

Abjads II

Lecture 5

February 7, 2022

Today...

- Review of Hebrew
- Arabic
 - Grapheme differentiation
 - Ligatures
- Matres lectionis & diacritics
- Other abjads
- Quiz 1
- Assignment 1

Hebrew review

Writing vowels in Hebrew

- **Some** vowels in Hebrew are written with consonants
(Latin: *matres lectionis*)
 - These appear in “unpointed” / “unvoweled” texts
- **All** vowels in Hebrew may be written with **optional** diacritics
(Hebrew: *neqqudot*, sg. *niqqud*)

כמה מילים עברית

Unpointed

כֶּמֶה מִיְלִים עִבְרִית

Pointed

- **Note:** Some consonantal diacritics are also omitted in unpointed texts!

Matres lectionis & vowel pointing

Matres lectionis

/w, v/ וּ /u/ /o/

/j/ יּ /i/

/h/ הּ /a/

Neqqudot on mater lectionis vav

/u/ וּ

/o/ וּ

Neqqudot

/a/ אַ אֵ אִ אֹ

/e/ עַ עֵ עִ עֹ

/i/ יַ יֵ יִ יֹ

/o/ וַ וֵ וִ וֹ

/u/ וּ

/Ø, ə/ ׀

בַּ	בִּי	בֻּ
⟨b _a ⟩	⟨b _i ⟩	⟨b _u ⟩
/ba/	/bi/	/bu/

בָּה	בִּי	בֻּ
⟨h b⟩	⟨y b⟩	⟨w b⟩
/ba:/	/bi:/	/bu:/

or

בֵּה	בִּי	בֻּ
⟨h ^a b⟩	⟨y _i b⟩	⟨w _u b⟩
/ba:/	/bi:/	/bu:/

דָּג

/daɡ/

‘fish’

תִּרְנִית

/toʁnit/

‘program’

חֹכְמָה

/χoxma/

‘wisdom’

Dagesh

- The *dagesh* is a dot placed inside a consonant
- Historically, this indicated a **geminate** (long) consonant
 - Any consonant could be long or short!

בֿ	כֿ	פֿ	תֿ	מֿ	דֿ	לֿ	...
/bb/	/kk/	/pp/	/tt/	/mm/	/dd/	/ll/	
ב	כ	פ	ת	מ	ד	ל	...
/v/	/χ/	/f/	/t/	/m/	/d/	/l/	

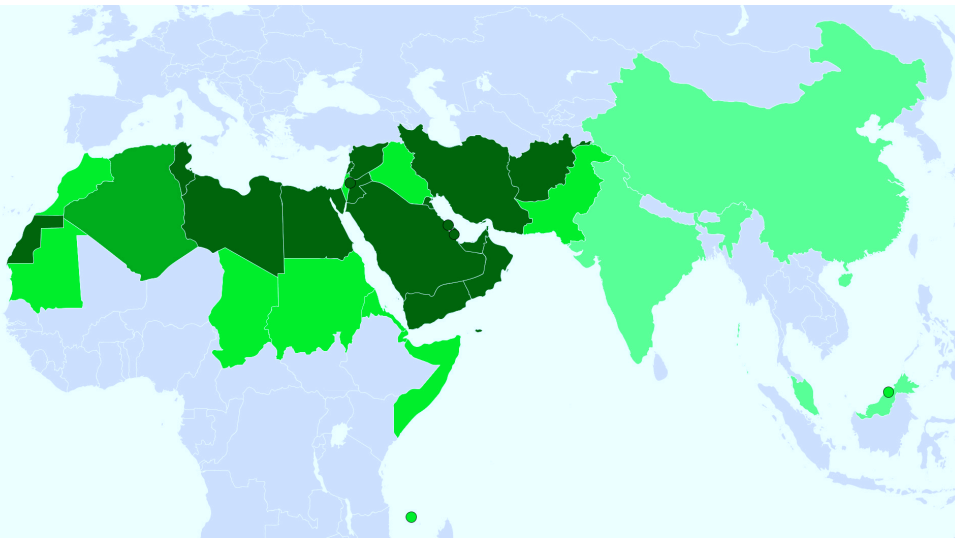
Dagesh

- **Sound change:** some short consonants became fricatives, but long ones did not
- Modern Hebrew does not have geminates anymore, but the stop/fricative distinction remains
 - Dagesh does not change modern pronunciation for other graphemes

בּ	כּ	פּ	(תּ)	מּ	דּ	לּ	...
/b/	/k/	/p/	(/t/)	/m/	/d/	/l/	
ב	כ	פ	(ת)	מ	ד	ל	...
/v/	/χ/	/f/	(/s/)	/m/	/d/	/l/	

(The /s~/t/ alternation only occurs in dialects of Ashkenazi Hebrew)

Arabic



■ only official script

■ only official script; others recognized

■ one of the official scripts

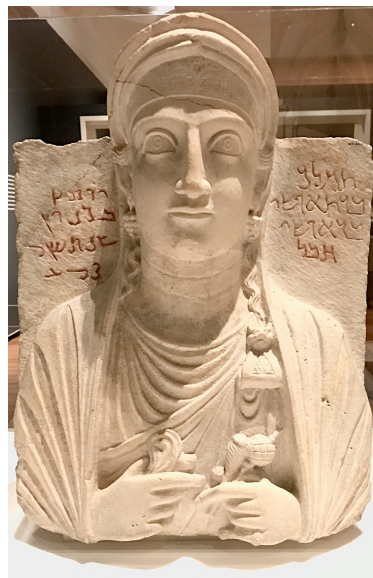
■ alternative or recognized sub-nationally

Versions of Aramaic script

- The daughter scripts of Aramaic arose through regional variants of the script
 - Palmyrene → Syriac
 - Nabatæan → Arabic



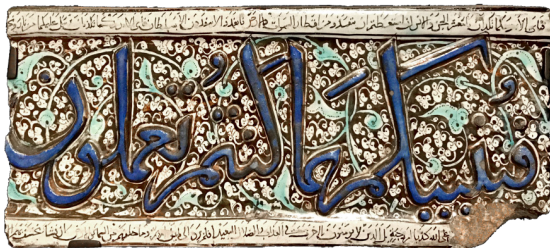
Tomb inscription from Mada'in Saleh, 26 AD
Nabatæan Aramaic



Tomb relief from Palmyra, 123 AD
Palmyrene Aramaic

Arabic script

- Based on a cursive form of Nabatæan Aramaic, ~200 AD
 - However, Aramaic has 22 letters & Arabic has 28 consonants
- Arabic writing as we know it today only begins to appear with the advent of Islam in 622
 - Cursive abjad with 18 basic letters (رَسْم <rasm>)
 - Dots differentiated these basic shapes to form more letters, forming 28 consonant graphemes overall



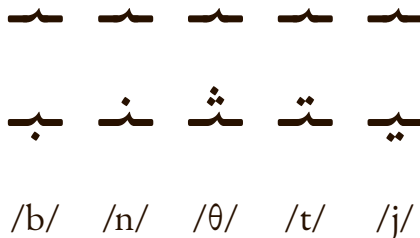
Rasm

- Many Arabic graphemes share the same base shape (*rasm*, “outline”)
- Dots are used to distinguish graphemes that have the same or similar base shape (*rasm*)



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Ligatures

- Arabic script is cursive
 - Obligatory non-structural ligatures
 - Graphemes are joined together according to allographic rules
 - Shape of a letter depends on position in a word: initial, medial, final, isolated

- Recall that ligatures in English script are optional and **non-structural** (aesthetic):
 - fi fl ffi ffl (common)
- **Structural ligatures** form distinct graphemes: treated as one unit
 - e.g. Danish ⟨æ⟩, which is its own letter, ordered after ⟨z⟩

ב	בבב	⟨b⟩	ا	ا	⟨'⟩	د	د	⟨d⟩
נ	נננ	⟨n⟩	ل	للل	⟨l⟩	ذ	ذ	⟨dh⟩
ת	תתת	⟨t⟩	ك	ككك	⟨k⟩	ر	ر	⟨r⟩
ث	ثثث	⟨th⟩	ع	ععع	⟨'⟩	ز	ز	⟨z⟩
י	ייי	⟨y⟩	غ	غغغ	⟨gh⟩	و	و	⟨w⟩
ص	صصص	⟨s⟩	ف	ففف	⟨f⟩	ح	ح	⟨h⟩
ض	ضضض	⟨d⟩	ق	ققق	⟨q⟩	خ	خ	⟨x⟩
ط	ططط	⟨t⟩	م	ممم	⟨m⟩	ج	ج	⟨j⟩
ظ	ظظظ	⟨z⟩	ه	ههه	⟨h⟩	ء	ء	⟨'⟩
ס	ססס	⟨s⟩						
ש	ששש	⟨sh⟩						

Matres lectionis in Arabic

- Arabic also employs matres lectionis
- Modern Standard Arabic has long and short vowel phonemes:

/i/, /i:/ /u/, /u:/
/a/, /a:/

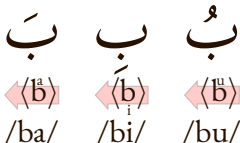
- Long vowels always written with matres lectionis

ي ا و
/i:, j/ /a:/ /u:, w/

- ⟨ل⟩ was traditionally /ʔ/ or a mater lectionis for /a:/, but is so commonly used as the vowel that the *hamza* diacritic ⟨ء⟩ is added to indicate the glottal stop: ⟨لْ⟩

Vowel diacritics

- Optional diacritics to write short vowels
- Only used in certain contexts, similar to Hebrew
 - Religious texts, children's books, learning materials



(Note that ←arrows mark non-standard illustrative transliterations, meant to help you parse the graphemes more easily. Your own transliterations should follow Roman alphabet conventions.)

Matres lectionis vs. vowel diacritics in Arabic

- Long vowels are written with matres lectionis, but diacritics may also be added (rarely)

با	بي	بو
⟨'b⟩	⟨y b⟩	⟨w b⟩
/ba:/	/bi:/	/bu:/



or

بَا	بِي	بُو	بَ	بِ	بُ
⟨'b ^a ⟩	⟨y b _i ⟩	⟨w b ^u ⟩	⟨b ^a ⟩	⟨b _i ⟩	⟨b ^u ⟩
/ba:/	/bi:/	/bu:/	/ba/	/bi/	/bu/

- Short vowels will *only* use vowel diacritics in Arabic, never matres lectionis

Other diacritics

- To indicate that there is no vowel, a *sukun* diacritic (like a zero) is added

 <p>كِتَابٌ</p> <p>⟨ b⁰ t^a kⁱ ⟩</p> <p>/kita:b/</p>	 <p>خُمْسٌ</p> <p>⟨ s⁰ m⁰ x^u ⟩</p> <p>/xums/</p>
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- To indicate a long (geminate) consonant, a *shadda* diacritic is added



كُتَّابٌ 'writers'

⟨ b⁰ t^{a:} k^u ⟩

/kut:a:b/

Other diacritics

- Can be useful in disambiguating words:

مَدْرَسَة

/madrasa/

‘school’

مُدرِّسَة

/mudar:isa/

‘teacher (female)’

Other diacritics

- Can be useful in disambiguating words:

مَدْرَسَة	مُدرِّسَة
/madrasa/	/mudar:isa/
‘school’	‘teacher (female)’

- Without diacritics...

مدرسة = مدرسة

Other diacritics

- Arabic also has special diacritics for indefinite suffixes
- These are sensitive to morphology: they mark the noun's **case**
- Look like doubled versions of the ⟨a⟩, ⟨i⟩, ⟨u⟩ diacritics!
- Not phonographic!
 - These are optional **bound morphograms**

Nominative (subject)	۞	كِتَابًا	/kita:b-un/
Accusative (object)	=	كِتَابًا	/kita:b-an/
Genitive (possessive)	=	كِتَابًا	/kita:b-in/

Decoration

قواعد الخط العربي

1. Basic letterforms

قواعد الخط العربي

2. Diacritic Dots

قواعد الخط العربي

3. Vocalization marks in form of vowels

قواعد الخط العربي

4. Decorative elements (without mentioning the numerals, punctuation marks and symbols).

Calligraphy

- Islamic calligraphy is a major form of artistic expression
- Figurative art seen as idolatry: art through text
- Deep association to the Qur'an
- (We'll talk about calligraphy in general later in the course!)



Arabic-based scripts

- Persian (Farsi) added some graphemes:

Graph.	Phon.	Name	Arabic
پ	/p/	<i>pe</i>	ب /b/
چ	/tʃ/	<i>che</i>	ج /dʒ/
ژ	/ʒ/	<i>zhe</i>	ز /z/
گ	/g/	<i>gaf</i>	ک /k/

- Uses existing Arabic stylistic elements
- Whole free graphemes, *not* bound graphemes (diacritics)

Arabic-based alphabets

- Alphabetic scripts were a natural historic development from abjads...
 - Just as Yiddish turned the Hebrew script into an alphabet, Uyghur script is an alphabetization of Arabic
 - N'ko is a relatively modern (1949) alphabet for African languages inspired by Arabic
 - We'll talk about these more next week



Other Abjads

Syriac

- Recall that we have three different scripts used for Syriac
- Apart from some differences in letter forms, we have an interesting difference in vowel marking...
 - ʾEṣṭrangēlā (“rounded”): Classical Syriac
 - Maḏnhāyā (“eastern”): Eastern Syriac
 - Serṭā (“line”): Western Syriac

ʾEṣṭrangēlā ܠܒܪܝܬܐ ܕܗܘܐ ܕܡܠܬܐ

Maḏnhāyā ܠܒܪܝܬܐ ܕܗܘܐ ܕܡܠܬܐ

Serṭā ܠܒܪܝܬܐ ܕܗܘܐ ܕܡܠܬܐ

brēšit iṭawhy hwā melṭā

“In the beginning was the Word”

Syriac vowels

- Eastern marks vowels with dots
 - Thought to have influenced Hebrew *neqqudot*
- Western uses Greek vowels as diacritics!

ܐ	ܐ̇	ܐ̈	ܐ̉	ܐ̊	ܐ̋	ܐ̌	ܐ̍	ܐ̎				
	[i]	[e]	[ɛ]	[a]	[ɑ]		[u]	[o]	/a/	A		
									/ɑ/, /o/	α		
									/i/	H		
									/ε, e/	ε		
									/u/	Υ + o		
ܒ	ܒ̇	ܒ̈	ܒ̉	ܒ̊	ܒ̋	ܒ̌	ܒ̍	ܒ̎				
/b/	/bi/	/be/	/ba/	/ba/	/w/	/u/	/o/					

Ugaritic

- Flash back to cuneiform...
- Ugaritic has the same order as other North Semitic languages
- Unusual among the Semitic languages for having graphemes for initial vowels (after glottal stop)
- Grapheme correspondence to Semitic is tenuous
 - ≡ ⟨h⟩ resembles Phoenician 𐤀 and Greek cognate Ε
 - ➤ ⟨w⟩ resembles Phoenician 𐤁 and Greek cognate Υ (turned)
 - ≡ ⟨p⟩ resembles Greek cognate Π (turned)
 - < ⟨ʿ⟩ resembles Aramaic ܥ
- Most other forms appear novel

Ugaritic

	Phœ.	Aramaic	Ugaritic
<i>ʾa</i>	𐤀	𐤁	𐤁
<i>b</i>	𐤁	𐤂	𐤂
<i>g</i>	𐤃	𐤃	𐤃
<i>ḡ</i>			𐤄
<i>d</i>	𐤄	𐤄	𐤄
<i>h</i>	𐤅	𐤅	𐤅
<i>w</i>	𐤆	𐤆	𐤆
<i>z</i>	𐤇	𐤇	𐤇
<i>ḡ</i>	𐤈	𐤈	𐤈
<i>t</i>	𐤉	𐤉	𐤉
<i>y</i>	𐤊	𐤊	𐤊
<i>k</i>	𐤋	𐤋	𐤋
<i>š</i>			𐤌
<i>l</i>	𐤍	𐤍	𐤍
<i>m</i>	𐤎	𐤎	𐤎

	Phœ.	Aramaic	Ugaritic
<i>d</i>			𐤏
<i>n</i>	𐤐	𐤐	𐤐
<i>z</i>			𐤑
<i>s</i>	𐤑	𐤑	𐤑
<i>ʿ</i>	𐤒	𐤒	𐤒
<i>p</i>	𐤓	𐤓	𐤓
<i>ṣ</i>	𐤔	𐤔	𐤔
<i>q</i>	𐤕	𐤕	𐤕
<i>r</i>	𐤖	𐤖	𐤖
<i>t</i>	𐤗	𐤗	𐤗
<i>ḡ</i>			𐤘
<i>t</i>	+	𐤙	𐤙
<i>i</i>			𐤚
<i>u</i>			𐤛

Tifinagh

- This is the first non-Semitic language we've seen today
- Tifinagh is used to write **Berber** languages (Northern Africa)
- This is an abjad derived from Aramaic
- Right to left, like Aramaic
- Used ~300 BC – 300 AD



	Phœ.	Tif.
<i>a</i>	Ⲱ	◊
<i>b</i>	ⲱ	⊙
<i>g</i>	Ⲳ	ⲓ
<i>d</i>	ⲳ	ⲛ
<i>h</i>	Ⲵ	⋮
<i>w</i>	ⲵ	⋮
<i>z</i>	Ⲷ	Ⲁ
<i>ž</i>		Ⲁ
<i>ḥ</i>	Ⲹ	⋮
<i>ṭ</i>	ⲹ	Ⲁ
<i>y</i>	Ⲻ	Ⲁ
<i>k</i>	ⲻ	⋮
<i>l</i>	Ⲽ	Ⲁ

	Phœ.	Tif.
<i>m</i>	ⲽ	Ⲁ
<i>n</i>	ⲿ	Ⲁ
	ⲿ	Ⲁ
<i>s</i>	ⲿ	Ⲁ
<i>ʿ</i>	ⲿ	
		⋮
<i>p</i>	ⲿ	Ⲁ
<i>ṣ</i>	ⲿ	
<i>q</i>	ⲿ	⋮
<i>g</i>		Ⲁ
<i>r</i>	ⲿ	Ⲁ
<i>ṯ</i>	ⲿ	
<i>sh</i>		Ⲁ
<i>t</i>	ⲿ	Ⲁ



Inscription from I-n-Tédéni in eastern Mali

Neo-Tifinagh

- Tifinagh revived in 20th century as a conventional alphabet
 - Official writing system for Berber in Morocco
- Left to right!
- Vowels marked!



Neo-Tifinagh

a ا	b ب	g گ	d د	d ض	e ة	f ف	k ك	h ه	h ح	ε ع	kh خ	q ق	ي ا
○	⊖	⋈	∧	E	⊘	⌌	⌒	⊖	∕	⌒	⋈	⌒	⋈
j ج	l ل	m م	n ن	u و	r ر	r ر	gh غ	s س	s ص	ch ش	t ت	t ط	w و
I	⌌	⌒	∣	⊘	○	Q	⌒	⊖	⊖	⊖	+	E	⌒
y ي	z ز	z ز	w	b ب	g گ	dj ج	dj ج	d د	d ض	k ك	k ك	h ه	h ه
⋈	⋈	⋈	⌒	⊕	⋈	⋈	⌒	V	≡	∴	⌒	⊖	∴
z ز	kh خ	q ق	j ج	j ج	ny	ng لك	p پ	gh غ	dj ج	t ت	ch ش	v و	
↑	∴	∴	⋈	#	≠	!	⌒	∴	∴	⋈	⊖	Δ	

Transcription

الجبر

كباب

موميا

Transcription

الجبر
⟨ʔljbr⟩, ⟨aljbr⟩

كتاب
⟨kbʔb⟩, ⟨kbab⟩

موميا
⟨mwmyʔ⟩, ⟨mumia⟩

Transcription

الجبر
⟨ʔljbr⟩, ⟨aljbr⟩
algebra

كباب
⟨kbʔb⟩, ⟨kbab⟩
kebab

موميا
⟨mwmyʔ⟩, ⟨mumia⟩
mummy

Readings & Next Time

- Make sure you have read Chapters 8 & 9 of the textbook for next time



Quiz 1

- Questions?
- The answers to the remaining questions will be available to you for 48 hours starting the end of this class.
- If you have a regrading request, please send me an email by *Wednesday, February 9th at 1pm EST*. I *will not* be taking any regrading requests after this day and time. Please include the following information in your email:
 - Your full name and student number
 - The question you'd like regraded
 - Detailed reason for your regrading request
- Requesting regrading is **not** a guarantee that your marks will increase; there is a chance that the marks will remain the same or may *lower* as a result of the regrading.

Assignment 1

- Assignment 1 is posted now on Quercus
- Due: **Monday, February 14th at 10am**
- To be completed and submitted online on Quercus, no other format (i.e. an emailed PDF, etc.) will be accepted!
- Keep your answers to the point! Point form is fine.
- If you require accessibility accommodations, please get in touch with me *as soon as possible* (i.e. in the next few days) and not a day before/or on the day of the due date!
- *Please read the instructions before you start the assignment and before you submit it!*