The Tiberian Pronunciation Tradition of Biblical Hebrew

Volume I

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I.1. CONSONANTS

I.1.1. ʾalef (א)

Glottal plosive [ʔ]

Consonantal ʾalef occurs in the following contexts:

In the onset of a syllable at the beginning of a word, e.g. אָמַ֗ר [ʔɔːˈmaːr] ‘he said’ (Gen. 3.16), אֱלֹהִים [ʔɛloːˈhiːim] ‘God’ (Gen. 1.1).

In the onset of a syllable in the middle of a word after a silent shewa, e.g. שָ֣וִי [vaʃɔːˈviː] ‘and it became foul’ (Exod. 7.21).

In the onset of a syllable in the middle of a word after a vowel, a hatef vowel or vocalic shewa, e.g. יָבָֽא [jɔːˈviː] ‘they bring’ (Exod. 16.5), צָרָה [ʔazzaˈɾaː] ‘I gird you’ (Isa. 45.5) מָֽאָד [moˈʔoːd] ‘very’ (Gen. 1.31).

In the coda of a syllable in the middle of a word, e.g. וְאָזֶר [vaʔaˈẓɛr] ‘and he tied’ (Gen. 46.29).

In the Standard Tiberian tradition consonantal ʾalef in the middle of a word between vowels is marked with dagesh in four places:

(i) וּבֵאָם ‘and they brought to him’ (Gen. 43.26)

(ii) וּבֵאָם ‘and they brought to us’ (Ezra 8.18)

(iii) וְלָֽהְמ ‘you shall bring bread’ (Lev. 23.17)
(iv) יֵֽאָֽרָא ‘they were not seen’ (Job 33.21)

These four cases are specified in Masoretic treatises and Masoretic notes. They are referred to, for example, in the Masoretic treatise Hidāyat al-Qāriʾ:

It has been said that *dagesh* is placed in ‘alef in some specific places in Scripture, namely in the following four cases: ‘and they brought him the present’ (Gen. 43.26), ‘and they brought to us by the hand of our God’ (Ezra 8.18), ‘from you dwellings you shall bring’ (Lev. 23.17), ‘and his bones, which were not seen, are laid bare’ (Job 33.21).

Some examples of references to the four places in Masoretic notes include the following:

There are three occurrences of ‘alef with *dagesh* in a particular lexical item (viz. derivatives of the root *bā‘* to come’), these being in the verses ‘You shall bring from your dwellings two loaves of bread to be waved’ (Lev. 23.17), ‘they brought to him the present which they had in their hand’ (Gen. 43.26), ‘they brought to us’ (Ezra 8.18), and one (case of ‘alef with *dagesh*) in another word,

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1 Long version, edition in vol. 2 of this book, §II.L.1.3.2.
(in the verse) ‘and his bones which were not seen stick out’ (Job 33.21).²

and his bones which were not seen stick out’ (Job 33.21).

One of four ‘alefs with dagesh in Scripture.³

These show that the occurrence of dagesh in ‘alef in these specific places was fixed in the Tiberian tradition. In some of the early Standard Tiberian codices, however, dagesh is marked in ‘alef also elsewhere in addition to these canonical four places. This applies even to L, where it occurs in the following two additional places:⁴

L: Ruth 2.10: ‘and I’ (A: )

L: Ruth 2.11: ‘and you left your father’ (A: )

These two additional occurrences of dagesh in ‘alef in L are not referred to in the Masoretic notes, which indicates that they were not canonical in the Tiberian tradition. In the manuscript C there are numerous additional cases of ‘alef marked with dagesh, none of which are referred to in the Masoretic notes (Yeivin 1980, 285), e.g.

C: Hag. 1.1: ‘Shealtiel’ (L [BHS]: )


³ Ginsburg (1905, 2), source: Masora magna in the Second Rabbinic Bible (Venice 1516–17, Bomberg) to Lev. 23.17, Job 33.21 and Ezra 8.18.

⁴ I am grateful to Ben Kantor for drawing these to my attention.
C: Jer. 38.12: רָגִּים (L [BHS]: בְֹלוֹא) ‘rags’
C: Isa. 51.19: הָ֖תַּיֹּקְרֶֽא ‘the things that befall you’ (L [BHS]: הָ֖תַּיֹּקְרֶֽא)

Ginsburg (1905, 2) draws attention to the existence of some Masoretic notes in European manuscripts that refer to a greater number of instances of dagesh in ʾalef than the canonical four. These must reflect the awareness of a greater extent of marking the dagesh in some manuscripts.

In manuscripts with Non-Standard Tiberian vocalization, the marking of dagesh in consonantal ʾalef is very frequent. In the Codex Reuchlinianus this is the general rule with only a minority of exceptions. In the single verse Isa. 37.33, for instance, we find: רָפָ֖ר ‘he said’ (L [BHS]: אָמְרָה,־בָּל ‘to’ (L [BHS]: אֱלָ), ‘Assyria’ (L [BHS]: אַשְׁרָה) (Morag 1959, 218). There is frequent marking of dagesh in ʾalef also in manuscripts with Non-Standard Tiberian manuscripts written in the Middle East. In some of the Genizah fragments described by Blapp (2017), for example, the marking is as regular as in Codex Reuchlinianus. The following are a few selected examples from T-S A12.1 (Blapp 2017, 83):

מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.15 ‘his mother’) מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.18 ‘happy is he’) מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.20 ‘he who is hasty’) מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.14 ‘truthfully’) מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.14 ‘his throne’) מַמְּאָ֖ת (T-S A12.1 | L [BHS]: מַמְּאָ֖ת Prov. 29.16 ‘they will see’)
The motivation to mark the *dagesh* in the four canonical places in the Standard Tiberian tradition was, it seems, to ensure that the consonantal *ʾalef* was pronounced correctly and was not slurred over (Yeivin 1978, 1980, 285). The forms וּאּלָּו יָבִי (Gen. 43.26), וּאּלָּו יָבִי (Ezra 8.18) and תָבִאּו׀ָלֶַחֶם (Lev. 23.17) are distinguished from other instances of similar forms of this verb in the biblical corpus by having a conjunctive accent followed by a word with an accent on the initial syllable. This is the context in which *deḥiq* occurs when the final vowel of the first word is *qames* or *segol*, in which there is a fast reading and compression of the syllable between the two accents (§I.I.2.8.1.2.). They also exhibit the sequence of two adjacent high vowels [iː—uː] separated by *ʾalef*. It is likely, therefore, that the consonantal *ʾalef* was considered to be particularly in danger of being slurred over in such a context. Another common feature of these three cases is the occurrence of the sonorant consonant *lamed* at the beginning of the second word. The *ʾalef* in וּאּרֻ (Job 33.21) was evidently considered to be in danger of losing its pronunciation and being read as a glide between the two high [uː] vowels.

The greater number of occurrences of *dagesh* in *ʾalef* in some of the model Tiberian codices, especially C, reflects the extension of this principle to other cases of consonantal *ʾalef* that were considered to be at risk of being misread. Still further extension of this practice is found in some manuscripts with Non-Standard Tiberian vocalization, in which the marking of *dagesh* has become virtually regular.
The question arises as to whether this *dagesh* in ‘*alef* marked gemination or not. Some modern scholars have interpreted it as a sign to distinguish the consonantal realization of the ‘*alef* from cases where it does not have consonantal realization (e.g. Morag 1959, 218–19, 1960, 208 n.6, 1963, 5–6). It would, therefore, be equivalent to a *mappiq* on the letter *he*, which distinguishes final consonantal *he* from final *he* that is a vowel letter, rather than a marker of gemination. A statement in *Hidāyat al-Qāri’* appears to support this interpretation:

If it were said: Surely the *dagesh* in some of the four letters of this place (i.e. the letters אָהַחֵעַ), namely in the ‘*alef* in the four passages that you have just mentioned, disproves your statement that *dagesh* is not put on the letters of this place of articulation, the response would be: If one examines carefully the so-called *dagesh* in the ‘*alef* in these four passages, one sees that it is not *dagesh*, since the speaker strives to introduce heaviness into it, but it is not made heavy.5

There is, however, evidence for the gemination of the ‘*alef* in some early Karaite sources. Yūsuf ibn Nūḥ, a Karaite scholar active in the second half of the tenth century, in his grammatical commentary known as the *Diqduq* compares the *dagesh* in the forms וּאֵלַהַ (Gen. 43.26) and וּאֵלַיַּו (Ezra 8.18) to the *dagesh* that occurs in other forms due to the preceding stress:

… The *dagesh* that occurs in the *lamed* has arisen due to the fact that the stress lengthens (the syllable beginning with) the *tav*, resulting in וֹתְהַתְּלֶבֶתָּ (Job 13.9):

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5 Long version, edition in vol. 2 of this book, §II.L.1.3.5.
deceive him’. This conforms to what we have stated before, with regard to the occurrence of *dagesh* in some places when the stress lengthens what precedes, for example ‘to Moses saying’ (Exod. 6.10), ‘and they said “No”’ (Gen. 19.2) and (Ezra 8.18) and (Gen. 43.26). The word is like in that the stress and the *dagesh* occur within the same word.6

This passage implies that the *dagesh* in the *’alef* indicates gemination in the same way as the *dagesh* in *הָלוֹ* (John 33.21):

The imperative of this is *רֻאָ֖ה* like *כֻסָ֖ה* and *שֻׁפֶּ֖ה*.

In Ibn Nūḥ’s system of grammar, the imperative form is the morphological base of derivations. This statement indicates that *רֻאָ֖ה* has the morphological base *רֻאָ֖ה* and that this has the same pattern as *כֻסָ֖ה* and *שֻׁפֶּ֖ה*, which are the bases of the forms ‘it is covered’ (Ecc. 6.4), ‘and they stick out’ (Job 33.21) with medial gemination.

In a Karaite transcription of (Job 33.21) into Arabic script, an Arabic *shadda* sign is written over the *’alif* that transcribes the *’alef* with the *dagesh*:

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This manuscript, which is datable to the tenth or eleventh century, elsewhere uses the *shadda* sign only to mark *dagesh forte*. This is clear evidence, therefore, that the ’*alef* was being read as geminate.

The interpretation of the *dagesh* in ’*alef* as a marker of gemination rather than a *mappiq* is reflected also by a statement in a Hebrew Masoretic treatise:

Moreover, three of the four (i.e. the four letters אָחָה) have a single fixed type (of pronunciation), which is less than all the (other) letters, (namely) והע are deprived of taking *dagesh*.8

The implication of the passage is that ’*alef*, unlike the other guttural letters, does indeed take *dagesh*.

Returning to the passage from *Hidāyat al-Qāri’* cited above, a close reading of this reveals that the author is not saying that the point in the ’*alef* is simply a *mappiq* indicating consonantal realization. Rather the reader ‘strives to introduce heaviness into

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8 ראו שלשון ו-א ו-ו-ה, ...(Baer and Strack 1879, 5).
it, but it is not made heavy’, i.e. the reader intends to read it as a \textit{dagesh forte}, but the muscular tension normally associated with \textit{dagesh forte} is not achieved due to its articulation in the larynx. The articulation of the \textit{’alef} could, nevertheless, have been held for a longer duration.

In some manuscripts with Babylonian vocalization, the \textit{dagesh} sign is marked on consonantal \textit{’alef} in a wide variety of words (Yeivin 1985, 265–66). It is significant that \textit{mappiq} on final \textit{he} is represented by a different sign (Yeivin 1985, 335–36), suggesting that the \textit{dagesh} in the \textit{’alef} did not have the function simply of \textit{mappiq} but rather indicated gemination.

In some of the reading traditions that have continued down to modern times in Jewish communities in the Middle East, the \textit{’alef} with \textit{dagesh} in the four canonical places is indeed still read as a geminate \textit{’alef}, e.g. Aleppo (Katz 1981, 16), Baghdad (Morag 1977, 14), Yemen (Morag 1963, 5–6). Transcriptions of the Aleppo tradition, following Katz (1981, 16) are as follows:

\begin{itemize}
  \item Gen. 43.26: \textit{ˈvaɪjaˈβiʔˈʔu}
  \item Ezra 8.18: \textit{vəˈjaˈβiːʔˌʔu}
  \item Lev. 23.17: \textit{taˈβiʔˈʔu}
  \item Job 33.21: \textit{ˈruʔˈʔu}
\end{itemize}

These traditions of reading the \textit{’alefs} need not be interpreted as late interpretations of the point in the \textit{’alef}, as Morag (1977, 14) argues, but rather continuities of medieval traditions.

In sum, the weight of evidence suggests that the \textit{dagesh} point in \textit{’alef} in the four canonical places in the Standard Tiberian
The tradition indicated gemination of the ‘alef, and so should be transcribed [vaŋəvˈiːiʔʔuː], [tʰəvˈiːiʔʔuː], [ɾuˈʔʔuː]. The gemination was an orthoepic strategy that involved pronouncing the ‘alef with additional effort to ensure that it was not slurred over.

Within the Tiberian Masoretic tradition there are a number of pairs of identical lexical words, many of them in parallel passages, one of which has preserved the consonantal ‘alef whilst the other has lost it both in the ketiv and in the qere,⁹ e.g.

ותָּמוּס (Gen. 25.24) — תאוֹמָם (Gen. 38.27) ‘twins’

תָּנֹפֶה (Gen. 46.13) — תֶּמְנֶה (1 Chron. 7.1) ‘and Puah’¹⁰

תָּחוֹרֶנ (2 Sam. 22.40) — תָּחֹרֶנָּן (Psa. 18.40) ‘you did gird me’

הָבָּרֶלֶת (1 Chron. 11.39) — הָבָּרֶלֶת (2 Sam. 23.37) ‘of Beeroth’

לָעֵשֹׁת (2 Kg. 19.25) — לָעֵשֹׁת (Isa. 37.26) ‘to cause to crash into ruins’

זָרְפָּבּ (Jer. 8.11) — זָרְפָּבּ (Jer. 6.14) ‘and they have healed’

In some biblical scrolls from Qumran, an ‘alef that is pronounced consonantal in the Tiberian Masoretic tradition is omitted in the orthography, indicating that it had lost its consonantal

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⁹ These are listed in the Masora, e.g. Ginsburg (1880, §16a).

¹⁰ In the Non-Standard Tiberian manuscript BL Add MS 21161, fol. 250v this word is vocalized ָ֖וּפֻוָּ ה, which appears to be a hybrid form of וּפֻוָּ֛֖ה and וּפוּאָ֛ה.
pronunciation. This is particularly common in the scroll 1QIsa, but is found also occasionally elsewhere, e.g.\(^\text{11}\)

(1QIsa\(^a\) 3.17 | L [BHS]: הַמשְׁרָך {משרך} Isa. 3.12 ‘your guides’)

(1QIsa\(^a\) 11.14 | L [BHS]: נְסֵפִים Isa. 13.4 ‘gathered [mpl]’)

(1QIsa\(^a\) 12.23 | L [BHS]: הַקָּנָלַאָר {קנלאיר} Isa. 14.21 ‘and [the surface of the world] will be filled’)

(1QIsa\(^a\) 19.3 | L [BHS]: הָיְשָמַמ {יושם} Isa. 24.6 ‘[and its inhabitants] pay the penalty’)

(1QIsa\(^a\) 33.11 | L [BHS]: הַטְּלָאָה {телאה} Isa. 40.11 ‘lambs’)

(1QIsa\(^a\) 29.25 | L [BHS]: הָטְאַנָה {טאנה} Isa. 36.16 ‘his fig tree’)

(1QIsa\(^a\) 13.19 | L [BHS]: ketiv הביא {בביא} qere Isa. 16.3 ‘give [fs advice]!’)

(4Q141 f1i.12 | L [BHS]: הָבָא {باط} Deut. 32.17 ‘they came’)

(4Q138 f1.13 | L [BHS]: הָאָלִיב {뷜} Deut. 11.6 ‘Eliab’)

(4Q78 f10–12.7 | L [BHS]: נָאָט {נתא} Joel 1.19 ‘pastures of’)

(4Q79 f1–2.9 | L [BHS]: הָאִָרֶץ {ארץ} Hos. 2.2 ‘the earth’)

In living reading traditions that have survived down to modern times in Jewish communities in the Middle East a consonantal ‘alef is general pronounced, but is sometimes elided, especially between vowels, e.g.

\(^{11}\) Data supplied by Aaron Hornkohl.
Aleppo

ha'ele (Katz 1981, 15 | L [BHS]: הָאְלֶה Gen. 48.1 ‘these’)

Baghdad

wearba'îm (Morag 1977, 13 | L [BHS]: לְאָרְבָעִים Gen. 47.28 ‘and forty’)

Yemen

bɔ'ɔhîw (Morag 1963, 3 | L [BHS]: בְאָח יו Isa. 19.2 ‘against his brother’)

Morocco

isra'îl (Akun 2010, 65 | L [BHS]: יְשֵׁרְאֵל Exod. 14.30 ‘Israel’)

The variants within the Masoretic tradition and the loss of ʾalef in the Qumran scrolls and modern living traditions reflect the vulnerability of consonantal ʾalef to weakening in reading traditions, which would have motivated orthoepic measures being taken to ensure their correct reading.

In the model Standard Tiberian manuscripts ʾalef that does not have a consonantal realization is sometimes marked with a rafe sign, e.g.

L: יְשֵׁלָה ‘my head’ (Psa. 40.13)

L: בְּאָרְבָּא ‘we do not fear’ (Hos. 10.3)

It is regularly marked in L on ʾalef between two vowels that is not read as consonantal, e.g.

L: יְשֵׁלָה (Psa. 116.6) ‘the simple’

L: יְשֵׁלָה (Psa. 104.12) ‘branches’
L: יִלָּֽם (1 Chron. 12.9) ‘and like gazelles’

These words are listed in the Masora as cases where ‘ʾalef is written but not read’.¹²

In some manuscripts with Non-Standard Tiberian vocalization the marking of rafe on non-consonantal ʾalef is very frequent, e.g.

Codex Reuchlinianus:

ֵָ֖ם (Morag 1959, 218 | L [BHS]: אַ֔שֵּׁר Isa. 23.1 ‘oracle’)

ֵָ֖ר (Morag 1959, 221 | L [BHS]: הֵבִֽי Isa. 37.33 ‘(does not) come’)

Genizah manuscripts

ֵָ֖הֲ (T-S A11.1 | L [BHS]: אֲ֖מַר מֵאֶ֥לֶף Job 39.9 ‘will it be willing’) (Blapp 2017, 59)

ֵָ֖וְ (T-S A12.1 | L [BHS]: אַ֖וְל מִ֣י Prov. 29.24 ‘he who hates’) (Blapp 2017, 99)

ֵָ֖וַ (T-S A12.1 | L [BHS]: אִ֖ו Prov. 29.24 ‘and not’) (Blapp 2017, 99)

In Non-Standard Tiberian manuscripts, ʾalefs that are non-consonantal in the Standard Tiberian tradition are occasionally marked with dagesh. In some cases where the ʾalef occurs word-internally, it is possible that these reflect consonantal readings of the ʾalef, e.g.

ֵָ֖֜ם (BL Add MS 21161, fol. 160v | L [BHS]: אַ֖מַּלַּ֥ם Psa. 104.12 ‘branches’)

¹² Ginsburg (1880, §13).
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It is sporadically, however, marked on a word-final ʾalef, which must have been read as non-consonantal, e.g.

אָנָ (T-S NS 248.2, Arrant 2020 | L [BHS]: אָנָ Gen. 13.9 ‘please’)

הָזָ (T-S NS 248.2, Arrant 2020 | L [BHS]: הָזָ Gen. 13.10 ‘and he lifted’)

הָרָ (T-S NS 248.2, Arrant 2020 | L [BHS]: הָרָ Gen. 15.1 ‘[do not] be afraid’)

In a few model Tiberian codices a rafe is marked on an ʾalef in the word יָשֶׁרָא where it would be expected to be consonantal, e.g.

C: יָבּשֶׁרָא, L [BHS]: יָבּשֶׁרָא ‘in Israel’ (1 Sam. 3.11)

Yeivin (1978, 226) suggests that this phenomenon in the model manuscripts may indicate that in this proper name the ʾalef was not pronounced as consonantal, i.e. [jisrˁɔːˈeel].

The marking of rafe on consonantal ʾalef is attested sporadically also in manuscripts with Non-Standard Tiberian vocalization, e.g.

דָנֶרָ (T-S A12.1, Blapp 2017, 99 | L [BHS]: דָנֶרָ Prov. 30.2 ‘I’)

13 A possible parallel to this elision of the ʾalef can be identified in the proper name דניאל [dɔːniːjɛl] ‘Daniel’ < *dānɪʔel. Yeivin notes that in both names the ʾalef is followed by the letter lamed.
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(T-S A13.20, Blapp 2017, 174 | L [BHS]: פְּרָאָאָה Psa. 69.4 ‘with my crying’)

In Non-Standard Tiberian manuscripts that otherwise use dagesh extensively in consonantal ‘alef, the ‘alef in the word ישראל is often marked with rafe (Pilocane 2004, 28).

In Biblical manuscripts with Palestinian vocalization, both the dagesh sign (ֵ) and the rafe sign (ֶ) are found marked on consonantal ‘alef, e.g.

Dagesh:

[וּ]ָ֖ש (Bod. Heb. e 30 ff. 48-49 | L [BHS]: וּ֥ש Isa. 6.11 ‘they lie waste’) (Kahle 1901, 278; Revell 1970a, 77)

Rafe:

[וְ]ָ֖ש (Bod. Heb. e 30 ff. 48-49 | L [BHS]: וְ֥ש Isa. 45.20 ‘and come’) (Kahle 1901, 287; Revell 1970a, 77–78)

It is unlikely that in these cases the marking of the rafe reflects the loss of consonantal value of the ‘alef. The sign is likely to be intended to signal that the ‘alef is consonantal but ungeminated.

In L one encounters vocalizations such as the following:

Num. 26.7: (BHS: בָּרָּאָבְנִי, ‘the Reubenite’ (B: הָרָּאָבְנִי, S: הָרָּאָבְנִי)

Josh. 12.6: (BHS: לָלָאָבְנִי, ‘to the Reubenite’ (A: לָלָאָבְנִי)

2 Kings 10.33: (BHS: הָרָּאָבְנִי, ‘and the Reubenite’ (A: הָרָּאָבְנִי)
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Job 31.7: מֻאּֽוּמ (BHS: מֻאּֽוּמ) ‘blemish’ (A: מֻאּֽוּמ)

Dan. 1.4: מְאוּם (BHS: מְאוּם) ‘blemish’ (qere note: מום)

The way these words appear in BHS, which does not mark rafe, would lead one to believe that the ’alef in L is a consonantal ’alef between two vowels. In the manuscripts the ’alef is marked with rafe and in manuscripts other than L there is only one vocalization sign, either qibbuṣ before the ’alef or a shureq dot on the vav, indicating that the ’alef did not have a consonantal realization. The vocalization in L adds a qibbuṣ sign on the letter preceding the ’alef. This is, therefore, a double marking of the u vowel that follows the consonant. The words should be read [hɔːɾ̟uːˈniː], [muːum], as shown by other model manuscripts, and also by the qere note in Dan. 1.4. The double marking and qere note were strategies to ensure that the u vowel was pronounced immediately after the consonant.

I.1.2. **Bet** (ב)

Bet with dagesh (ב): voiced bilabial stop [b]

Bet without dagesh (ב): voiced labio-dental fricative [v]

A bet without dagesh is frequently, but not regularly, marked by the rafe sign in the model Standard Tiberian codices.

According to *Hidāyat al-Qāriʾ*, the Tiberians called this letter by the name ב. This form of the name is also found in

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14 The second [u] is an epenthetic, which is inserted after the long vowel in CVVC syllables (§I.2.4.).

other Masoretic treatises, sometimes vocalized ב,¹⁶ and the later recensions of Hidāyat al-Qāri‘.¹⁷ It is referred to in Masoretic treatises also as ﺪب.¹⁸ Both of these spellings represent the Arabic name of the letter, viz. bā’, which is pronounced bē due to ʾimāla in Arabic dialects (Nöldeke 1910, 131). This form of the name is found in some versions of Sefer Yeṣira.¹⁹

It is stated in Hidāyat al-Qāri‘ that the bet with dagesh is pronounced by closing the lips firmly.²⁰ In the Karaite transcriptions it is represented by Arabic bā’ (Khan 1990a, 4, 2013).

According to Hidāyat al-Qāri‘, bet with rafe is pronounced by closing the lips lightly. Taken by itself, this could be a description of a bilabial articulation of bet rafe. This is not confirmed, however, by other sources. The light closure of the lips would have accompanied a labio-dental articulation, and no doubt it is this secondary feature that the author refers to.²¹ Elsewhere in the Hidāyat al-Qāri‘ it is stated that bet rafe and consonantal vav have the same pronunciation:

¹⁶ Allony and Yeivin eds. (1985, 96), Baer and Strack (1879, 7, §6)
¹⁷ Arabic version of Maḥberet ha-Tījān (ed. Neubauer 1891, 10), Hebrew version of Maḥberet ha-Tījān (ed. J. Derenbourg 1871, 36).
²¹ Cf. Eldar’s (1980) commentary to this passage, n.75.
Every [consonantal] vav at the end of a word is pronounced, according to the Palestinians, with [the pronunciation of] bet rafe.22

This feature is alluded to also in a Masoretic treatise on the shewa:

 Know that every vav which is prefixed to the beginning of a word and has shewa is read with (the pronunciation of) bet. ... I mean, it is pronounced as if it were the letter bet, as in ... וְאָמַר "and he shall say."23

In some Karaite transcriptions into Arabic script, a fricative bet is occasionally transcribed by Arabic wāw and, vice versa, a Hebrew consonantal vav is sometimes transcribed by Arabic bā’. This is a reflection of the fact that the two sounds were the same, e.g. in the manuscript BL Or 2548:

عناוים (BL Or 2548 fol. 3r, 10 | L [BHS]: Isa. 5.4 ‘grapes’)

وقوبي (BL Or 2548 fol. 42r, 3 | L [BHS]: Isa. 40.31 ‘those who are hoping for’)

We know from David ben Abraham al-Fāsī that in Palestine consonantal vav in these circumstances was pronounced as a


23 אין עֲנָב יָם (BL Or 2548 fol. 3r, 10 | L [BHS]: Isa. 5.4 מָלַךְ וַּקָּוִי (BL Or 2548 fol. 42r, 3 | L [BHS]: Isa. 40.31 ‘those who are hoping for’)เอֻלָם "and he shall say." (ed. Levy 1936, כו, ב).
labio-dental (see the description of *vav* §1.1.6. for details). It follows, therefore, that *bet rafe* was a voiced labio-dental.

In a few sporadic cases *bet rafe* is represented by Arabic *fāʾ* in the Karaite transcriptions, e.g.

אִיפּוֹ (Genizah MS 12, Khan 1990a, 151 | L [BHS]: וְאִיפּוּ Num. 19.6 ‘and hyssop’)

The transcription with *fāʾ* reflects the perception that this Arabic sound was close acoustically to the voiced labio-dental [v]. It is common in transcriptions of Hebrew in medieval Muslim sources, e.g.

אֵרְעָפָא (al-Bīrūnī, *Chronology of Nations*, ed. Sachau 1878, 277 | בְּרֶפֶחַ ‘desert’)

לְמָנְאָה (al-Bīrūnī, *Chronology of Nations*, ed. Sachau 1878, 187-192 | לְבָנָה ‘moon’)

דַּפְוָר (Ibn Khaldūn, Schreiner 1886, 253 | דְבֹּרָה ‘Deborah’)

There are a few isolated occurrences of *pe* in place of fricative *bet* in biblical manuscripts from Qumran, which could be taken as evidence that the labio-dental pronunciation existed already in the Second Temple period, e.g.24

בְּפָנָה (4Q6 f1a.3 | L [BHS]: בְּפָנָה Gen. 34.1 ‘[to visit the] daughters [of the land]’)

24 Data supplied by Aaron Hornkohl.
The Tiberian Pronunciation Tradition of Biblical Hebrew

Joel 1.17, [seeds of grain] have shrivelled’

Similar interchanges of fricative bet with pe are attested in Jewish Palestinian Aramaic, alongside interchanges with vav, e.g. ‘the Nabatean’, ‘Nabatean’, ‘the Nabateans’ (Dalman 1894, 74).

*Hidāyat al-Qāri* describes the stop [b] as one of the primary letters (‘uşūl) and the [v] as an additional secondary letter (far).  

I.1.3. **Gimel** (ג)

*Gimel* with dagesh (ג): voiced velar stop [g]  

*Gimel* without dagesh (ג): voiced uvular fricative [ʁ]

A *gimel* without dagesh is frequently, but not regularly, marked by the rafe sign in the model Standard Tiberian codices.

In *Hidāyat al-Qāri* the name of this letter is spelt גמאל, which appears to reflect a different pronunciation from that of the normal Hebrew form of the name גמל, with stress on the final syllable.  

In the Hebrew *Maḥberet ha-Tījān*, a later recension of *Hidāyat al-Qāri*, the name has the form גמל.  

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27 Ed. Derenbourg (1871, 36).
Gimel with dagesh was a stop, which, according to *Hidāyat al-Qārī*’s, was articulated with the middle of the tongue. The Karaite transcriptions represent it by Arabic jīm or, occasionally, by kāf, e.g.

(BL Or 2539 MS A, fol. 63r, 3 | L [BHS]: ה גָמ ִ֥ל Gen. 21.8 ‘to be weaned’)

(BL Or 2554 fol. 11r, 7 | L [BHS]: כ בַ֣וֹר Ruth 2.1 ‘mighty’)

These Arabic letters were pronounced respectively as a voiced palatal plosive [ɟ] and an unvoiced velar plosive [kʰ]. This is the pronunciation described by the early Arabic grammarians Sibawayhi and al-Khalīl (eighth century C.E.). Ibn Sīna in the eleventh century describes jīm as pronounced slightly further forward. The Karaite transcriptions usually render gimel with dagesh by Arabic jīm due to the latter being a voiced consonantal plosive close to the place of articulation of [g]. It was preferred to kāf, which differed from jīm in being not only voiceless but also aspirated. It was a general principle of the transcriptions that voiced sounds were transcribed by one that was voiced but of a slightly different place of articulation rather than by an unvoiced letter of the same place of articulation.

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30 Roman (1983, 101–6, 218)
Gimel without dagesh, on the other hand, was a fricative articulated further back, on ‘the posterior third of the tongue, which is adjacent to the pharynx, opposite the (soft) palate.’\(^{31}\) In the Karaite transcriptions, fricative gimel is transcribed by Arabic ghayn, which was pronounced as a uvular fricative in the Middle Ages according to the descriptions of the Arabic grammarians.\(^{32}\)

_Hidāyat al-Qāri‘_ describes the stop \([g]\) as primary (‘ašl) and the fricative \([ʁ]\) as secondary (far‘).\(^{33}\)

**I.1.4. Dalet \(ד\) (ר)**

_Dalet_ with _dagesh_ (ר): voiced post-dental stop \([d]\)

_Dalet_ without _dagesh_ (ד): voiced post-dental fricative \([ð]\)

A _dalet_ without _dagesh_ is frequently, but not regularly, marked by the _rafe_ sign in the model Standard Tiberian codices.

According to _Hidāyat al-Qāri‘_, the Tiberians called this letter _dāl_, which is the name of the corresponding Arabic letter.\(^{34}\)

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\(^{32}\) Roman (1983, 218).

\(^{33}\) Long version, edition in vol. 2 of this book, §II.L.1.3.6.; Eldar (1980, fols. 8b, 10a, 254, n.58). Watson (2007, 43–44) considers the uvular fricative \([ʁ]\) in Modern Arabic dialects to be the emphatic counterpart of the dorsal \([g]\), involving a primary dorsal and non-primary ‘guttural’ feature.

\(^{34}\) Long version, edition in vol. 2 of this book, §II.L.1.1.2.
This term is found also in some versions of *Sefer Yeṣira* (יִשְׁרָאֵל),\(^{35}\) and in the later recensions of *Hidāyat al-Qāriʾ*, e.g. Arabic *Maḥberet ha-Ṭījān* (הַיְּנָנָא),\(^{36}\) Hebrew *Maḥberet ha-Ṭījān* (הַיְּנָנָא).\(^{37}\)

*Hidāyat al-Qāriʾ* states that the letter was articulated with ‘the extremity of the tongue in combination with the flesh of the teeth’, i.e. the gums.\(^{38}\) Likewise, Saadyya describes the place of articulation of *dalet* as being adjacent to the inside of the upper teeth.\(^{39}\) When the letter had *dagesh*, the tongue was pressed firmly against the gums. When it was without *dagesh*, the tongue was pressed lightly against the gums. Both forms of the letter were articulated in the same place. The term ‘end of the tongue’ could include both the tip and the blade. Most versions of *Sefer Yeṣira* state that *dalet* was articulated with ‘the beginning of the tongue’,\(^{40}\) but this is equally vague. The Spanish grammarian Ibn Janāḥ (eleventh century) specifies that it was articulated with the


\(^{36}\) Ed. Neubauer (1891, 12).

\(^{37}\) Ed. Derenbourg (1871, 36).


\(^{39}\) וּפִי דֶּסְלוֹן ... אֲנֹהַה תְּנוֹר אֲלָסָנָא מִן תַּלֵּךְ מִן אֲלָסָנָא; Saadya, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 75).

\(^{40}\) בְּרָאשׁ הַלַּשׁון (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98). According to Morag (1960), however, the phonetic descriptions in *Sefer Yeṣira* reflect the pronunciation of Hebrew in Babylonia, so it must be used with caution when reconstructing the Tiberian pronunciation tradition.
blade of the tongue and not the tip.\textsuperscript{41} This corresponds to the description in one version of \textit{Sefer Yešira}, where it is stated that the letters דטלת were articulated with the ‘middle’ of the tongue.\textsuperscript{42} It is easier, however, to interpret \textit{Hidāyat al-Qāri'} as referring to the contact between the tongue tip and the gums. An articulation with the blade of the tongue with the gums would have involved contact with the teeth.

\textit{Hidāyat al-Qāri'} describes the stop [d] as primary (‘\textit{ašl}’) and the fricative [ð] as secondary (\textit{far‘}).\textsuperscript{43}

The medieval scholar Isaac Israeli (ninth–tenth centuries C.E.), who had an expert knowledge of the Tiberian reading tradition, is said to have pronounced fricative \textit{dalet} with a secondary ‘emphatic’ articulation (i.e. pharyngealized with retraction of the tongue root and increased muscular pressure) in two words, viz. אֶפָּד ‘his palace’ (Dan. 11.45) and וּוּרֶכ ‘and they have bent’ (Jer. 9.2). This was apparently due to the fact that the \textit{pe} and the \textit{resh} in these words were pronounced emphatic (see §I.I.1.17., §I.1.20.) and the emphasis spread to the \textit{dalet}. The evidence for this is found in a commentary to \textit{Sefer Yešira} by Dunash ibn Tamim, who was a physician in court of the Fāṭimids in Kairouan, North Africa, in the tenth century C.E. He was the pupil of Isaac Israeli, who also worked as a physician in Kairouan:

\begin{quote}
This end (of the tongue) is not the tip of the tongue but what is slightly posterior to the tip’; \textit{Kitāb al-Luma‘} (ed. Derenbourg 1886, 28).
\end{quote}

\begin{quote}
\end{quote}

\begin{quote}
\end{quote}
The Arabs have sounds that the Hebrews do not have, namely the ẓād of קִצִּיב (qadiḇ) and the ḍāḏ of ‘אָדִים (‘aḏīm). The meaning of qadiḇ is ‘rod’ or ‘sceptre’. It is written with ṣade with a dot above it. It is a distinct sound, which resembles dalet rafe. The meaning of ‘aḏīm is ‘huge’. It is written with tet with a dot above it. It is a distinct sound, which resembles dalet rafe. ... Our master Yiṣḥaq, the son of our master Shlomo, of blessed memory, (i.e. Isaac Israeli) used to say that in the language of the Hebrews among the Tiberians there were (the sounds of) ḍāḏ and ḍād and he used to read וֹ֥֖אֶת־ָ֖ו יָ֖אֶלִיתָ֖ע (Dan. 11.45, L: וֹ֥֖אֶת־ָ֖ו יָ֖אֶלִיתָ֖ע), in which he used to pronounce ḍāḏ although dalet was written. He used to read וֹ֥֖אֶת־ָ֖ו לְשׁוֹנָם (Jer. 9.2, L [BHS]: וֹ֥֖אֶת־ָ֖ו לְשׁוֹנָם), in which he pronounced ḍād, although dalet was written. The reason for all this was that he was an expert in the reading of the Tiberians.  

Early in the history of Arabic, the distinction between the pronunciation of ḍād (ﺽ) and ḍāʾ (ﻅ) broke down. In modern

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44 BHS erroneously reads L as אתלייתע.

45 Our master Yiṣḥaq, the son of our master Shlomo, of blessed memory, (i.e. Isaac Israeli) used to say that in the language of the Hebrews among the Tiberians there were (the sounds of) ḍāʾ and ḍād and he used to read וֹ֥֖אֶת־ָ֖ו יָ֖אֶלִיתָ֖ע (Dan. 11.45, L: וֹ֥֖אֶת־ָ֖ו יָ֖אֶלִיתָ֖ע), in which he used to pronounce ḍāʾ although dalet was written. He used to read וֹ֥֖אֶת־ָ֖ו לְשׁוֹנָם (Jer. 9.2, L [BHS]: וֹ֥֖אֶת־ָ֖ו לְשׁוֹנָם), in which he pronounced ḍād, although dalet was written. The reason for all this was that he was an expert in the reading of the Tiberians.

Cited by Mann (1931, 670, n.106). Cf. Schreiner (1886, 221), Dukes (1845, 9, 93), Grossberg (1902, 24).
vernacular dialects, the two have merged either to an emphatic stop $d$ (mainly in urban dialects) or to an emphatic interdental $ḏ$ (mainly in Bedouin dialects) (Versteegh 2011). In medieval Judaeo-Arabic, a $ṣāde$ with an upper dot ($צ$) was used to represented Classical Arabic $ḍād$ ($ḍ$) and a $ṭet$ was used to represent Classical Arabic $ḏāʾ$ ($צ$). As a result of their merger in the spoken language already in the Middle Ages, however, there was frequent confusion in the orthography of Judaeo-Arabic texts, in which a historical $ḍād$ and a historical $ḏāʾ$ were both represented by either $צ$ or $ט$ interchangeably. The representation of a Hebrew dalet in the passage by both $צ$ and $ט$ and the statement attributed to Isaac Israeli that ‘in the language of the Hebrews among the Tiberians there were (the sounds of) $ḏāʾ$ and $ḍād$’ should be interpreted in this light. A single emphatic sound was no doubt intended, presumably the emphatic interdental $ḏ$ [$ḏ$], given the fact that the author in the passage states that these two emphatic Arabic letters resemble dalet rafe.

Abū al-Faraj Hārūn in his al-Kitāb al-Kāfī refers to the pharyngealization of dalet in the words פָּרָצָה (Dan. 11.45) and פְּרָצָה (Exod. 28.17):

‘Indeed, in Arabic there are letters that are pronounced with sounds that are not found in Hebrew, such as $jīm$, $ḍād$ and others. Some teachers, however, when reading פָּרָצָה ‘the tents of his palace’ (Dan. 11.45) and פְּרָצָה ‘sardius, topaz’ (Exod. 28.17) pronounce the dalet in them like Arabic $ḍād$ or $צ$ and these words sound like פָּרָצָה and פְּרָצָה.

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46 See the discussion by Wagner (2010, 28–32).
This, however, does not increase the number of letters, since the *dalet* has the same form, although the reading of it differs.\(^{47}\)

In some modern reading traditions, *dalet* is pharyngealized when in contact with an emphatic consonant. In the Moroccan reading tradition, for example, this is documented by Akun (2010) as occurring after emphatic \([r^\ddagger]\), e.g.

\[\text{jar}^\ddagger\text{d}'u\ (\text{Akun 2010, 72} \mid \text{L [BHS]}: \text{יָרְדּ}, \text{Exod. 15.5 ‘they went down’})\]

### 1.1.5. *HE ה (ה)*

**Glottal fricative [h]**

The name of the letter is normally spelt אֶ or ר, vocalized with ṣere, in the Masoretic treatises.

A dot in a final *he* indicates that the letter was to be pronounced as a consonant and was not merely a vowel letter (*mater lectionis*) for a final vowel, e.g. לְהָ [הל] ‘to her’, but מַלְקֶה [מלק] ‘queen’. This dot is known as *mappiq* (מְפִיק), meaning literally ‘bringing out, pronouncing’. In medieval sources, such as the Masoretic treatises, the term sometimes is vocalized as *mappeq* (מְפֵק),\(^{48}\) which is an Aramaic haf‘el participle from

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\(^{47}\) Ed. Khan, Gallego and Olszowy-Schlanger (2003, §I.24.2): בְּכָלַי פִּי אֲלָלוֹרֵי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי אֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ אֲלָלוֹרֶי מֵאֲלָלוֹרֶיהָ

\(^{48}\) E.g. CUL T-S D1.2.
the root \textit{n-p-q} ‘to come out’. This is the earlier form of the term, \textit{mappiq} being a later Hebraization. Some manuscripts of Masoretic treatises vocalize the term \textit{mappaq} (מָפָק).\footnote{E.g. MS S27, fols. 1r-1v, \textit{Hidāyat al-Qāri}, short version, edition in vol. 2 of this book, §II.S.2.0.} In \textit{Hidāyat al-Qāri}\textsuperscript{2} the consonantal pronunciation of \textit{he} was referred to as ‘appearance’ (\textit{ḏ̣uhūr}).\footnote{Long version, edition in vol. 2 of this book, §II.L.1.3.4.; Eldar (1980, fol. 9b, line 31).}

The \textit{mappiq} is in principle marked in consonantal \textit{he} only at the end of a word since in vocalized texts it is only in this context that there would be ambiguity of reading, e.g. [jalˈdɔːɔh] ‘her child’ as opposed to [jalˈdɔː] ‘girl’. At the beginning or in the middle of a word, a consonantal pronunciation in the onset of a syllable is indicated by a vowel sign on the letter or a following vowel letter, e.g. [jalˈdɔː] ‘the light’ (Gen. 1.3), [nalˈdɔː] ‘it will go’ (Psa. 85.14), [nalˈdɔː] ‘his giving birth to’ (Gen. 5.4) or by a shewa sign in a syllable coda, e.g. [pʰaðahˈʔeːel] ‘Pedahel’ (Num. 34.28). A word-medial \textit{he} that does not have a vocalization sign or is not followed by a vowel letter must be read as a vowel letter, e.g. [pʰaðɔːˈsˁuːurˁ] ‘Pedahzur’ (Num. 1.10; despite the normal English spelling of the latter, the \textit{he} is not pronounced according to the Tiberian reading tradition).\footnote{Ofer (2013).} In some manuscripts, however, consonantal \textit{he} is marked with \textit{mappiq} within a word. This is found in particular in words of unusual form in which consonantal \textit{he} is pointed with shewa, e.g. L and S [bɔhʃəmˈmɔː] ‘when it lies desolate’ (Lev. 26.43), S [bɔhʃəmˈmɔː] ‘when it lies desolate’ (Lev. 26.43).
[phaydaʔehel] ‘Pedahel’ (Num. 34.28). In such contexts, the consonantal he was evidently felt to be at particular risk of being read incorrectly.

In the manuscript A the dot of the mappiq in word-final he is often placed low in the letter, as in Prov. 5.19 shown below, and is occasionally written under the letter: 53

A:

L:  BHS: הָּהֶבֶת ‘with her love’

Mappiq is frequently written under final consonantal he in manuscripts with Non-Standard Tiberian (Non-Standard Tiberian) vocalization, e.g.

Genizah manuscripts

ִית (T-S A11.1, Blapp 2017, 51 | L [BHS]: הִית Job 39.16 ‘her labour’)

ֶל (T-S A11.1, Blapp 2017, 51 | L [BHS]: הֶל Job 39.17 ‘to her’)

ֵל (T-S A11.1, Blapp 2017, 51 | L [BHS]: הֵל Job 40.2 ‘god’)

In Non-Standard Tiberian manuscripts from the Genizah, the mappiq is occasionally written in the lower half of the letter (Blapp 2017, 112, 128).


53 Yeivin (1968, 49–50).
European manuscripts

( Codex Reuchlinianus | L [BHS]: Within her’)

( Codex Reuchlinianus | L [BHS]: her [obj.]’)

( Codex Reuchlinianus | L [BHS]: its boundary’)

( BL Add 21161 | L [BHS]: like the height’)

Mappiq in the form of a dot under a final consonantal he is also found in some manuscripts with Palestinian vocalization, e.g.

( T-S 12.197, Kahle 1927, II, 80; Revell 1970a, 95 | L [BHS]: Its fruits and its good things’)

In Non-Standard Tiberian manuscripts, a mappiq is occasionally written on a word-internal or even a word-initial consonantal he with a vocalization sign. In such cases, it is written within the letter, e.g.

Genizah manuscripts

( T-S A13.35, Blapp 2017, 191 | L [BHS]: streams’)

( T-S A5.12, Arrant 2020 | L [BHS]: and you ignore’)

( CUL Or 1080.A4.18, Arrant 2020 | L [BHS]: they shall be’)

European manuscripts

Mappiq in Non-Standard Tiberian manuscripts is sporadically marked even where the he has the function of a mater lectionis.

It is significant that in A and in Non-Standard Tiberian manuscripts that mark mappiq under the he, when a dot is marked within consonantal ’alef, it is, by contrast, always written within the letter. Moreover, whereas the Masora refers to the dot in ’alef in the four canonical places (§I.I.1.) as dagesh, the term dagesh is never used to refer to the mappiq. The Masoretic notes and treatises generally refer to cases of mappiq in statements containing the participle mappeq ‘to pronounce’ such as

‘Unique words in which one pronounces he’ (Ginsburg 1880, §36)

This demonstrates that the mappiq does not represent gemination. Moreover, he is not geminated in any other context.
On some occasions in Non-Standard Tiberian manuscripts, a final consonantal *he* is marked with a *shewa* sign, e.g.

**Genizah manuscripts**

*אלָו* (T-S A11.1, Blapp 2017, 47 | L [BHS]: אלָו Job 39.17 ‘God’)

*יָגְבָּהְ* (T-S A11.1, Blapp 2017, 48 | L [BHS]: יָגְבָּה Job 39.27 ‘it mounts’)

**European manuscripts**

*יָגְבָּהְ* (Codex Reuchlinianus | L [BHS]: יָגְבָּה Isa. 13.10 ‘[does not] give light’)

When word-final *he* acts as a vowel letter, it is sometimes, though not regularly, marked with *rafe* in the model Tiberian manuscripts, e.g.

L: *לֶשֶׁבּלָו* ‘she was not able’ (Exod. 2.3)

L: *חָזְק* ‘he saw’ (Isa. 1.1)

L: *סַרְבִּי* ‘apostasy’ (Isa. 1.5)

*Rafe* is written more regularly in some Non-Standard Tiberian manuscripts, e.g.

**Genizah manuscripts:**

*אָשִׁפָּה* (T-S A11.1, Blapp 2017, 56 | L [BHS]: אָשִׁפָּה Job 39.23 ‘quiver’)


Consonants

The first consonant is 

(T-S A11.1, Blapp 2017, 59 | L [BHS]: הַּֽ֭וּדָָֿ֛֖יְְ֭הוּדָֿ Psa. 68.28 ‘Judah’)

European manuscripts

(T-S A13.20, Blapp 2017, 174 | L [BHS]: אנָּֽ֖ הֿוֹשׁ יע ַ֣נ י Psa. 69.2 ‘save me!’)

(T-S A13.20, Blapp 2017, 175 | L [BHS]: בָּּמְְְּ֭מ קְה לֹות Psa. 68.27 ‘in the congregation’)

(T-S A13.20, Blapp 2017, 175 | L [BHS]: יִ֥רְאָּדָ֛ ה Psa. 68.28 ‘Judah’)

Here the rafe should, it seems, be interpreted as signalling that the letter is consonantal but not geminated.

The Masora identifies a number of cases where a word-final he that would be expected to be consonantal is not pronounced:

(T-S A11.1, Blapp 2017, 59 | L [BHS]: הַּֽ֭וּדָָֿ֛֖יְְ֭הוּדָֿ Psa. 68.28 ‘Judah’)

The Masora identifies a number of cases where a word-final he that would be expected to be consonantal is not pronounced:
'One of eighteen cases in which he is not pronounced at the end of the word' (Ginsburg 1880, §37)

This list includes cases where the he has the meaning of a 3fs suffix. In some cases, a rafe is marked over the he in L, e.g.

L: וָּסְדָֿהוּ ‘and she daubed it (fs)’ (Exod. 2.3)

L: וָּסְדָֿהוּ ‘its being founded’ (Exod. 9.18)

L: וָּסְדָֿהוּ ‘its (fs) iniquity’ (Num. 15.31)

L: וָּסְדָֿהוּ ‘its (fs) side’ (1 Sam. 20.20)

Another Masoretic note lists pairs of words ending in he, in one member of which it is pronounced consonantal and in the other it is not:

ודּוּאָֽוּ ‘One of eleven pairs, in one of which he is pronounced and the other he is not pronounced at the end of the word’ (Ginsburg 1880, §38)

Some words in this list exhibit what are clearly variant realizations of the 3fs suffix. In some cases where the he is a vowel letter a rafe is marked over the he in L, e.g.

L: וּשְעָרָ ‘and its (fs) hair’ (Lev. 13.20)

L: וּשְעָרָ ‘and its (fs) hair’ (Lev. 13.4)

L: וְאֶתְנ נָ ‘and her hire’ (Isa. 23.18)

L: וְאֶתְנ נָ ‘to her hire’ (Isa. 23.17)

Examples of such 3fs suffixes without consonantal realization could be interpreted as the phonetic weakening of a final consonantal he that has become fixed in the reading tradition.
Alternatively, it may be morphological variation, reflecting different dialectal forms at an earlier period, which has become fixed.

There is ample evidence from the Dead Sea scrolls of the vulnerability of consonantal *he* to weakening in the Second Temple period. The cases of weakening that are discernible in the orthography are between vowels, e.g.\(^{54}\)

- אֲחַר (4Q6 f1.10 | L [BHS]: Gen 48.6 ‘after them’)
- אלהים (8Q4 f1.35 | L [BHS]: Deut. 11.16 ‘gods’)
- לָ֖֤֖הּ (4Q51 9e–i.9 | L [BHS]: 1 Sam 10.8 ‘to offer [sacrifices]’)
- ומטו (1QIsa\(^a\) 10.11 | L [BHS]: Isa. 10.24 ‘his staff’)
- מְשָׁרֵים (1QIsa\(^a\) 22.26 | L [BHS]: Isa. 28.20 ‘[is too short] to stretch out’)
- מָתַת (1QIsa\(^a\) 24.18 | L [BHS]: Isa. 30.10 ‘illusions’)
- לְשָׁמְע (1QIsa\(^a\) 47.26 | L [BHS]: Isa. 58.4 ‘to make heard’)
- בְּתַוָּה (1QIsa\(^a\) 51.9 | L [BHS]: Isa. 63.13 ‘through the depths’)

Weakening of consonantal *he* occurs also in modern reading traditions. This includes the weakening of final *he* written with *mappiq* in the vocalized text, e.g.\(^{54}\)

\(^{54}\) Data supplied by Aaron Hornkohl.
Aleppo

ˌleβadˈdaˑ (Katz 1981, 13 | L [BHS]: הִלְבָדָה Exod. 22.26 ‘by itself [fs.]’)

missobˈʕa (Katz 1981, 13 | L [BHS]: מִשָּׂבָה Ruth 2.18 ‘from her satisfaction’)

Morocco

saraˈta (Akun 2010, 67 | L [BHS]: לָשָׁתָא 1 Sam. 1.6, ‘her rival wife’)

ʕaluˈta (Akun 2010, 67 | L [BHS]: עֲלֹתָא 1 Sam. 1.7 ‘her going up’)

Kerala

hajˈaˈba: (Forsström 2013, 461 | L [BHS]: הָחְשַׁבָּה Gen. 50.20 ‘he meant it [fs.]’)

In the Babylonian reading tradition, a mappiq occurs in a 3fs verbal object suffix attached to a 3fs suffix conjugation form and after an energetic nun (Yeivin 1985, 336). In both these contexts the suffix is regularly non-consonantal in the Tiberian tradition. The Babylonian mappiq is a small superscribed he.⁵⁵

װתָס ע וּכֵ [wχeːʕasˈsaːttʰɔːh] (וְכ עֲס ֹ֤תָה 1 Sam 1.6 ‘and she provoked her’)

Data supplied by Shai Heijmans.

⁵⁵ Data supplied by Shai Heijmans.
Consonants

He will swallow it (f)’

This is most easily interpreted as reflecting the fact that the Babylonian and Tiberian traditions here have different morphological forms of the 3fs suffix. The occasional occurrence of a non-consonantal variant of the 3fs suffix in the Tiberian tradition in other contexts, therefore, could also be the result of morphological variation.

I.1.6. VAV ו 달 (v)

Labio-dental [v] and labio-velar semi-vowel [w]

In *Hidāyat al-Qāri* the name of this letter is spelt וא, which represents, it seems, the corresponding Arabic name (wāw).

According to *Hidāyat al-Qāri*, the place of articulation was the lips. This could be referring to a bilabial [w] or labio-dental [v] pronunciation. It is, however, explicitly stated by David ben Abraham al-Fāsī (tenth century C.E.), the Palestinian Karaite lexicographer, that in Palestine consonantal vav both with and without dagesh was pronounced as a labio-dental. He makes this observation in the entry in his dictionary, *Kitāb Jāmiʿ al-ʾAlfāẓ* (‘The book of the collection of words’) on the name פֻוָה:

פֻוָה הָ֖תוֹלִָ֥ע (Gen. 46.13): name of a man. The accent is on the vav and it is read rafe. The pronunciation of the vav in it is like the way the Palestinians (pronounce the letter in words) such as יהוה ‘be!’ (Gen. 27.29), דָוַָ֗ה ‘ill’ [fs.] (Lev.

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56 E.g. short version, edition in vol. 2 of this book, §II.S.2.2.

20.18, etc.), הֶֽרֶו (‘it watered’ (Isa. 55.10). Some of the teachers have made a mistake by reading it (like the vav in) חָֽוָּ (‘spirit’ and מָֽוָּ (‘soothing’). This is because whenever the accent is on the letter before a vav, its pronunciation is light, between the lips, as in לָ֖רוּ֠ח (‘spirit’ and נָ֖יִָ֨וֹחָ֤ה (‘soothing’, ‘Joshua’, לָ֖נָּ (‘to sway’ (Jud. 9.9, etc.), וָ֖יָּ (‘to hear’, וָ֖יָּ (‘to know’, נָ֖וֹח (‘Noah’, מָ֖ח (‘brain’). Its pronunciation (i.e. the vav of פֻוָֽה, like every (consonantal) vav in our (reading tradition), both light (i.e with rafe) and with dagesh, is between the upper teeth and the lower lip.

Examples with dagesh are: קָֽוָּ (‘their speech went out’ (Psa. 19.5), יָ֖הָ (‘he commanded them’ (Gen. 50.12, etc.), יָ֖אָ (‘as he commanded’ (Gen. 7.9, etc.), נָ֖וֹ (‘that he commands’ (Gen. 18.19, etc.). Examples with light (vav) are: חָ֖וָּ (‘disaster upon disaster’ (Ezek. 7.26), נָ֖וֹ (‘you) be for them a king’ (Neh. 6.6), קָֽוָּ (‘and Saul was refreshed’ (1 Sam. 16.23), נָ֖וֹ (‘those who wait for me will not be put to shame’ (Isa. 49.23).

Now, הֹתוֹ (Gen. 46.13) is like this. 58

Al-Fāsī makes the point here that consonantal vav in all contexts is pronounced as a labio-dental [v]. The only exception is constituted by words that contain a vav followed by a guttural

with a furtive pataḥ such as הָ֖רוּח and נָ֖יִוחוֹח, where it is pronounced ‘light, between the lips’. This must be referring to a bilabial glide between the vowel and the following pataḥ [ˈʁ̟uːwaħ], [niːˈhoːwaħ].

It is stated in the Masoretic treatises that consonantal vav had the same pronunciation as bet rafe, e.g.

Every vav at the end of a word is pronounced according to the Palestinians as a bet rafe. (Hidāyat al-Qāriʾ)⁵⁹

Know that every vav that is prefixed to the beginning of a word and has shewa is read with (the pronunciation of) bet. … I mean it is pronounced as if it were the letter bet, as in … וְאָמ ר ‘and he shall say.’ (Treatise on the Shewa)⁶⁰

Al-Fāsī indicates that the vav in the name הָ֖פוּו (Gen. 46.13) was pronounced like other cases of consonantal vav, i.e. as labiodental [v]. He says, however, that some teachers mistakenly read it as a bilabial [w]. This implies that there were different traditions of pronouncing the vav in this context. Mishaʾel ben ʿUzziʾel (tenth-eleventh century) makes the following observation about the pronunciation of vav in this word in his Kitāb al-Khilaf:

As for the word הָ֖פוּו (Gen. 46.13), there is a consensus that it has a vav that (is pronounced) in the way it is read in

---


⁶⁰ עלס ולָ֖א בָ֖א נבָ֖א פָ֖ר אִלָ֖פתִּה וְחָתַ֖ת שְּוָ֖א יֵקַ֖רְנּוּ בָ֖א ... וְאֵשְׁנִי יֵלֹ֖ר כְּנַ֖ה (ed. Levy 1936).
Iraq, not like bet rafe, as in words such as עֲנָו ים ‘poor’ and so forth (in the pronunciation) of the Palestinians.61

The consensus referred to here is between the foremost Tiberian Masoretic authorities Ben Asher and Ben Naftali. They pronounced the vav in this word in the Babylonian fashion, i.e. as a bilabial [w], not like the labio-dental pronunciation of a bet rafe. This was presumably conditioned by the preceding [uː] vowel: [fuːwɔː].

In Non-Standard Tiberian manuscripts, there are sporadic cases of fricative bet being written where Standard Tiberian orthography has a consonantal vav, which reflects their identical phonetic realization, e.g.

ומַבָא (T-S A5.7, Arrant 2020 | L [BHS]: Deut. 33.26 ‘and in his majesty’)

וּבְגָא בָת (T-S A21.125, Arrant 2020 | L [BHS]: Gen. 2.11 ‘Havilah’)

שָב (T-S AS 44.35, Outhwaite 2020 | L [BHS]: Lam. 2.15 ‘emptiness’)

In Karaite transcriptions into Arabic script, a vav is generally transcribed by Arabic wāw. It is sometimes, however, transcribed by the Arabic letter bāʾ. Arabic bāʾ is used elsewhere to transcribe both plosive bet [b] and fricative bet [v]. The occa-

sional use of $bā'$ to transcribe $vav$ indicates that scribes were confusing the labio-dental realization [$v$] of $vav$ with that of $bet$ $rafe$. It is attested as a transcription of medial and final $vav$, e.g.

$\text{Genizah MS 1, Khan 1990a, 45 | L [BHS]: }$  
Num. 20.3 ‘we had expired’

$\text{Genizah MS 1, Khan 1990a, 45 | L [BHS]: }$  
Num. 15.22 ‘the commandments’

$\text{BL Or 2548 fol. 42r, 3 | L [BHS]: }$  
Isa. 40.31 ‘those who are hoping for’

$\text{Genizah MS 1, Khan 1990a, 45 | L [BHS]: }$  
Num. 19.19 ‘his clothes’

Examples are attested in manuscripts of the transcription of consonantal $vav$ with $bā'$ when preceded by long [$uː$], e.g.

$\text{BL Or 2551 fol. 67r, 9 | L [BHS]: }$  
Psa. 102.10 ‘and my drinks’

This corresponds to al-Fāsī’s description of the $vav$ in this context in the word $\text{[vajiqqu′vaːaj]}$ as a labio-dental [$fu′vɔː$], but not the bilabial pronunciation [$fu′wɔː$] that is ascribed by Misha’el ben ‘Uzzi’el to Ben Asher and Ben Naftali.

There is even one documented case of $bā'$ transcribing a glide before a furtive $pataḥ$: 
نويع [ˈnoːvaʕ] (Genizah MS 13, Khan 1990a, 155 | L [BHS]: פָּו פָּו Psa. 109.10 ‘and wander’)

This does not correspond to al-Fāsī’s description of a bilabial [w] in this context.

The medieval sources, therefore, reflect a variety of different distributions of the labio-dental [v] pronunciation of consonant vav. These are summarized below:

<table>
<thead>
<tr>
<th></th>
<th>Default</th>
<th>After pretonic [u:]</th>
<th>Glide after [u:]/[o:]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misha’el</td>
<td>[v]</td>
<td>[w]</td>
<td>?</td>
</tr>
<tr>
<td>al-Fāsī</td>
<td>[v]</td>
<td>[v]</td>
<td>[w]</td>
</tr>
<tr>
<td>Transcriptions</td>
<td>[v]</td>
<td>[v]</td>
<td>[v]</td>
</tr>
</tbody>
</table>

It should be pointed out that the transcription in which the form نويع [ˈnoːvaʕ] is attested is a liturgical florilegium of biblical verses and exhibits several other deviations from Standard Tiberian reading.

We learn from the passage in the Treatise on the Shewa cited above that an initial conjunctive vav with a shewa was pronounced as a labio-dental like bet rafe, e.g. [vɔʔɔːˈmaːraʃ] ‘and he will say’. How was conjunctive vav pronounced when it has the form י, i.e. before the labial consonants ב and פ or before a silent shewa? This is described in a further passage from the Treatise on the Shewa:

When the vav is next to these three letters, namely בָּן, י, it should not be pronounced in this way (i.e. like bet) and it is not pointed with shewa, but rather with one point in the
body of the \textit{vav}, as in \textit{וּבָנִָ֞ה} ‘and he will build’ (Josh. 6.26, etc.), \textit{וְבָרַָ֣א} ‘and he will create’ (Isa. 4.5), \textit{וָּ֜ב ַ֗ר} ‘and clean’ (Job 11.4), \textit{וּפֶן} ‘and lest’ (Deut. 4.9, etc.), \textit{וּפִ֥וְר} ‘and he will turn’ (Deut. 31.20, etc.), \textit{וּפְחַ֛י} ‘and breathe’ (Ezek. 37.9), \textit{וּפִ֥וֹל} ‘and beans’ (2 Sam. 17.28), \textit{וּפָנִָ֞ה} ‘and turn’ (Deut. 31.20, etc.), \textit{וּפָנִָ֞ה} ‘and and the mouth of’ (Exod. 39.23, etc.), \textit{וּפָנִָ֞ה} ‘and and beans’ (2 Sam. 17.28), \textit{וּפָנִָ֞ה} ‘and and breathe’ (Ezek. 37.9), \textit{וּפָנִָ֞ה} ‘and king’ (Gen. 14.2, etc.), \textit{וּמָֽלָ֥ה} ‘and king’ (Gen. 14.2, etc.), \textit{וּמָלָ֥ה} ‘and her royal office’ Esther 1.19), \textit{וּמָלָ֥ה} ‘and the ruler’ (Gen. 45.8, etc.), \textit{וּמָלָ֥ה} ‘and from upon’ (1 Sam. 6.5, etc.), \textit{וּמָלָ֥ה} ‘and and he acted treacherously’ (cf. Josh. 22.20). Nothing of this category is found that is pointed or read \textit{וְבָנה}, \textit{וְמָשׁ ל}, or \textit{וְפוּט}, because these three letters are different from the other letters in this respect. When they read them (i.e. these words), it is not pronounced \textit{bet}; I mean, the \textit{vav} in them is not pronounced \textit{bet}, as the aforementioned cases that have \textit{shewa}. Rather, you read their \textit{vavs} as if you are pronouncing \textit{א}, as if you are saying \textit{אֻבָנָה}, \textit{אֻבָרָא}, \textit{אֻפָנָה}. You should read all of them in this way. You need not read with a pure \textit{ʾalef}, for an \textit{ʾalef} does not appear in them, but I have only compared it (to \textit{ʾalef}) by way of approximation. ... And if the second letter of the words has \textit{shewa}, then it is always pointed and read with a point in the body of the \textit{vav} and it is not read as \textit{bet}, I mean with \textit{shewa}, rather it is read as a pure \textit{vav}, as in \textit{וּלְל ו ַ֣י} ‘and regarding Levi’ (Deut. 33.8), \textit{וּשְׁמ ִ֥ע} ‘and hear’ (Exod. 23.21, etc.), \textit{וּדְב ִ֥ר} ‘and the matter of’ (Num. 23.3),
According to this passage, the onset of the syllable represented by conjunction ו was not ‘alef. It would be inappropriate, therefore, to transcribe it as [ʔuː:]. This, moreover, would be a heavy CVV syllable, with a consonantal onset and long vowel in the rhyme. This would be an unexpected syllabic structure for a particle that has shewa in other contexts, when compared to the syllable structure of particles such as ב and ל. These latter particles have a short vowel in an open syllable, represented by shewa (i.e. [ba], [la], see §I.2.5.1.) or a short vowel in a closed syllable when followed by a silent shewa, e.g. [liʃmuːʔeːɬ] ʼ to Samuel’. It would be more appropriate to interpret the syllable structure of conjunctive vav ו as [wu], with a voiced labio-velar approximant [w] as onset. Such a voiced onset would resemble the vowel nucleus [u] in acoustic and articulatory properties, and therefore would be difficult to distinguish from a long [uː].
The Karaite transcriptions, indeed, represent the conjunction \( \text{ו} \) with an initial Arabic \( \text{wāw} \) and not an Arabic \( \text{ʾalif} \). In some transcriptions, word-initial \( \text{ו} \) is represented by Arabic \( \text{wāw} \) vocalized with a Hebrew \( \text{qibbuṣ} \), e.g.

\( \text{וּלְנֶכְדֵּי} \) (BL Or 2539 MS A, fol. 65r, 3 | L [BHS]: לְנֶכְדֵּי Gen. 21.23 ‘to my posterity’)

\( \text{וּתְכָל} \) (BL Or 2539 MS B, fol. 124v, 9 | L [BHS]: תְכָל Num. 17.25 ‘so that you may make an end’)

Elsewhere in the manuscripts long \( [u:] \) is transcribed with a \( \text{shureq} \) point in \( \text{wāw} \), e.g.

\( \text{אֲחֹנְוֵנִי} \) (BL Or 2539 MS A, fol. 77r, 7 | L [BHS]: אֲחֹנְוֵנִי Gen. 24.60 ‘our sister’)

\( \text{מִהוֹוֶס} \) (BL Or 2539 MS A, fol. 113v, 5 | L [BHS]: מִהוֹוֶס Deut. 23.11 ‘from outside’)

\( \text{תָגִּוִּו} \) (BL Or 2539 MS B, fol. 122v, 11 | L [BHS]: תָגִּוִּו Num. 16.26 ‘you touch’)

This applies even to cases where the orthography in the Hebrew \( \text{ketiv} \) is defective and the Tiberian codices have a \( \text{qibbuṣ} \), e.g.

\( \text{לְרָבָנָו} \) (BL Or 2539 MS A, fol. 63r, 2 | L [BHS]: לְרָבָנָו Gen. 21.7 ‘in his old age’)
This suggests that the vocalization with \textit{qibbuṣ} reflects a consonantal + short vowel \([wu]\). In one manuscript an Arabic \textit{damma} vowel is written on the \(\text{wāw}\) rather than a \textit{qibbuṣ}, e.g.

\[
\text{וּיַאֲכַלְוֹهوּ} \quad (\text{BL Or 2539 MS B, fol. 119r, 1 | L [BHS]}: \text{Num. 9.11} \text{‘they shall eat it’})
\]

In one manuscript, an initial conjunctive \(\&) is transcribed by Arabic \(\text{wāw}\) vocalized with a Hebrew \textit{shewa}. This most likely represents a consonantal onset followed by a short vowel, e.g.

\[
\text{וּמָּסַף} \quad (\text{BL Or 2539 MS A, fol. 73v, 9 | L [BHS]}: \text{Gen. 24.32} \text{‘and fodder’})
\]

\[
\text{וּמָּאָמִים} \quad (\text{BL Or 2539 MS A, fol. 74r, 1 | L [BHS]}: \text{Gen. 24.32} \text{‘and water’})
\]

In one manuscript an Arabic \textit{fatha} sign is marked over the \(\text{wāw}\) that transcribes conjunctive \(\&)\), e.g.
This reflects a variant reading tradition in which the conjunctive vav is read [va] even before a labial. This may be what the vocalization with shewa in the manuscript BL Or 2539 MS A was intended to represent. In Standard Tiberian pronunciation [wu] reflects the shift of the short vowel to a rounded quality by assimilation to the labial environment. One may compare traditions of reading such as [vami:] (L [BHS]: וּמַ֣י) to cases in Origen’s Hexapla such as the following, where the Greek transcription has οὐα or οὐε where the Standard Tiberian tradition has וּמַי:63

οὐαδοῦ (Ambrosiana Palimpsest | L [BHS]: οἶδε Πσα. 46.11 ‘and know! (mp)’)

οὐαλσων (Ambrosiana Palimpsest | L [BHS]: Αἴσθητι Πσα. 35.28 ‘and my tongue’)

οὐαρημ (Ambrosiana Palimpsest | L [BHS]: Ρημί Πσα. 28.9 ‘and shepherd (ms) them!’)

οὐεβροβ (Ambrosiana Palimpsest | L [BHS]: ἐβρᾶ Psa. 49.7 ‘and in the multitude of (cstr.)’)

Similar forms are occasionally found in the Babylonian tradition, e.g.64

עָבָדְשָׁה (Yeivin 1985, 1152 | L [BHS]: מַעֲשָׁה Mal. 2.6 ‘and in uprightness’)

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63 Data supplied by Ben Kantor.
64 Data supplied by Shai Heijmans.
The normal vocalization of \( \text{vav} \) in the Babylonian tradition in such contexts, however, is with \( \text{ḥireq} \), e.g.

\begin{equation*}
\text{הומָמה} \text{ וַי} \text{ Prov. 15.16 ‘and trouble’}
\end{equation*}

\begin{equation*}
\text{בְּפִשְׁעֵַבָּֽפ} \text{ וִי} \text{ Is. 50.1 ‘and for your transgressions’}
\end{equation*}

\begin{equation*}
\text{וּבְכָּ֑וַי} \text{ Ecc. 2.21 ‘and with skill’}
\end{equation*}

There is an exceptional case of \( \text{ḥireq} \) in L after conjunctive \( \text{vav} \) in this context, where \( \text{ו} \) is expected:

\begin{equation*}
\text{וּשְׁאָֽלְך} \text{ (Gen. 32.18 ‘and he will ask you’ | S: וֶֽשְׁאָֽלְך)}
\end{equation*}

When word-initial conjunctive \( \text{ו} \) is followed by a consonant with silent shewa, it sometimes takes minor gaʿya in the Tiberian tradition. Minor gaʿya lengthened the duration of a short vowel in a closed syllable slightly (represented in IPA as a half-long vowel, cf. §I.2.8.2.2.). When this is the case, some transcriptions represent the lengthened syllable with two Arabic \( \text{wāws} \). This must be interpreted as representing a consonantal onset followed by a lengthened vowel \([uˑ]\) vowel, i.e. \([wuˑ]\), e.g.

\begin{equation*}
\text{וּלְהֻֽעַלְו} \text{ Exod. 3.8 ‘and to bring him up’)
\end{equation*}

\begin{equation*}
\text{וּלְיָֽעַיְו} \text{ Num. 32.11 ‘and to Jacob’}
\end{equation*}
The same transcription is found when a word-initial conjunctive \( \dagger \) is lengthened by a phonetic gaʿya (§I.I.2.5.8.4.), which causes a following shewa to be read as vocalic, e.g.

\( \text{וּלְא הֲרָן} \) (BL Or 2544 fol. 158r, 4 | L [BHS]: \( \text{וְלַא הֲרָן} \) Exod. 8.4 ‘and to Aaron’)

In some model Tiberian codices a vav before a following \([uː]\) is written with a dot. This could be interpreted as an attempt to represent a labio-velar onset \([w]\) rather than \([v]\), e.g.\(^{65}\)

L, A: \( \text{וּלְא הֲרָן} \) (Deut. 29.25 ‘and they worshipped’)
L, B: \( \text{וְלַא הֲרָן} \) (Exod. 35.26 ‘they span’)
C: \( \text{וְלַא הֲרָן} \) (Jer. 50.5 ‘let us join’)

In some manuscripts, consonantal vav, before \([uː]\) and also in other contexts, is marked with a rafe, e.g.\(^{66}\)

C: \( \text{וּלְא הֲרָן} \) (Isa. 46.5 ‘and you make equal’)
L: \( \text{וְלַא הֲרָן} \) (Psa. 90.17 ‘and let it be’)

In manuscripts with Non-Standard Tiberian vocalization, these two strategies for marking consonantal vav have been extended to other contexts. The placement of a dot in consonantal

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\(^{66}\) Yeivin (1980, 286).
vav is found in such manuscripts in word-initial, word-medial and word-final position, e.g.

Genizah manuscripts

אִָ֑רֶץוָּ (T-S A13.20, Blapp 2017, 162 | L [BHS]: אִָ֑רֶץ Psa. 69.35 ‘and earth’)

וְּעָ֣ם (T-S A13.20, Blapp 2017, 162 | L [BHS]: וְעָ֣ם Psa. 69.29 ‘and with’)

יָֽקְוָָּ֖ת (T-S A13.20, Blapp 2017, 162 | L [BHS]: יָֽקְוָָּ֖ת Psa. 71.5 ‘my hope’).

עָלָ֣י (T-S A11.1, Blapp 2017, 51 | L [BHS]: עָלָ֣י Job 39.23 ‘upon him’)

European manuscripts

אָלִ֖י (ASCNON B.I.1v, Pilocane 2004, 27 | L [BHS]: אָלִ֖י Num. 27.11 ‘to him’)

In such contexts, the vav would have been pronounced as a labio-dental according to the Standard Tiberian tradition. Moreover, in some cases, a vowel sign is written under it, which shows it must be consonantal, e.g. אִָ֑רֶץ. Comparison with the strategies for marking consonantal vav in the Babylonian and Palestinian traditions, however, suggest that the dot in the vav should be interpreted as a shureq vowel sign. Its purpose in the Non-Standard Tiberian manuscripts was to ensure that the letter was read as a separate segment from the adjacent vowel, although it was only an approximating representation of its pronunciation, i.e. presumably a labio-dental.
In Babylonian vocalization, consonantal vav is sometimes vocalized with a sign that can only be interpreted as a shureq vowel, e.g.67

וִיב (OB, Yeivin 1985, 267 | L [BHS]: אָבִי Deut. 27.16 ‘his father’)

ואָ֖ו (LB, Yeivin 1985, 267 | L [BHS]: אָלִין Job 21.33 ‘and before him’)

וְ (OB, Yeivin 1985, 267 | L [BHS]: וְ Prov. 26.3 ‘for the back’)

According to the Misha’el ben ʿUzzi’el in the passage cited above, the Iraqis, i.e. the Jews of Babylonia, pronounced consonantal vav as a bilabial, so a shureq was more appropriate as a representation of its pronunciation than in the Tiberian tradition. In manuscripts with Palestinian vocalization, the vowel sign of holem occasionally represents consonantal vav, e.g.

וֹוּ (Bod. Heb. d 44, ff. 1-4, Dietrich 1968, 25* | L [BHS]: וֹוּז 2 Kings 2.15 ‘and they bowed before him’)

וַ֥ (T-S 20.53, Murtonen 1958, דל, Allony and Díez Macho 1958, 259 | L [BHS]: שֶׁוּז Psa. 30.3 ‘I cried’)

The holem sign here, as with the Tiberian shureq, must be regarded as an approximating representation of the labio-dental pronunciation of Palestinian consonantal vav.

In Gen. 46.13 L has a dot in the second vav of והם. Some early codices do not have the dot, e.g. S: והם. In B a dot appears

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67 Data supplied by Shai Heijmans.
to have been written and then erased. The name occurs also in Num. 26.23 where L and other early codices have לְפוּם without the dot. It is likely that the dot in the vocalization of L in Gen. 46.13 should be identified as *shureq* to mark the consonantal pronunciation of the letter rather than a *dagesh* and the reading [fuːˈwɔː] was intended, as in other manuscripts. The Babylonian vocalization of וּפֻוָּה (L, Gen. 46.13) is וּפֻוָּה (Yeivin 1985, 764), with a *shureq* over the vav and no vocalization on the pe. This could be compared to Tiberian vocalizations such as וּפֻוָּה, which al-Fāsī claims contained a bilabial glide: [ʁuːwaːh]. Babylonian וּפֻוָּה is likely to have been intended to represent [fuːˈwɔː].

In Non-Standard Tiberian manuscripts, *rafe* is marked on consonantal vav in a wider range of contexts than in the Standard Tiberian codices. It is found on vav in word-initial and word-medial position, e.g.

- וְגוֹם (T-S A12.1, Blapp 2017, 99 | L [BHS]: וְגוֹם Ruth 1.12 ‘and also’)
- הָֽוֹנָה (T-S A12.1, Blapp 2017, 99 | L [BHS]: הָֽוֹנָה Prov. 29.20 ‘hope’)
- הָֽוֹנָה (T-S A12.1, Blapp 2017, 99 | L [BHS]: הָֽוֹנָה Prov. 29.23 ‘pride’)

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68 A trace of dot is visible and the parchment has been scraped.

69 In later sources the dot in the word is referred to as a *dagesh*. Jedidiah Norzi (seventeenth century) in his work *Minḥat Shai* (Mantua, 1742–44 ad loc. Gen. 46.13) refers to it as *dagesh* and notes that there were differences of opinion about its presence in the name in Gen. 46.13 in the sources available to him.
The function of the *rafe* here is to mark the letter as consonantal but ungeminated.

Occasionally a *rafe* sign is used to mark consonantal ungeminated *vav* in Palestinian vocalization, e.g.

 jogging (T-S 12.195, Kahle 1930, 83 | L [BHS]: יֱִּֽֽוָ֝֗וֶל Psa. 53.2 ‘iniquity’)

In Non-Standard Tiberian manuscripts, a consonantal *vav* is indicated by a *shewa* sign, often written within the letter. The *shewa* makes it clear that the letter closes a syllable and so is to be read as a consonant, e.g.

Genizah manuscripts

 jogging (T-S A13.18, Blapp 2017, 125 | L [BHS]: יַּ֖וֶל Psa. 89.46 ‘on him’)

 jogging (T-S A13.18, Blapp 2017, 125 | L [BHS]: נִ֖פְּפִי Psa. 91.4 ‘his wings’)

European manuscripts

 jogging (Codex Reuchlinianus, Morag 1959, 219 | L [BHS]: יַֽהַ֖וּל Isa. 6.1 ‘and his train’)

 jogging (BL Add 21161 | L [BHS]: נֵ֖רֶנֶה Hos. 14.1 ‘and his pregnant women’)

The distinction in the Middle Ages between the pronunciation of *vav* as a labio-dental in Palestine and its pronunciation as bilabial in Iraq is continued in modern reading traditions. In reading traditions of the Levant, such as Aleppo, consonantal *vav* is pronounced as a labio-dental, e.g.
The occurrence of *pe* in place of consonantal *vav* in a biblical manuscript from Qumran could be taken as evidence that the labio-dental pronunciation already existed in the Second Temple period:

(4Q111 3.8 | L [BHS]: צֶּפֶה חוֹרָה לֵיתָאָּוַָּ֞וָּ֦ו Lam. 1.17 ‘The Lord commanded Jacob’)

The pre-Masoretic transcriptions into Greek and Latin, however, reflect a pronunciation of the consonantal *vav* as a bilabial [w]. In Greek this is represented by ου or υ and in Latin by *u*, e.g.⁷²

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⁷⁰ Here and elsewhere the transcription system of Ben-Ḥayyim is used for the Samaritan tradition.

⁷¹ Data supplied by Aaron Hornkohl.

⁷² Data supplied by Ben Kantor.
Consonants

Septuagint (third century B.C.E.)

Οὐκάν (Göttingen Septuagint | L [BHS]: ὅτι Gen. 36.27 ‘Akan’)

Εὕαν (Göttingen Septuagint | L [BHS]: ἡ ἐν Gen. 4.1 ‘Eve’)

Hexapla of Origen (c. 185–254 C.E.)

ουαδωρ (Ambrosiana Palimpsest | L [BHS]: דָּה Ps. 49.12 ‘and generation’)

βγηουαθω (Ambrosiana Palimpsest | L [BHS]: בֵּגַו Ps. 46.4 ‘at its swelling’)

Jerome (346-420 C.E.)

uaiomer (Jerome, Epistula LXXIII.55.18, ed. Hilberg | L [BHS]: לָאָלֵה Gen. 4.15 ‘and he said’)

illaue (Jerome, Hebraicae Quaestiones in Libro Geneseos, ed. de Lagarde et al., 6.5, 6, 12 | L [BHS]: יָּלוֹה Gen. 29.34 ‘[my husband] will join himself [to me]’)

In medieval Greek transcriptions, on the other hand, consonantal vav is represented by β, which reflects [v], e.g.

Nikolaos of Otranto (1155/60–1235)

βεέθ (Kantor forthcoming | L [BHS]: יָּרֵנ Gen. 1.1 ‘and (direct object marker’)’)

βιγιομερου (Kantor forthcoming | L [BHS]: רֵפָּאִּי Ex. 32.4 ‘and they said’)

In modern Iraqi reading traditions, such as Baghdad (Morag 1977, 8) and Kurdistan (Sabar 2013), vav is pronounced as a bilabial [w]. The same applies to the Yemenite reading tradition,
which was closely related historically with Babylonia in the Middle Ages (Morag 1963; Ya’akov 2015), e.g.

\[ \text{wējīdgū (Baghdad, Morag 1977,8 | L [BHS]: וּֽ֥וְיְדִגּוֹ Gen. 48.16} \]

‘and let them increase’)

\[ \text{wāʃafāṭ (Yemen, Morag 1963,42 | L [BHS]: וְשָׁפָּט} \]

‘and He will judge’)

I.1.7. ZAYIN ז (ז)

Voiced alveolar sibilant [z]

According to *Hidāyat al-Qāri*’, the Tiberians called this letter ẓāy (זג), which is the name of the corresponding Arabic letter.\(^73\) A shortened form of the name, zay, was also used in Jewish Palestinian Aramaic (Sokoloff 1992, 175) and Syriac (Payne Smith 1879, 1116).

*Hidāyat al-Qāri*’ states that the place of the articulation of the letter is the teeth.\(^74\) This evidently refers to the movement of the teeth accompanying the pronunciation of the sibilants. The author does not mention the action of the tongue, which was the main articulator.\(^75\) The *Sefer Yeṣīra* describes zayin as being articulated between the teeth with a ‘resting tongue’, or a ‘flat

\(^{73}\) Long version, edition in vol. 2 of this book, §II.L.1.1.2.


\(^{75}\) Cf. Eldar (1980, n.70).
Consonants

In both these passages, the intention may have been that the tongue tip was not engaged in the articulation of the letter, i.e. it was articulated with the blade.

_Hidāyat al-Qāri‘_ mentions that there is a variant form of _zayin_ which is called _zāy makrūkh_, but the author says he knows nothing about it.

It is said that there are some who attribute a particular feature to _zayin_ and call it _zāy makrūkh_. I have not, however, been able to identify their purpose in using the term _makrūkh_, so that I could have described it.\(^77\)

It has been stated previously that I do not know anything that I can report about the _zāy makrūkh_. I have only mentioned it so that it be known that letters have different attributes.\(^78\)

The term _makrūkh_ was used to refer to an emphatic, i.e. pharyngealized, form of _resh_ (§I.1.20.). It appears, therefore, that


\(^78\) Long version, edition in vol. 2 of this book, §II.L.1.9.8. Cf. also Eldar (1984a, 32). The Yemenite orthoepic treatise known as the Hebrew _Maḥberet ha-Tījān_, which was based on the long version of the _Hidāya_, contains a similar statement: ‘זַי יֶשׁ לְהָם יִדְוְדִיוֹרָך מֵאָבוֹרַא יַחַוָא אָבְלוֹזַי נְקְרָע הלִי ידְוָא הָאָבָלִי’ They (i.e. the Jews of Palestine) have a _zayin_ called _makrūkh_, but it is unfamiliar to us (i.e. the Jews of Yemen)’ (ed. J. Derenbourg 1871, 81); cf. Morag (1960, 210, n. 45).
the zāy makrūkh was an emphatic [zˁ], though its distribution is unknown.

An anonymous Masoretic treatise refers to two variant forms of the letter šade in the Tiberian Hebrew reading tradition:

There is another letter (with two realizations), which the people of Palestine never utter (in their vernacular speech). This is šade and (variant) šade. It is, however, familiar to the inhabitants of the lands (of the diaspora) due to their living in close proximity to other peoples and their using other languages and languages of other nations.79

It is possible that this is referring to a voiced variant of šade, i.e. [zˁ]. Ibn Khaldūn (North Africa, d. 1406), indeed, refers to a voiced allophone of šade [zˁ] in the pronunciation of the name אֲמִצְיָה, i.e. [ʔamazˁjɔːhu].80

Sibawayhi describes the existence of an emphatic [zˁ] sound in Arabic, which arose through partial assimilation of the letter šād to an adjacent voiced consonant. With regard to the pronunciation of the šād in the word mašdar ‘source’ he states:

79 Ed. Allony (1973, 102, lines 29-32 [Allony’s reading has been corrected in places]): הָ֖וָ֖הוָ֖צֶֽדיָ֖צֶֽדיָ֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖הָ֖עָ֖רףָ֖אָ֖לָ֖אָ֖יוֹםָ֖ם הָ֖לָ֖וָ֖אָ֖לָ֖פָ֖אָ֖שֶֽנֶ֖אָ֖בָ֖ר הָ֖וָ֖זֶֽדיָ֖צֶֽדיָ֖֖ואנָ֖ah

80 He describes the šade as al-šād al-mušamma bi-l-zāʾ ‘šād flavoured with zāʾ’; cf. Schreiner (1886, 254).
They make it (the šād) similar to the homorganic letter that is most like dāl, i.e. zāy, since it is unaspirated and not emphatic, but they do not change it into pure zāy, lest the emphatic quality of the letter be removed.  

An emphatic Arabic zāy was recognized as an additional Arabic letter in some medieval works on the correct recitation of the Qurʾān (tajwīd), where a voiced variant of an Arabic šād is intended. The Tiberian terminology may have been influenced by this tradition in the Arabic tajwīd literature.

The statement in Hidāyat al-Qāri‘ concerning the zāy makrūkh implies that it is a variant of the written letter zayin (‘there are some who attribute a particular feature to zayin’). The foregoing discussion, however, suggests that the term is referring to the voiced oral reading of the šade.

I.1.8. ḤET (ח)

Unvoiced pharyngeal fricative [h]

This letter is transcribed by Arabic ḥāʾ (unvoiced pharyngeal fricative) in the Karaite transcriptions, e.g.

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81 حضاً بِضَرْعَاءُ نَبِيَّةُ الأَحْرَى الْقُلْبُ وَالْوَجْهُ وَالْأَذْنَةِ وَالمَيْدَانُ وَلَمْ يَبْذِلْهَا زَايَةَ خَالِصَةَ كَرَاهِيَةُ الْاِجْحَافِ بِهَا لِلْإِطِبَاقِ ُ, al-Kitāb, ed. Derenbourg (1889, 476–77).

82 Makkī ibn Ṭālib al-Qaysī (d. 437/1045), for example, refers to šād allati yukāliṭu lafẓuhā lafša al-zāy ‘A šād whose pronunciation is mixed with that of zāy’, as in قُسْمُ (الصراط) = (الزراء), al-Riʿāya li-Tajwīd al-Qirāʿa wa-Taḥqiq Láfẓ al-Tilāwa (ed. Farḥāt 1996, 107).
According to *Hidāyat al-Qāri‘*, the pharyngeals and the laryngeals had the same place of articulation:

The letters הָאָחָה have a single place of articulation. This is the throat and the root of the tongue. The Tiberians call it the ‘root of the tongue’ and ‘place of swallowing’.\(^{83}\)

It is possible that the division of this place of articulation into the ‘root of the tongue’ and ‘place of swallowing’ was intended to refer to the production of the pharyngeals and laryngeals respectively. Some medieval grammarians state that הֶט and its voiced counterpart ‘אֵיִין were articulated less deep in the throat than ‘אָלֵף and ה.\(^{84}\)

In the Standard Tiberian tradition, הֶט does not take dagesh. According to *Hidāyat al-Qāri‘*, the letter הֶט could not be made...  

\(^{83}\) Long version, edition in vol. 2 of this book, §II.L.1.3.2.

'heavy' with *dagesh*, i.e. it could not be pronounced with different degrees of muscular pressure.

In Non-Standard Tiberian vocalization, the distribution of *dagesh* is different from that of the Standard Tiberian tradition. The distribution of *dagesh* characteristic of the בגדכפת consonants is extended to most other consonants, with the result that, like the בגדכפת consonants, they take *dagesh* after a silent *shewa* or at the beginning of a word when not preceded by a word ending in a vowel and a conjunctive accent (Morag 1959; Blapp 2018). The *dagesh* in these consonants represented gemination (Yeivin 1983; Khan 2017). Further details of this system of marking *dagesh* will be given in §I.3.3. What is significant here is that the extension of *dagesh* to consonants other than בגדכפת in Non-Standard Tiberian manuscripts does not include the pharyngeals, which in the vast majority of cases do not take *dagesh*. This reflects the difficulty of geminating these consonants. A *dagesh* is found only very sporadically marked on *ḥet* in Non-Standard Tiberian manuscripts, e.g.

Genizah manuscripts

ח י יִ֑ם (T-S A13.20, Blapp 2017, 163; 2018, 143 | L [BHS]: ה יה Psa. 69.29 ‘the living’).

European manuscripts

מלְתֶּך (Codex Reuchlinianus, Morag 1959, 219 | L [BHS]: מ לְתֶך 2 Sam. 11.25 ‘your fighting’)

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This may have been a strategy for ensuring that the letter was read correctly and did not lose its consonantal pronunciation, rather than marking gemination. The *rafe* sign is occasionally used with a similar function in Non-Standard Tiberian manuscripts. As in some other contexts in Non-Standard Tiberian manuscripts, the *rafe* here marks the letter as consonantal but not geminated, e.g.

\[ \text{ soluble } (\text{Blapp 2017, 175} | \text{L [BHS]}: \text{ soluble } \text{Psa. 69.6} \text{‘they are [not] hidden’}) \]

Both of these strategies for ensuring that the letter is read and not weakened are found in Palestinian vocalization, e.g.

**Dagesh**

\[ \text{ soluble } (\text{Fassberg 1987, 84} | \text{L [BHS]}: \text{ soluble } \text{Lam. 1.2} \text{‘her cheek’}) \]

**Rafe**

\[ \text{ soluble } (\text{T-S 12.195, Kahle 1930, 82-84} | \text{L [BHS]}: \text{ soluble } \text{Psa. 53.4} \text{‘they have become corrupt’}) \]

The potential vulnerability of *het* to weakening is reflected in Non-Standard Tiberian manuscripts by the practice of marking a *shewa* sign under the letter in word-final position. The purpose of this was to draw attention to the fact that they are consonants closing a syllable and are not to be weakened and read as vowel letters, e.g.

**Genizah manuscripts**

\[ \text{ soluble } (\text{T-S A11.1, Blapp 2017, 48} | \text{L [BHS]}: \text{ soluble } \text{Job 39.14} \text{‘and she forgot’}) \]
Consonants

European manuscripts

Within the Standard Tiberian reading tradition a *het* was prevented from potential weakening in some contexts by lengthening the vowel before it (§I.2.10.), e.g. מְחַיָּה [wufθəˈhjəː] ‘and Pethahiah’ (Neh. 11.24), מְחַיָּה [miθəˈhjəː] ‘reviving’ (Ezra 9.8). Another strategy to protect the consonantal pronunciation of *het* at the end of a word-internal syllable was to place a *dagesh* in the following letter (§I.3.1.11.2.). This is found in some early manuscripts (Yeivin 1980, 295; Ginsburg 1897, 133), e.g.

There is clear evidence from the Dead Sea scrolls of the weakening of *het* in some biblical reading traditions in the Second Temple period, especially that of 1QIsa. This is reflected by the occurrence of *he* or ‘*alef* where the Masoretic tradition has *het*, e.g. 86

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86 Data supplied by Aaron Hornkohl. Cf. also Reymond (2014, 92).
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In the modern Samaritan reading tradition *het* has weakened in most contexts to *ʾalef* or zero (Ben-Ḥayyim 2000, 38–39), e.g.

- בֶּֽחֱל ַ֔י (1QIsaᵃ 44.17 | L [BHS]: הֶּֽחֱל ַ֔י Isa. 53.10 ‘he caused him sickness’)
- בְצ חְצָחוֹת (1QIsaᵃ 48.6 | L [BHS]: בְצ חְצָחוֹת Isa. 58.11 ‘in scorched places’)
- וּֽי ָֽהֱלֹלֵּֽהו (1QIsaᵃ 37.6 | L [BHS]: יָֽהֱלֹלֵּֽהו Isa. 43.28 ‘and I will profane’)

The weakening of the pharyngeals reflected in the Dead Sea scrolls and the Samaritan tradition had its roots in the contact of Hebrew with non-Semitic languages, in particular Greek, in the pre-Islamic period. The measures taken to ensure the correct reading of the *ḥet* in the medieval manuscripts described above show that a special effort had to be made to avoid its being weakened in the transmission of the Masoretic biblical reading traditions still in the Middle Ages. Indeed, in the medieval period there is evidence for the weakening of the pharyngeals in Palestinian liturgical poetry (§I.0.9.).

87 Data supplied by Aaron Hornkohl.
I.1.9. ḥet (ח)

Emphatic (i.e. pharyngealized, with retracted tongue root and increased muscular pressure) unvoiced alveolar plosive [tʰ]

According to Hidāyat al-Qāri', it was articulated with the tongue tip and the gums. In the Karaite transcriptions, it is represented by Arabic ūṭā, which was a pharyngealized [tʰ], e.g.

mlandona (BL Or 2539 MS B, fol. 131v, 11 | L [BHS]: Lmlandona | BHS: וּמ ה־טֻב
Num. 24.5 ‘how fair are [your tents’)]

mihow (BL Or 2539 MS A, fol. 57r, 8 | L [BHS]: Gen. 14.23 ‘from a thread’)

kmtay (BL Or 2539 MS A, fol. 64r, 3 | L [BHS]: Gen. 21.16 ‘like the shots of’)

In Greek transcriptions from the pre-Masorethic period, ḥet is represented by Greek tau, which was an unaspirated stop [t]. In Latin transcriptions from the pre-Masorethic period it is represented by Latin t, which likewise represented an unaspirated stop [t]. These reflected the unaspirated realization of the ḥet, which is also a feature of Arabic ūṭā. Examples:89

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89 Data supplied by Ben Kantor.
Septuagint (third century B.C.E.)

Φουτιήλ (Göttingen Septuagint | L [BHS]:וּטִּיָּ֖֙וּפ Ex. 6.25 ‘Putiel’)

Ἰεκτάν (Göttingen Septuagint | L [BHS]:יָקְטָּֽן Gen. 10.25 ‘Joktan’)

Λῶτ (Göttingen Septuagint | L [BHS]: לִָ֖֙וּפ Gen. 11.27 ‘Lot’)

Hexapla of Origen (c. 185–254 C.E.)

βατε (Ambrosiana Palimpsest | L [BHS]: בָטִ֥ח Psa. 28.7 ‘[my heart] trusted’)

εμματ (Ambrosiana Palimpsest | L [BHS]: וֹטִָ֥֖֖מִָ֖֖א Psa. 30.7 ‘I [will not] be moved’)

φελλετηνι (Ambrosiana Palimpsest | L [BHS]: טּֽנ יָלְָ֖֖פ Psa. 31.2 ‘rescue me! (ms)’)

Jerome (346-420 C.E.)

phut (Jerome, Commentary on Ezekiel, ed. Glorie, VIII.27.935 | L [BHS]:וּטִּיָּ֖֙וּפ Ezek. 27.10 ‘Put’)

atemoth (Jerome, Commentary on Ezekiel, ed. Glorie, XII.40.517–518 | L [BHS]:אֲטֻמַ֣וֹת Ezek. 40.16 ‘narrowing (fp)’)

bete (Jerome, Hebraicae Quaestiones in Libro Geneseos, ed. de Lagarde et al., 54.5 | L [BHS]:חֶבֶּ L [BHS]:חֶבֶּ Gen. 34.25 ‘security’)

mesphat (Jerome, Commentary on Isaiah, ed. Gryson, II.42.6 | L [BHS]: תוֹפָָ֖֖שְָׁ֖֖לְמ Isa. 5.7 ‘judgment’)

phaleta (Jerome, *Commentary on the Minor Prophets*, ed. Adriaen, Joel, II, p. 197, line 783 | L [BHS]: פְל יטַָ֗ה Joel 3.5 ‘I will pour’)

I.1.10. YOD ד (ן)

Palatal unrounded semi-vowel [j]; voiced palatal stop [j] when geminated

Saadya states that the Tiberians pronounced *yod* with *dagesh* like Arabic *jīm*:

As for *jīm*, it is in between *gimel* and *yod*. This is why the Tiberians pronounce it [i.e. *jīm*] when (reading) *yod* with *dagesh*.90

According to the early Arabic grammarians Sībawayhi and al-Khalīl (eighth century C.E.), *jīm* was realized as a voiced palatal stop [j], which had the same place of articulation as the Arabic *yāʾ* (the semi-vowel [j]), so presumably Saadya is referring to the realization of *yod* with *dagesh* as [j], e.g. יִשְׁמַר [vajjaʃˈmeːd] ‘and he destroyed’ (1 Kings 16.12), which resulted from the strengthening of the articulation of [j] to a stop.91

90 אמא אלניב פְל יטַָ֗ה Joel 3.5, וַאֲמָא אָלָ֖נְיָ֖ה, לְזַ֖רְעֵ֛ה נְעֻלֶֽהְוָ֗ה אֶֽלְשַׁבְרַ֖אִית פֵּאָֽלִיָּ֖ד אָלָֽדוּש, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 42–43).

91 In some of the early Arabic dialects geminated *yāʾ* was pronounced like *jīm*; cf. Roman (1983, 101–6, 218). Ibn Sīnā in the eleventh century describes *jīm* as pronounced slightly further forward (Roman 1983, 243–46).
In many Non-Standard Tiberian manuscripts, a word-final consonantal yod is marked by a lower dot, which can be identified as a ḫireq vowel. Occasionally the yod is also marked with a rafe sign, e.g.

**Genizah manuscripts**

רָחַל (T-S A12.1, Blapp 2017, 84 | L [BHS]: רָחַלProv. 30.9 ‘my God’)

רָחַל (T-S A13.18, Blapp 2017, 130 | L [BHS]: רָחַל Psa. 89.35 ‘my lips’)

**European manuscripts**

רַהַנ (Codex Reuchlinianus, Morag 1959, 220 | L [BHS]: רַהַנ Isa. 1.24 ‘from my enemies’)

רַה (BL Add 21161 | L [BHS]: רַה Joel 1.6 ‘nation’)

In Babylonian vocalization, a ḫireq is marked not only on word-final consonantal yod but also on consonantal yod that occurs within a word, e.g.\(^92\)

יוֹט (OB, Yeivin 1985, 277 | L [BHS]: ניוֹט Psa. 102.12 ‘bent’)

יוֹט (OB, Yeivin 1985, 277 | L [BHS]: ניוֹט Jer. 18.8 ‘the nation’)

יוֹט (OB, Yeivin 1985, 275 | L [BHS]: ניוֹט Ezek. 17.6 ‘and it became’)

יוֹט (MB, Yeivin 1985, 275 | L [BHS]: ניוֹטProv. 31.10 ‘virtue’)

\(^92\) Data supplied by Shai Heijmans.
Another strategy for marking word-final consonantal yod that is sporadically found in Non-Standard Tiberian is to write a dot within the body of the letter, which can be identified as a mappiq sign, e.g.

לְפָנ ִ֥י (T-S A11.1, Blapp 2017, 51 | L [BHS]: לְפָנ ִ֥י Job 41.2 ‘before me’)

These strategies for marking word-final consonantal yod reflect the perception that the letter was a weak consonant and was vulnerable to being slurred over.

There is some sporadic evidence in various Greek transcriptions from the pre-Masoretic period of the weakening and contraction of yod where it is consonantal in the Masoretic tradition, e.g.\(^93\)

Hexapla of Origen (c. 185–254 C.E.)

Final ay represented by eta possibly reflecting contraction to ĕ (Kantor 2017, 234):

ωεβη (Ambrosiana Palimpsest | L [BHS]: א יְב ַ֣י Psa. 35.19 ‘my enemies’)

σωνη (Ambrosiana Palimpsest | L [BHS]: ש נְאִַ֥י Psa. 35.19 ‘those who hate me’)

Septuagint (third century B.C.E.)

Zero representation where consonantal yod appears in the Masoretic tradition:

\(^93\) Data supplied by Ben Kantor.
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Ἀληλί (Göttingen Septuagint | L [BHS]: יִתְנָלָל Num. 26.26 ‘Jahleelite’)

Ἀσιηλί (Göttingen Septuagint | L [BHS]: יִתְנָא ל Num. 26.48 ‘Jahzeelite’)

Ἐτεβάθα (Göttingen Septuagint | L [BHS]: יִתְבָּה Num. 33.33 ‘Jotbathah’)

In some of the biblical Dead Sea scrolls, an ‘alef occasionally appears where there is consonantal yod in the Masoretic tradition, which reflects weakening, e.g.94

אָרוּך (1QIsa 13.3 | L [BHS]: יָרָך Isa. 14.30 ‘it/he will kill’)

אֵרוֹת (1QIsa 16.22 | L [BHS]: אֶרֹת Isa. 21.8 ‘lion’)

גַּנֵּים (1QIsa 18.8 | L [BHS]: גַּנֵּים Isa. 23.3 ‘nations’)

שְׁפָי ים (1QIsa 34.23 | L [BHS]: שֵׁפַי ים Isa. 41.18 ‘hilltops’)

אָוֶב (4Q98g f1.6 | L [BHS]: אָוֶב Psa. 89.23 ‘enemy’)

I.1.11. **Kaf (כ, כ)***

*Kaf with dagesh (כ): unvoiced aspirated velar stop [kʰ]*

*Kaf without dagesh (כ): unvoiced uvular fricative [χ]*

A *kaf* without *dagesh* is frequently, but not regularly, marked by the *rafe* sign in the model Standard Tiberian codices.

94 Data supplied by Aaron Hornkohl.
According to *Hidāyat al-Qāri‘*, *kaf* with *dagesh* was articulated with ‘the middle of the tongue.’

*Kaf* without *dagesh*, on the other hand, was articulated further back, on the posterior ‘third of the tongue, which is adjacent to the pharynx, opposite the (soft) palate.’

In the Karaite transcriptions fricative *kaf* is represented by Arabic *khā‘*, which was pronounced as an unvoiced uvular fricative, e.g.

La‘āḫōl (BL Or 2539 MS A, fol. 74r, 2 | L [BHS]: לֶאֱכַ֔ל Gen. 24.33 ‘to eat’)

Bisināḥ (BL Or 2539 MS A, fol. 68r, 3 | L [BHS]: בְּסֵנָ֕א Gen. 22.13 ‘in the thicket’)

Bē‘ināḥa‘ (BL Or 2539 MS A, fol. 63v, 2 | L [BHS]: בְּעֵינָ֖א Gen. 21.12 ‘in your (ms) eyes’)

Greek transcriptions from the pre-Masoretic period represent plosive *kaf* with the letter χ, which represented an aspirated voiceless velar stop [kʰ] until the Byzantine period, rather than χ, which represented an unaspirated [k].

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demonstrates that plosive kaf at the time of these transcriptions was aspirated, e.g.98

Septuagint (third century B.C.E.)

Χαναναίοι (Göttingen Septuagint | L [BHS]: וְהֶכְנֶעֲנִי Gen. 12.6 ‘Canaanite’)

Χάσαδ (Göttingen Septuagint | L [BHS]: וּכְשֶד Gen. 22.22 ‘Chesed’)

Χαλἐβ (Göttingen Septuagint | L [BHS]: וּכְלֶב Num. 13.6 ‘Caleb’)

Ασχανάζ (Göttingen Septuagint | L [BHS]: אַשְׁכֲנַּז Gen. 10.3 ‘Ashkenaz’)

Hexapla of Origen (c. 185–254 C.E.)

χααφαρ (Ambrosiana Palimpsest | L [BHS]: כְעָפִָ֥ר Psa. 18.43 ‘like dust’)

χαμμα (Ambrosiana Palimpsest | L [BHS]: כָּמָה Psa. 35.17 ‘how long/much ... ?’)

χελλωθαμ (Ambrosiana Palimpsest | L [BHS]: כְלֹתָּֽם Psa. 18.38 ‘wiping them out’)

δερχω (Ambrosiana Palimpsest | L [BHS]: דֶרְכֶּר Psa. 18.31 ‘his way’)

Likewise, in the Tiberian pronunciation tradition, plosive kaf was almost certainly aspirated. In the Karaite transcriptions,

98 Data supplied by Ben Kantor.
Consonants

plosive kaf with dagesh is represented by Arabic kāf, which was an aspirated stop.\(^{99}\)

_Hidāyat al-Qāri’_ describes the stop \([k^h]\) as primary (‘āṣl) and the fricative \([χ]\) as secondary (far’).\(^{100}\)

**I.1.12. **_Lamed_ (לamed) 

Voiced alveolar lateral continuant [l]

In _Hidāyat al-Qāri’_ the name of this letter is spelt למאד, which appears to reflect a different pronunciation from that of the normal Hebrew form of the name למד, with stress on the final syllable.

According to _Hidāyat al-Qāri’_, the articulation of this letter involved the contact of the tongue tip with the gums.\(^{101}\)

**I.1.13. **_Mem_ (מ, mem) 

Voiced bi-labial nasal [m]

In _Hidāyat al-Qāri’_ the name of this letter is spelt ממאם.

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\(^{100}\) Long version, edition in vol. 2 of this book, §II.L.1.3.6. Ed. Eldar (1980, fols. 8b, 10a, 254, n.58). Watson (2007, 43–44) considers the uvular fricative \([χ]\) in Modern Arabic dialects to be the emphatic counterpart of the dorsal \([k^h]\), involving a primary dorsal and non-primary ‘guttural’ feature.

I.1.14. **NUN** (ן, נ)

Voiced alveolar nasal [n]

According to *Hidāyat al-Qāri*', it was articulated with the end of the tongue and the gums.\(^\text{102}\)

I.1.15. **SAMEKH** (ס)

Unvoiced alveolar sibilant [s]

In *Hidāyat al-Qāri*', the name of this letter is spelt סמאך, which appears to reflect a different pronunciation from that of the normal Hebrew form of the name סָמֶךְ, with stress on the final syllable.

According to the medieval sources, it was articulated in the same place as the letter zayin,\(^\text{103}\) apparently with the blade of the tongue rather than the tip (see the description of zayin §I.1.7.).

In some medieval Muslim sources, the samekh in the name פְּנִחָס 'Phinehas' is transcribed by šād [sˁ]: פְּנִחָס (Schreiner 1886, 254). This apparently reflects its pharyngealization after the pharyngeal ʜet.

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Sporadic examples of the pharyngealization of *samekh* in the environment of pharyngeals is attested in the Dead Sea scrolls, e.g.\(^\text{104}\)

(4Q76 4.12 | L [BHS]: יטושת Mal 3.21 ‘and you [pl] will trample’)

I.1.16. *ʿAYIN* (ע)

Voiced pharyngeal fricative [ʕ]

This letter is transcribed by Arabic *ʿayn* (voiced pharyngeal fricative) in the Karaite transcriptions, e.g.

(BL Or 2539 MS A, fol. 64v, 3 | L [BHS]: עינֵי Gen. 21.19 ‘her eyes’)

(BL Or 2539 MS A, fol. 63r, 3 | L [BHS]: עינֵי Gen. 21.8 ‘and he made’)

(BL Or 2539 MS A, fol. 63v, 3 | L [BHS]: שְׁמֵע Gen. 21.12 ‘hear!’)

*Hidāyat al-Qāri’* does not distinguish between the place of articulation of the laryngeals and that of the pharyngeals. Some medieval grammarians, however, state that *ḥet* and its voiced counterpart *ʿayin* were articulated less deep in the throat than *ʿalef* and *he* (see §I.1.8.).

In the Standard Tiberian tradition, *ʿayin* does not take *dagesh*. According to *Hidāyat al-Qāri’*, the letter *ʿayin* could not be

\(^\text{104}\) Data supplied by Aaron Hornkohl.
made ‘heavy’ by dagesh,105 i.e. the consonant could not be pronounced with different degrees of muscular pressure. Also in Non-Standard Tiberian manuscripts, where the use of dagesh has been extended, ‘ayin does not take dagesh.

In Palestinian vocalization dagesh is sporadically marked on ‘ayin, it seems as a measure to ensure that it was pronounced correctly and not weakened, e.g.

\[\text{יִת} (T-S NS 249.6, Dietrich 1968, 74* | L [BHS]: יִתָּ֑י 1 \text{Chron. 2.35 ‘Attai’})\]

\[\text{ףֶרֶע} (T-S A43.1, Kahle 1930, 94 | L [BHS]: פְּרָעְית \text{Jer. 25.19 ‘Pharaoh’})\]

In Non-Standard Tiberian manuscripts, ‘ayin is occasionally marked with a rafe sign, marking the letter as consonantal but not geminated, e.g.

\[\text{יָרָךְ} (T-S A13.18, Blapp 2017, 140 | L [BHS]: יָרָךְ \text{Psa. 89.7 ‘is comparable’})\]

\[\text{לָעַם} (T-S A13.20, Blapp 2017, 177 | L [BHS]: לָעַם \text{Psa. 68.36 ‘to the people’})\]

The rafe sign is occasionally found on ‘ayin also in Palestinian vocalization, e.g.

\[\text{יָנִין} (T-S NS 249.3, Dietrich 1968, 128 | L [BHS]: יָנִין \text{Psa. 77.5 ‘my eyes’})\]

105 Hidāyat al-Qāri’, Long version, edition in vol. 2 of this book, §II.L.1.3.2., §II.L.1.3.3.
In many Non-Standard Tiberian manuscripts a word-final ʿayin is marked with shewa, indicating that it was a consonant that closed a syllable, e.g.

Genizah manuscripts

( 처리 ) (T-S A13.18, Blapp 2017, 127 | L [BHS]: הוהי Psa. 90.12 ‘teach!’)

( 처리 ) (T-S A13.20, Blapp 2017, 156 | L [BHS]: קרש Psa. 71.4 ‘wicked’)

European manuscripts

( 처리 ) (Codex Reuchlinianus, Morag 1959, 233 | L [BHS]: וירק 2 Sam. 22.7 ‘and he heard’)

( 처리 ) (ACAMO 28 2v, Pilocane 2004, 29 | L [BHS]: וירק ‘evil’ 1 Kings 16.25)

The use of dagesh, rafe and shewa in the manuscripts with Non-Standard Tiberian and Palestinian vocalization reflect the perceived vulnerability to weakening of the ʿayin. Similar strategies of vocalization were also used for other gutturals in these manuscripts (§I.1.1, §I.1.5., §I.1.8.).

Within the Standard Tiberian reading tradition a ʿayin was prevented from potential weakening in some contexts by lengthening the vowel before it (§I.2.10.), e.g. שְׁמַעְיִהוּ: ‘Shemaiah (2 Chron. 11.2), שְׁמַעְיָהוּ: ‘listen’ (1 Sam. 28.22). Another strategy to protect the consonantal pronunciation of ʿayin at the end of a word-internal syllable was to place a dagesh in the following letter (§I.3.1.11.2.). This is found in some early manuscripts (Yeivin 1980, 295; Ginsburg 1897, 133), e.g.
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C: יָשָׁב (L [BHS]: יָשָׁב ‘he supplants’ Jer. 9.3)

There is clear evidence from the Dead Sea scrolls of the weakening of ‘ayin in some biblical reading traditions in the Second Temple period, especially that of 1QIsa. This is reflected, for example, by the omission of ‘ayin where it occurs in the Standard Tiberian Masoretic Text, or its replacement by ‘alef or he, e.g. 106

(1QIsa 22.19 | L [BHS]: עָבר Q豳 Isa. 28.15 ‘[the flood/whip] shall pass’)

(1QIsa 22.26 | L [BHS]: מָשַׁרְתָּם Isa. 28.20 ‘[is too short] to stretch out’)

(5Q6 f1v.6 | L [BHS]: לִּפְנוֹת רָעָּב Lam. 5.10 ‘fever from hunger’)

(4Q27 f24ii+27–30.18 | L [BHS]: נָט Num. 24.6 ‘[Yhwh] planted’)

(1QIsa 13.17 | L [BHS]: מָשַׁל Isa. 16.1 ‘from Sela’)

(1QIsa 4.16 | L [BHS]: וְעָלַה Isa. 5.5 ‘and now’)

(1QIsa 19.27 | L [BHS]: וְעָלַה Isa. 25.1 ‘counsel’)

In the modern Samaritan reading tradition ‘ayin has weakened in most contexts to ‘alef or zero (Ben-Ḥayyim 2000, 38–39), e.g. 107

‘אָז (L [BHS]: וֶּז Lev. 3.12 ‘goat’)

106 Data supplied by Aaron Hornkohl. Cf. also Reymond (2014, 92).

107 Data supplied by Aaron Hornkohl.
yišmaʿu (L [BHS]: יִשְׁמָעֵי Gen. 11.7 ‘they will (not) understand’)

miyyūlām (L [BHS]: מִיּוּלָּא Gen. 6.4 ‘of old’)

šār (L [BHS]: שָׁר Gen. 25.25 ‘hair’)

šū (L [BHS]: שַׁוּא Gen. 38.2 ‘Shua’)

The measures taken to ensure the correct reading of the ‘ayin in the medieval manuscripts described above show that a special effort had to be made to avoid its being weakened in the transmission of the Masoretic biblical reading traditions still in the Middle Ages.

I.1.17. PE הָ (ם, נ)

Pe with dagesh (ם): unvoiced aspirated bi-labial stop [pʰ]

Pe without dagesh (ם): unvoiced labio-dental fricative [f]

A pe without dagesh is frequently, but not regularly, marked by the rafe sign in the model Standard Tiberian codices.

In Masoretic treatises the name of this letter is sometimes spelt פי or פ.מ. 108

According to Hidāyat al-Qāri, pe with dagesh was pronounced by closing the lips firmly and pe without dagesh was pronounced by closing the lips lightly. 109 Taken by itself, this could be a description of a bilabial articulation [ɸ]. This appears,

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however, to be only a partial description of the sound, as is the case with the description of bet without dagesh (see §I.1.2.). The light closure of the lips would have accompanied a labio-dental articulation [f] and no doubt it is this secondary feature that the author refers to.\(^{110}\)

We know from Greek and Latin transcriptions that in the pre-Masoretic period plosive pe was aspirated.\(^{111}\) This is shown by the fact that it is represented in Greek by φ, which in the periods in question represented an aspirated stop [pʰ], and in Latin by the digraph ph, the h reflecting aspiration [pʰ]. Greek π and Latin p represented unaspirated [p]. Examples:\(^{112}\)

**Septuagint (third century B.C.E.):**

Φαλτιὴλ (Göttingen Septuagint | L [BHS]: פָּלְתִּיָּא Num. 34.26 ‘Paltiel’)

‘Αρφαξάδ (Göttingen Septuagint | L [BHS]: Αρφάκσαδ Gen. 10.22 ‘Arbachshad’)

Ζήλφα (Göttingen Septuagint | L [BHS]: זִלְפָה Gen. 30.12 ‘Zilpah’)

**Hexapla of Origen (c. 185–254 C.E.)**

φααδ (Ambrosiana Palimpsest | L [BHS]: דָּרָך Psa. 36.2 ‘fear of (cstr.’))

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\(^{110}\) Cf. the commentary to this passage by Eldar (1980, n.75.).

\(^{111}\) Kutscher (1965, 24–35).

\(^{112}\) Data supplied by Ben Kantor.
Consonants

φαδιθ (Ambrosiana Palimpsest | L [BHS]: פָד יתָה Psa. 31.6 ‘you redeemed’)

φαλητ (Ambrosiana Palimpsest | L [BHS]: פָלַת Psa. 32.7 ‘deliverance’)

αρφαθ (Ambrosiana Palimpsest | L [BHS]: חֶרְפַּת Psa. 89.51 ‘the reproach of (cstr.)’)

λαμεσφατι (Ambrosiana Palimpsest | L [BHS]: לְמ שְׁפָט Psa. 35.23 ‘to my judgment’)

Jerome (346-420 C.E.)

pharis (Jerome, Commentary on Ezekiel, ed. Glorie, VI.18.504 | L [BHS]: פָרַץ Ezek. 18.10 ‘violent one’)

phacud (Jerome, Commentary on Ezekiel, ed. Glorie, VII.23.1001 | L [BHS]: פְַ֣וּד Ezek. 23.23 ‘Pekod’)

iesphicu (Jerome, Commentary on Isaiah, ed. Gryson, I.52.4 | L [BHS]: וּי שְפִּיק Isa. 2.6 ‘[they] clap’)

mesphat (Jerome, Commentary on Isaiah, ed. Gryson, II.42.6 | L [BHS]: וּלְמ שְׁפִּט Isa. 5.7 ‘judgment’)

Saadya refers to the existence of a ‘hard pe’ (al-fā’ al-sulba) in the hapax legomenon בָּא פָרְדָן ‘his palace’ (Dan. 11.45), which he describes as ‘between bet and pe with dagesh’. This appears to be referring to an unaspirated, fortis realization of [p]. One may infer from this that the normal unvoiced stop pe was aspirated also in the Middle Ages. Dunash ibn Tamim reports that the

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113 פָרַץ בָּא פָרְדָן, Commentary on Sefer Yeṣīra (ed. Lambert 1891, 42).
scholar Isaac Israeli (ninth-tenth centuries), who was ‘an expert in the reading of the Tiberians’, pronounced the dalet in this word like an Arabic ḏā’, i.e. as emphatic (pharyngealized).\(^{114}\) This implies that the ‘hard’ pe was also emphatic, the dalet being pronounced emphatic by assimilation (Steiner 1993).

The word וֹ ַ֔ א פ דְנ is a loanword from Old Persian. The source word in Old Persian is reconstructed by Iranists as apadāna, āpadāna or appadāna ‘palace, audience chamber’. The p in Old Persian was unaspirated. The lack of aspiration was preserved when the word was loaned into Hebrew and this was transmitted in the Tiberian oral tradition down to the Middle Ages. There is no consensus among Iranists about the length of the initial vowel in the Old Persian word and whether the p was geminate or not (Ciancaglini 2008, 113–14). According to Henning (1944, 110 n.1), the p was originally geminated but the gemination of the Old Persian p was lost in Middle Persian (Old Persian appadān > Middle Persian *āpaðan). In the Tiberian tradition, the pe is geminated, which could, therefore, be an ancient feature. The antiquity of the gemination is shown, moreover, by the fact that the Old Persian word appears as a loanword in an Akkadian text datable to the Late Babylonian period where the p is represented as geminated: ap-pa-da-an (appadān).\(^{115}\)


\(^{115}\) The Assyrian Dictionary of the Oriental Institute of the University of Chicago, A/2 (1968), Chicago: Oriental Institute, 178.
There is evidence for the unaspirated pronunciation of the *pe* in this word in Greek and Latin transcriptions in the pre-Masoretic period, e.g.\(^{116}\)

\[\text{Απαδανω} \] (Theodoretus, fifth century C.E., *Commentarius in Visiones Danielis Prophetae*, e.g. Migne, 81.1532)

\[\text{apedno} \] (Jerome, fourth century C.E., *Commentarii in Danielem*, ed. Glorie, IV.11)

In these transcriptions the *pe* is represented by Greek \(\pi\) and Latin \(p\) without following \(h\), both of which represented unaspirated \([p]\). Jerome (*Commentarii in Danielem*, IV, 11–12) comments on the *pe* in this word as follows:

Notandum autem quod cum pe littera hebraeus sermo non habeat, sed pro ipsa utatur phe cuius uim graecum \(\phi\) sonat, in isto tantum loco apud Hebraeos scribatur quidem phe sed legatur pe.

But it should be noted that while Hebrew speech does not have the letter *pe* (i.e. Latin \(p\) [\(p\)]), but instead of it uses *phe*, the force of which is approximated by the sound of Greek \(\phi\) (i.e. [\(ph\)]), in that particular place (i.e. Dan. 11.45) among the Hebrews *phe* (i.e. \(\Delta\) [\(ph\)]) indeed is written but it is read as *pe* (i.e., Latin \(p\) [\(p\)]).

It should be noted, however, that some Greek transcriptions are extant that represent the *pe* in the word by \(\phi\), reflecting an aspirated pronunciation, e.g.

\[\varepsilon\phi\alpha\delta\alpha\nu\omega\] (Theodotion, second century C.E.)

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\(^{116}\) Data supplied by Ben Kantor.
εφαδανω/αφαδανω (Polychronios, fifth century C.E., Commentarii in Danielem, ed. Moutsoulas, 11.45)

This suggests that there were variant traditions of reading the pe, some preserving the unaspirated pe others pronouncing the pe as aspirated.

Another feature of all the Greek and Latin transcriptions cited above is that they represent the pe as ungeminated, whereas it is geminated in Tiberian tradition.

The word appears in various dialects of Aramaic, including Syriac, Jewish Babylonian Aramaic and the Aramaic of Targum Jonathan (Sokoloff 2009, 81, 2002, 154). In Syriac, where there is a reliable tradition of vocalization, the pe is ungeminated: ܕܢ ܐܦ ܳܐ ܳ (ʾā padhānā). There are, however, variant vocalizations of the word in the sources (Payne Smith 1879, 329–30). In some manuscripts, the pe is marked with a diacritic that is used elsewhere to represent the pe corresponding to an unaspirated π in Greek loanwords (J. B. Segal 1989, 489). The word appears in Arabic as fadan ‘palace’.

The pe in וֹ ַ֔ א פ דְנ in the Tiberian reading tradition was pronounced not only unaspirated but also pharyngealized. Elsewhere in the sound system of Tiberian Hebrew unaspirated unvoiced stops were pharyngealized, i.e. tet and qof. The feature of lack of aspiration did not exist in unvoiced stops without pharyngealization. Pharyngealization was, therefore, perceived to be the closest equivalent in the sound system of Tiberian Hebrew to the feature of lack of aspiration of the pe. This also applied to the sound system of the spoken language of the tradents of the reading tradition. At the time of Saadya and Isaac
Israeli, who report this feature, the spoken language was Arabic, in which unvoiced unaspirated stops were pharyngealized (i.e. the ță and the qăf). It is not clear whether the pharyngealization of the pe in וֹאְפָּדְנֵא existed in the reading tradition in the pre-Islamic period. Greek unaspirated τ and κ, likewise, were perceived to correspond most closely to Hebrew emphatic tet and qof, as shown by Greek transcriptions of Hebrew, e.g. Λῶτ (Septuagint, לֹֽזְנ Gen. 11.27 ‘Lot’), Ἐνάκ (Septuagint, Ἑνκ Deut. 9.2 ‘Anak’) and by Greek loanwords in Hebrew, e.g. Ψαλτήριον ‘colonnade’ < περίστυλον (Copper Scroll 3Q15), Κιθάρος (ketiv קיתר) ‘zither’ < κιθαρός (Dan. 3.5, 7, 10, 15) (Heijmans 2013a).

A Masoretic note to Dan. 3.21 in L reads as follows

edor קתרוס לאבדה

The meaning of this is not fully clear. One possible interpretation is as follows:

There are three cases where pe is pronounced differently by the reader, namely פסנתרין ‘stringed instrument’ (Dan. 3.5, 3.7, 3.10, 3.15), פטישיהון ‘their tunics’ (ketiv פטישיהון Dan. 3.21), ושֶפֶה ‘his palace’ (Dan. 11.45).

This suggests that the pe also of the words פסנתרין and פטישיהון, which occur in the Aramaic section of the Bible, were pronounced unaspirated. The word פסנתרין is a loan from Greek ψαλτήριον, so the pe would correspond to the unaspirated segment in the affricate ψ [ps]. The word פטישיהון is of uncertain etymology, but it has been suggested by Nyberg (1931, 187) that the source is Old Persian *patuš ‘garment’, in which case the pe would correspond to an Old Persian unaspirated p. The tet in the word would, moreover, reflect the Old Persian unaspirated t.
It should be noted that there are a number of other Old Persian loanwords in Biblical Hebrew in which a Hebrew pe corresponds to an unaspirated p in the Old Persian source word but which were pronounced aspirated in the Tiberian Hebrew reading tradition, e.g. אֲח שְׁד רְפְנ ים ‘satrap’ (< Old Persian xšaθra-pāwan) (Esther 3.12, 8.9, 9.3; Ezra 8.36), פ תְגָם ‘message’ (< Old Persian *patiy-gama) (Ecc. 8.11; Esther 1.20), פ תְשֶׁגֶן ‘a copy’ (< Old Persian *patiy-caγniya or *patiy-caγna) (Esther 3.14, 4.8, 8.13) (Gindin 2013). It would appear that in such cases the original unaspirated p was adapted to the sound system of Hebrew. Greek transcriptions such as εφαδανω (Theodotion, second century C.E.) and εφαδανω/αφαδανω (Polychronios, fifth century C.E.), cited above, would reflect a similar adaption of the pe also in the word א פ דְנ in some reading traditions.

I.1.18. ŠADE יְדֵי (נ, נ)

Unvoiced emphatic (pharyngealized) alveolar sibilant [sˁ]

The name of the letter is vocalized יד in a Masoretic treatise (ed. Allony and Yeivin 1985, 102), with shewa in the initial syllable, reflecting a pronunciation with stress on the final syllable.

According to the medieval sources, it was articulated in the same place as the letters zayin and samekh, apparently with the blade of the tongue rather than the tip (see the description of zayin §I.1.7). In the Karaite transcriptions, it is represented by

Arabic ṣād, which was an unvoiced pharyngealized alveolar sibilant [sˁ], e.g.

(BL Or 2539 MS A, fol. 64v, 9 | L [BHS]: ְּ֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣ם Gen. 21.22 ‘his host’)

(BL Or 2539 MS A, fol. 92r, 6 | L [BHS]: ְּ֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣ם Deut. 7.18 ‘Egypt’)

In §I.1.7. references are given to what appears to have been a voiced emphatic variant of ṣade [zˁ].

A Karaite transcription is extant in which Arabic sīn is written where the Masoretic Text has ṣade, reflecting the weakening of the emphatic pronunciation:

(BL Or 2555 fol. 111v, 3 | L [BHS]: ְּ֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣֣ם Ecc. 10.8 ‘and he who breaks’)

I.1.19. QOF כח (ק)

Unvoiced advanced uvular unaspirated plosive [q]

According to Hidāyat al-Qārī, qof was articulated with the ‘middle of the tongue’, and so further forward than fricative gimel and kaf, which were pronounced with the ‘back third of the tongue’.

This suggests an advanced uvular point of articulation. In the Karaite transcriptions, this letter is represented by Arabic qāf, e.g.

\footnote{118 Long version, edition in vol. 2 of this book, §II.L.1.3.6.; ed. Eldar (1980, fols. 10a–10b, lines 61–72).}
According to the medieval Arabic grammarians, qāf was unaspirated and articulated between the velar stop kāf and the uvular fricatives khāʾ and ghayn (Roman 1983, 110), i.e. in advanced uvular position. It is the emphatic counterpart of the dorsal velar stop kāf (Jakobson 1978; Watson 2007, 43–44).

The lack of aspiration of qof is reflected by Greek and Latin transcriptions from the first half of the first millennium C.E. In these the letter is transcribed by Greek κ and Latin c or g, which represented unaspirated stops, e.g.¹¹⁹

Septuagint (third century B.C.E.)

Κεδαμώθ (Göttingen Septuagint | L [BHS]: קְדֵמֹת Deut. 2.26 ‘Kedemoth’)

Ἐνάκ (Göttingen Septuagint | L [BHS]: Ἠνάκ Deut. 9.2 ‘Anak’)

Hexapla of Origen (c. 185–254 C.E.)

κουμ (Ambrosiana Palimpsest | L [BHS]: קֵ_parms Psa. 18.39 ‘to rise’)

¹¹⁹ Data supplied by Ben Kantor.
Consonants

ουακισα (Ambrosiana Palimpsest | L [BHS]: הַקִּסָּא Psa. 35.23 ‘awake! (ms)’)

Jerome (346-420 C.E.)

cira (Jerome, Commentary on the Minor Prophets, Amos, ed. Adriaen, I.1, 217 | L [BHS]: קִיר Amos 1.5 ‘Kir’)

boger (Jerome, Commentary on the Minor Prophets, Amos, ed. Adriaen, III.7, 324 | L [BHS]: בּוֹקֵר Amos 7.14 ‘herdsman’)

I.1.20. Resh (ר)

(i) Voiced advanced uvular trill [ʀ̟] or advanced uvular frictionless continuant [ʁ̟] and (ii) pharyngealized apico-alveolar trill [rˁ]

According to Hidāyat al-Qāri’, the Tiberians pronounced resh in two different ways, as was the case with the letters בּוֹקֵר.

Its basic articulation was with ‘the middle third of the tongue’, as was the case with qof and plosive kaf, suggesting an advanced uvular position. It is not made clear whether it was a trill [ʀ̟] or frictionless continuant [ʁ̟]. In what follows, it will be transcribed as an advanced uvular trill [ʀ̟].

The secondary pronunciation of resh is said in the medieval sources to occur in the environment of the alveolar consonants דזצתטסלן and can be inferred to be an apical alveolar trill. It is described by Hidāyat al-Qāri’ as being intermediate in status

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(manzila bayna manzilatayn ‘grade between two grades’), i.e.
intermediate between the simple primary resh, which is described
as ‘light’ (khaffif), and geminated resh marked with the dagesh sign
in the Tiberian vocalization, which is termed ‘major resh’ (al-resh
al-kabīr). When contrasting it with the primary resh, Hidāyat al-
Qāri’ describes the secondary resh as having the feature of
‘heaviness’ (thiqal) whereas the simple resh has the feature of
‘lightness’ (khiffa). The intermediate status of the secondary
resh, therefore, can be identified as being an intermediate degree
of muscular tension, between the light advanced uvular resh and
the maximal degree of muscular tension brought about by the
gemination of the resh. The instances of geminated resh marked
with dagesh in the Standard Tiberian reading tradition appear to
have lengthened forms of the primary resh, i.e. advanced uvular
trills. They do not occur in the contexts that are said to condition
the secondary alveolar resh. So geminated resh ר may be
transcribed [ר̊ר̊], e.g. הּ ִ֑ר ר̊ו מ̊א̊ה[ה̊] to irritate her’ (1
Sam. 1.6).

121 Hidāyat al-Qāri’, Long version, edition in vol. 2 of this book,
§II.L.1.9.6.; Eldar (1984a).

122 Hidāyat al-Qāri’, Long version, edition in vol. 2 of this book,
§II.L.1.9.5., §II.L.1.9.7. The Hebrew Mahberet ha-Tījān (ed. J.
Derenbourg 1871, 81) states that the Tiberians pronounced this resh
strongly (מחזקים). An anonymous Masoretic treatise preserved in the
Genizah fragment CUL T-S NS 311.113 states that the Tiberians
pronounced the resh with dagesh (ידגשוהא), but ‘in our country we do
not know (this pronunciation)’. This is presumably referring to the
Tiberain secondary resh.
We know from various sources that the Hebrew letter *resh* had two different types of pronunciation in the Middle Ages. The earliest text referring to this is *Sefer Yeṣira*:

There are seven double letters, בְּנֵי קפֶּרֶשׁ. These are pronounced in two ways, which are two opposites—soft and hard, a strong structure as opposed to a weak one.\(^{123}\)

In his commentary on *Sefer Yeṣira*, Saadya discusses the double pronunciation of the Hebrew *resh*. He states that the letters הבגדכפרת are called double (*muḍāʿafa*) ‘because each of the letters is pronounced with two pronunciations, a hard pronunciation and a soft pronunciation’.\(^{124}\) He refers to a difference between the Tiberian and Babylonian pronunciations of *resh*:

As for the double nature of the *resh*, the Tiberians have it in their reading of the Bible, whereas the Iraqis have it in their speech but not in their reading of the Bible. They call one type *resh makrūkh* and the other *ghayr makrūkh* (‘not makrūkh’). As for the customs of the Iraqis in this matter, we have examined them but have found no principle uniting them. As for the customs of the Tiberians, we shall mention them in the commentary on the fourth part of this book.\(^{125}\)


\(^{124}\) לאו כל חתך מתה יגרבע ב产业结构 ששת ובית ליי (ed. Lambert 1891, 29).

Elsewhere in his commentary on *Sefer Yešira* Saadya refers to the ‘hard’ *resh* as *resh dagesh* and the ‘soft’ *resh* as *resh rafe*.\(^{126}\)

The word *makrūkh*, which is used by Saadya in the passage cited above, has been interpreted by scholars in various ways.\(^{127}\)

The most satisfactory interpretation is that it is an Arabicized form of the Hebrew word כרך ‘wrapped up, closed up’, analogous to the forms *madgūsh* ‘with *dagesh*’ and *marfī* ‘with *rafe*’, which are widely attested Arabicizations of the Hebrew terms שׁוּדָג and רָפוּי. The term כרך is found in Masoretic sources in reference to closed syllables, as in the following passage from *Diqduqe ha-Ṭeʿamim*:

משלאמכניםכא פלס נוד לוה א勍לא ימשותא. אמא רשים אלטרברנימי פמא נלבראה פי

משפר אוליפר אולברען מון הדבר עלאב (ed. Lambert 1891, 46). In part four Saadya describes how the hard *resh* occurs in certain phonetic environments (see below).

\(^{126}\) Ed. Lambert (1891, 79). In some medieval sources describing the two different types of Tiberian *resh* the terms *dagesh* and *rafe* are confused. This is the case, for example, in *Diqduqe ha-Ṭeʿamim* (ed. Baer and Strack 1879, §7) and the Hebrew *Mahberet al-Tījān* (ed. J. Derenbourg 1871, 138). According to Revell (1981, 133) this confusion arose from the fact that in the few cases where the *dagesh* sign is marked in the *resh* in the Tiberian text, the *resh* is not preceded by the letters יַעֲשֵׂה and nor is it followed by ק. A *resh* that did occur in the environment of these letters was, therefore, considered to be *rafe*. Such sources, or the versions that have come down to us, must have been written by scribes who had no direct knowledge of the Tiberian pronunciation tradition.

\(^{127}\) Morag (1960, 217–19).
If a form of the rootךבר׳׳ has a bet with a vowel and the accent falls on it (i.e. the bet), it is always pronounced ‘closed up’ as in וּבִוָֹוְי תְבִָ֥רְכָה‘and may they bless themselves by him’ (Psa. 72.17) ... But if the accent falls on the resh, it is opened up in speech and pronounced with a vowel as in מְבָ֣רְכֶַ֔יךָו אֲבָּֽרֲכָה‘and I will bless those who bless you’ (Gen. 12.3) ... Except for one word, which is unique in the Bible, for its accent falls on the kaf but it is not opened up in speech: בָרְכ ַ֔תָ֖וּלְע לָּאָהִָָ֖֖֙יְתַ֔וּבָ֖עֲל ַ֣יָ֖וּמ נְדְע י ‘and my reason returned to me and I blessed the Most High’ (Dan. 4.31).

In this passage, the term כרך is used to describe forms in which a shewa is silent, i.e. the shewa coincides with the closure of the syllable. The opposite of כרך is when פתת הבושץ, which literally means ‘it is opened up in speech’. This refers to the fact that the shewa is vocalic.

In the phrase resh makrūkh, the term is a calque of the Arabic phonetic term muṭbaq (literally ‘closed, covered’), which was used in the medieval Arabic grammatical tradition to refer to emphatic consonants, i.e. pharyngealized consonants. A non-emphatic letter was referred to in the Arabic grammatical tradition by the term munfatiḥ ‘open’. The description of the Arabic emphatic letters by the grammarian Sībawayhi (eighth century C.E.) is as follows:

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129 For details see Khan (1995).
When you position your tongue in the places of articulation of these four (emphatic) letters, your tongue forms a cover/closure extending from their place of articulation until the palate. You raise the back of the tongue towards the palate and when you have positioned your tongue thus, the sound is compressed between the tongue and the palate up to the place of articulation of the letters.¹³⁰

The terminological opposition between יפתה בנות and דורות in the passage from Diqduqe ha-Ţe‘amim above would, therefore, be directly parallel to the contrasting pair of terms muṭbaq vs. munfatiḥ, which designated emphatic vs. non-emphatic consonants.

This variant of resh, therefore, was pronounced pharyngealized. Evidence for such an interpretation is found in the report by Dunash ibn Tamim that his teacher Isaac Israeli (tenth century), ‘an expert in the Tiberian reading tradition’, pronounced the dalet in the word דעלו ‘and they bent’ (Jer. 9.2) like the pharyngealized Arabic letter ḏād (ﱠذاء ﺍی ﻣا ﺟ), by which he meant a pharyngealized voiced interdental [ðˁ]. This must have arisen by the spreading the pharyngealization of the contiguous resh.¹³¹

In a fragment of a Masoretic treatise datable to the tenth century, it is stated that this variant of resh ‘is pronounced with a turning of the tongue’ (yuqāl bi-taqallub al-lisān).¹³² This seems

¹³⁰ הור מירב הא רמא, אזק עם מקודש, יפתה בנות הדורות המוקדש, אזק עם מקודש, יפתה בנות הדורות המוקדש, אזק עם מקודש.

¹³¹ For this passage see §I.1.4.

¹³² Allony (1973, 102, text line 28).
to be referring to the retroflection of the tongue tip (Khan 1995, 79). Retroflection of the tongue tip is a feature often associated with pharyngealized alveolar r in modern spoken Semitic languages.133

The references to the ‘heavy’ or ‘hard’ pronunciation of the secondary resh and its association with the term dagesh (e.g. Saadya resh dagesh), can be correlated with the fact that pharyngealized r was pronounced with greater muscular tension.

According to Hidāyat al-Qāri’ and other medieval sources, this apico-alveolar pharyngealized resh occurred when it is preceded by the consonants דזצתטסלן or followed by לן and when either resh or one of these consonants has shewa.134 This can be reformulated as the rule that alveolar resh occurs when one of the following conditions holds:

(i) *Resh* is in immediate contact with a preceding alveolar, e.g. בְֵמ זְרֶ ה [bamizˈrˁeː] ‘with a pitchfork’ (Jer. 15.7), מ צְר ַ֣ף [mɑsˁˈrˁeːef] ‘crucible’ (Prov. 17.3).

(ii) *Resh* is in the same syllable, or at least the same foot, as a preceding alveolar, e.g. וֹד רְכ [dɑrˁˈkʰoː] ‘his way’ (Gen. 24.21), ט רְפ ֹ֤י [tˁɑrˁˈpʰeː] ‘the leaves’ (Ezek. 17.9). The condition applies also to a resh in word-final position that is in the same syllable or at least the same foot as an alveolar,

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133 E.g. in Neo-Aramaic dialects (Khan 2008, 32).

although the *resh* is not marked with a *shewa* in such cases, e.g. סַּרְּאַ [særˁ] ‘commander of’ (1 Sam. 18.13), לֶמְטַּר [lim'tˀɑː.ɑːrˁ] ‘by the rain’ (Deut. 11.11). A consonant with vocalic *shewa* is treated as belonging to the same foot as the following *resh* in the metrical structure of the phonetic realization of the word (§I.2.5.2.), e.g. צְרוּפַָ֔ה [sˁɑ.rˁuː.ˈfɑː] ‘refined’ (2 Sam. 22.31), where feet are enclosed in round brackets and syllable boundaries are marked by dots. Likewise, as can be seen from the transcription לֶמְטַּר [limʾtˁɑːɑrˀ], a closed syllable containing a long vowel has an epenthetic vowel of the same quality following the long vowel. It will be argued, however, that it is nevertheless in the same prosodic foot, viz. [([limipsoid)(ˈtˁɑː.ɑːrˁ)]) (§I.2.4.). On the phonetic level, therefore, the *resh* is strictly not in the same syllable as the alveolar in forms such as צְרוּפַָ֔ה [sˁɑ.rˁuː.ˈfɑː] and לֶמְטַּר [limʾtˀɑː.ɑːrˁ]. The conditioning factor for the emphatic allophone of the *resh* is that it occurs in the same foot as a preceding alveolar.

(iii) *Resh* is in immediate contact with or in the same syllable, or at least in the same foot, as a following ב or י, e.g. נֶרְבָּי [nёр̟b̟iː.l̟eːv] ‘uncircumcised in heart’ (Jer. 9.25), גָּרְנִי [ɡɔrˁniː] ‘my threshing-floor’ (Isa. 21.10), רְנָנָה [rˁɑ.nɔːˈnɔː] ‘joyful cry’ (Job 3.7).

Elsewhere *resh* had an advanced uvular realization, e.g. גְּרֶַ֣כֶב [ˈɡ̟r̟ɛːxɛv] ‘chariotsry’ (Exod. 14.9), מָרַא [maɾˁ̟eː] ‘appearance’

135 These last two examples are cited by Saadya, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 79).
As can be seen in (ii) above, Saadya cites the example of שמחא with sin. The letter sin (ש), therefore, also conditioned the occurrence of the pharyngealized resh in the appropriate contexts, although it is not explicitly mentioned in the list of conditioning consonants in the medieval sources, which includes only דזצתטסלן. The letters sin and samekh had the same realization [s]. The written letter sin was considered to have samekh as its qere (§I.0.8.).

Pharyngealized resh is not unknown in modern reading traditions, e.g. in the tradition of Morocco (with the exception of Tetouan) resh may be realized as an emphatic alveolar trill [ɾ], generally in the environment of a or u or an emphatic consonant ו (Akun 2010, 49 | L [BHS]: אנור/יאור Gen. 1.3 ‘light’)

This pharyngealization, moreover, may spread to adjacent consonants, e.g.

isאראיל (Akun 2010, 72 | L [BHS]: ישראיל Exod. 15.1 ‘Israel’)

יהרדע (Akun 2010, 72 | L [BHS]: ירדע Exod. 15.5 ‘they went down’)

In Jewish Palestinian Aramaic sources from the pre-Masoretic period, an a or i vowel sometimes shifts to a rounded vowel represented by vav in the orthography. This occurs in particular in a syllable closed by a labial consonant or resh, e.g. מעברא (< *gavrā), ‘man’, והרשא (< *ramšā) ‘evening’, והстроен (< *taršā) ‘door’, ושונא (< *yardenā) ‘Jordan’ (Dalman 1894, 65). A similar
vowel shift is attested in Christian Palestinian Aramaic, Samaritan Aramaic and also Palestinian Rabbinic Hebrew (Ben-Ḥayyim 1946, 194–96; Kutscher 1979, 496–97; Mishor 1998). Rounding of a vowel in the environment of labials is a natural development. The motivation for the rounding and backing in the environment of resh is not so clear, but could reflect a pharyngealized pronunciation of resh. Pharyngealized consonants involve the retraction of the tongue and consequent lip-rounding. In Palestinian Aramaic and Rabbinic Hebrew, the vav before resh is not restricted to the environments that induced the pharyngealized resh in Tiberian Hebrew, but it may be interpreted as evidence that a pharyngealized resh existed in the spoken language of the Jews of Palestine in the pre-Islamic period.

In the passage from his commentary on the Sefer Yeṣira that is cited above, Saadya states that the Tiberians have a double resh in their reading of the Bible, whereas the Iraqis (i.e. Babylonians) have it in their speech but not in their reading of the Bible.

Saadya does not specify which type of Tiberian resh resembles the resh in the Babylonian biblical reading tradition. Sefer Yeṣira classifies resh among the consonants pronounced at the front of the mouth ‘between the teeth and with a resting tongue’. According to Morag (1960, 233), this reflects the

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136 For labialization associated with pharyngealized consonants in modern spoken Arabic dialects see Bellem (2007) and for this feature in Neo-Aramaic see Khan (2016, vol. 1, 50).

pronunciation of the Babylonian Jews. This was no doubt similar to the pronunciation of *resh* in the modern reading tradition of the Jews of Baghdad, in which it is realized as an alveolar trill (Morag 1977, 6). It is significant to note that in the modern Arabic dialect of the Jews of Baghdad there are two reflexes of Classical Arabic *rāʾ*, viz. (i) a back velar or uvular fricative ([ɣ], [ʁ]) or (ii) an alveolar trill [r] (Blanc 1964, 20–25; Mansour 1974, vol. 1, 25-31, 34-35). This two-fold pronunciation in the Arabic vernacular may be the double *resh* of the speech of the Iraqis described by Saadya. So, the comparison by Saadya of the Tiberian *resh* with the Iraqi vernacular *resh* can be taken as evidence supporting the proposal to identify the two types of Tiberian *resh* as apical and advanced uvular.

Saadya does not refer to the speech of the Tiberians, but other sources indicate that the distinction between different types of *resh* in the Tiberian reading is also found in the local vernacular speech. The author of one extant Masoretic Treatise datable to the tenth century states that he undertook fieldwork in the streets of Tiberias to verify his analysis of the *resh* of the Tiberian reading, on the grounds that *resh* had the same pronunciation in the local speech of the (Jewish) inhabitants of Tiberias:

‘I spent a long time sitting in the squares of Tiberias and its streets listening to the speech of the common people, investigating the language and its principles, seeing whether anything that I had established was overturned or any of my opinions proved to be false, in what was uttered with regard to Hebrew and Aramaic, etc., that is the
language of the Targum, for it resembles Hebrew ... and it turned out to be correct and accurate.\textsuperscript{138}

The interpretation of this is not completely clear. The Aramaic mentioned by the author could have been vernacular Aramaic that was still spoken in Tiberias at the period. The Hebrew must have been the recitation of Hebrew liturgy or the occurrence of a ‘Hebrew component’ (Hebrew words and phrases) within vernacular speech. The reference to the two types of \textit{resh} is found also in a Hebrew treatise in the corpus published by Baer and Strack,\textsuperscript{139} in which, likewise, it is stated that this pronunciation existed in the conversational speech of the common people.

\textbf{I.1.21. \textit{Sin} (ש)}

Unvoiced alveolar sibilant [s]

This had the same pronunciation as \textit{samekh} in the Tiberian tradition. It is not distinguished from \textit{samekh} in \textit{Hidāyat al-Qāri’}. When it is stated in this work that ‘The fourth place of articulation is the teeth, from which are heard four letters, namely \textit{zayin, samekh, sade and shin},’\textsuperscript{140} the letter \textit{s} is intended to refer to both \textit{samekh} and \textit{sin}. As discussed in the

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{138} Baer and Strack (1879, §7).
\item \textsuperscript{139} Allony 1973, 98–100).
\end{enumerate}
\end{footnotesize}
Introduction (§I.0.8.), the written letter *sin* was considered to have *samekh* as its *qere*.

In the Karaite transcriptions, the diacritical dot of Hebrew *sin* is sometimes written over the left side of Arabic *sīn* when it transcribes *samekh*, e.g.

*(BL Or 2551 fol. 10r, 8 | L [BHS]: חֲסֶֽיך* Psa. 52.11 ‘your saints’)*

*(BL Or 2551 fol. 13v, 7 | L [BHS]: מֶַסֶתַּר* Psa. 54.2 ‘he who hides’)*

*(BL Or 2539 MS A, fol. 65r, 3 | L [BHS]: כָּחַסֵּד* Gen. 21.23 ‘like the kindness’)*

As remarked in the Introduction (§I.0.8.), *samekh* and *sin* sometimes interchange in the same word or root in the fixed orthography of the Masoretic Text, e.g.

(Ezra 4.5: וְסַכְּרֵּי* ‘and they hire’ vs. 2 Chron. 24.12 שַכְּרֵּי* ‘like the kindness’)

In the biblical manuscripts from Qumran, there are many cases of *sin* occurring in place of Masoretic *samekh* and vice versa, which is additional evidence that the equivalence in pronunciation existed already in the Second Temple Period, e.g.\(^\text{141}\)

*(4Q136 f1.8 | L [BHS]: פֶסֶח* Exod. 12.48 ‘Passover’)*

\(^\text{141}\) Data supplied by Aaron Hornkohl.
Ibn Janāḥ (Spain, eleventh century) states that the dagesh in the sin of herbage (Prov. 27.25) has the purpose of ensuring that it is not interchanged with zayin. This suggests that sin in contact with voiced consonants was susceptible of being read as voiced.

In some medieval Muslim sources, sin is represented by šād [sˁ] in the name عیسو (Schreiner 1886, 254). This apparently reflects its pharyngealization after the pharyngeal ʿayin.

The pharyngealization of sin in the environment of emphatic consonants is attested in some modern reading traditions, e.g.

Yemen

[wajjisˁəm]) (Morag 1963, 37-38 | L [BHS]: יִשְׁטּוֹם Gen. 27.41 ‘and [Esau] hated’)
I.1.22. **SHIN שׁ (ש)**

Unvoiced palato-alveolar fricative [ʃ]

According to the medieval sources, its place of articulation was the same as that of the sibilants *zayin* and *samekh*, namely the teeth. As was pointed out above in the section on *zayin* (§I.1.7.), this did not necessarily imply that the teeth were one of the primary articulators. It is described by Ibn Janāḥ as a ‘spreading letter’, which no doubt referred to its palatalized articulation. In the Karaite transcriptions, it is represented by Arabic *shīn*, which, according to the Arabic grammarians, was a palatal fricative [ç], a pre-palatal fricative [ç⁺] or an alveolo-palatal [ɕ]. Tiberian *shin* was not primarily palatal, since it was not included by *Hidāyat al-Qārī* among the letters that are pronounced with the middle of the tongue.

I.1.23. **TAV ת (ת)**

*Tav* with *dagesh* (ד): unvoiced aspirated alveolar stop [tʰ]

*Tav* without *dagesh* (ד): unvoiced alveolar fricative [θ]

A *tav* without *dagesh* is frequently, but not regularly, marked by the *rafe* sign in the model Standard Tiberian codices.

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144 יָדוֹחַ אֲלֹתפֶּשׁ (Kitāb al-Lumaʿ, ed. Derenbourg, 27).

In some manuscripts of *Hidāyat al-Qāriʾ*, the name of this letter is spelt ית or את.\(^{146}\)

According to *Hidāyat al-Qāriʾ*, tav was articulated with ‘the end of the tongue and the flesh of the teeth’, i.e. the gums or alveolar ridge.\(^{147}\) Likewise, Saadya describes the place of articulation of tav as being adjacent to the inside of the upper teeth.\(^{148}\) When the letter had dagesh, the tongue was pressed firmly against the gums. When it was without dagesh, the tongue was pressed lightly against the gums. Both forms of the letter were articulated in the same place according to the medieval sources. It appears to have been pronounced with the tip of the tongue rather than the blade (see the description of dalet §I.1.4.).

*Hidāyat al-Qāriʾ* describes the stop [tʰ] as primary (ʾašl) and the fricative [θ] as secondary (farʾ).\(^ {149}\)

We know from Greek transcriptions that in the first half of the first millennium C.E. plosive tav was pronounced with aspiration.\(^ {150}\) In Greek transcriptions from the pre-Masoretic period, plosive tav is represented by Greek theta, which was an aspirated stop [tʰ]. In Latin transcriptions from the pre-Masoretic

\(^{146}\) E.g. short version, edition in vol. 2 of this book, §II.S.3.0., §5.1.


\(^{148}\) *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 75).


\(^{150}\) Kutscher (1965, 24–35).
period, it is represented by the Latin digraph *th*, which likewise represented an aspirated stop [tʰ]. Examples:\textsuperscript{151}

Septuagint (third century B.C.E.)

\textit{Θάρα} (Göttingen Septuagint | L [BHS]: תָּרָה Gen. 11.24 ‘Terah’)

\textit{Νεφθαλί} (Göttingen Septuagint | L [BHS]: נֶפֶתֶל Gen. 30.8 ‘Naphtali’)

Hexapla of Origen (c. 185–254 C.E.)

\textit{θαμμί} (Ambrosiana Palimpsest | L [BHS]: θαμμί Psa. 18.26 ‘blameless’)

\textit{αμαρθί} (Ambrosiana Palimpsest | L [BHS]: αμαρθί Psa. 30.7 ‘I said’)

Jerome (346-420 C.E.)

\textit{tharsis} (Jerome, Commentary on Ezekiel, ed. Gorie, III.10.763 | L [BHS]: תַרְשִׁישׁ Ezek. 10.9 ‘Tarshish’)

\textit{machthab} (Jerome, Commentary on Isaiah, ed. Gryson, XI.14.6 | L [BHS]: מֶכֶתֶב Isa. 38.9 ‘writing’)

This aspirated realization of plosive *tav* continued in the Tiberian reading tradition. In the Karaite transcriptions, plosive *tav* with *dagesh* is represented by Arabic *tāʾ*, which was aspirated according to the medieval Arabic grammarians.\textsuperscript{152}

\textsuperscript{151} Data supplied by Ben Kantor.

\textsuperscript{152} Roman (1983, 55).
### I.1.24. CONSONANT PHONEMES

The inventory of consonant phonemes in the Tiberian reading tradition can be reconstructed as follows:\textsuperscript{153}

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Allophones</th>
<th>Orthography</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ʔ/</td>
<td>[ʔ]</td>
<td>א</td>
<td></td>
</tr>
<tr>
<td>/b/</td>
<td>[b]</td>
<td>ב</td>
<td></td>
</tr>
<tr>
<td>/v/</td>
<td>[v]</td>
<td>ו</td>
<td></td>
</tr>
<tr>
<td>/g/</td>
<td>[g]</td>
<td>ג</td>
<td></td>
</tr>
<tr>
<td>/ʁ/</td>
<td>[ʁ]</td>
<td>ג</td>
<td></td>
</tr>
<tr>
<td>/d/</td>
<td>[ð]</td>
<td>ד</td>
<td></td>
</tr>
<tr>
<td>/δ/</td>
<td>[ð]</td>
<td>ד</td>
<td></td>
</tr>
<tr>
<td>/h/</td>
<td>[h]</td>
<td>ח</td>
<td></td>
</tr>
<tr>
<td>/v/</td>
<td>[v], [w]</td>
<td>ו</td>
<td></td>
</tr>
<tr>
<td>/z/</td>
<td>[z]</td>
<td>ז</td>
<td></td>
</tr>
<tr>
<td>/h/</td>
<td>[h]</td>
<td>ח</td>
<td></td>
</tr>
<tr>
<td>/tˁ/</td>
<td>[tˁ]</td>
<td>ט</td>
<td></td>
</tr>
<tr>
<td>/j/</td>
<td>[j], [ʝ]</td>
<td>י</td>
<td></td>
</tr>
</tbody>
</table>

There are variations in the realization of the allophones across different sub-traditions of reading (§I.1.6.).

The stop allophone [ʝ] occurs only when the consonant is geminated.

\textsuperscript{153} The inventory of consonant phonemes presented here corresponds to that proposed by Schramm (1964, 63) on the basis of the graphemes of Tiberian Hebrew, although he did not have access to the original phonetic realizations.
### Consonants

<table>
<thead>
<tr>
<th>Consonant</th>
<th>IPA</th>
<th>Hebrew</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kʰ/</td>
<td>[kʰ]</td>
<td>כ, כּ</td>
<td>See §I.1.25. below</td>
</tr>
<tr>
<td>/χ/</td>
<td>[χ]</td>
<td>כ, כּ</td>
<td>See §I.1.25. below</td>
</tr>
<tr>
<td>/l/</td>
<td>[l]</td>
<td>לה</td>
<td></td>
</tr>
<tr>
<td>/m/</td>
<td>[m]</td>
<td>מ, מָ</td>
<td></td>
</tr>
<tr>
<td>/n/</td>
<td>[n]</td>
<td>נ, נּ</td>
<td></td>
</tr>
<tr>
<td>/s/</td>
<td>[s]</td>
<td>ס, ש</td>
<td>These were equivalent in the oral reading tradition. The distinction in orthography is an archaism (§I.0.8.).</td>
</tr>
<tr>
<td>/sˁ/</td>
<td>[sˁ]</td>
<td>צ</td>
<td>For the voiced variant see §I.1.7.</td>
</tr>
<tr>
<td>/pʰ/</td>
<td>[pʰ]</td>
<td>פ</td>
<td></td>
</tr>
<tr>
<td>/pʲ/</td>
<td>[pʲ]</td>
<td>פ</td>
<td>This is attested only in &quot;his palace&quot; (Dan. 11.45), where its occurrence is not conditioned by the phonetic environment, so it should be identified as a phoneme (§I.1.17.).</td>
</tr>
<tr>
<td>/f/</td>
<td>[f]</td>
<td>פ</td>
<td>See §I.1.25. below</td>
</tr>
<tr>
<td>/sʲ/</td>
<td>[sʲ], [zʲ]</td>
<td>צ</td>
<td>For the voiced variant see §I.1.7.</td>
</tr>
<tr>
<td>/q/</td>
<td>[q]</td>
<td>ק</td>
<td></td>
</tr>
<tr>
<td>/r/</td>
<td>[r], [rʲ]</td>
<td>ר</td>
<td>The two variant realizations are conditioned by the phonetic environment and so should be identified as allophones (§I.1.20.).</td>
</tr>
</tbody>
</table>
I.1.25. DISTRIBUTION OF THE VARIANTS OF בּוֹדַכַח

In general, the fricative variants of the בּוֹדַכַח letters (i.e. the forms written without a dagesh sign: [v], [θ], [ʂ], [χ], [f] and [θ], respectively) occur after a vowel when the letter is not geminated, e.g. רֶ֣ב [ˈr̟aːv] ‘much’ (Gen. 24.25), שְׁכֶבֶּר [ji[kʰaˈvuː] ‘they will lie’ (Isa. 43.17). In principle, therefore, the stop and fricative variants appear to be allophones conditioned by the environment. In many cases, however, the preceding vowel had been elided in some previous stage of the language, but the consonant nevertheless remained a fricative, e.g.

בְכֶהְבָּד [baχθˈvoː] ‘when he had written’ (Jer. 45.1) < *bakutubō

מַלְכֵי [malˈχeː] ‘kings of’ (Gen. 17.16) < *malakē

In a few such cases, a plosive and a fricative are in free variation, e.g.

רָשַׁפֶּי [ruʃˈpeː] (Psa. 76.4), רָשַׁפֶּהֶי [ruʃʰeː] (Cant. 8.6) ‘flames’

The distribution of the plosive and fricative allophones, therefore, is not completely predictable from the phonetic context in Tiberian Hebrew. Consequently, the plosive and fricative variants of the letters should be distinguished in a synchronic phonological representation, e.g.

<table>
<thead>
<tr>
<th>/ʃ/</th>
<th>[ʃ]</th>
<th>ש</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tʰ/</td>
<td>[tʰ]</td>
<td>ת</td>
</tr>
<tr>
<td>/θ/</td>
<td>[θ]</td>
<td>ת</td>
</tr>
</tbody>
</table>
In the corpus of the Hebrew Bible, however, there is no certain minimal pair arising from the phonemicization of the variants of the כְּפַר consonants, though such oppositions could hypothetically occur in Tiberian Hebrew. Such minimal pairs are found in Aramaic, where the כְּפַר consonants were likewise phonemicized (Khan 2005, 84–87).