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History of the Ancient and Modern Hebrew Language

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Linguistic Changes Affecting the Pronunciation of Biblical Hebrew

2000 B.C.E. - 850 C.E.

According to Various Scholars

(N.b. I have appended links to my division by linguistic *phases*)

1. [Bergstärsser](#)
2. [Harris](#)
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4. [Blau](#)
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1. Bergstärsser ([Bergstärsser 1918-29²](#)) - Changes in chronological sequence

a) c. 2000 - c. 900 B.C.E. (my [BHA phase 1](#), [BHA phase 2](#))

- Initial [w] > [y]

- Final [iy] > [ê]
- Case ending vowels of noun dropped in construct
- Frequently in closed stressed syllables [i] > [a]
- /i/ pronounced [ɛ]; /u/ pronounced [o]
- [a ʾ] not immediately followed by a vowel shifts to [â]
- In stressed syllables: â/ā [a:] > [o:]³
- /t/ > /s/; /d/ > /š/; /ð/ > /z/
- [n] immediately preceding a consonant assimilates resulting in the gemination of the following consonant

b) c. 900 - c. 600 B.C.E. (my BHA phase 3)

- Dropping of final short vowels
- [y] and [w], directly following a consonant, and now word final after the loss of the final short vowels, shift
 - [y] > [i] e.g. 'bikyu > 'biky > 'bəkî כִּי = "crying"
 - [w] > [ū] e.g. 'śaḥwu > 'śaḥû (Tib.ᠰᠢᠬᠤ) = "swimming".⁴
- 'ʾ/ʾ directly following a consonant, and now word final after the loss of the final short vowels was dropped in speech though maintained in writing as 'ḥit'u > 'ḥit' > 'ḥeṭ = "sin"
- Stressed short vowels lengthened while being reduced to [ə] when unstressed.
- [aw] > [ô];
- [ay] > [ê];
- [θ] > [š]
- [h] between 2 vowels usually quiesced.

c) c. 600 B.C.E.- c. 200 C.E. (my BHA phase 4)

- [ś] > [s]
- [ḥ] > [h]
- [ǵ] > [ç]

- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them
e.g. /ˈmalk/ > /ˈmalɛk/
- Spirantization of the *bgdkpt* consonants
- Middle *shwa* quiesces
- A number of consonants lose the ability to geminate when followed by [ə]
- *shwa naʿ*[ə] > *shwa nah*[∅] i.e. quiesces.
- Reduction of word-final doubled consonants
- Helping vowels are inserted particularly before and after gutturals

2. Harris (Harris 1939, 1941⁵) - Changes in chronological sequence

a) c. 2000 - c. 900 B.C.E. (my BHA phase 1, BHA phase 2)

- Initial [w] > [y]
- [n] immediately preceding a consonant assimilates resulting in the gemination of the following consonant
- [aw] > [ô]; [ay] > [ê] (These shifts were not complete in Jerusalem dialect)
- /d/ > /ṣ/
- /ð/ > /z/
- /t/ > /ṣ/
- Case ending vowels of noun dropped in construct
- [aʾ] not immediately followed by a vowel shifts to [â]
- [a:] > [o:]
- Stress generally falls on the syllable before the last vowel.
- The vowel before the second person pronominal suffix becomes [ə] e.g. 'your (ms) horse'
 - nominative - sūsuka > sūsəka
 - accusative - sūsaka > sūsəka
 - genitive - sūsika > sūsəka
- [h] between 2 vowels mostly quiesces.
- [y] and [w] between 2 vowels frequently quiesces.
- The Suffix /t/ in suffix conjugation of verb (3rd fem. sing.) becomes /a:/

- Frequently in closed stressed syllables [i] > [a] e.g. šō'mirt > šō'mart MT שְׁמִירַת
- Almost all final short vowels are dropped.
- In closed stressed syllables [i] > [e]; [u] > [o]
- Stressed short vowels are "stress lengthened" really change in timbre: [i] > [e]; [u] > [o]
- [θ] > [š]

b) c. 900 - c. 600 B.C.E. (my [BHA phase 3](#)) - Changes in chronological sequence

- [h]⁶ > [ħ]
- [g]⁷ > [g]
- Short vowels reduced to [ə] when unstressed.
- [Spirantization of the bgdkpt consonants](#)
- [The suffix /at/ of fem. sing. noun](#) becomes /a:/ e.g. mal'kat > mal'ka: = "queen"
- Many penult stressed words shifted to ultimate stress.
- Syllable final:
 - [iˈ] > [ê]
 - [uˈ] > [û]
 - [rˈ] > [r]
 - [ūˈ] > [ū]
 - [āˈ] > [ā]

c) c. 600 B.C.E.- c. 200 C.E. (my [BHA phase 4](#)) - Changes in chronological sequence

- [ś] > [s]
- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them e.g. /malk/ > /mɛlɛk/
- [y] and [q] lose the ability to [geminate](#) when followed by [ə]
- [Gemination](#) of word final consonants disappears.
- Helping vowels are inserted before and after gutturals
- Unstressed [a] in closed syllables shifts [a] > [i]
- [a:] > [o]

- Gemination of gutturals disappears.
- In certain circumstances -

[a] > [ɛ]

[i] > [ɛ]

- Gutturals affect proximate vowels.

3. Birkeland (Birkeland 1940⁸) - Changes not in chronological sequence

a) c. 2000 - c. 900 B.C.E. (my [BHA phase 1](#), [BHA phase 2](#))

- [aw] > [ô]; [ay] > [ê] (In certain conditions these were later restored)
- Short vowels immediately followed by syllable final ^ʾl⁹ lengthen.
- [a:] > [o:]
- [h] between two vowels quiesces (In certain conditions these were later restored)
- [y]¹⁰ and [w] between 2 vowels quiesces. When two vowels brought into contact by this, they merge into a monophthong e.g. [a] + [u] > [o:]
- [i] > [e]
- [u] > [o]
- Stressed short vowels lengthen
- Some unstressed short vowels reduced to [ə].

b) c. 900 - c. 600 B.C.E. (my [BHA phase 3](#))- Changes not in chronological sequence

- Remaining word final short vowels dropped.
- Pretonic short vowels lengthen. E.g. /qa'tal/ > /qa:tal/ MT בֹּרַךְ
- Stress becomes phonemic
- Words ending in [a:], [i:] and [u:] become ultimately stressed
- Differences in vowel length remain but vowel length no longer phonemic

c) c. 600 B.C.E.- c. 200 C.E. (my [BHA phase 4](#))

- Changes not in chronological sequence

- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them
e.g. [/ˈmalk/ > /ˈmɛlɛk/](#)
- The distinction between the categories of *shwa* (silent, median, vocal) is lost.
- [Gemination](#) of word final consonants disappears.
- Helping vowels are inserted before and after gutturals
- In practice vowel length distinctions disappear in full vowels. However the half-vowels - e, ä, ü, ö, ð - remain shorter than the full vowels.

4. Blau ([Blau 1972, 1976, 1993, 1995, 1998, 2010](#))

a) [c. 2000 - c. 900 BCE?](#) - *Blau's Stress Periods*¹¹ [One](#) and [Two](#)¹² - Changes in chronological sequence

- Stress either -

1. on penultimate syllable, if it was long closed or containing a long vowel, and otherwise on the antepenult. OR,
2. The long vowel most closely preceding the case and mood endings the syllable containing that vowel is stressed. If there is no such long vowel, the syllable preceding the case and mood endings is stressed.¹³

- Stressed [ʾ/ɔ̄/](#) closing a syllable after an [ʾ/ɔ̄/](#) opening that syllable undergoes dissimilation with compensatory lengthening of the vowel between them - i.e. [aʾ] > [ā] > [ō] e.g. - /ʾaʾhuð/ > /ʾāhuð/ > /ʾōhuð/ > /ōhuð/¹⁴ >> תִּקַּח "I shall take".

- [ʾ/ɔ̄/](#) closing a stressed syllable was elided with compensatory lengthening of the preceding vowel e.g. 'raʾšu > 'rāšu "head".

- Stressed [ā] shifts to [ō] prior to stress shift

- *Axial Change* - Stress becomes uniformly penultimate. Generally same syllables stressed as in TB Hebrew¹⁵.

- Stressed [ā] shifts to [ō] subsequent to stress shift

- *Axial Change* - [Final short vowels elided in 3 stages:](#)

1. nouns (including participles) in construct
2. verbs
3. nouns in absolute state. Following the elision of short final vowels in the absolute state, short vowels in the preceding open syllable which now had become closed, underwent [compensatory lengthening](#)

a > a:

i > e:

u > o:

As for the dropping of the final short vowels, it took place apparently in three stages. At first, nouns in *status constructus* dropped their final short vowels ..., then verbs¹⁶ and at last nouns (including participles) in *status absolutus*.¹⁷ Owing to the elision of short final vowels in the *status absolutus*, short vowels in the preceding open syllable which now had become closed, were compensatorily lengthened (viz. *a* to *a*; *i* to *e*; and *u* to *o*; as '*dagu*' > ¹⁸דָּג "fish" [Cf. [Harris 1939](#) pp. 60-62] (as against '*qallu*' > קָל "light", because it was originally closed); *ya'sinu* > ¹⁹יָשַׁן "sleeping"; *ya'guru* > ²⁰יָגַר "being afraid"). This compensatory lengthening did not take place during the dropping of the final short vowels from the *status constructus* and verbs, and since during its operation these word classes already exhibited closed final syllables, they were not lengthened at all (therefore: שָׁמַר; דָּגַר "he kept", with final short vowels, viz. *pataḥ*. Since the *šere* and *holem* in ²¹יָשַׁן "he slept" and ²²יָגַר "he was afraid" correspond to *pataḥ*, they have to be considered short as well, whereas the same words when serving as participles contain long *šere* and *holem*, similarly נִשְׁמַר *qṭl* as against the participle נִשְׁמָר, נִבְדָּל / הִבְדִּיל *qṭl/yqṭl* against the participle נִבְדָּל).

([Blau 1976](#) p. 31).

- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them

e.g. [/malk/](#) > [/mɛlɛk/](#) ([Blau's revised opinion](#)²³)

- Some diphthongs (vowel immediately followed by non-[geminated](#) consonant) reduced to long vowels²⁴

1. [uw] > [û] e.g. *huwšabtɛm* > *hūšabtɛm* הוּ שְׁבַתְּם = 'you were made to dwell'

2. [iy] > [î] e.g. *yiybaš* > *yībaš* יֵיבַשׁ = 'it will be dry'.

3. [iw] > [û] e.g. *yiwkal* > *yūkal* יוּכַל = 'he was able'.

4. [uy] > [î] e.g. *wayyuyšam* > *way'yīšɛm* וַיִּשֶׂם = 'he put'.

5. [iwy] > [ûy] > [iyy] > [î] e.g. *kiwy* > *kūy* > *kiyy* > *kî* כִּי = 'burning'

b) [c. 900 - c. 600 BCE?](#) [Blau's Stress Period Three](#) - Changes not in chronological sequence

Clearly the Jerusalem literary Hebrew of c. 900 - c. 600 BCE. mainly or entirely corresponds to [Blau's Stress Period Three](#). However, it is unclear to me to what extent Blau sees late developments in [Stress Period Two](#) extending into the First Temple Period and early developments in [Stress Period Four](#) commencing before the exile.

c) c. 600 BCE.- c. 850 C.E. - *Blau's Stress Periods Four and Five*

- In the fourth stress period there was a tendency toward stressing of the last syllable. With very few exceptions open penultimate short stressed syllables were not preserved. The vowel changes which accompanied this stress shift were different from those in the preceding stress period.

- In the prefix conjugation, the stress-distinction between the jussive and preterite on the one hand and the imperfect on the other is lost²⁵.

- In the prefix conjugation of most root types and stems stress in the second person feminine singular, the second person feminine plural and the third person masculine plural moves to the final syllable in the contextual form but not in the pausal form due to the pausal lengthening of the stressed vowel .

- In the suffix conjugation of most root types and stems stress in the third person feminine singular and the third person plural moves to the final syllable once again pausal lengthening blocks this shift. E.g.

contextual *qa:'tala: > *qa:tə'la: > qâte'lâ but

pausal *qa:'ta:la: > qâ'tâlâ

contextual *qa:'talū > *qa:tə'lū > qâte'lu but

pausal *qa:'ta:lū > qâ'tálu

- The *waw conversive* of the suffix conjugation became mainly ultimately stressed thus becoming distinct from the contextual form i.e. qa:'talī = "I killed"; wəqa:tal'ī = "and I will kill"

- Diphthongs [aw] and [ay] preserved "... when stressed and followed by a consonant belonging to the same syllable (in which case the diphthong was later broken up by the intrusion of an ancillary vowel ... as 'bayt "house" (> בַּיִת), 'mawt "death" (> מָוֹת), further when followed by *w/y*, as צוֹ / צוֹה "order!", 'hayy > חַי "alive", חַיִּים "life"²⁶.... In open syllables or when unstressed, they shift to ô/ê, as או "or", the *status constructus* מוֹרֵד / בַּיִת...."²⁷

- See [Blau 1995](#) for:

[aw] > [ô] before the MT orthography fixed;

[ay] > [ê]; after the MT orthography fixed

- Originally short vowels lengthened in three cases (in addition to pausal lengthening ...)

- in originally closed syllables, which, by elision of the closing consonant, had become open

- in originally open syllables in nouns in *status absolutus* which, by dropping of final short vowels, had become closed final syllables;

- in pretonic open syllables ([pretonic lengthening and doubling](#)).²⁸

- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them e.g.

/malk/ > /mælk/ (Blau's earlier opinion (= [Period Five](#)) opinion²⁹)

5. Sáenz-Badillos³⁰ ([Sáenz-Badillos 1993](#)) - Changes not in chronological sequence

a) c. 2000 - c. 900 BCE (my [BHA phase 1](#), [BHA phase 2](#))

- N.b. In dialect(s) reflected in [Tel el-Amarna Letters](#) (mid-fourteenth c. BCE)³¹:

- development of [e]
- [aw] > [ô];
- [ay] > [ê]
- In stressed syllables [a:] > [o:]
- relative particle /'ašar/
- causative *hiqtil*
- Initial [w] > [y]; [aw] > [ô]; [ay] > [ê] (These shifts were not complete in Jerusalem dialect)
- [a:] > [o:]
- /ħ/ > /š/
- /d/ > /š/
- /ð/ > /z/
- /ħ/ > /š/
- Development of cohortative
- Disappearance of *Shafel* causative
- Use of article
- [ki] > [ti] as suffix 1st singular of suffix conjugation
- Preterite *yaqtul* replaced, except for its use in [waw conversive](#), by suffix conjugation. This was eventually extended, by analogy to the suffix conjugation.
- [n] immediately preceding a consonant assimilates resulting in the [gemination](#) of the following consonant
- Dropping of final short vowels
- Elision of feminine marker [t] in noun and verb. N.b. - this could only have occurred after the dropping of the final short vowels

b) c. 900 - c. 600 B.C.E. (my [BHA phase 3](#)) - He does not explicitly deal with changes during this period.

c) c. 600 B.C.E.- c. 850 C.E. (my [BHA phase 4](#), [BHA phase 5](#), [BHA phase 6](#))

- Elision of syllable or word-final *aliph*. This probably occurred early in this period.
- [Spirantization of the *bgdkpt* consonants](#)
- [ħ] > [h]
- [ǰ] > [ç]
- [š] > [s]
- When a word ended in a cluster of 2 consonants a helping vowel is inserted between them e.g. [/malk/ > /mælek/](#)
- [Pretonic Vowel Lengthening](#) and doubling
- [Philippi's law](#) by which short [i] changes to [a] in closed stressed syllables
- [Law of attenuation](#) by which short [a] in closed unstressed syllables changes to [i]
- Reduction of certain vowels to *shewa* or, in the environment of a laryngeal consonant, to another ultra-short vowel
- Reduction of final doubled consonants
- Vowel changes before and after the laryngeals
- Reduction of double laryngeals and of double [r]
- Disappearance of intervocalic [h]
- Weakening of the pharyngeal and laryngeal consonants
- Possibly a further contraction of diphthongs or the use of anaptyctic vowels (*'baytu > 'bayit, *'mawtu > 'māwet), etc

6. Manuel ([Manuel 1995](#) p. 265) - Changes in chronological sequence

a) [Blau's Stress Period 1](#) (c. 2000 - c. 1500 BCE)

- accent on long penult or on antepenult
- ^ʔ/ / closing a stressed syllable was elided with compensatory lengthening of the preceding vowel e.g.s. 'raʔšu > 'rāšu "head"; 'yaʔmaru > 'yāmaru "he says/will say". [[n](#). Blau places this change in the [second period](#) ... but it

must have begun before stress fixed on the penult to account for the change in the PC-G of I-' verbs (e.g., 'ya'maru).]

- Stressed [a:] shifts to [o:] e.g. 'rāšu > 'rôšu "head"; 'yâmaru > 'yômaru "he says/will say".

- Dissimilation the /a/ of the discontinuous pronominal morpheme in the **PC** changed to /i/ (e.g. 'yaš'alu > 'yiš'alu "he asks/will ask") when the theme vowel was also /a/³². i.e. the 3 forms of the *qal prefix conjugation* became -

yaqtulu

yaqtulu

yaqtulu

- The 3 moods are

yaqtulu - imperfect/indicative *yaqtula* - volitive/subjunctive

yaqtul- preterite and jussive

yaqtuln(n)a - energetic

- [aw] > [ô]; [ay] > [ê] when unstressed egs.

- **Medial unstressed heterogeneous diphthong contraction.** In a medial syllable, an unaccented **PS** /a/ followed by an unvoiced heterogeneous semi-vowel contracted with the semi-vowel to form a secondary long vowel

[aw] > [ô] e.g., *mawšabu > *mô'šabu = "dwelling"; *mawtu > *môtu = "death of"

[ay] > [ê] e.g. *hayṭiba > *hê'ṭiba = "he did well"; *baytu > *bêtu = "house of"

- Final diphthongs actually triphthongs with the inflectional morpheme (case or mood), and now accented, unreduced. E.g. *mawšabu (root wšb > yšb) = "seat".

- **Homogeneous diphthong³³ contraction.** Accented **PS** short vowel followed by an unvoiced homogeneous consonant and another consonant (other than a pharyngeal or [r]) contracted with the first consonant to form the corresponding long vowel.³⁴ Examples -

[a] > [ā]

[iy] > [ī]³⁵ ḥa'šī³⁶ = "half"; yihī³⁷ = "may he be"

- [a] in word-final position did not contract but rather quiesced. Examples -

- mō'šā³⁸ = "outlet"

- maś'šā³⁹ = "load of"

- ša'ba⁴⁰ = "army"

- qa'ra⁴¹ = "he read"

b) Blau's Stress Period 2 (c. 1500 - c. 900 B.C.E.)

- **accent fixed on penult** [*n*]. At this point stress becomes phonemic; that is, the contrast (stressed versus unstressed) marks a difference in the meaning of otherwise identical forms, such as when otherwise identical forms, such as when verbs lose their final mood vowels (e.g., [imperfect versus jussive or preterite](#) 3ms PC-G: yiš'mur [< yiš'muru] versus 'yišmur; II-w 3fs SC-G versus fs Ptcpl-G: 'qāmā versus qā'mā).]

*mawšabu > *môšabu = "dwelling"

*ša'daqtu > *šada'qtu "righteousness".

*maškanu > *maš'kanu "tabernacle".

*banaya > *ba'naya = "he built";

*šamarū > *ša'marū "they guarded"

*dabbara > *dab'bara = "he spoke"

*yiš'alu > *yiš'al "he asks/will ask".

*yômaru → *yô'maru "he says/will say".

*yašmuru → *yaš'muru "he guards/will guard"

c) Blau's Stress Period 3 (c. 900 - c. 600 B.C.E)

- **accent on ultima as short vowels apocope and accent becomes phonemic**

- **final short vowels lost in construct e.g.s** - *môšabu > môšab = "dwelling of"; *bêtu > bêt = "house of".

- **final short vowels lost in verb e.g.s** -

*ba'naya > *ba'nay > *ba'na = "he built";

*dab'bara > *dab'bir = "he spoke";

*yiš'alu > yiš'al "he asks/will ask".

yô'maru > yô'mar "he says/will say".

*yaš'muru > *yaš'mur > *yiš'mur "he guards/will guard"

- **Final diphthong shifted [ay] > [ê] regardless of stress** e.g. dual and bound marker /ay/ mōšəbê (< mōšabay) = "seats of". This includes final diphthongs previously uncontracted due to stress contracted e.g. *yib'nayu > *yib'nay > yib'nê

- final short vowels lost in absolute form of nouns/adjectives egs. -

*rôšu > 'rôš "head"

*môšabu > *môšab = "dwelling"

*baytu > *bayt = "house"

*šada'qatu > *šada'qat "righteousness".

*maš'kanu > *maš'kan "tabernacle".

*malku > *malk "king".

- Following the elision of short final vowels words previously ending with short vowels now ended with ultimately stressed closed syllables; otherwise penultimately stressed.

- Stress lengthening of non-word final vowels in absolute form of nouns/adjectives [[n](#)]. An additional shift attended the third stage of apocope: compensatory lengthening of the previous short vowel in newly (or singly) closed syllables. In the case of /a/: compensatory lengthening of the previous short vowel in newly (or singly) closed syllables. In the case of /a/ > /ā/, the new vowel fills the gap left by the phonemic change of [Period 1](#), when ā > ō. Because compensatory lengthening did not affect verbs ... there is some difficulty analyzing the non-/a/-theme vowels of verbs, which change to vowels generally considered long in other environments (e.g., dab'bir > dab'bēr, yišmur > yišmōr). Blau ([Blau 1976](#) §9.1.3.) notes the apparent lengthening of /i/ and /u/ theme vowels in 3ms SC stative verbs. Stative verbs, however, may not have had final vowels (as in Akkadian). Hence, the change in their theme vowel may be unrelated to the apocope of final vowels from transitive verbs. It is more likely that non-/a/-theme vowels in stative verbs lengthened later, by analogy, when their nominal (participle) counterparts did, yielding homographic pairs (3ms SC stative = ms Ptcpl stative; e.g., kābēd, qāṭōn). The /a/-theme stative verb did not participate in this analogous shift because its participial counterpart had a completely different vocalization (e.g., 3ms SC stative šakab versus ms Ptcpl stative šākib). This explanation is simpler than positing a special class of "short" *sere* (/ē/) and *holem* (/ō/) as some suggest (e.g., [Blau 1976](#) §9.1.3.). Egs.-

*môšab > *môšāb = "dwelling"

*maš'kan > *maš'kān "tabernacle"

*dab'bir > *dab'bēr = "he spoke"

*yiš'mur > *yiš'mo:r "he guards/will guard"

- Preposition [bi] > [ba]

- [The suffix /at/ of fem. sing. noun becomes /a/](#) e.g. *šada'qat > *šada'qa "righteousness".

- Dissimilation the /a/ of the discontinuous pronominal morpheme in the *prefix conjugation* changed to /i/ when the theme vowels were /u/, /i/. i.e. the 3 forms of the *qa/PC* became -

yiqtul

yiqtil

yiqtal

- Stress lengthening of word-final vowels in verbs and absolute form of nouns/adjectives

*šada'qa > *šada'qa: "righteousness".

*ba'na > *ba'na: "he built"

- Pretonic vowel lengthening

*šada'qa: > *šada:'qa: "righteousness".

*ba'na: > *ba:'na: "he built"

*ša'marū > *ša:'marū "they guarded"

- Propretonic vowel reduction

*šada:'qa: > šada:'qa: "righteousness".

d) Blau's Stress Period 4 (late 6th c. B.C.E. - mid-second c. C.E.)

- tone affects vowel quantity

- Words carrying stress on short open penultimate syllable shift to ultimate stress.

*ša:'marū → *ša:mə'rū "they guarded"

- Prepositions

[ba] > [bə]

[la] > [lə]

[ka] > [kə]

- Unstressed [i] > [e] e.g. [ʔil] > [ʔel] = "god"

- Some time after the Greek and Latin transcriptions of Hebrew i.e. after 400 C.E. /a:/ > /â/

e) Blau's Stress Period 5 (Manuel includes Hellenistic Hebrew in this period⁴² i.e. it covers c. third c. B.C.E. - mid ninth c. C.E.)

- /a/ elevated to /i/ in unaccented, closed syllables

*maš'ka:n > miš'ka:n "tabernacle"

*dab'be:r > dib'be:r "he spoke"

- Introduction of anaptyctic vowels - when a word ended in a cluster of 2 consonants a helping vowel is inserted between them e.g.

*bayt > 'bayit "house"

*malk > 'malək > 'mɛlək "king"⁴³

- [ā] > [ɔ] [l]. This phonemic change is part of a general practice in TH of replacing quantitative (length) distinctions with qualitative ones (Goerwitz 1990:6).]. Egs.-

*mô'šā:b > mô'šɔb = "dwelling"

*šəda:'qa: > šəɔɔ'qɔ "righteousness".

*miš'ka:n > miš'kɔn "tabernacle"

*ba:'na: > bɔ'nɔ "he built"

*ša:mə'rū > *šɔmə'rū "they guarded"

7. Rendsburg ([Rendsburg 1997, 2007](#))

a) c. 2000 - c. 900 B.C.E. - He does not deal with changes during this period.

b) c. 900 - c. 600 B.C.E. ([EBHP](#) period) - He does not deal with changes during this period.

c) c. 600 B.C.E.- c. 850 C.E. (my [BHA phase 4](#), [BHA phase 5](#), [BHA phase 6](#))

- [š] > [s]

- [h] > [h]; [ǵ] > [ç] - c. 200 BCE

- Weakening of pharyngeals and laryngeals in some areas

- [Spirantization of the bgdkpt consonants](#) - c. 400 BCE

- Development of [allophones](#) of short vowels - Before 400 CE

- [Philippi's law](#)

- [Law of attenuation between 400 and 850 CE](#)

- Velarization⁴⁴ of the [emphatics](#) under Arabic influence - c. 1000 CE

8. [Steinberg](#)

[Words Significantly Different in Pronunciation in Pre-Exilic Hebrew](#)

[With Geminated Final Consonants](#)

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¹ See also [Gibson 1965](#), [Gogel](#), [Beyer](#), [Richter](#), [Moscatti](#).

² Adapted from [Rabin 1971](#) p. 67

³ [Bergsträsser](#) §1k

⁴ [Bergsträsser](#) §17q.

⁵ [Harris](#). See also Harris' [table](#)

⁶ [h] (also transliterated as x, kh or k = [x])

⁷ [ç] = [ç], [ǵ] = [ǵ]

⁸ Adapted from [Rabin 1971](#) p. 67. I did not have access to *Akzent und Vokalismus im Althebräischen : Mit Beiträgen zur vergleichenden semitischen Sprachwissenschaft*, by Harris Birkeland, Oslo, 1940.

⁹ [ʾ] = [ʾ]

¹⁰ [y] = [j]

¹¹ The following is from [Blau 1976/93](#) pp. 30-34 -

9.1.1. In the earliest Proto-Hebrew (= pre-Tiberian) period which can be reconstructed the stress was on the penultimate syllable, if it was long closed or containing a long vowel), and otherwise on the antepenult. This explains the shift of stressed ā to ō ... in both words like לָשׁוֹן (lašōn) "tongue" < lašānu (penult stress), and כֹּהֵן (kōhēn) "priest" kāhinu, (antepenult stress). It also explains original trilateral mediae geminatae forms like קָלָל (qallū) "they were light" < qalalū (if they were not originally biliteral forms...).

9.1.2. In the next stress period, general penultimate stress prevailed. It was during this period that ʾ (ʾ) closing a stressed syllable was elided.... Since as a result of this elision raʾšu > rāšu shifted to (> rōš)... "head", the shift ā > ō still functioned during this period. In general, the stress of this period may be reconstructed by simply leaving it, in most cases, where it is in (Tiberian) Biblical Hebrew, but adding short final vowels eventually dropped, as דָּבָר (dābār) "thing" < dabaru, אָכַל (ʾākal) "he ate" < ʾakala, יֹאכַל (yōkal) "he will eat" < yōkalu, יֹאכַל (wayyōkal) "he ate" < wayyōkal (exhibiting a form without an original final short vowel ...), and similarly, at that period, the [jussive](#) yōkal, אָכַלְנוּ (ʾākalnū) "we ate" < ʾakalnū (terminating in a long vowel, which has accordingly been preserved).

9.1.3. During the third Proto-Hebrew (= pre-Tiberian) stress period, the stress remained as in the preceding one, yet since final short vowels were dropped, words that, during the second period, had ended in such vowels, now became stressed on their last syllable, whereas those that terminated in consonants or long

vowels continued being stressed on the penultimate. Since the place of the stress was no longer uniform, it became phonological, as qāmat > קָמָה (qāmā) "she stood up", in contrast with qāmatu > קָמָה (qāmā) "standing up (fem. sing.)"; yōkalu > יֹאכַל (yōkal) "he will eat", in contrast with יֹאכַל (wayyōkal) "and he ate". Cf. also nasabbat > נָסַבָּה (nāsabbā) "she turned", in contrast with נָסַבָּה (nəsabbā) <nasabbatu "turning (fem. sing)". At that period, there were still the contrasting forms of the [imperfect](#) yōkal < yōkalu, and the jussive yōkal.

As for the dropping of the final short vowels, it took place apparently in three stages. At first, nouns in *status constructus* dropped their final short vowels ..., then verbs and at last nouns (including participles) in *status absolutus*. **Owing to the elision of short final vowels in the status absolutus, short vowels in the preceding open syllable which now had become closed, were compensatorily lengthened** (viz. *a* to *ā*, *i* to *ē*, and *u* to *ō*, as 'dagu > דָּג ('dāg) "fish" [Cf. [Harris 1939](#) pp. 60-62] (as against 'qallu > קָל "light", because it was originally closed); ya'sīnu > יָשְׁנוּ (yā'sēn) "sleeping"; ya'guru > יָגֹר "being afraid"). This compensatory lengthening did not take place during the dropping of the final short vowels from the status constructus and verbs, and since during its operation these word classes already exhibited closed final syllables, they were not lengthened at all (therefore: שָׁמַר "he kept", with final short vowels, viz. *pataḥ*. Since the *šere* and *ḥolem* in שָׁנַם "he slept" and יָגֹר "he was afraid" correspond to *pataḥ*, they have to be considered short as well, whereas the same words when serving as participles contain long *šere* and *ḥolem*, similarly נִשְׁמַר *qtl* as against the participle נִשְׁמָר, נִשְׁמַר, נִשְׁמָר, נִשְׁמָר *qtl/yqt* against the participle נִשְׁמָר).

REMARK A: It stands to reason that the so-called [pretonic lengthening](#) ... of short vowels in open syllables preceding the stress is later, its oldest attestation being the transcription of proper nouns in the [Septuagint](#). It is especially frequent with *a* (as dabaru > דָּבָר "thing"), less with *i* (as o'šatu > עֲצָה "counsel", as contrasted with its reduction kātibīma > כְּתִיבִים "writing [masc. plur.]", ...); and not at all with *u*, where it is either reduced (as burāšū > בְּרוֹשׁ "Juniperus phoenicea", šubbulīma > ... שְׁבָלִים "ears") or, as a rule, preserved by dint of pretonic consonantal doubling... v. REMARK B.

REMARK B: Sometimes pretonic doubling of a consonant is substituted for pretonic lengthening, i.e. the combination of a long vowel with a simple consonant is superseded by a short vowel with a double consonant. This is especially- frequent after *u*, as *rumā* > עֲרֻמָּה "naked (fem. sing.), ... less after *a*, as *qaṭanā* > קָטָנָה "small (fem. sing.)" very rarely after *i*. In contrast with pretonic lengthening, however, the pretonic doubling of consonants is analogically transferred to forms in which the next syllable does not bear the stress (as *qaṭanē* > קָטָנֵי "small [masc. plur. construct]")....]

9.1.4. As the fourth Proto-Hebrew Proto-Hebrew (= pre-Tiberian) stress period started, originally short vowels had been lengthened in three cases (in addition to pausal lengthening ...): in originally closed syllables, which, by elision of the closing consonant, had become open (as *katabat* > *kātabā* "she wrote") [fn. Final *-at*, serving as feminine ending of nouns and verbs (*yaldat(u)* "girl"; *katabat* "she wrote"), shifts to *-ā*, spelled הַ (נְתִבָּה; יְלִדָּה); in non-final position, however, the *t* is preserved: יְלִדְתוֹ "his girl", נְתִבְתוֹ "she wrote it", and even in construct יְלִדְתִּי] in originally open syllables in nouns in *status absolutus* which, by

dropping of final short vowels, had become closed final syllables (as *dagū* > דָּג (dāg) "fish"; sometimes, by elision of the final consonant, these syllables had again become open, as *yaldatu* > *yaldāt* > יַלְדָּה (yaldā) "girl"); and in pretonic open syllables.... On the other hand, open penultimate stressed syllables in context, containing original short vowels, had not -been lengthened, as *kātabā* (as against pausal כָּתַבָּה (kāṭābā)) "she wrote", *kātabū*, (as against pausal כָּתַבּוּ (kāṭābū) "they wrote", *kəṭobū*, (as against- pausal כְּתוּבוּ (kəṭōbū) with a long *ō*) "write! (masc. plur.)", *sūsēkā* (as against pausal סוּסֵי (sūsēkā) with a long *ē*) "your horse", *ʾanī* (as against pausal אֲנִי (ʾānī) "I"...

In the fourth stress period there was quite a strong inclination towards the stressing of the last syllable. With very few exceptions (as שָׁכַחְנִי), open penultimate short stressed syllables were not preserved. They were either lengthened, presumably under the influence of the pausal forms (as שָׁמַרְנוּ "he preserved us") or, as a rule, the stress passed from these syllables to the ultima. The vowel changes which accompanied this stress shift were different from those in the preceding stress period.

Previously, the syllable preceding the stress had been lengthened, whereas original short vowels had been reduced in open syllables, second or fourth before the stress Now, it was short open syllables preceding the new stress that were reduced, whereas originally pretonic syllables, now having become the second syllable before the stress, were preserved, since they now contained lengthened vowels: כָּתַבּוּ, כָּתַבָּה, כְּתוּבוּ (/being an auxiliary vowel), אֲנִי, סוּסֵי.

Yet sometimes the stress also shifted from long penult, especially from closed syllables, as ʾattā (cf. pausal אַתָּה > אַתָּה "you (masc. sing.)"; *ittā* > ... *attā* (cf. pausal עַתָּה > עַתָּה "now", sometimes even from open long syllables, as *ʾanākū* > ... ʾanōkū (through dissimilation, ... and analogy of the pronominal suffixes -ī/nī) אֲנִי כִי (identical with the pausal form) > "אֲנִי כִי".

The vestiges of the same shift are to be found in *yqṭl* and *qṭl* with *waw consecutivum*. During the third stress period, *yqṭl* with *waw consecutivum* without suffixes was stressed on the penult,... the stress shifted from the closed penultimate syllable to the ultimate (as *wayyikṭob* > וַיִּכְתֹּב "and he wrote"), but was preserved, as a rule, in open long syllables (as וַיֹּאכַל "and he ate", וַיְבָרַךְ "and he blessed").

Similarly, in *qṭl* with *waw* consecutive the stress shifted from the closed penult to the ultimate, as וַיְבָרַכְתָּ "and you will bless", וַיֹּאכַלְתָּ "and you will eat", but was preserved in open syllables, as וַיִּקְנִיתָ "and you shall buy".)

9.1.5. In the next (i.e. fifth) period, Hebrew stress became as it is exhibited by the Bible, the only change being that final consonant clusters were opened by an auxiliary unstressed vowel, thus giving rise to new, paroxytones): *malk* > מֶלֶךְ (mɛlɛk) "king", *sipr* > סֵפֶר (sɛpɛr) "book", *qudš* > קֹדֶשׁ (qodɛš) "holiness", *wayyipn* > וַיִּפֶּן (wayyipɛn) "and he turned", *nac̄r* > נָעַר (nac̄ar) "boy", *bayt* > בַּיִת (bayit) "house"; since the auxiliary vowel is, as a rule, *segol*, this phenomenon is called *segolization*.

N.b. Nouns in construct behave as either unstressed or weakly stressed.

¹² Nb. Blau does not attach dates to his "stress periods". I have had to deduce the probable date ranges myself.

¹³ [Blau 1993](#) p. 213.

¹⁴ "u/ū/ō preceding u/ū/o/ō in the next syllable are, as a rule, dissimilated into i/ī: תבֹּלַת "ear" (of grain), Arabic sunbulat; וּשְׂרֵשׁוּ "first", from שֵׁרֵשׁ "head"; וְחַוְּיָן "external", from חוּץ "outside". Rarely only is the second vowel dissimilated: וְחַוְּיָן "I shall take" < ׀ֹחַוְּיָן לֹלֵל "if not"... <lūlō." Blau 1976/1993 §8.4.

¹⁵ "... it is almost impossible to predict word stress (in Tiberian Hebrew) according to syllable structure. Yet it is possible, as if by magic, to introduce order into this apparent chaos. Through *one single assumption* it is possible to explain the stress of the great majority of Hebrew words. Therefore this assumption has to be regarded as the most powerful explanation of the interdependence of stress and syllable structure, a veritable pillar on which everything hinges. Let us add to the Hebrew words the final short vowels which, according to comparative grammar, were lost in Hebrew, and then, without changing the traditional place of stress, *the great majority of words exhibit stress on the penult*. Those which are today stressed on the ultima have, as a rule, lost final short vowels, the addition of which makes them stressed on the penultima. And those which are today stressed on the penult have, as a rule, preserved their final syllable. Accordingly we assume a period of general penult stress. Therefore, words like hē'qīmā, hē'qīmū, tā'qīmū, hā'qīmū, ʾā'naḥnū, ʿā'lēhā, ʾarṣā, etc., which have preserved their final syllable, are still stressed on their penult, whereas words like dā'bār, yā'qūm, šā'dē, gā'lā, yig'lē, kā'tab, yik'tob, dā'gā, which have lost their short vowels (<*da'baru, <*ya'qūmu, <*ša'dayu, <*ga'laya, <*yig'layu, <*ka'taba, <*yak'tubu, <*da'gatu), exhibit now ultima stress, yet, by addition of elided final short vowels, also attest to the existence of a general penult stress before the elision of the final short vowels." [Blau 1978](#)

¹⁶ "Which still preserved final short vowels, when they were dropped in *status constructus*, ... *yirṣayu* > וְרָצוּ as against *śaday* > וְשָׂדָה... but were affected by [Philippi's Law](#) ... contrary to *status absolutus*, thus exhibiting that verbs had lost the short final vowels earlier" [Blau 1976](#) p. 31 n. (1).

¹⁷ [Blau 2010](#) §3.5.7.1.5.

¹⁸ דָּג (/dāg/ (TH/+) ← /da:g/ (EBHP) < /dagu/ (PH))

¹⁹ שָׁן (/šāṣen/ (TH/+) ← /ya'še:n/ (EBHP) < /ya'šinu/ (PH))

²⁰ גּוּר (/gūr/ (TH/+) ← /ya'go:r/ (EBHP) < /ya'guru/ (PH))

²¹ שָׁן (/šāṣen/ (TH/+) ← /ya'šin/ (EBHP) < /ya'šin/ < /ya'šina/ (PH). Nb. /ya'šin/ (EBHP) could have been pronounced as [ya'šin] or [ya'šen].)

²² גּוּר (/gūr/ (TH/+) ← /ya'gur/ (EBHP) < /ya'gur/ < /ya'gura/ (PH). Nb. /ya'gur/ (EBHP) could have been pronounced as [ya'gur] or [ya'gor].)

²³ [Blau 1978, 1979, 1993](#)

²⁴ "Marginalia Semitica" I. Israel Oriental Studics 1 (1971), pp. 1-36, reprinted in *Topics in Hebrew Linguistics*, 1998 pp. 185-220.

²⁵ Presumably Blau has in mind something like -

	<i>Imperfect</i>	<i>Jussive</i>	<i>Preterite</i>
<i>Qal</i>	yiq'tol	'yiqtol	way'yiqtol

<i>Piel</i>	yaqat'til/ yəqat'tel	ya'qattil/ yə'qattel	wayya'qattil/ wayyə'qattel
<i>Niphal</i>	yiqqa'til/ yiqqa'tel	yiq'qatil/ yiq'qatel	wayyiq'qatil/ wayyiq'qatel
<i>Hiphil</i>	yaq'til	'yaqt'il/ 'yaqtel	way'yaqt'il/ way'yaqtel
<i>Hithpiel</i>	yitqat'til/ yitqat'tel	yit'qattil/ yit'qattel	wayyit'qattil/ wayyit'qattel

²⁶ "Final ך (כ [?]) preceded by a consonant is elided, as *hiṭ'u* > "sin" > *hiṭ'* > *χῠν*.... If, however, the consonant preceding ך is *w/y*, the ך is assimilated and the *w/y* doubled: *šaw'* > *šaww* > (final gemination generally being lost) ... *אָפִּׁי* "vanity"; *gay'* > *gayy* > ... *אָגֵל* "valley". Similarly, *y* is assimilated to a following *w*: *sūsayw* > *sūsaww* > *יוֹסוֹ* "his horses". [Blau 1976](#) §7.1.6.

²⁷ [Blau 1976](#) §7.3.2.2.

²⁸ [Blau 2010](#) §3.5.12.2.9. - "...Hebrew underwent pretonic lengthening; we have attributed this to strong Aramaic influence at the time of the Second Temple."

²⁹ [Blau 1972, 1976](#)

³⁰ Especially pp. 68-70.

³¹ P. 34.

³² [Manuel 1995](#) pp.19, 43. Barth's Law (= Barth-Ginsberg's Law) - says that the vowel of the *prefix conjugation* preformative was originally *a* in action verbs, and *i* in stative verbs. [Joüon-Muraoka 1991](#) § 44 note 1

³³ Homogeneous diphthongs have both phases of the diphthongs are close in articulatory position and share the lip gesture.

³⁴ [Manuel 1995](#) p.41.

³⁵ See also [Manuel 1995](#) p.20, 41.

³⁶ 'ḥaṣiyu > ḥa'ṣiyu > ḥa'ṣiy > ḥa'ṣī > (TH) ḥă'ṣî - [Manuel 1995](#) p.42.

³⁷ yihyay > yihy > yihiy > yihī > (TH) yəhî - [Manuel 1995](#) p.42.

³⁸ 'mawša'u > 'mōša'u > mō'ša'u > mō'ša' > mō'ša > (TH) mō'šā - [Manuel 1995](#) p.42.

³⁹ 'manśa'u > maś'śa'u > maś'śa' > maś'śa > (TH) maś'śā - [Manuel 1995](#) p.42.

⁴⁰ 'šaba'u > ša'ba'u > ša'ba' > ša'ba > ša'bā > (TH) šā'bā - [Manuel 1995](#) p.42.

⁴¹ 'qara'a > qa'ra'a > qa'ra' > qa'ra > qa'rā > (TH) qā'rā - [Manuel 1995](#) p.43.

⁴² [Manuel 1995](#) p.4 footnote.

⁴³ [Manuel 1995](#) p.196, 224 and P. 253 note 833.

⁴⁴ Webster " formed with the back of the tongue touching or near the soft palate <the *velar* \k\ of \küll\ *cool*>"