

**Introduction
to Hebrew Linguistics**
(‘Inleiding Hebreeuwse Taalkunde’)
UvA, Week 11, May 11, 2012

Lexicon and phonology

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Last week:

End of period-by-period linguistics.

This week:

Beginning field-by-field linguistics.

Lexicon = vocabulary

Enriching vocabulary 1: recycling existing material

- New meanings to Biblical words, expressions:
 - דַעַת הַקְהָל ‘public opinion’
- New meanings to *hapax legomena* and rare words in BH:
 - חשמל ‘electricity’ (Cf. LXX: *ilektron*, Vulgata: *electrum* ‘amber’).
- If BH and RH (or Aramaic) have different words for the same meanings, then
 - Assigning different stylistic values in IH: זְמַן and עֵת for ‘time’.
 - Assigning slightly different meaning:
 - מִסְפָּר ‘number’ and מִנְיָן ‘minyan [10 Jewish men]’
- Medieval Hebrew, for instance Arabic words from the translations of the Ibn-Tibbon: הַנְדָסָה ‘engineering’
- ‘Secularization’ of word meanings:
 - מוסף ‘mussaf prayer’ > ‘journal supplement’; ישיבה ‘meeting’

Enriching vocabulary 2: borrowing words

- Borrowing from Arabic and Aramaic
 - “to strengthen the Semitic character” of the language
 - Arabic: from Arabic neighbors.
 - Aramaic: originally purists wanted to get rid of Aramaic component. Then, re-entering IH as high registers.
- Borrowing from European languages, especially English.
 - Names of the letters in the Latin (‘English’) alphabet.
 - *fiktivi*:
 - suffix *-i* guarantees fitting into morphology (cf. *problemati*)
 - Note the initial [f] (cf. *falafel*)
 - Words related to cultural goods: *falafel*, *šnitseľ*.
 - Language purists can hardly displace them.

Enriching vocabulary 2: borrowing words

- Loan translations from “Standard Average European”
 - נָמֶל תְּעוּפָה , שְׂדֵה תְּעוּפָה: ‘airport’, cf. ‘vliegveld vs. luchthaven’
 - בֵּין לְאוֹמֵי ‘international’; תַּפּוּחַ אֲדָמָה ‘aardappel, pomme de terre’
- Copying the semantic field, including all meanings:
 - *tnua* = movement, *xevra* = maatschappij
 - *atar* (Aramaic for ‘place’) = site
- Borrowing to lower registers:
 - Arabic words to slang.
 - Judeo-languages to the family language register:
 - BH *av* ~ Aramaic *aba* ~ Aramaic + Yiddish *abale*
 - Sarale*, *Xanale*: Yiddish suffix to IH (cf. Yiddish: *Sorele*, *Khanele*).

Enriching vocabulary 3: inner word formation

- Ancient Semitic techniques:
 - Mishkalim:
 - *adom* ‘red’ → *adamdam* ‘reddish’
 - Suffixes: *tanax* ‘Bible’ → *tanaxi* ‘biblical’
 - *eix* → *eixut* ‘quality’ *kama* → *kamut* ‘quantity’
 - *ze* → *zehut* ‘identity’ (why [h]?) → *lezahot, ziha* ‘to identify’
 - Smichut, as word compounding:
 - תְּפֹּחַת אֲדָמָה ‘potato’
- Traditional techniques: e.g., abbreviations.
- Novel techniques:
 - Smichut turned into compound: *yošev ha-roš* > *ha-yoševroš*
 - Collapsing compounds: *remez + or = ramzor* ‘traffic light’, *tapuax zahav* > *tapuz* ‘orange’.

Enriching vocabulary 3: inner word formation

- Denominative verb formation:
 - *notsri* > *lehitnatser*, *islam* > *lehitaslem*
- What is a root?
 - *letalfen*, *lekatleg*,
 - *pisztur*, *kirtusz*
 - *lefasbek*
- *transfer* > *letransfer*: 6 consonants!
- *kategor* 'prosecutor' → *lekatreg* 'to accuse' (metathesis!)
- *rum* 'to lift' → *truma* 'donation' → *litrom* 'to donate'
- *ed* 'witness' → *teuda* 'document' → *letaed* 'to document'
- *din ve-xešbon* > *duax* 'report' → *ledaveax* 'to report'

Enriching vocabulary

- Borrowing prefixes, suffixes:
 - תְּלִיט מְמַדֵּי 'three-dimensional', מְשֻׁמָּעִי דוֹ 'ambiguous'
 - *i-tsedek* 'injustice', *bilti-muvan* 'incomprehensible'
 - *-izatsiya*, *-nik*: *kibutsnik*, *irnik*, *džobnik*...
- Creative combination of inner techniques and external factors:
 - *mivreshet* 'brush'
 - 'airplane': *matos*, *aviron* (cf. French *avion*)
 - תִּירָס 'corn' (from Turkey's old name)
 - ייצוא 'export' vs. יבוא 'import'
 - 'organization': *irgen*, *leargen* > *irgun*

Enriching vocabulary

- My favorite:

tlat-itsurizatsiya

PHONOLOGY (KLANKLEER)

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, fantazyia*...

– 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: קפ and כף. 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 ([tefa] vs. [te^yfa]).
- 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:

<i>óxel</i> 'food' – <i>oxél</i> 'he eats'	<i>bérex</i> 'knee' – <i>beréx</i> 'he blessed'
<i>bóker</i> 'morning' – <i>bokér</i> 'cowbox'	<i>rácu</i> 'they ran' – <i>racú</i> 'they wanted'
<i>xéreš</i> 'quietly' – <i>xeréš</i> 'deaf'	<i>šošaná</i> 'rose' – '[personal name]'

Introduction to Hebrew Linguistics

(‘Inleiding Hebreeuwse Taalkunde’)

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

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

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2005)

Non-pulmonic consonants and other symbols | Import IPA | Settings | Help

Pulmonic consonants and vowels | Suprasegmentals and diacritics

CONSONANTS (PULMONIC)

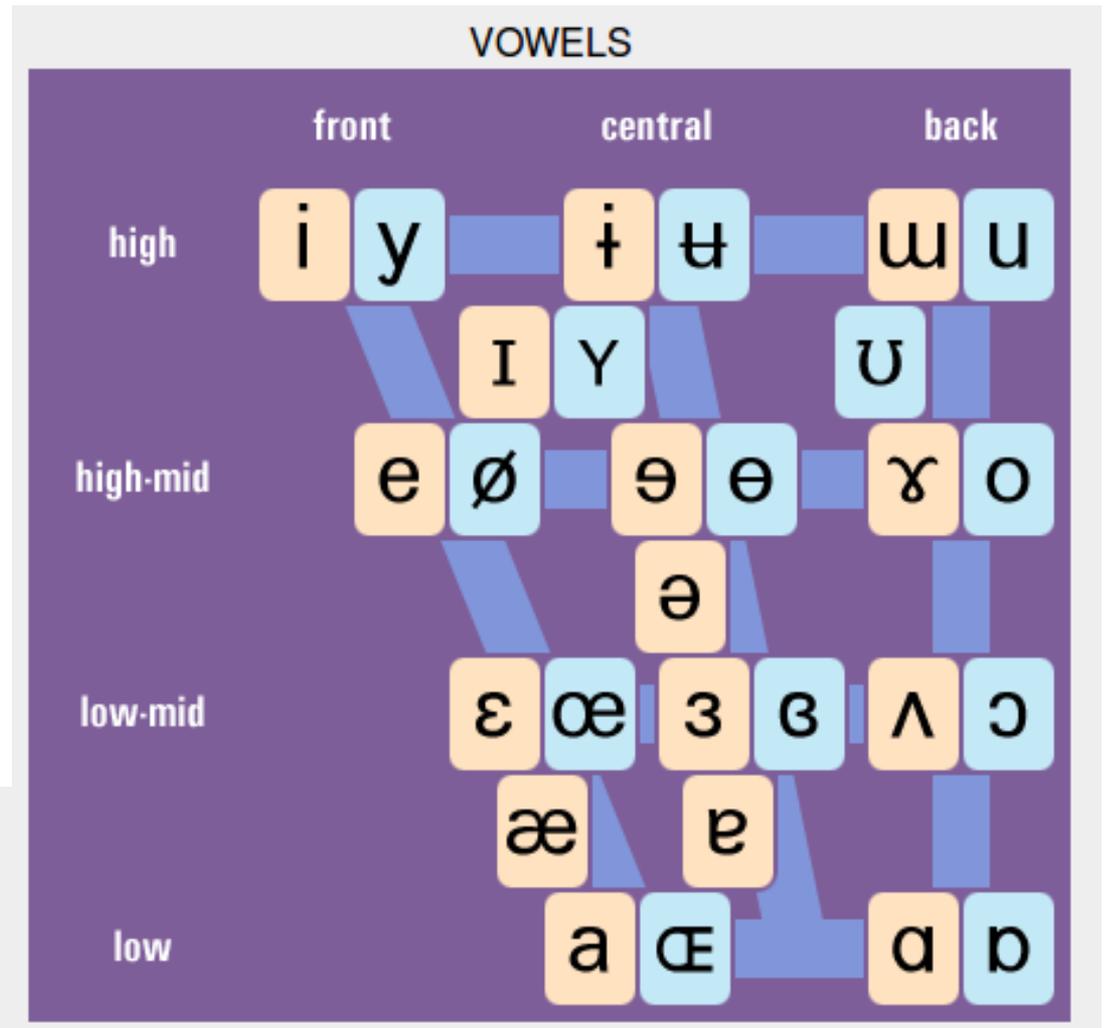
	Bilabial		Labiodental		Dental		Alveolar		Postalveolar		Retroflex		Palatal		Velar		Uvular		Pharyngeal		Glottal	
Plosive	p	b					t	d			ʈ	ɖ	c	ɟ	k	g	q	ɢ			ʔ	
Nasal		m		ɱ				n				ɳ		ɲ		ŋ		ɴ				
Trill		ʙ						ʀ										ʀ				
Tap or Flap				ⱱ				ɾ				ɽ										
Fricative	ɸ	β	f	v	θ	ð	s	z	ʃ	ʒ	ʂ	ʐ	ç	ʝ	x	χ	χ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

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

VOWELS

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

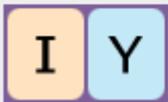
Clickable IPA chart: <http://jbdowse.com/ipa>



Unrounded vowels have peach buttons.



Rounded vowels have blue buttons.



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

Proto-Semitic to Tiberian H

- Proto-Semitic:

<i>i</i>	<i>a</i>	<i>u</i>	<i>ī</i>	<i>ā</i>	<i>ū</i>	<i>aw</i>	<i>ay</i>
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- Tiberian Hebrew:

<i>i/ī</i>	<i>u/ū</i>
<i>ē</i>	<i>ō</i>
	<i>a/ā</i>

<i>i/ē</i>	<i>a, ā, e</i>	<i>u, ō, o</i>	<i>ī</i>	<i>ā/ō</i>	<i>ū</i>	<i>ayi, ē</i>	<i>awe, ō</i>
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- 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 Mediterranean, Arabic speaking, Persian speaking, etc.
 - Ashkenazic traditions: Eastern vs. Western European:
Cholem: [o, o:] > W Ashk [aw], Hung [ɔy], Polish [oy], Belor. [öy], Lith [ey]
Kamets: [a:] > [o:], but Polish [u:]
Kubuts, shuruk [u] > W Ashk [u], WHung [ü], EHg [ɯ], Polish [ɪ]
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.

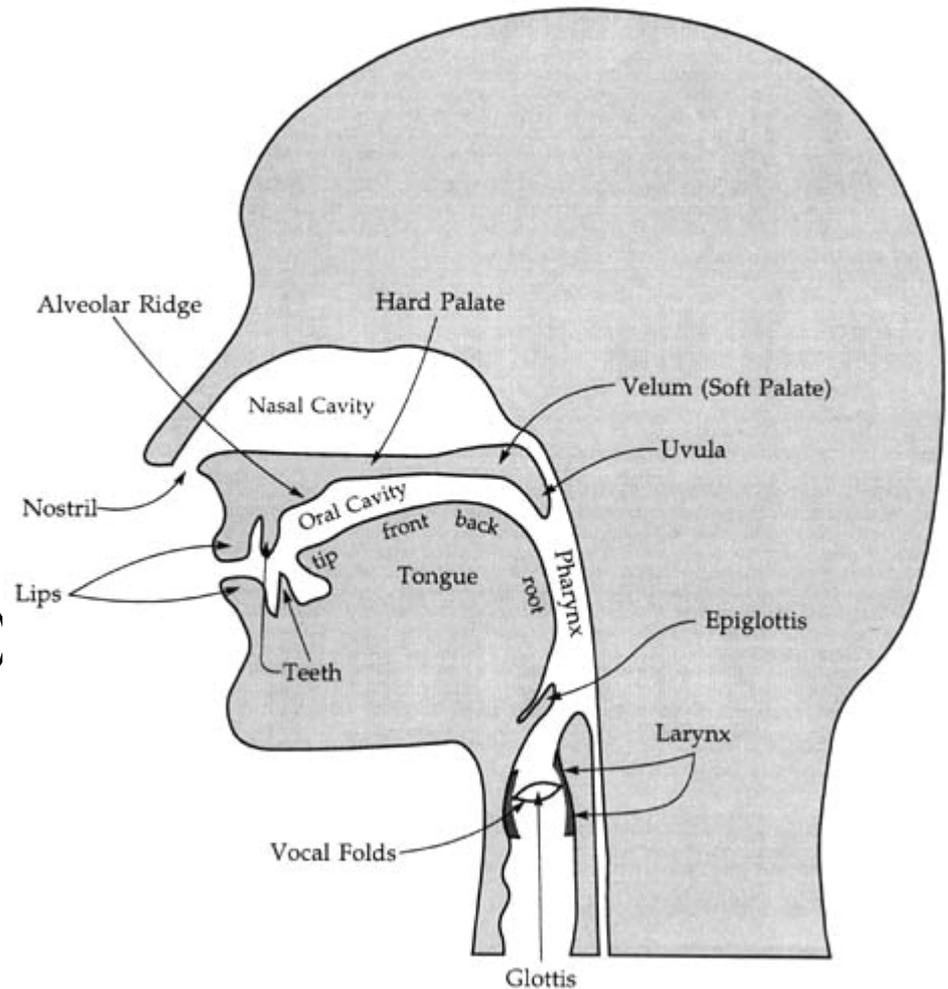
Consonants

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>

PULMONIC CONSONANTS

	bilabial	labiodental	dental	alveolar	postalv.	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		ɳ̠	ɲ	ŋ	ɴ		
trill		ʙ		ʀ					ʀ		
tap/flap				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			

labiodental



Within a column, consonants on the left are voiceless and consonants on the right are voiced.

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

<i>p</i>	<i>θ</i>	<i>t</i>	<i>s</i>	<i>š</i>	<i>š</i>	<i>k</i>	<i>x</i>	<i>ḥ</i>	<i>h</i>
<i>b</i>	<i>δ</i>	<i>d</i>	<i>z</i>	<i>l</i>		<i>g</i>	<i>γ</i>	<i>ʕ</i>	<i>ʔ</i>
	<i>θ</i>	<i>t</i>	<i>š</i>	<i>š</i>		<i>q</i>			
		<i>r</i>							
<i>m</i>		<i>n</i>							
						<i>y</i>	<i>w</i>		

- Tiberian H:

<i>p/f</i>	<i>š</i>	<i>t/θ</i>	<i>s</i>	<i>š</i>	<i>š</i>	<i>k/x</i>	<i>ḥ</i>	<i>ḥ</i>	<i>h</i>
<i>b/β</i>	<i>z</i>	<i>d/δ</i>	<i>z</i>	<i>l</i>		<i>g/γ</i>	<i>ʕ</i>	<i>ʕ</i>	<i>ʔ</i>
	<i>š</i>	<i>t</i>	<i>š</i>	<i>š</i>		<i>q</i>			
		<i>r</i>							
<i>m</i>		<i>n</i>							
						<i>y</i>	<i>w</i>		

Tiberian Hebrew to Israeli H

- Tiberian Hebrew
- Begad-kefat:
- Late development?
- Yemenites: 6 distinctions
- Ashkenazi: 4 distinctions
- Israeli H: 3 distinctions

<i>p/f</i>	<i>t/θ</i>	<i>s</i>	<i>š</i>	<i>k/x</i>	<i>ħ</i>	<i>h</i>
<i>b/β</i>	<i>d/δ</i>	<i>z</i>		<i>g/γ</i>	<i>ʕ</i>	<i>ʁ</i>
	<i>ṭ</i>	<i>ṣ</i>		<i>q</i>		
	<i>l</i>					
	<i>r</i>					
<i>m</i>	<i>n</i>					
			<i>y</i>	<i>w</i>		

- Tsadi: originally an emphatic [s], turned into affricate [ts] in European pronunciation.
- “Original śin”: lateralized? Cf. *Chaldean* כשדים, *balsam* 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'.

Assignment Morphology

(Re-read Bennett, Part 1)

Based on Bennett, *Comparative Semitic Linguistics*, paradigms B and C, prepare a 5-minute-long presentation comparing one feature in various Semitic languages:

- Nouns (number, status, case)
- Independent personal pronouns
- Prefix conjugation
- Suffix conjugation
- Tense, aspect, mood
- Verbal patterns (binyanim)

Focus on the “system” and the (singular) forms.

SEE YOU NEXT TIME:
MAY 21, 13.00-15.00 IN PCH 3.31.