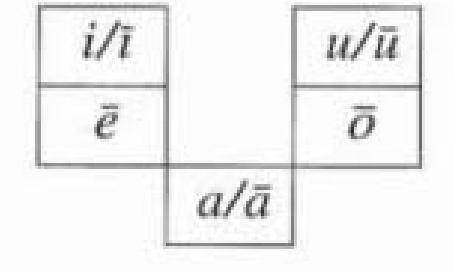
ɪ ʏ Vowels in pairs have the same height and backness and differ only in rounding.

Proto-Semitic to Tiberian H

- Proto-Semitic:

i	*a*	*u*	*ī*	*ā*	*ū*	*aw*	*ay*

- Tiberian Hebrew:



i/ē	*a, ā, e*	*u, ō, o*	*ī*	*ā/ō*	*ū*	*ayi, ē*	*awe, ō*

  - Canaanite sound shift: [a:] > [o:]
  - Monophthongization: [aw] > [o:], [ay] > [e:]

  Unless epenthesis: **bayt > bayit / bēt, *mawt > mawet, mot*

Medieval pronunciations

- Samaritan tradition
- Pronunciation of the Tiberian masoretes?
- Babylonian tradition → Yemenite traditions (at least 5 of them)
- Palestinian tradition →
  - Sephardic traditions: Dutch Portuguese, Ladino-speaking Mediteranean, Arabic speaking, Persian speaking, etc.
  - Ashkenazic traditions: Eastern vs. Western European:

Cholem: [o, o:] > W Ashk [aw],
Hung [ʊy], Polish [oy], Belor. [öy], Lith [ey]

Kamets: [a:] > [o:], but Polish [u:]

Kubuts, shuruk [u] > W Ashk [u], WHung [ü], EHg [ɯ], Polish [ł]

Tsere: [e:] > [e:], but Polish [ay].

Israeli Hebrew

- Called “Sephardi”, but this is only true if seen from the Ashkenazi world... (typical Ashkenazi-centricism).
- Vowel length disappears, at least phonologically.
- Some slight diphthongization in the pronunciation of some people.

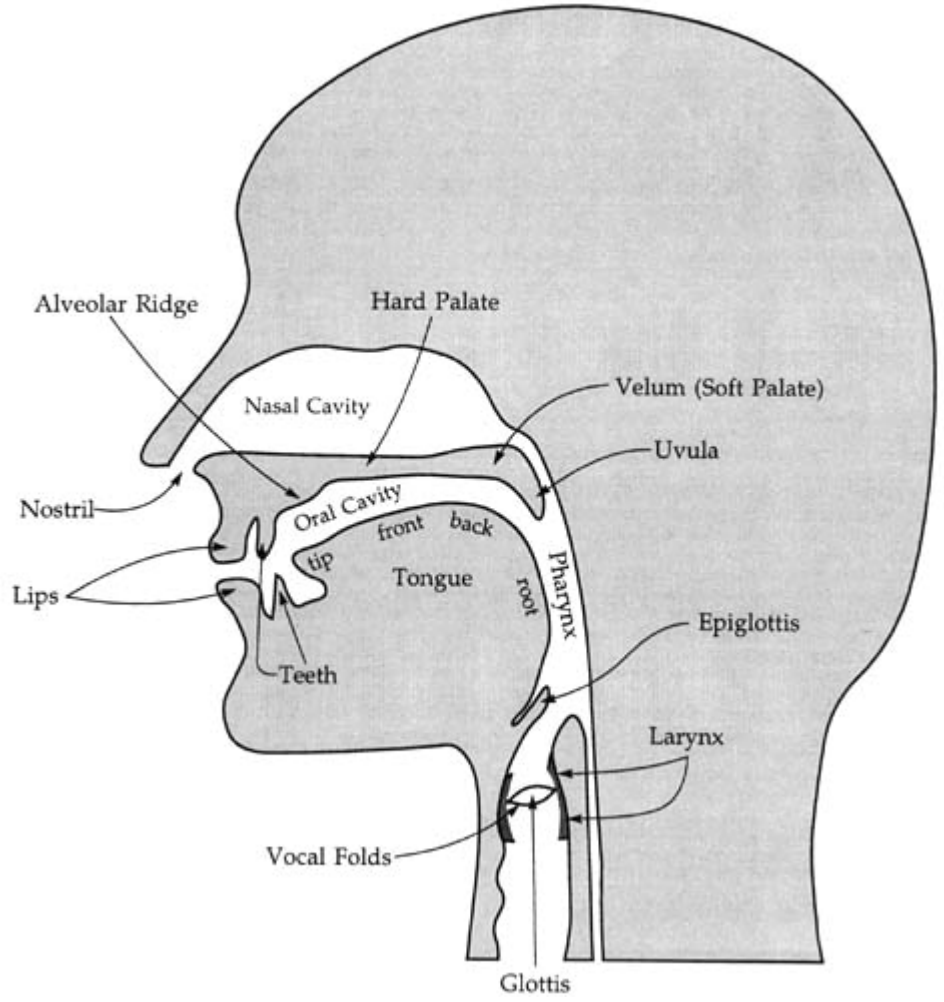
Consonants

Consonants: distinctive features

- Place of articulation:
  - Labial, dental, alveolar, velar, uvular, pharyngeal, glottal.
- Manner of articulation:
  - Stop/Plosive vs. Fricative vs. Affricate
  - Nasal (and many more manners of articulation)
- Laryngeal features:
  - Voiced [b, d, g, m, l...] vs. Unvoiced [p, t, k...]
- Much more complicated, if we include all the many hundreds of consonants observed in the languages of the world...
- Glide: semi-vowels, behaving as consonants: [y] and [w]
- Affricate: stop+fricative combination, e.g. [tʃ], [ts], [pf]
- Geminate: "double"/long consonants (cf. dagesh forte)

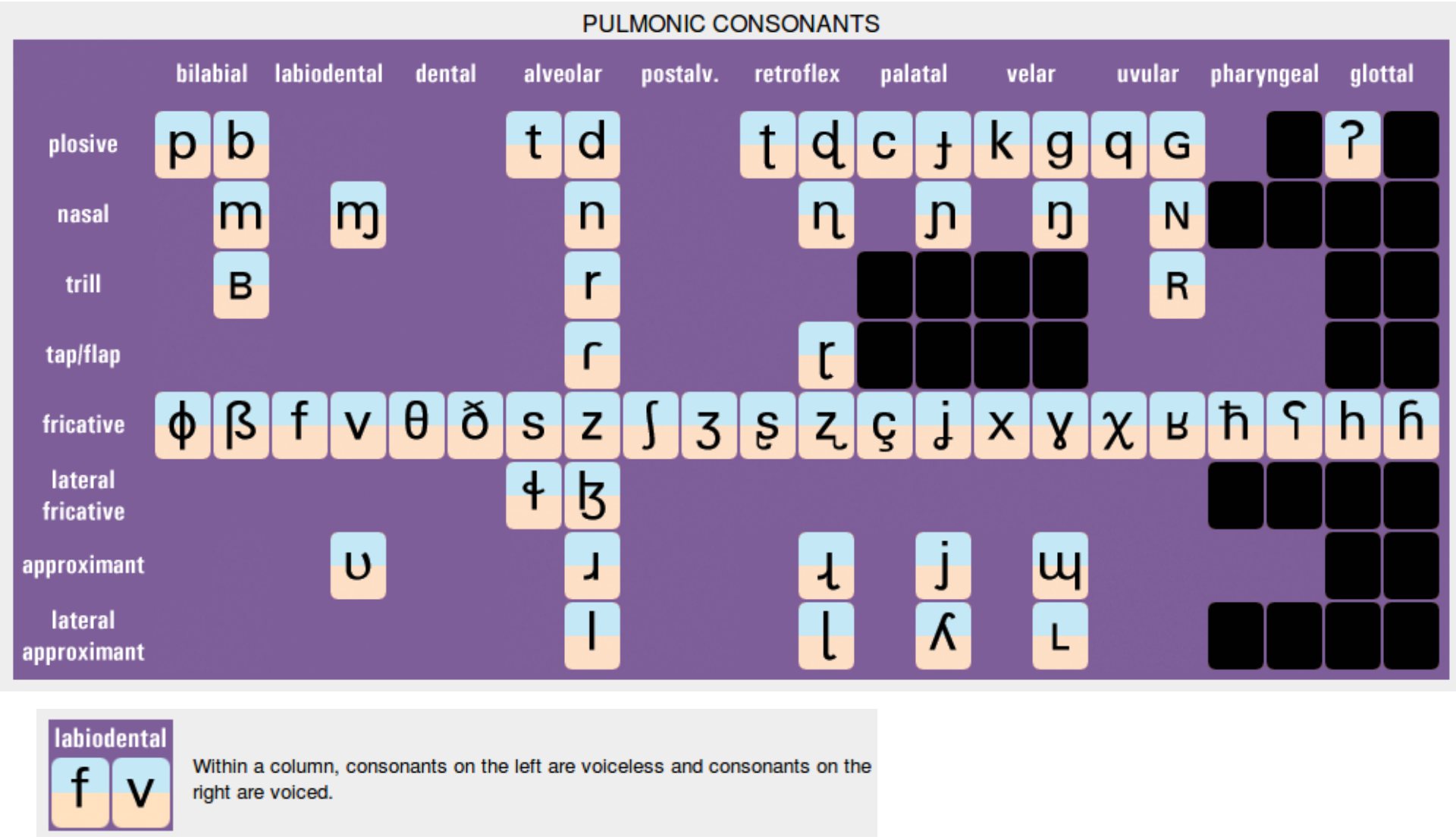
Place of articulation

1. Bilabial: by two lips
2. Labiodental: by lip + teeth
3. Dental: between teeth
4. Alveolar: by ridge
5. Postalveolar
6. Palatal: by hard palate
7. Velar: by soft palate (velum)
8. Uvular: by uvula
9. Pharyngeal: by pharynx (slokdarmhoofd)
10. Glottal: by larynx/glottis



Sources:http://emedia.leeward.hawaii.edu/hurley/Ling102web/mod3_speaking/mod3docs/3_images/midsagittal_bw.jpg

Clickable IPA chart: http://jbdowse.com/ipa



Characteristics of Semitic languages

1. Many gutturals:
   velars, pharyngals and laryngals (glottals)

2. Parallel to the voiced and unvoiced series, there is also an emphatic series: pharyngalized or glottalized

Proto-Semitic to Tiberian H

- Proto-Semitic

p	*θ*	*t*	*s*	*ś*	*š*	*k*	*x*	*ḥ*	*h*
b	*δ*	*d*	*z*	*l*		*g*	*γ*	*ʿ*	*ʾ*
	θ̣	*ṭ*	*ṣ*	*ẓ́*		*q*			
		r							
m		*n*							
						y	*w*		

- Tiberian H:

p/f	*š*	*t/θ*	*s*	*ś*	*š*	*k/x*	*ḥ*	*ḥ*	*h*
b/β	*z*	*d/δ*	*z*	*l*		*g/γ*	*ʿ*	*ʿ*	*ʾ*
	ṣ	*ṭ*	*ṣ*	*ṣ*		*q*			
		r							
m		*n*							
						y	*w*		

Tiberian Hebrew to Israeli H

- Tiberian Hebrew
- Begad-kefat:

Late development?

Yemenites: 6 distinctions

Ashkenazi: 4 distinctions

Israeli H: 3 distinctions

p/f	*t/θ*	*s*	*š*	*k/x*	*ḥ*	*h*
b/β	*d/δ*	*z*		*g/γ*	*ʿ*	*ʾ*
	ṭ	*ṣ*		*q*		
	l					
	r					
m	*n*					
			y	*w*		

- Tsadi: originally an emphatic [s̲], turned into affricate [ts] in European pronunciation.
- "Original śin": lateralized? Cf. *Chaḷdean כשדים, baḷsam בושם.*
- Various gutturals maintained only by Arabic-speaking populations.
- [h] deleted, but new phonemes in Israeli Hebrew: [tʃ] צ׳, [ʒ] ז׳, [dʒ] ג׳.

Phonological processes

Phonological processes

- "Spirantization", or begad-kephat allophony

  [stop] → corresponding [fricative] / V __

  - Does not apply to (originally) emphatic stops!
  - Does not apply to (originally) geminates!

  (IH? See discussions earlier!)

Phonological processes

- Changes related to gutturals:
  - Prefer low V [a] to mid V [o], [e]:
    - *yixtov, yišmor,* but *yikra?*, *yišma*^{c}, *yircax, yigbah*
    - *kotev, šomer* but *roceax, šomea*^{c}
    - Compensatory lengthening, see below

- Changes related to geminates (dagesh forte)
  - Geminates block the begad-kefat rule.
  - Compensatory lengthening:
    - *mi-bbrazil*, but *mē-rusiya, mē-urugvay*
    - *lehikkatev*, but *lehērašem*
    - *dibber*, but *bērex*

Phonological processes

- Vowel gradation (apophony, ablaut):
  - [I] ~ [e]:
    - *yamšix ~ hamšex, yatxil ~ hatxel*
  - [o] ~ [u]:
    - BH: *yakum, vayakom*
    - *kol ~ kullam, dov ~ dubbim*

- Metathesis:

  Hitpael of verbs with sibilant first root letter:

  hitkatev, but: *histakel, hizdamen, hištamer, hictalem*

Phonological processes

- Voice assimilation:
  - *levatea* 'to pronounce', but mi[f]ta 'pronunciation'
  - *lamadta* → *lama[tt]a* or *lamad[e]ta*

- Vowel dissimilation:
  - [o] → [a], if another [o] or [u] in a neighbouring syllable.

  Historical development: 'I': *anāku > *anōku > anōki

  Synchronic processes:
  - *Maroko,* but *marokaj* 'Moroccan'*; geto* 'getto', plural: gataot.
  - *tahor* 'pure' → *taharut* 'purity' → *be-taharut* 'in a pure way'.