The Tiberian Pronunciation Tradition of Biblical Hebrew

Volume I

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I.1. CONSONANTS

I.1.1. ʾALEF אָלֶף (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. אָמַר [ʔɔːˈmaːaʀ] '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. וַיִּבְאָשׁ [vaɟɟivˈʔaːaʃ] 'and it became foul' (Exod. 7.21).

In the onset of a syllable in the middle of a word after a vowel, a *ḥaṭef* vowel or vocalic *shewa*, e.g. יָבִיאוּ [jɔːˈviːʔuː] 'they bring' (Exod. 16.5), אֲאַזֶּרְךָ [ʔaʔazzɛrˤˈχɔː] 'I gird you' (Isa. 45.5) מְאֹד [moˈʔoːoð] 'very' (Gen. 1.31).

In the coda of a syllable in the middle of a word, e.g. וַיֶּאְסֹר [vaɟɟɛʔˈsoːorˤ] '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)   וַיָּבִיאּוּ לֹו 'and they brought to him' (Gen. 43.26)

(ii) וַיָּבִיאּוּ לָנוּ 'and they brought to us' (Ezra 8.18)

(iii) תָּבִיאּוּ ׀ לֶחֶם 'you shall bring bread' (Lev. 23.17)

(iv)   לֹא רֳאוּ '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*:[1]

> It has been said that *dagesh* is placed in *ʾalef* in some specific places in Scripture, namely in the following four cases: וַיָּבִיאוּ לֹו אֶת־הַמִּנְחָה 'and they brought him the present' (Gen. 43.26), וַיָּבִיאוּ לָנוּ כְּיַד־אֱלֹהֵינוּ 'and they brought to us by the hand of our God' (Ezra 8.18), ǀ מִמּוֹשְׁבֹתֵיכֶם תָּבִיאוּ 'from you dwellings you shall bring' (Lev. 23.17), וְשֻׁפּוּ עַצְמוֹתָיו לֹא רֳאוּ '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:

> ג׳ אלפין דגשין בלישנא וסימנהון ממושבתיכם תבטאו לחם תנופה, יביאו לו את המנחה אשר בידם, ויביאו לנו, וחד בלשׁ׳ אחר ושפו עצמותיו לא ראו

> There are three occurrences of *ʾalef* with *dagesh* in a particular lexical item (viz. derivatives of the root בוא 'to come'), these being in the verses מִמּוֹשְׁבֹתֵיכֶם תָּבִיאוּ ǀ לֶחֶם תְּנוּפָה שְׁתַּיִם 'You shall bring from your dwellings two loaves of bread to be waved' (Lev. 23.17), וַיָּבִיאוּ לֹו אֶת־הַמִּנְחָה אֲשֶׁר־בְּיָדֶם 'they brought to him the present which they had in their hand' (Gen. 43.26), וַיָּבִיאוּ לָנוּ 'they brought to us' (Ezra 8.18), and one (case of *ʾalef* 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) וְשֻׁפּוּ עַצְמוֹתָיו לֹא רֻאּוּ 'and his bones which were not seen stick out' (Job 33.21).[2]

חד מן ד׳ אלפין דגשין בקרי׳

One of four ʾalefs with *dagesh* in Scripture.[3]

These show that the occurrence of *dagesh* in ʾalef in these specific places was fixed in the Tiberian tradition. In some of the early Standard Tiberian codices, however, *dagesh* is marked in ʾalef 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: וְאָנֹכִי 'and I' (A: וְאָנֹכִי)

L: Ruth 2.11: וַתַּעַזְבִי אָבִיךְ 'and you left your father' (A: וַתַּעַזְבִי אָבִיךְ)

These two additional occurrences of *dagesh* in ʾalef 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 ʾalef marked with *dagesh*, none of which are referred to in the Masoretic notes (Yeivin 1980, 285), e.g.

C: Hag. 1.1: שְׁאַלְתִּיאֵל 'Shealtiel' (L [BHS]: שְׁאַלְתִּיאֵל)

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[2] Ginsburg (1880, §5), source: Masora magna in British Library, Harley 1528 (fourteenth century, Spain).

[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: בְּלוֹאֵי 'rags' (L [BHS]: בְּלוֹאֵי)

C: Isa. 51.19: קֹרְאֹתַיִךְ 'the things that befall you' (L [BHS]: קֹרְאֹתַיִךְ)

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 ʾ*alef* 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 ʾ*alef* 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: אָמֶּר 'he said' (L [BHS]: אָמַר), אֶלּ 'to' (L [BHS]: אֶל), אַשּׁוּר 'Assyria' (L [BHS]: אַשּׁוּר) (Morag 1959, 218). There is frequent marking of *dagesh* in ʾ*alef* 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):

אִמּוֹ (T-S A12.1 | L [BHS]: אִמּוֹ Prov. 29.15 'his mother')

אַשְּׁרֵהוּ (T-S A12.1 | L [BHS]: אַשְּׁרֵהוּ Prov. 29.18 'happy is he')

אָץּ (T-S A12.1 | L [BHS]: אָץ Prov. 29.20 'he who is hasty')

בֶּאֱמֶּת (T-S A12.1 | L [BHS]: בֶּאֱמֶת Prov. 29.14 'truthfully')

כִּסְאֹּוֹ (T-S A12.1 | L [BHS]: כִּסְאֹוֹ Prov. 29.14 'his throne')

יִרְאּוּ (T-S A12.1 | L [BHS]: יִרְאוּ Prov. 29.16 'they will see')

בְּאֵין (T-S A12.1 | L [BHS]: בְּאֵין Prov. 29.18 'where there is not')

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 וַיָּבִיאוּ לֹו (Gen. 43.26), וַיָּבִיאוּ לָנוּ (Ezra 8.18) and תָּבִיאוּ‖ לֶחֶם (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 *qameṣ* 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 רֻאוּ (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 ʾalef marked gemination or not. Some modern scholars have interpreted it as a sign to distinguish the consonantal realization of the ʾalef 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-Qāriʾ* 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 אהחע), namely in the ʾalef 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 ʾalef 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 ʾalef 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 וַיָּבִיאוּ לֹו (Gen. 43.26) and וַיָּבִיאוּ לָנוּ (Ezra 8.18) to the *dagesh* that occurs in other forms due to the preceding stress:

> תְּהָתֵלּוּ בֹו (Job 13.9): … 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 תְּהָתֵלּוּ בֹו 'you

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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 אֶל־ מֹשֶׁה לֵּאמֹר 'to Moses saying' (Exod. 6.10), וַיֹּאמְרוּ לֹּא 'and they said "No"' (Gen. 19.2), וַיָּבִיאוּ לָּנוּ (Ezra 8.18) and וַיָּבִיאוּ לּוֹ (Gen. 43.26). The word וַיָּבִיאוּ is like תְּהְתֵלּוּ, in that the stress and the *dagesh* occur within the same word.[6]

This passage implies that the *dagesh* in the ʾalef indicates gemination in the same way as the *dagesh* in תְּהְתֵלּוּ. Ibn Nūḥ makes the following statement about the form רֻאּוּ (Job 33.21):

The imperative of this is רְאֵה, like כֻּסֶּה and שֻׁפֶּה.[7]

In Ibn Nūḥ's system of grammar, the imperative form is the morphological base of derivations. This statement indicates that רֻאּוּ has the morphological base רְאֵה and that this has the same pattern as כֻּסֶּה and שֻׁפֶּה, which are the bases of the forms יְכֻסֶּה 'it is covered' (Ecc. 6.4), וְשֻׁפּוּ 'and they stick out' (Job 33.21) with medial gemination.

In a Karaite transcription of לֹא רֻאּוּ (Job 33.21) into Arabic script, an Arabic *shadda* sign is written over the ʾalif that transcribes the ʾalef with the *dagesh*:

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[6] תהתלו בו: ... ואלדגש אלדי וקע פי אללאם הו מן גהה אנה מד אלטעם פי תﬞו בﬞכ תְּהְתֵלּוּ בו: והו כמא קלנא אנה יעמל פי בעﬞץ אלמואצֿע דגש ענד מא ימﬞד אלטעם פי מא תְּהְתֵלּוּ מתל וַיָּבִיאוּ צאר ויאמרו לֹּא: ויביאו לָּנוּ: וַיָּבִיאוּ לּוֹ קבלה נטﬞיר אל מֹשֶׁה לֵּאמֹר: פי אלכלמה אלואחדה ואל דגש במא צאר מד אלטעם , *Diqduq* (ed. Khan 2000b, 369).

[7] אמרה רְאֵה מתל כֻּסֶּה שֻׁפֶּה, *Diqduq* (ed. Khan 2000b, 399).

رُؤُو (BL Or 2552 fol. 51r, 1 | L [BHS]: רֻאּוּ Job. 33.21 'they were [not] seen')

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 *ʾalef* was being read as geminate.

The interpretation of the *dagesh* in *ʾalef* 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 אהחע) have a single fixed type (of pronunciation), which is less than all the (other) letters, (namely) העח are deprived of taking *dagesh*.[8]

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

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

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[8] ועוד שלשה מן הארבעה, דרך אחד להם קבועה, מכל האותיות גרועה, הע״ח מן הדגשה פרושים (Baer and Strack 1879, 5).

it, but it is not made heavy', i.e. the reader intends to read it as a *dagesh forte*, but the muscular tension normally associated with *dagesh forte* is not achieved due to its articulation in the larynx. The articulation of the ʾ*alef* could, nevertheless, have been held for a longer duration.

In some manuscripts with Babylonian vocalization, the *dagesh* sign is marked on consonantal ʾ*alef* in a wide variety of words (Yeivin 1985, 265–66). It is significant that *mappiq* on final *he* is represented by a different sign (Yeivin 1985, 335–36), suggesting that the *dagesh* in the ʾ*alef* did not have the function simply of *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 ʾ*alef* with *dagesh* in the four canonical places is indeed still read as a geminate ʾ*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:

Gen. 43.26: [ˌvajjaˈβiʔˈʔu]

Ezra 8.18: [vᵃjaˈβiːʔˌʔu]

Lev. 23.17: [taˈβiʔˈʔu]

Job 33.21: [ˈruʔˈʔu]

These traditions of reading the ʾ*alef*s need not be interpreted as late interpretations of the point in the ʾ*alef*, as Morag (1977, 14) argues, but rather continuities of medieval traditions.

In sum, the weight of evidence suggests that the *dagesh* point in ʾ*alef* in the four canonical places in the Standard Tiberian

tradition indicated gemination of the ʾalef, and so should be tran-
scribed [vaɟɟɔːˈviːiʔʔuː], [tʰɔːˈviːiʔʔuː], [ʀuʔˈʔuː]. The gemination
was an orthoepic strategy that involved pronouncing the ʾalef
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 pas-
sages, one of which has preserved the consonantal ʾalef whilst the
other has lost it both in the *ketiv* and in the *qere*,[9] e.g.

תּוֹמִם (Gen. 25.24) — תְּאוֹמִים (Gen. 38.27) 'twins'

וּפֻוֶּה (Gen. 46.13) — וּפוּאָה (1 Chron. 7.1) 'and Puah'[10]

וַתַּזְרֵנִי (2 Sam. 22.40) — וַתְּאַזְּרֵנִי (Psa. 18.40) 'you did gird
me'

הַבֵּרֹתִי (1 Chron. 11.39) — הַבְּאֵרֹתִי (2 Sam. 23.37) 'of
Beeroth'

לְהִשֹּׁות (2 Kg. 19.25) — לְהַשְׁאוֹת (Isa. 37.26) 'to cause to crash
into ruins'

וַיְרַפֻּוּ (Jer. 8.11) — וַיְרַפְּאוּ (Jer. 6.14) 'and they have healed'

In some biblical scrolls from Qumran, an ʾalef that is pro-
nounced consonantal in the Tiberian Masoretic tradition is omit-
ted 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 וּפֻאֶּה, which appears to be a hybrid form of וּפֻוֶּה
and וּפוּאָה.

pronunciation. This is particularly common in the scroll 1QIsaᵃ, but is found also occasionally elsewhere, e.g.[11]

משריך (1QIsaᵃ 3.17 | L [BHS]: מְאַשְּׁרֶיךָ Isa. 3.12 'your guides')

נספים (1QIsaᵃ 11.14 | L [BHS]: נֶאֱסָפִים Isa. 13.4 'gathered [mpl]')

ומלו (1QIsaᵃ 12.23 | L [BHS]: וּמָלְאוּ Isa. 14.21 'and [the surface of the world] will be filled')

וישמו (1QIsaᵃ 19.3 | L [BHS]: וְיֶאְשְׁמוּ Isa. 24.6 '[and its inhabitants] pay the penalty')

טלים (1QIsaᵃ 33.11 | L [BHS]: טְלָאִים Isa. 40.11 'lambs')

תנתו (1QIsaᵃ 29.25 | L [BHS]: תְּאֵנָתוֹ Isa. 36.16 'his fig tree')

הביו (1QIsaᵃ 13.19 | L [BHS]: *ketiv* הביאו *qere* הָבִיאִי Isa. 16.3 'give [fs advice]!')

בוו (4Q141 f1i.12 | L [BHS]: בָּאוּ Deut. 32.17 'they came')

אליב (4Q138 f1.13 | L [BHS]: אֱלִיאָבֿ Deut. 11.6 'Eliab')

נוות (4Q78 f10–12.7 | L [BHS]: נְאוֹת Joel 1.19 'pastures of')

הרץ (4Q79 f1–2.9 | L [BHS]: הָאָרֶץ 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 ʾ*alef* is general pronounced, but is sometimes elided, especially between vowels, e.g.

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[11] Data supplied by Aaron Hornkohl.

Aleppo

> haˈele (Katz 1981, 15 | L [BHS]: הָאֵ֫לֶּה Gen. 48.1 'these')

Baghdad

> wearbaˈʕīm (Morag 1977, 13 | L [BHS]: וְאַרְבָּעִ֖ים Gen. 47.28 'and forty')

Yemen

> bʔɔˈħiːw (Morag 1963, 3 | L [BHS]: בְּאָחִ֑יו Isa. 19.2 'against his brother')

Morocco

> israˈil (Akun 2010, 65 | L [BHS]: יִשְׂרָאֵ֑ל 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: רֹא̈שִׁי 'my head' (Psa. 40.13)

L: לֹא יִרָ̈אנוּ '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: פְּתָ̈איִם (Psa. 116.6) 'the simple'

L: עֳפָ̈איִם (Psa. 104.12) 'branches'

L: וְכִצְבָאֶ֗ים (1 Chron. 12.9) 'and like gazelles'

These words are listed in the Masora as cases where ''alef 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:

מַשֵֽׂא (Morag 1959, 218 | L [BHS]: מַשָּׂ֖א Isa. 23.1 'oracle')

יָבֵֽא (Morag 1959, 221 | L [BHS]: יָב֥וֹא Isa. 37.33 '(does not) come')

Genizah manuscripts

הֲיֵֽאבֶה (T-S A11.1 | L [BHS]: הֲיֹאבֶ֥ה Job 39.9 'will it be willing') (Blapp 2017, 59)

שֹׁונֵֽא (T-S A12.1 | L [BHS]: שׂוֹנֵ֣א Prov. 29.24 'he who hates') (Blapp 2017, 99)

וְלֵֽא (T-S A12.1 | L [BHS]: וְלֹ֣א 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.

עֳפָּאִ֫ים (BL Add MS 21161, fol. 160v | L [BHS]: עֳפָאִ֑ים Psa. 104.12 'branches')

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[12] Ginsburg (1880, §13).

יִשְׁמְעֵאל (Codex Reuchlianus | L [BHS]: יִשְׁמָעֵאל Jer. 40.14 'Ishmael')

It is sporadically, however, marked on a word-final ʾ*alef*, which must have been read as non-consonantal, e.g.

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

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

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

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

C: בִּישְׂרָאֵל, L [BHS]: בְּיִשְׂרָאֵל '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 ʾ*alef* was not pronounced as consonantal, i.e. [jisrˤɔːˈeːel].[13]

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

אָנֹבִי (T-S A12.1, Blapp 2017, 99 | L [BHS]: אָנֹכִי Prov. 30.2 'I')

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[13] A possible parallel to this elision of the ʾ*alef* can be identified in the proper name דָּנִיֵּאל [dɔːnijjeːel] 'Daniel' < *dānī-ʔēl*. Yeivin notes that in both names the ʾ*alef* is followed by the letter *lamed*.

בְּקָרְאֹי (T-S A13.20, Blapp 2017, 174 | L [BHS]: בְּקָרְאֹי Psa. 69.4 'with my crying')

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

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

Dagesh:

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

Rafe:

וּבֿאֹ[וּ] (Bod. Heb. e 30 ff. 48-49 | L [BHS]: וָבֹאוּ 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 ʾ*alef*. The sign is likely to be intended to signal that the ʾ*alef* is consonantal but ungeminated.

In L one encounters vocalizations such as the following:

Num. 26.7: הָרֵאוּבֵנִי (BHS: הָרֵאוּבֵנִי) 'the Reubenite' (B: הָראוּבֵנִי, S: הָרֵאוּבֵנִי)

Josh. 12.6: לָרֵאוּבֵנִי (BHS: לָרֵאוּבֵנִי) 'to the Reubenite' (A: לָרְאוּבֵנִי)

2 Kings 10.33: וְהָרֵאוּבֵנִי (BHS: וְהָרֵאוּבֵנִי) 'and the Reubenite' (A: וְהָראוּבֵנִי)

Job 31.7: מְאֻם (BHS: מְאוּם) 'blemish' (A: מְאֻם)

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 *ʾalef* in L is a consonantal *ʾalef* between two vowels. In the manuscripts the *ʾalef* is marked with *rafe* and in manuscripts other than L there is only one vocalization sign, either *qibbuṣ* before the *ʾalef* or a *shureq* dot on the *vav*, indicating that the *ʾalef* did not have a consonantal realization. The vocalization in L adds a *qibbuṣ* sign on the letter preceding the *ʾalef*. This is, therefore, a double marking of the *u* vowel that follows the consonant. The words should be read [hɔːʀuːveˈniː], [muːum],[14] 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* בֵּית (ב)

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

Bet without *dagesh* (בֿ): 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 בי.[15] 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.).

[15] Long version, edition in vol. 2 of this book, §II.L.1.1.2.

other Masoretic treatises, sometimes vocalized בֵּי,[16] and the later recensions of *Hidāyat al-Qāriʾ*.[17] It is referred to in Masoretic treatises also as בא.[18] Both of these spellings represent the Arabic name of the letter, viz. *bāʾ*, 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-Qāriʾ* that the *bet* with *dagesh* is pronounced by closing the lips firmly.[20] In the Karaite transcriptions it is represented by Arabic *bāʾ* (Khan 1990a, 4, 2013).

According to *Hidāyat al-Qāriʾ, 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-Qāriʾ* it is stated that *bet rafe* and consonantal *vav* have the same pronunciation:

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[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).

[18] E.g. *Hidāyat al-Qāriʾ* Long version, edition in vol. 2 of this book, §II.L.1.1.1., §II.L.1.1.2.; the treatise on the *shewa* edited by Levy (1936, כו).

[19] Eg. ed. Hayman (2004, 51).

[20] Long version, edition in vol. 2 of this book, §II.L.1.3.9. Eldar (1980, fols. 10b-11a, lines 84-88).

[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 *bāʾ*. This is a reflection of the fact that the two sounds were the same, e.g. in the manuscript BL Or 2548:

عناويم (BL Or 2548 fol. 3r, 10 | L [BHS]: עֲנָבִים Isa. 5.4 'grapes')

وقوبي (BL Or 2548 fol. 42r, 3 | L [BHS]: וְקֹוֵי 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

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[22] Long version, edition in vol. 2 of this book, §II.L.1.7.7. Eldar (1984b, Hebrew section, 10).

[23] אעלם אן כל ואו מזאד פי אול ללפט�ّה ותחתה שוא יקרא בבא … אעני יכ�ّרג כאנה מת�ّל חרף בית כקולך … וְאָמַר (ed. Levy 1936, כו).

labio-dental (see the description of *vav* §I.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.

وايزوف (Genizah MS 12, Khan 1990a, 151 | L [BHS]: וְאֵזוֹב 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.

عرافا (al-Bīrūnī, *Chronology of* Nations, ed. Sachau 1878, 277 | עֲרָבָה 'desert')

لفانه (al-Bīrūnī, *Chronology of Nations*, ed. Sachau 1878, 187–192 | לְבָנָה 'moon')

دافورا (Ibn Khaldūn, Schreiner 1886, 253 | דְּבוֹרָה '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]

בפנות (4Q6 f1a.3 | L [BHS]: בִּבְנוֹת Gen. 34.1 '[to visit the] daughters [of the land]')

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[24] Data supplied by Aaron Hornkohl.

עפשו (4Q78 f10–12.7 | L [BHS]: עָבְשׁוּ 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. נבטייה 'the Nabatean', נפתייה 'the Nabatean', ניוותאי 'the Nabateans' (Dalman 1894, 74).

Hidāyat al-Qāriʾ describes the stop [b] as one of the primary letters (*ʾuṣūl)* and the [v] as an additional secondary letter (*farʿ*).[25]

I.1.3. *GIMEL* גִּימֶל (ג)

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

Gimel without *dagesh* (גֿ): 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-Qāriʾ* 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 גִּימֶל, with stress on the final syllable.[26] In the Hebrew *Maḥberet ha-Tījān*, a later recension of *Hidāyat al-Qāriʾ*, the name has the form גם.[27]

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[25] Long version, edition in vol. 2 of this book, §II.L.1.2.

[26] The spelling גמאל is used by ʾAbū al-Faraj Hārūn also in his grammatical text *al-Kitāb al-Kāfī* (ed. Khan, Gallego and Olszowy-Schlanger 2003, e.g. §I.25.35., §I.25.40., §I.28.2., §I.28.11., §I.28.12.) and by the anonymous Karaite author of the grammatical text *Kitāb al-ʿUqūd* (ed. Vidro 2013, 27, 317).

[27] Ed. Derenbourg (1871, 36).

Gimel with *dagesh* was a stop, which, according to *Hidāyat al-Qāriʾ*, was articulated with the middle of the tongue.[28] The Karaite transcriptions represent it by Arabic *jīm* or, occasionally, by *kāf*,[29] e.g.

هجّامیل (BL Or 2539 MS A, fol. 63r, 3 | L [BHS]: הִגָּמֵל Gen. 21.8 'to be weaned')

كبور (BL Or 2554 fol. 11r, 7 | L [BHS]: גִּבּוֹר 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 Sībawayhi and al-Khalīl (eighth century C.E.). Ibn Sīna in the eleventh century describes *jīm* as pronounced slightly further forward.[30] 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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[28] וסט אללסאן, Long version, edition in vol. 2 of this book, §II.L.1.3.7.; Eldar (1980, fols. 10a-10b, lines 61-73).

[29] Khan (1990, 4, 2013).

[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-Qāriʾ describes the stop [g] as primary (*ʾaṣl*) and the fricative [ʁ] as secondary (*farʿ*).[33]

I.1.4.　*DALET* דָּלֶת (ד)

Dalet with *dagesh* (דּ): 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-Qāriʾ*, the Tiberians called this letter *dāl*, which is the name of the corresponding Arabic letter.[34]

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[31] תלת אללסאן ממא ילי אלחלקום קודאם אלחנך, Long version of *Hidāyat al-Qāriʾ*, edition in vol. 2 of this book, §II.L.1.3.6.; ed. Eldar (1980, fol. 10a, lines 58-59).

[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* (דל),[35] and in the later recensions of *Hidāyat al-Qāriʾ*, e.g. Arabic *Maḥberet ha-Tījān* (אלדאל),[36] Hebrew *Maḥberet ha-Tījān* (דל).[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, Saadya 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

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[35] E.g. ed. Gruenwald (1971, 156), ed. Hayman (2004, 54).

[36] Ed. Neubauer (1891, 12).

[37] Ed. Derenbourg (1871, 36).

[38] טרף אללסאן מע לחם אלאסנאן, Long version, edition in vol. 2 of this book, §II.L.1.3.7.; ed. Eldar (1980, fol. 10b, ed. Eldar, 1980-81, lines 67-69).

[39] ופי דטלנת ... אנהא תג�ّאור אלאסנאן מן דלך מן אעלאהא; Saadya, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 75).

[40] בראש הלשון (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.[41] This corresponds to the description in one version of *Sefer Yeṣira,* where it is stated that the letters דטלנת were articulated with the 'middle' of the tongue.[42] It is easier, however, to interpret *Hidāyat al-Qāriʾ* 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.

Hidāyat al-Qāriʾ describes the stop [d] as primary (*ʾaṣl*) and the fricative [ð] as secondary (*farʿ*).[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 *dalet* with a secondary 'emphatic' articulation (i.e. pharyngealized with retraction of the tongue root and increased muscular pressure) in two words, viz. אַפַּדְנוֹ 'his palace' (Dan. 11.45) and וַיַּדְרְכוּ 'and they have bent' (Jer. 9.2). This was apparently due to the fact that the *pe* and the *resh* in these words were pronounced emphatic (see §I.I.1.17., §I.1.20.) and the emphasis spread to the *dalet*. The evidence for this is found in a commentary to *Sefer Yeṣira* 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:

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[41] פאן דׄלך אלטרף ליס הו אסלת אללסאן בל מא הו ארפע מן שלאסלה קלילא 'This end (of the tongue) is not the tip of the tongue but what is slightly posterior to the tip'; *Kitāb al-Lumaʿ* (ed. Derenbourg 1886, 28).

[42] דטלנת על חצי הלשון משתמשות, *Sefer Yeṣira* (ed. Hayman 2004, 93).

[43] Long version, edition in vol. 2 of this book, §II.L.1.2., Eldar (1980, fol. 8b, 254, n.58).

The Arabs have sounds that the Hebrews do not have, namely the *ḍād* of קצׄיב (*qaḍīb*) and the *ḏāʾ* of עטׄים (*ʿaḏīm*). The meaning of *qaḍīb* 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 *ʿaḏīm* is 'huge'. It is written with *ṭet* 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) *ḏāʾ* and *ḍād* and he used to read ויטע אהלי אפטנו (Dan. 11.45, L: וְיִטַּע אָהֳלֵי אַפַּדְנֹו 'He will pitch the tents of his palace'[44]), in which he used to pronounce *ḏāʾ* although *dalet* was written. He used to read ויצרכו את לשונם (Jer. 9.2, L [BHS]: וַיַּדְרְכוּ אֶת־ לְשֹׁונָם֩ 'they bent their tongue'), 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.[45]

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

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[44] BHS erroneously reads L as אָהֳלֵי.

[45] ויש אצל הערביים הברות שאינם נמצאות אצל העבריים, והם הצדי מן קצׄיב והטא מן עטׄים. פי׳ קצׄיב שבט או שרביט ונכתב בצדי ונקודה מלמעלה והיא הברה בפני עצמה וגם היא דומה להברת דלת ברפי. ופי׳ עטׄים עצום ונכתב בטית ונקודה מלמעלה והיא הברה בפני עצמה וגם היא דומה להברת דלת ברפי ... והיה רבנא יצחק בן רבנא שלמה ז״ל אומר כי יש בלשון העבריים אצל הטבריים הטא והצדי והיה קורא ויטע אהלי אפטנו והיה מיסד הטא בלשונו והיא בכתב דלת. והיה קורא ויצרכו את לשונם והיה מייסד הצאׄד בלשונו והיא בכתב דלת. וכל זה למה מפני שהיה בקי בקריאת בני טבריה, 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 *ḍ* (mainly in urban dialects) or to an emphatic interdental *ḏ* (mainly in Bedouin dialects) (Versteegh 2011). In medieval Judaeo-Arabic, a *ṣade* with an upper dot (צ֗) was used to represented Classical Arabic *ḍād* (ض) and a *ṭet* was used to represent Classical Arabic *ḏ̣ā*ʾ (ظ). 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 *ḏ̣ā*ʾ were both represented by either צ֗ or ט֗ interchangeably.[46] The representation of a Hebrew *dalet* in the passage by both צ֗ and ט֗ and the statement attributed to Isaac Israeli that 'in the language of the Hebrews among the Tiberians there were (the sounds of) *ḏ̣ā*ʾ and *ḍād*' should be interpreted in this light. A single emphatic sound was no doubt intended, presumably the emphatic interdental *ḏ* [ðˤ], given the fact that the author in the passage states that these two emphatic Arabic letters resemble *dalet rafe*.

ʾAbū al-Faraj Hārūn in his *al-Kitāb al-Kāfī* refers to the pharyngealization of *dalet* in the words אַפַּדְנוֹ (Dan. 11.45) and פִּטְדָה 'topaz' (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 אׇהֳלֵי אַפַּדְנוֹ 'the tents of his palace' (Dan. 11.45) and אֹדֶם פִּטְדָה 'sardius, topaz' (Exod. 28.17) pronounce the *dalet* in them like Arabic *ḍād* or *ẓā*ʾ and these words sound like אַפַּצְנוֹ and

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[46] See the discussion by Wagner (2010, 28–32).

פְּטְצָה. This, however, does not increase the number of let-
ters, since the *dalet* has the same form, although the read-
ing 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 [rˤ], e.g.

jarˤˈdˤu (Akun 2010, 72 | L [BHS]: יָרְדוּ Exod. 15.5 'they
went down')

I.1.5. *He* הֵא (ה)

Glottal fricative [h]

The name of the letter is normally spelt הֵא or הֵי, 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. לָהּ [lɔːh] 'to her', but מַלְכָּה
[malkʰɔː] 'queen'. This dot is known as *mappiq* (מַפִּיק), meaning
literally 'bringing out, pronouncing'. In medieval sources, such as
the Masoretic treatises, the term sometimes is vocalized as
mappeq (מַפֵּק, מַפֵּיק),[48] which is an Aramaic *hafˤel* participle from

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[47] Ed. Khan, Gallego and Olszowy-Schlanger (2003, §I.24.2): בל פי
אלערבי מן אלאחרף אלמנטוק בהא פי כלאמהם מא ליס לאלעבראני נחו אלגׄים ואלצׄאד
וגירהמא ואן כאן בעׄ אלמעלמין אדא קרא אהלי אפדנו ואדם פטדה אכרג אלדאל פיהמא
ככרוג אלצׄאד או אלטׄא פי אלערבי פיסמע מנה כמסמוע אפצׄנו פטצׄה פליס דלך בזאיד
פי עדד אלארף אד אלדאל צורתהא ואחדה ואן אכתלפת אלקראה.

[48] E.g. CUL T-S D1.2.

the root *n-p-q* 'to come out'. This is the earlier form of the term, *mappiq* being a later Hebraization. Some manuscripts of Maso-retic treatises vocalize the term *mappaq* (מַפַּק).[49] In *Hidāyat al-Qāriʾ* the consonantal pronunciation of *he* was referred to as 'ap-pearance' (*ḏuhūr*).[50]

   The *mappiq* is in principle marked in consonantal *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. יַלְדָּהּ [jalˈdɔːɔh] 'her child' as opposed to יַלְדָּה [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 follow-ing vowel letter, e.g. הָאוֹר 'the light' (Gen. 1.3), יְהֲלֵךְ 'it will go' (Psa. 85.14), הוֹלִידוֹ 'his giving birth to' (Gen. 5.4) or by a *shewa* sign in a syllable coda, e.g. פְּדַהְאֵל [pʰaðahˈʔeːel] 'Pedahel' (Num. 34.28). A word-medial *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. פְּדָהְצוּר [pʰaðɔːˈsˤuːurˤ] 'Pedahzur' (Num. 1.10; despite the normal English spelling of the latter, the *he* is not pronounced according to the Tiberian reading tradition).[51] In some manuscripts, however, consonantal *he* is marked with *mappiq* within a word. This is found in particular in words of unusual form in which consonantal *he* is pointed with *shewa*, e.g. L and S בְּהִשַּׁמָּהּ [bɔhʃamˈmɔː] 'when it lies desolate' (Lev. 26.43), S פְּדִהְאֵל
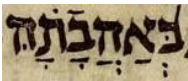
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[49] E.g. MS S27, fols. 1r-1v, *Hidāyat al-Qāriʾ*, short version, edition in vol. 2 of this book, §II.S.2.0.

[50] Long version, edition in vol. 2 of this book, §II.L.1.3.4.; Eldar (1980, fol. 9b, line 31).

[51] Ofer (2013).

[pʰaðahˈʔeːel] 'Pedahel' (Num. 34.28).[52] 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: בְּאַהֲבָתָהּ '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

יְגִיעֶהּ (T-S A11.1, Blapp 2017, 51 | L [BHS]: יְגִיעָהּ Job 39.16 'her labour')

לָהּ (T-S A11.1, Blapp 2017, 51 | L [BHS]: לָהּ Job 39.17 'to her')

אֱלֹוהּ (T-S A11.1, Blapp 2017, 51 | L [BHS]: אֱלֹוהַּ 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).

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[52] Yeivin (1980, 285).

[53] Yeivin (1968, 49–50).

European manuscripts

בְּקִרְבֵּהּ (Codex Reuchlinianus | L [BHS]: בְּקִרְבָּהּ Isa. 19.14 'within her')

אֹתֵהּ (Codex Reuchlinianus | L [BHS]: אֹתָהּ Isa. 19.17 'her [obj.]')

גְּבוּלֵהּ (Codex Reuchlinianus | L [BHS]: גְּבוּלֵהּ Isa. 19.19 'its boundary')

כְּגָֹבַהּ (BL Add 21161 | L [BHS]: כְּגָבַהּ Amos 2.9 '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.

פֿרִיֹה וֹטוֹבַֿה (T-S 12.197, Kahle 1927, II, 80; Revell 1970a, 95 | L [BHS]: פִּרְיָהּ וְטוּבָהּ Jer. 2.7 '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

נַהֳרְוֹת (T-S A13.35, Blapp 2017, 191 | L [BHS]: נַהֲרוֹת Psa. 74.15 'streams')

וְהִֿתְעַלַּמְתָֿ (T-S A5.12, Arrant 2020 | L [BHS]: וְהִתְעַלַּמְתָּ Deut. 22.4 'and you ignore')

יִהְֿיוּ (CUL Or 1080.A4.18, Arrant 2020 | L [BHS]: יִהְיוּ Num. 28.19 'they shall be')

הַזֶּה (T-S NS 284.85, Arrant 2020 | L [BHS]: הַזֶּה Exod. 3.21 'this')

European manuscripts

וְהָיִיתָ (Codex Reuchlinianus, Morag 1959, 219 | L [BHS]: וְהָיִיתָ 1 Kings 2.2 'and you will be')

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

מַעֲשֵׂה (T-S NS 68.22, Arrant 2020 | L [BHS]: מַעֲשֵׂה Deut. 28.12 'work of')

וּמַכֵּה (T-S AS 8.123, Arrant 2020 | L [BHS]: וּמַכֵּה Lev. 24.21 'and he who strikes')

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 ʾalef, it is, by contrast, always written within the letter. Moreover, whereas the Masora refers to the dot in ʾalef in the four canonical places (§I.I.1.1.) 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

מלין מן חד וחד מפקין ה׳

'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

אֱלֹוהְ (T-S A11.1, Blapp 2017, 47 | L [BHS]: אֱלֹוהַּ Job 39.17 'God')

יְגְבִּיהְ (T-S A11.1, Blapp 2017, 48 | L [BHS]: יַגְבִּיהַ Job 39.27 'it mounts')

European manuscripts

יַגֵּיהְ (Codex Reuchlinianus | L [BHS]: יַגֵּיהַ 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: וְלֹא־יָֽכְלָֿה 'she was not able' (Exod. 2.3)

L: חָזָֿה 'he saw' (Isa. 1.1)

L: סָרָֿה 'apostasy' (Isa. 1.5)

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

Genizah manuscripts:

אַשְׁפָּֿה (T-S A11.1, Blapp 2017, 56 | L [BHS]: אַשְׁפָּה Job 39.23 'quiver')

מִלְחָמָֿה (T-S A11.1, Blapp 2017, 59 | L [BHS]: מִלְחָמֶה Job 39.25 'battle')

הַשָּׂדֶֿה (T-S A11.1, Blapp 2017, 59 | L [BHS]: הַשָּׂדֶה Job 40.20 'the field')

European manuscripts

לַמִּלְחָמֶֿה (Codex Reuchlinianus | L [BHS]: לַמִּלְחָמֶה 1 Sam. 23.8 'to war')

קְעִילֶֿה (Codex Reuchlinianus | L [BHS]: קְעִילָֿה 1 Sam. 23.8 'Keilah')

שָׁנֶֿה (BL Add 21161 | L [BHS]: שָׁנֶֿה Amos 2.10 'year')

Some Non-Standard Tiberian manuscripts mark a *rafe* sign on *he* in contexts where it is consonantal in the Standard Tiberian tradition, e.g.

הֽוּא (T-S A13.20, Blapp 2017, 174 | L [BHS]: הֽוּא Psa. 68.36 'he')

הֽוֹשִׁיעֵ֫נִי (T-S A13.20, Blapp 2017, 174 | L [BHS]: הוֹשִׁיעֵ֫נִי Psa. 69.2 'save me!')

בְּמַקְהֵֿלֹ֥ות (T-S A13.20, Blapp 2017, 175 | L [BHS]: בְּמַקְהֵלֹ֥ות Psa. 68.27 'in the congregation')

יְהוּדָֿה (T-S A13.20, Blapp 2017, 175 | L [BHS]: יְהוּדָֿה 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:

חד מן י״ח לא מפק׳ ה׳ בסוף תיבותה

'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: וַתַּחְמְרֶה 'and she daubed it (fs)' (Exod. 2.3)

L: הִוָּסְדָה 'its being founded' (Exod. 9.18)

L: עֲוֺנֶה 'its (fs) iniquity' (Num. 15.31)

L: צִדֶה '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:

חד מן י״א זוגין חד מפק׳ ה׳ וחד לא מפק׳ ה׳ בסוף תיבותה

'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: וּשְׂעָרֶה 'and its (fs) hair' (Lev. 13.20)

L: וּשְׂעָרֶה 'and its (fs) hair' (Lev. 13.4)

L: וְאֶתְנַנָּה 'and her hire' (Isa. 23.18)

L: לְאֶתְנַנֶּה '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]

אֹחֹרִים (4Q6 f1.10 | L [BHS]: אַחֲרֵיהֶם Gen 48.6 'after them')

אלוים (8Q4 f1.35 | L [BHS]: אֱלֹהִים Deut. 11.16 'gods')

לֹעֹלוֹת (4Q51 9e–i.9 | L [BHS]: לְהַעֲלוֹת 1 Sam 10.8 'to offer [sacrifices]')

ומטו (1QIsaᵃ 10.11 | L [BHS]: וּמַטֵּהוּ Isa. 10.24 'his staff')

משתריים (1QIsaᵃ 22.26 | L [BHS]: מֵהִשְׂתָּרֵעַ Isa. 28.20 '[is too short] to stretch out')

מתלות (1QIsaᵃ 24.18 | L [BHS]: מַהֲתַלּוֹת Isa. 30.10 'illusions')

לשמיע (1QIsaᵃ 47.26 | L [BHS]: לְהַשְׁמִיעַ Isa. 58.4 'to make heard')

בתומות (1QIsaᵃ 51.9 | L [BHS]: בַּתְּהֹמוֹת 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.

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[54] Data supplied by Aaron Hornkohl.

Aleppo

ˌleβadˈdaˑ (Katz 1981, 13 | L [BHS]: לְבַדָּהּ Exod. 22.26 'by itself [fs.]')

missobˈʕa (Katz 1981, 13 | L [BHS]: מִשָּׂבְעָהּ Ruth 2.18 'from her satisfaction')

Morocco

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

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

Kerala

haʃaˈbaː (Forsström 2013, 461 | L [BHS]: חֲשָׁבָהּ 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 energic *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]

וֹשׁכֹלתֹّה [wʃikkʰalˈlaːttʰɔːh] (וְשִׁכְּלָתֶּהָ Ezek. 14.15 'and you will make it (f) childless')

וכֹעֹסֹתֹّה [wχeːʕasˈsaːttʰɔːh] (וְכִעֲסַתֶּהָ 1 Sam 1.6 'and she provoked her')

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[55] Data supplied by Shai Heijmans.

יִבְלָעֶנָּה [jivlɔːˈʕaːnnɔːh] (יְבְלָעֶנָּה) Isa. 28.4 '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* וָו (ו)

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

In *Hidāyat al-Qāriʾ* the name of this letter is spelt ואו, which represents, it seems, the corresponding Arabic name (*wāw*).[56]

According to *Hidāyat al-Qāriʾ*, the place of articulation was the lips.[57] 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 פֻּוָה:

> תּוֹלָע וּפֻוָה (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 הֱוֵה 'be!' (Gen. 27.29), דָּוָה 'ill' [fs.] (Lev.

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

[57] Long version, edition in vol. 2 of this book, §II.L.1.3.9.

20.18, etc.), הִרְוָה 'it watered' (Isa. 55.10). Some of the
teachers have made a mistake by reading it (like the *vav*
in) רוּחַ 'spirit' and נִיחֹחַ 'soothing'. This is because when-
ever the accent is on the letter before a *vav*, its
pronunciation is light, between the lips, as in רוּחַ 'spirit'
and נִיחֹחַ 'soothing', יְהוֹשֵׁעַ 'Joshua', לָנוּעַ 'to sway' (Jud. 9.9,
etc.), שָׁמוֹעַ 'to hear', יָדֹעַ 'to know', נֹחַ 'Noah', מֹחַ 'brain'. Its
pronunciation (i.e. the *vav* of פֻוֶה), 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: יָצָא קַוָּם 'their speech went out'
(Psa. 19.5), צִוָּם 'he commanded them' (Gen. 50.12, etc.),
כַּאֲשֶׁר יְצַוֶּה 'as he commanded' (Gen. 7.9, etc.), אֲשֶׁר יְצַוֶּה 'that
he commands' (Gen. 18.19, etc.). Examples with light (*vav*)
are: הֹוָה עַל־הֹוָה 'disaster upon disaster' (Ezek. 7.26), הֱוֵה
וְרָוַח לְשָׁאוּל 'o (you) be for them a king' (Neh. 6.6), לָהֶם לְמֶלֶךְ
'and Saul was refreshed' (1 Sam. 16.23), לֹא־יֵבֹשׁוּ קֹוָי 'those
who wait for me will not be put to shame' (Isa. 49.23).
Now, תּוֹלָע וּפֻוָה (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

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[58] *Kitāb Jāmiʿ al-ʾAlfāẓ*, ed. Skoss (1936, vol. 2, 451-452): תולע ופוה אסם
רגﱈ ולחנה פי אליﱝו וקראתה רפי וכרוﱨ פיה אליﱝו כראי אלשאמיין מתﱈ הוה דוה הרוה
וקד גלט בעץ אלמעלמין אלﱞﱝ יקרוה מתﱈ רוח ניחוח ודﱞﱝ אן כל ויו יכון אללחן פי אלחרף
אלﱞﱝ קבﱈה יכון כרוﱨה מכפף בין אלשפתין מתﱈ רוח ניחוח יהושﱝﱝ לנוﱝﱝ שמוﱝ ידﱝ נﱈ מﱈ.
פכרוﱨה ככרוﱨ כל ויו לנא אלמכפף ואלמדגוש בין אלאסנאן אלפוקאניה ואלשפה
אלספﱈאני אעני באלמדגוש מתﱈ יצא קוﱟם צוﱟם כאשר צוﱟה אשר יצוﱟה ואעני באלמכפף
מתﱈ הוה על הוה הוה להם למלך ורﱝﱝ לשאול לא יבשו קוﱝﱝ. ומתﱈה אלﱝﱝ תולﱝ ופוﱝ.

with a furtive *pataḥ* such as רוּחַ and נִיחֹחַ, where it is pronounced 'light, between the lips'. This must be referring to a bilabial glide between the vowel and the following *pataḥ* [ˈʀ̣uːwaħ], [niːˈħoːwaħ].

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 … וְאָמַר 'and he shall say.' (*Treatise on the Shewa*)[60]

Al-Fāsī indicates that the *vav* in the name פֻּוָּה (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 וּפֻוָּה (Gen. 46.13), there is a consensus that it has a *vav* that (is pronounced) in the way it is read in

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[59] Long version, edition in vol. 2 of this book, §II.L.1.7.7.

[60] אעלם אן כל ואו מזאד פי אול ללפטֹה ותחתה שוא יקרא בבא … אעני יכרג כאנה מתֹל חרף בית כקולך … וְאָמַר (ed. Levy 1936, כו).

Iraq, not like *bet rafe*, as in words such as עֲנָוִים '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.

וּבְגֵאַבְתוֹ (T-S A5.7, Arrant 2020 | L [BHS]: וּבְגַאֲוָתוֹ Deut. 33.26 'and in his majesty')

הֲחַבִילָה (T-S A21.125, Arrant 2020 | L [BHS]: הַחֲוִילָֽה Gen. 2.11 'Havilah')

שָׁב (T-S AS 44.35, Outhwaite 2020 | L [BHS]: שָׁוְא 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-

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[61] ואמא לפטה ופוה מא פיהא כֹלף בון עלי מא יקרא באלעראק לא בשבה אלבَי אלרפי אעני מתֹל ענוים וגירהא ללשאמיין, *Kitāb al-Khilaf* (ed. Lipschütz, 1965, p.כ).

sional use of *bāʾ* 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.

غَـاباعـنو (Genizah MS 1, Khan 1990a, 45 | L [BHS]: גָוֵעְנוּ Num. 20.3 'we had expired')

همصبوث (Genizah MS 1, Khan 1990a, 45 | L [BHS]: הַמִּצְוֺת Num. 15.22 'the commandments')

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

بغاذاب (Genizah MS 1, Khan 1990a, 45 | L [BHS]: בְּגָדָיו Num. 19.19 'his clothes')

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

ونسقوباي [vaʃiqquːˈvaːaj] (BL Or 2551 fol. 67r, 9 | L [BHS]: וְשִׁקֻּוַי Psa. 102.10 'and my drinks')

This corresponds to al-Fāsī's description of the *vav* in this context in the word פֻּוֶה as a labio-dental [fuːˈvɔː], but not the bilabial pronunciation [fuːˈwɔː] that is ascribed by Mishaʾel ben ʿUzziʾel to Ben Asher and Ben Naftali.

There is even one documented case of *bāʾ* transcribing a glide before a furtive *pataḥ*:

نوبع [ˈnoːvaʕ] (Genizah MS 13, Khan 1990a, 155 | L [BHS]:

וְנֹ֫ועַ Psa. 109.10 'and wander')

This does not correspond to al-Fāsī's description of a bila-
bial [w] in this context.

The medieval sources, therefore, reflect a variety of differ-
ent distributions of the labio-dental [v] pronunciation of conso-
nant *vav*. These are summarized below:

	Default	After pretonic [uː]	Glide after [uː]/[oː]
Mishaʾel	[v]	[w]	?
al-Fāsī	[v]	[v]	[w]
Transcriptions	[v]	[v]	[v]

It should be pointed out that the transcription in which the

form نوبع [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 pro-

nounced as a labio-dental like *bet rafe*, e.g. וְאָמַר [vɔʔɔːˈmaːaʀ̟]

'and he will say'. How was conjunctive *vav* pronounced when it

has the form וּ, 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 בֿמֿפֿ, 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 *vav*, as in וּבָנָה 'and he will build' (Josh. 6.26, etc.), וּבֵרֵאתוֹ 'and you will clear it' (Josh. 17.18), וּבְרָא 'and he will create' (Isa. 4.5), וּבִינַת 'and the discernment of' (Isa. 29.14), וּבַר 'and clean' (Job 11.4), וּפֶן 'and lest' (Deut. 4.9, etc.), וּפָנָה 'and he will turn' (Deut. 31.20, etc.), וּפוּט 'and Put' (Gen. 10.6), וּפִי 'and the mouth of' (Exod. 39.23, etc.), וּפוֹל 'and beans' (2 Sam. 17.28), וּפְחִי 'and breathe' (Ezek. 37.9), וּמֶלֶךְ 'and king' (Gen. 14.2, etc.), וּמַלְכוּת (cf. וּמַלְכוּתָהּ 'her royal office' Esther 1.19), וּמֹשֵׁל 'and the ruler' (Gen. 45.8, etc.), וּמַקְלוֹ 'and his staff' (Hos. 4.12), וּמֵעַל 'and from upon' (1 Sam. 6.5, etc.), וּמָעַל 'and he acted treacherously' (cf. מַעַל Josh. 22.20). Nothing of this category is found that is pointed or read וְבָנָה, וְמָשַׁל, or 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 *bet*; I mean, the *vav* in them is not pronounced *bet*, as the aforementioned cases that have *shewa*. Rather, you read their *vav*s as if you are pronouncing אוּ, as if you are saying אָפָנָה אֶמְלַךְ, אֶבְרָא, אֶבְנָה. You should read all of them in this way. You need not read with a pure ʾ*alef*, for an ʾ*alef* does not appear in them, but I have only compared it (to ʾ*alef*) by way of approximation. … And if the second letter of the words has *shewa*, then it is always pointed and read with a point in the body of the *vav* and it is not read as *bet*, I mean with *shewa*, rather it is read as a pure *vav*, as in וּלְלֵוִי 'and regarding Levi' (Deut. 33.8), וּשְׁמַע 'and hear' (Exod. 23.21, etc.), וּדְבַר 'and the matter of' (Num. 23.3),

וּקְרָא 'and call' (Ruth 4.11, etc.), וּרְדֿוּ 'and have dominion over' (Gen. 1.28, etc.), and other cases.[62]

According to this passage, the onset of the syllable represented by conjunction וּ was not *ʾalef*. 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 בְּ and לְ. 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. לִשְׁמוּאֵל [liʃmuːˈʔeːel] 'to Samuel'. It would be more appropriate to interpret the syllable structure of conjunctive *vav* וּ 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].

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[62] אדא גאור אלוו אלו להדה אלתלתה אחרף והי בֹּמֹֿ פאנה לא יגוז חיניד אן תכרג בדאך
אלכרוג ולא תנקט בשוא בל בנקטה ואחדה פי גוף אל וָו מתל ובנה ובראתו ובינת ובינת
ובר ופן ופנה ופוט ופי ופול ופחי ומלך ומלכות ומושל ומקלו וָמֵעַל וֹמַעֵל וליס יוגד פי הדא
אלגנס אלבתה שי ינקט ולא יקרא וּבָנָה ולא וּמָשַׁל ולא ופוט לאן הדה אלתלתה אחרף
מכאלפה לסאיר אלאחרף פי הדא ואדא קרוהא ולא יקאל בב אעני לא יקרא פיהא אלוו
בב כמא תקרא אלאלוה אלדי בשוא בל תקרא ואואתהא כאנך תכרגהא באו כאנך תקול
אֲבָנָה אֲבָרָא אֲמַלַֿך אֲפַֿנָה אֲפָֿנָה עלי הדא אלמתאל תקרא כלהא וליס יגב תקרא באלף מחֹֿ
ולא יבין פיהא אלף ואנמא מתלת לך באלתקריב וכדא ... ואן כאן אלחרף אלתֿאני מן
אלתיבות בשוא פכלה ינקט ויקרא בנקטֹה פי גוף אלואו ולא יקרא בבא אעני בשוא בל
יקרא בואו מחֹֿ כקולך וּלְלֹוי וּשְׁמַע וּדְבַר וּקְרָא וּרְדֹו וְגֹירהמא (CUL Or 1080.13.3.2,
fol. 1r–1v and Levy ed., 1936, כז). See on this passage Posegay (2019).

The Karaite transcriptions, indeed, represent the conjunction וּ with an initial Arabic *wāw* and not an Arabic *ʾalif*. In some transcriptions, word-initial וּ is represented by Arabic *wāw* vocalized with a Hebrew *qibbuṣ*, e.g.

ولنخدي (BL Or 2539 MS A, fol. 65r, 3 | L [BHS]: וּלְנֶכְדִּי Gen. 21.23 'to my posterity')

وتخال (BL Or 2539 MS B, fol. 124v, 9 | L [BHS]: וּתְכַל Num. 17.25 'so that you may make an end')

Elsewhere in the manuscripts long [uː] is transcribed with a *shureq* point in *wāw*, e.g.

احوٚثْنو (BL Or 2539 MS A, fol. 77r, 7 | L [BHS]: אֲחֹתֵּנוּ Gen. 24.60 'our sister')

ميحوص (BL Or 2539 MS A, fol. 113v, 5 | L [BHS]: מִחֽוּץ־ Deut. 23.11 'from outside')

تجعو (BL Or 2539 MS B, fol. 122v, 11 | L [BHS]: תִּגְּעוּ Num. 16.26 'you touch')

This applies even to cases where the orthography in the Hebrew *ketiv* is defective and the Tiberian codices have a *qibbuṣ*, e.g.

لزقوناو (BL Or 2539 MS A, fol. 63r, 2 | L [BHS]: לִזְקֻנָיו׃ Gen. 21.7 'in his old age')

يؤاخَلوهو (BL Or 2539 MS B, fol. 119r, 1 | L [BHS]: יֹאכְלֻ֫הוּ

Num. 9.11 'they shall eat it')

This suggests that the vocalization with *qibbuṣ* reflects a
consonantal + short vowel [wu]. In one manuscript an Arabic
ḍamma vowel is written on the *wāw* rather than a *qibbuṣ*, e.g.

وُمَا (BL Or 2554 fol. 80r, 12 | L [BHS]: וּמַה־ Cant. 7.7 'and
what')

وُخْرامينو (BL Or 2554 fol. 54r, 4 | L [BHS]: וּכְרָמֵ֫ינוּ Cant. 2.15
'and our vineyards')

وُذْمي (BL Or 2554 fol. 94v, 7 | L [BHS]: וּדְמֵה־ Cant 8.14
'and be like!')

In one manuscript, an initial conjunctive ו is transcribed by
Arabic *wāw* vocalized with a Hebrew *shewa*. This most likely
represents a consonantal onset followed by a short vowel, e.g.

ومسنفو (BL Or 2539 MS A, fol. 73v, 9 | L [BHS]: וּמִסְפּוֹא Gen.
24.32 'and fodder')

ومايم (BL Or 2539 MS A, fol. 74r, 1 | L [BHS]: וּמַ֫יִם Gen.
24.32 'and water')

In one manuscript an Arabic *fatḥa* sign is marked over the
wāw that transcribes conjunctive ו, e.g.

وَمِي (BL Or 2552 fol. 99v, 5 | L [BHS]: וּמִי Ecc. 2.19 'and who')

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]: וּמִי) to cases in Origen's Hexapla such as the following, where the Greek transcription has ουα or ουε where the Standard Tiberian tradition has וּ:[63]

ουαδου (Ambrosiana Palimpsest | L [BHS]: וּדְעוּ Psa. 46.11 'and know! (mp)')

ουαλσωνι (Ambrosiana Palimpsest | L [BHS]: וּלְשׁוֹנִי Psa. 35.28 'and my tongue')

ουαρημ (Ambrosiana Palimpsest | L [BHS]: וּרְעֵם Psa. 28.9 'and shepherd (ms) them!')

ουεβροβ (Ambrosiana Palimpsest | L [BHS]: וּבְרֹב Psa. 49.7 'and in the multitude of (cstr.)')

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

וּבְמִישׁוֹר (Yeivin 1985, 1152 | L [BHS]: וּבְמִישׁוֹר 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 *vav* in the Babylonian tradition in such contexts, however, is with *ḥireq*, e.g.

וֹמהוֹמֹה (Yevin 1985, 338 | L [BHS]: וּמְהוּמָה Prov. 15.16 'and trouble')

וֹבֿפֿשׁעיֿכם (Yevin 1985, 342 | L [BHS]: וּבְפִשְׁעֵיכֶם Isa. 50.1 'and for your transgressions')

וֹבכשרֿוֹן (Yevin 1985, 352 | L [BHS]: וּבְכִשְׁרֹון Ecc. 2.21 'and with skill')

There is an exceptional case of *ḥireq* in L after conjunctive *vav* in this context, where וּ is expected:

L [BHS]: וְשִׁאֵלְךָ (Gen. 32.18 'and he will ask you' | S: וּשִׁאֵלְךָ)

When word-initial conjunctive וּ 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 *wāw*s. This must be interpreted as representing a consonantal onset followed by a lengthened vowel [uˑ] vowel, i.e. [wuˑ], e.g.

وولِهاعلُوثُو (BL Or 2540, fol. 8v, 4 | L [BHS]: וּלְהַעֲלֹתֹו Exod. 3.8 'and to bring him up')

وولياعقوب (BL Or 2546, fol. 85v, 8 | L [BHS]: וּלְיַעֲקֹב Num. 32.11 'and to Jacob')

وولااهزون (BL Or 2544 fol. 158r, 4 | L [BHS]: וּלְאַהֲרֹן Exod.
8.4 'and to Aaron')

The same transcription is found when a word-initial
conjunctive ו is lengthened by a phonetic *ga'ya* (§I.I.2.5.8.4.),
which causes a following *shewa* to be read as vocalic, e.g.

ووشِي (BL Or 2555 fol. 96r, 5 | L [BHS]: וּשֲׁתֵה Ecc. 9.7 'and
drink!')

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: וַיִּשְׁתַּחֲוּוּ (Deut. 29.25 'and they worshipped')

L, B: טָוּוּ (Exod. 35.26 'they span')

C: וְנִלְוּוּ (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: וְתַשְׁוֻּוּ (Isa. 46.5 'and you make equal')

L: וִיהִי (Psa. 90.17 'and let it be')

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

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[65] Yeivin (1980, 285–286).

[66] Yeivin (1980, 286).

vav is found in such manuscripts in word-initial, word-medial and word-final position, e.g.

Genizah manuscripts

וְאֶרֶץ (T-S A13.20, Blapp 2017, 162 | L [BHS]: וָאָרֶץ Psa. 69.35 'and earth')

וְעֵם (T-S A13.20, Blapp 2017, 162 | L [BHS]: וְעֵם Psa. 69.29 'and with')

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

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

European manuscripts

אֵלָיו (ASCNON B.I.1v, Pilocane 2004, 27 | L [BHS]: אֵלָיו 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. וְאֶרֶץ. 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]

אבֻ֗יו (OB, Yeivin 1985, 267 | L [BHS]: אָבִ֑יו Deut. 27.16 'his father')

ולפֻ֗נֻ֗יו (LB, Yeivin 1985, 267 | L [BHS]: וּלְפָנָ֑יו Job 21.33 'and before him')

לגֻ֗ו (OB, Yeivin 1985, 267 | L [BHS]: לְגֵ֣ו 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 *ḥolem* occasionally represents consonantal *vav*, e.g.

וישתחֹו (Bod. Heb. d 44, ff. 1-4, Dietrich 1968, 25* | L [BHS]: וַיִּשְׁתַּחֲווּ־ל֖וֹ 2 Kings 2.15 'and they bowed before him')

שֹׁועתי (T-S 20.53, Murtonen 1958, לד, Allony and Díez Macho 1958, 259 | L [BHS]: שִׁוַּ֥עְתִּי Psa. 30.3 'I cried')

The *ḥolem* 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 וּפֻוָּ֖ה. Some early codices do not have the dot, e.g. S: וּפֻוָה. In B a dot appears

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[67] Data supplied by Shai Heijmans.

to have been written and then erased.[68] The name occurs also in Num. 26.23 where L and other early codices have לְפֻוָּה 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.[69] The Babylonian vocalization of וּפֻוָּה (L, Gen. 46.13) is וּפוֹה (Yeivin 1985, 764), with a *shureq* over the *vav* and no vocalization on the *pe*. This could be compared to Tiberian vocalizations such as רוּחַ, which al-Fāsī claims contained a bilabial glide: [ʀuːwaħ]. Babylonian פוֹה 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.

וְגֵם (T-S A12.1, Blapp 2017, 99 | L [BHS]: וְגֵם Ruth 1.12 'and also')

תִּקְוֶה (T-S A12.1, Blapp 2017, 99 | L [BHS]: תִּקְוֶה Prov. 29.20 'hope')

גַּאֲוַת (T-S A12.1, Blapp 2017, 99 | L [BHS]: גַּאֲוַת 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.

עֹוֺל (T-S 12.195, Kahle 1930, 83 | L [BHS]: עָוֶל 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

עָלֶיׁן (T-S A13.18, Blapp 2017, 125 | L [BHS]: עָלָיו Psa. 89.46 'on him')

כְּנָפָּיׁן (T-S A13.18, Blapp 2017, 125 | L [BHS]: כְּנָפָּיו Psa. 91.4 'his wings')

European manuscripts

וְשׁוּלֶיׁן (Codex Reuchlinianus, Morag 1959, 219 | L [BHS]: וְשׁוּלָיו Isa. 6.1 'and his train')

וְהָרִיּוֹתֶיׁן (BL Add 21161 | L [BHS]: וְהָרִיּוֹתָיו 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.

ħajˈjav (Aleppo, Katz 1981,4 | L [BHS]: חַיָּ֔יו Gen. 47.28 'his life')

ˌveɣamˈhu· ˌjiɣˈdal (Aleppo, Katz 1981,9 | L [BHS]: וְגַם־ה֣וּא יִגְדָּ֑ל Gen. 48.19 'and he also will be great')

In the Samaritan reading tradition, consonantal *vav* has shifted to [b] (except in the case of conjunctive *vav*), reflecting its merger with fricative *bet* [v] and the consequent shift of fricative *bet* [v] to plosive *bet* [b] (Ben-Ḥayyim 2000, 33–34), e.g.[70]

bå̄bīyyima (Samaritan, Ben-Ḥayyim 2000, 33-34 | L [BHS]: וָוֵיהֶם Exod. 26.32 'their hooks')

īšåb (Samaritan, Ben-Ḥayyim 2000, 33-34 | L [BHS]: עֵשָׂו Gen. 25.25 'Esau')

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:[71]

צפה אדוני ליעקוב (4Q111 3.8 | L [BHS]: צִוָּ֧ה יְהוָ֛ה לְיַעֲקֹ֖ב 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.

Septuagint (third century B.C.E.)

Οὐκάν (Göttingen Septuagint | L [BHS]: וְעֲקָן Gen. 36.27 'Akan')

Εὔαν (Göttingen Septuagint | L [BHS]: חַוָּה Gen. 4.1 'Eve')

Hexapla of Origen (c. 185–254 C.E.)

ουαδωρ (Ambrosiana Palimpsest | L [BHS]: וָדֹר Psa. 49.12 'and generation')

βγηουαθω (Ambrosiana Palimpsest | L [BHS]: בְּגַאֲוָתוֹ Psa. 46.4 'at its swelling')

Jerome (346-420 C.E.)

uaiomer (Jerome, *Epistula* LXXIII.55.18, ed. Hilberg | L [BHS]: וַיֹּאמֶר Gen. 4.15 'and he said')

illaue (Jerome, *Hebraicae Quaestiones in Libro Geneseos*, ed. de Lagarde et al., 6.5, 6, 12 | L [BHS]: יִלָּוֶה 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]: וְאֵת Gen. 1.1 'and (direct object marker)')

βιγιομερου (Kantor forthcoming | L [BHS]: וַיֹּאמְרוּ 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; Yaʾakov 2015), e.g.

> wᵉjɪdˈgu (Baghdad, Morag 1977,8 | L [BHS]: וְיִדְגּוּ Gen. 48.16 'and let them increase')

> wăʃɔfatˤ (Yemen, Morag 1963,42 | L [BHS]: וְשָׁפַט Isa. 2.4 'and He will judge')

I.1.7. *ZAYIN* זַיִן (ז)

Voiced alveolar sibilant [z]

According to *Hidāyat al-Qāriʾ,* the Tiberians called this letter *zāy* (זאי), 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-Qāriʾ 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 Yeṣira* describes *zayin* as being articulated between the teeth with a 'resting tongue', or a 'flat

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[73] Long version, edition in vol. 2 of this book, §II.L.1.1.2.

[74] Long version, edition in vol. 2 of this book, §II.L.1.3.8. Eldar (1980, fol. 10b, line 77).

[75] Cf. Eldar (1980, n.70).

tongue' according to some versions.[76] 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-Qāriʾ 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

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[76] בין שינים ובלשון ישן 'between the teeth and with a resting tongue', בלשון שכובה ושטוחה 'with a resting and flat tongue' (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98).

[77] Long version, edition in vol. 2 of this book, §II.L.1.2.

[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: וכן יש להם זי״ן נקרא מכרוך ואינו ידוע אצלינו '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 [zˤ], though its distribution is unknown.

An anonymous Masoretic treatise refers to two variant forms of the letter *ṣade* 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 *ṣade* and (variant) *ṣade*. 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 *ṣade*, i.e. [zˤ]. Ibn Khaldūn (North Africa, d. 1406), indeed, refers to a voiced allophone of *ṣade* [zˤ] in the pronunciation of the name אֲמַצְיָהוּ, i.e. [ʔamazˤˈjɔːhuː].[80]

Sībawayhi describes the existence of an emphatic [zˤ] sound in Arabic, which arose through partial assimilation of the letter *ṣād* to an adjacent voiced consonant. With regard to the pronunciation of the *ṣād* in the word *maṣdar* 'source' he states:

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[79] Ed. Allony (1973, 102, lines 29-32 [Allony's reading has been corrected in places]): חרף אכר לא יקולוה אהל אלשאם בתה והו צדי צדי ואנמא אלפוה סכאן אלבלדאן ללמגאורה ואלמסאכנה בגיר קבאילהם ואלאסתעמאל בגיר לגתהם ולגה אמם גירהם. Allony attributed this text to ʿAli ben Yehudah ha-Nazir, but this attribution has been disputed by Eldar (1984a, 33, n.54, 1986, 59–61).

[80] He describes the *ṣade* as *al-ṣād al-mušamma bi-l-zāʾ* 'ṣād flavoured with *zāʾ*'; cf. Schreiner (1886, 254).

They make it (the *ṣād*) 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.[81]

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 *ṣād* is intended.[82] The Tiberian terminology may have been influenced by this tradition in the Arabic *tajwīd* literature.

The statement in *Hidāyat al-Qāriʾ* 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 *ṣade*.

I.1.8. *ḤET* חֵית (ח)

Unvoiced pharyngeal fricative [ħ]

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

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[81] فضارعوا به اشبه الحروف بالدال من موضعه وهى الزاى لانها مجهورة غير مطبقة ولم يبدلها زايا خالصة كراهية الاجحاف بها للاطباق, *al-Kitāb*, ed. Derenbourg (1889, 476–77).

[82] Makkī ibn ʾAbī Ṭālib al-Qaysī (d. 437/1045), for example, refers to *ṣād allatī yukāliṭu lafẓuhā lafẓa al-zāy* 'A *ṣād* whose pronunciation is mixed with that of *zāy*', as in قزد (= قصد) and الزراط (= الصراط), *al-Riʿāya li-Tajwīd al-Qirāʾa wa-Taḥqīq Lafẓ al-Tilāwa* (ed. Farḥāt 1996, 107).

حيط (BL Or 2539 MS A, fol. 100r, 8 | L [BHS]: ־חֵטְא Deut. 19.15 'sin')

كاﺤاسِنَ (BL Or 2539 MS A, fol. 65r, 3 | L [BHS]: כַּחֶסֶד Gen. 21.23 'like the kindness')

همزيِيح (BL Or 2539 MS A, fol. 67v, 1 | L [BHS]: ־הַמִּזְבֵּ֫חַ Gen. 22.9 'the altar')

According to *Hidāyat al-Qāriʾ*, the pharyngeals and the laryngeals had the same place of articulation:

> The letters אהחע 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 *ḥet* and its voiced counterpart *ʿayin* were articulated less deep in the throat than *ʾalef* and *he*.[84]

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

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[83] Long version, edition in vol. 2 of this book, §II.L.1.3.2.

[84] Ibn Janāḥ, *Kitāb al-Lumaʿ* (ed. Derenbourg 1886, 26–27), Menaḥem ben Saruq, *Maḥberet* (ed. Filipowski 1854, 6).

'heavy' with *dagesh*,[85] 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

חַיֵּים (T-S A13.20, Blapp 2017, 163; 2018, 143 | L [BHS]: חַיֵּים Psa. 69.29 'the living').

European manuscripts

מִלְחָמְתְּךָ (Codex Reuchlinianus, Morag 1959, 219 | L [BHS]: מִלְחַמְתֶּךָ 2 Sam. 11.25 'your fighting')

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[85] Long version, edition in vol. 2 of this book, §II.L.1.3.5.

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.

נֶכְחֵֽדוּ (Blapp 2017, 175 | L [BHS]: נִכְחֲדוּ Psa. 69.6 '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

לֹחֹיה (Fassberg 1987, 84 | L [BHS]: לֶחֱיָהּ Lam. 1.2 'her cheek')

Rafe

נֿאלֹחֹוּ (T-S 12.195, Kahle 1930, 82-84 | L [BHS]: נֶאֱלָחוּ Psa. 53.4 'they have become corrupt')

The potential vulnerability of *ḥet* 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

וְתִּשְׁכַּֽח (T-S A11.1, Blapp 2017, 48 | L [BHS]: וַתִּשְׁכַּח Job 39.14 'and she forgot')

לָנֶּצַח (T-S A13.18, Blapp 2017, 127 | L [BHS]: לָנֶצַח Psa. 89.47 'forever')

European manuscripts

וַיִּבְרַח (Codex Reuchlinianus, Morag 1959, 233 | L [BHS]: וַיִּבְרַח 1 Kings 11.40 'and he fled')

זֶרַח (ASCNON B.I. 2r, Pilocane 2004 | L [BHS]: זֶרַח 1 Chr. 2.4, 'Zerah')

Within the Standard Tiberian reading tradition a *ḥet* was prevented from potential weakening in some contexts by lengthening the vowel before it (§I.2.10.), e.g. וּפְתַחְיָה [wufˌθaˑħˈjɔː] 'and Pethahiah' (Neh. 11.24), מְחַיֶה [ˌmiˑħˈjɔː] 'reviving' (Ezra 9.8). Another strategy to protect the consonantal pronunciation of *ḥet* 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.

לַחְמְּךָ.(JTS ENA 346 | L [BHS]: לַחְמְךָ 'your bread' Ezek. 4.15)

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

מהשוכים (1QIsaᵃ 35.27 | L [BHS]: מַחְשָׁךְ Isa. 42.16 'darkness')

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[86] Data supplied by Aaron Hornkohl. Cf. also Reymond (2014, 92).

ואהללה (1QIsaᵃ 37.6 | L [BHS]: וָאֲחַלֵּל Isa. 43.28 'and I will profane')

ויהללהו (1QIsaᵃ 44.17 | L [BHS]: הֶחֱלִי Isa. 53.10 'he caused him sickness')

בצצחות (1QIsaᵃ 48.6 | L [BHS]: בְּצַחְצָחוֹת Isa. 58.11 'in scorched places')

In the modern Samaritan reading tradition *ḥet* has weakened in most contexts to *ʾalef* or zero (Ben-Ḥayyim 2000, 38–39), e.g.[87]

ʾēsəd (L [BHS]: חֶסֶד Gen. 24.14 'grace')

ʾamrāʾēfåt (L [BHS]: מְרַחֶפֶת Gen. 1.2 'was hovering')

ruwwi (L [BHS]: רוּחִי Gen. 6.3 'my spirit')

mār (L [BHS]: מָחָר Gen. 30.33 'tomorrow')

wrū (L [BHS]: וְרוּחַ Gen. 1.2 'and the spirit of')

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.).

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[87] Data supplied by Aaron Hornkohl.

I.1.9.   *ṬET* טֵית **(ט)**

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

According to *Hidāyat al-Qāriʾ*, it was articulated with the tongue tip and the gums.[88] In the Karaite transcriptions, it is represented by Arabic *ṭāʾ*, which was a pharyngealized [tˤ], e.g.

ما طُوبو (BL Or 2539 MS B, fol. 131v, 11 | L [BHS]: מַה־טֹּבוּ Num. 24.5 'how fair are [your tents]')

ميحوظ (BL Or 2539 MS A, fol. 57r, 8 | L [BHS]: מְחוּט ־ Gen. 14.23 'from a thread')

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

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

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[88] Long version, edition in vol. 2 of this book, §II.L.1.3.7.; ed. Eldar (1980, fol. 10b, lines 67–69).

[89] Data supplied by Ben Kantor.

Septuagint (third century B.C.E.)

> Φουτιὴλ (Göttingen Septuagint | L [BHS]: פּוּטִיאֵ֔ל Ex. 6.25 'Putiel')

> Ἰεκτάν (Göttingen Septuagint | L [BHS]: יָקְטָן Gen. 10.25 'Joktan')

> Λώτ (Göttingen Septuagint | L [BHS]: לֹוט Gen. 11.27 'Lot')

Hexapla of Origen (c. 185–254 C.E.)

> βατε (Ambrosiana Palimpsest | L [BHS]: בָטַח Psa. 28.7 '[my heart] trusted')

> εμματ (Ambrosiana Palimpsest | L [BHS]: אֶמֹּוט Psa. 30.7 'I [will not] be moved')

> φελλετηνι (Ambrosiana Palimpsest | L [BHS]: פַּלְּטֵנִי Psa. 31.2 'rescue me! (ms)')

Jerome (346-420 C.E.)

> phut (Jerome, *Commentary on Ezekiel*, ed. Glorie, VIII.27.935 | L [BHS]: ופֿוט Ezek. 27.10 'Put')

> atemoth (Jerome, *Commentary on Ezekiel*, ed. Glorie, XII.40.517–518 | L [BHS]: אֲטֻמֹות Ezek. 40.16 'narrowing (fp)')

> bete (Jerome, *Hebraicae Quaestiones in Libro Geneseos*, ed. de Lagarde et al., 54.5 | L [BHS]: בֶּטַח Gen. 34.25 'security')

> mesphat (Jerome, *Commentary on Isaiah*, ed. Gryson, II.42.6 | L [BHS]: לְמִשְׁפָּט Isa. 5.7 'judgment')

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

I.1.10. *YOD* יֹוד (י)

Palatal unrounded semi-vowel [j]; voiced palatal stop [ɟ] 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 [ɟ], 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 [ɟ], e.g. וַיַּשְׁמֵד [vajjaʃˈmeːeð] 'and he destroyed' (1 Kings 16.12), which resulted from the strengthening of the articulation of [j] to a stop.[91]

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[90] ואמא אלג׳ים פפי מא בין אלגימל ואליוד, ולד׳לך ג׳עלהא אלטבראניון פי אליוד אלדגש, *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 *ḥireq* vowel. Occasionally the *yod* is also marked with a *rafe* sign, e.g.

Genizah manuscripts

אֱלֹהֵיִ (T-S A12.1, Blapp 2017, 84 | L [BHS]: אֱלֹהָי Prov. 30.9 'my God')

שְׂפָתֵיִ (T-S A13.18, Blapp 2017, 130 | L [BHS]: שְׂפָתָי Psa. 89.35 'my lips')

European manuscripts

מִצָּרֵיִ (Codex Reuchlinianus, Morag 1959, 220 | L [BHS]: מִצָּרַי Isa. 1.24 'from my enemies')

גּוֹיִ (BL Add 21161 | L [BHS]: גּוֹי Joel 1.6 'nation')

In Babylonian vocalization, a *ḥireq* is marked not only on word-final consonantal *yod* but also on consonantal *yod* that occurs within a word, e.g.[92]

נֹטוּיִ (OB, Yeivin 1985, 277 | L [BHS]: נָטוּי Psa. 102.12 'bent')

הַגּוֹיִ (OB, Yeivin 1985, 277 | L [BHS]: הַגּוֹי Jer. 18.8 'the nation')

וִיֹהִי (OB, Yeivin 1985, 275 | L [BHS]: וַיְהִי Ezek. 17.6 'and it became')

חֵיִיל (MB, Yeivin 1985, 275 | L [BHS]: חַיִל Prov. 31.10 'virtue')

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[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.

לְפָנִי (T-S A11.1, Blapp 2017, 51 | L [BHS]: לְפָנָי 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 *ē* (Kantor 2017, 234):

ωεβη (Ambrosiana Palimpsest | L [BHS]: אֹיְבַי Psa. 35.19 'my enemies')

σωνη (Ambrosiana Palimpsest | L [BHS]: שֹׂנְאַי Psa. 35.19 'those who hate me')

Septuagint (third century B.C.E.)

Zero representation where consonantal *yod* appears in the Masoretic tradition:

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[93] Data supplied by Ben Kantor.

Ἀλληλί (Göttingen Septuagint | L [BHS]: הַיַּחְלְאֵלִי Num. 26.26 'Jahleelite')

Ἀσιηλί (Göttingen Septuagint | L [BHS]: הַיַּחְצְאֵלִי Num. 26.48 'Jahzeelite')

Ἐτεβάθα (Göttingen Septuagint | L [BHS]: בְּיָטְבָתָה Num. 33.33 'Jotbathah')

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

אהרוג (1QIsaᵃ 13.3 | L [BHS]: יַהֲרֹג Isa. 14.30 'it/he will kill')

הראה (1QIsaᵃ 16.22 | L [BHS]: אַרְיֵה Isa. 21.8 'lion')

גואים (1QIsaᵃ 18.8 | L [BHS]: גּוֹיִם Isa. 23.3 'nations')

שפאים (1QIsaᵃ 34.23 | L [BHS]: שְׁפָיִים Isa. 41.18 'hilltops')

אואב (4Q98g f1.6 | L [BHS]: אֹיֵב Psa. 89.23 'enemy')

I.1.11. *KAF* כַּף (כ, ך)

Kaf with *dagesh* (כּ): 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.

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[94] Data supplied by Aaron Hornkohl.

According to *Hidāyat al-Qāriʾ*, *kaf* with *dagesh* was articulated with 'the middle of the tongue.'[95] *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.'[96] In the Karaite transcriptions fricative *kaf* is represented by Arabic *khāʾ*, which was pronounced as an unvoiced uvular fricative,[97] e.g.

لااخْزُل (BL Or 2539 MS A, fol. 74r, 2 | L [BHS]: לֶאֱכֹל Gen. 24.33 'to eat')

بِسنباخْ (BL Or 2539 MS A, fol. 68r, 3 | L [BHS]: בַּסְּבַךְ Gen. 22.13 'in the thicket')

بعيناخَا (BL Or 2539 MS A, fol. 63v, 2 | L [BHS]: בְּעֵינֶיךָ 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 κ, which represented an unaspirated [k]. This

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[95] Long version, edition in vol. 2 of this book, §II.L.1.3.6. Ed. Eldar (1980, fols. 10a-10b, lines 61-73).

[96] Long version, edition in vol. 2 of this book, §II.L.1.3.6. Ed. Eldar (1980, fol. 10a, lines 58-59).

[97] Roman (1983, 218).

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

Septuagint (third century B.C.E.)

> Χαναναῖοι (Göttingen Septuagint | L [BHS]: וְהַכְּנַעֲנִי Gen. 12.6 'Canaanite')

> Χάσαδ (Göttingen Septuagint | L [BHS]: כֶּשֶׂד Gen. 22.22 'Chesed')

> Χαλὲβ (Göttingen Septuagint | L [BHS]: כָּלֵב Num. 13.6 'Caleb')

> Ἀσχανὰζ (Göttingen Septuagint | L [BHS]: אַשְׁכְּנַז Gen. 10.3 'Ashkenaz')

Hexapla of Origen (c. 185–254 C.E.)

> χααφαρ (Ambrosiana Palimpsest | L [BHS]: כְּעָפָר Psa. 18.43 'like dust')

> χαμμα (Ambrosiana Palimpsest | L [BHS]: כַּמֶּה Psa. 35.17 'how long/much … ?')

> χελλωθαμ (Ambrosiana Palimpsest | L [BHS]: כַּלּוֹתָם Psa. 18.38 'wiping them out')

> δερχω (Ambrosiana Palimpsest | L [BHS]: דַּרְכּוֹ Psa. 18.31 'his way')

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

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[98] Data supplied by Ben Kantor.

plosive *kaf* with *dagesh* is represented by Arabic *kāf*, which was an aspirated stop.[99]

Hidāyat al-Qāriʾ describes the stop [kʰ] as primary (ʾaṣl) and the fricative [χ] as secondary (*farʿ*).[100]

I.1.12. *LAMED* לָמֶד (ל)

Voiced alveolar lateral continuant [l]

In *Hidāyat al-Qāriʾ* 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 לָמֶד, with stress on the final syllable.

According to *Hidāyat al-Qāriʾ*, the articulation of this letter involved the contact of the tongue tip with the gums.[101]

I.1.13. *MEM* מֵם (מ, ם)

Voiced bi-labial nasal [m]

In *Hidāyat al-Qāriʾ* the name of this letter is spelt מאם.

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[99] Roman (1983, 55).

[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 [kʰ], involving a primary dorsal and non-primary 'guttural' feature.

[101] Long version, edition in vol. 2 of this book, §II.L.1.3.7. Ed. Eldar (1980, fol. 10b, lines 67–69). See the description of *dalet* (§I.1.4.) for a discussion of the passage.

I.1.14. *NUN* נון (נ, ן)

Voiced alveolar nasal [n]

According to *Hidāyat al-Qāriʾ*, it was articulated with the end of the tongue and the gums.[102]

I.1.15. *SAMEKH* סָמֶךְ (ס)

Unvoiced alveolar sibilant [s]

In *Hidāyat al-Qāriʾ* 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*,[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 פִּנְחָס 'Phinehas' is transcribed by *ṣād* [sˤ]: فنحاص (Schreiner 1886, 254). This apparently reflects its pharyngealization after the pharyngeal *ḥet*.

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[102] Long version, edition in vol. 2 of this book, §II.L.1.3.7. Ed. Eldar (1980, fol. 10b, lines 67–68). lbn Janāḥ (*Kitāb al-lumaʿ*, ed. Derenbourg, 27-28) distinguishes between the *nun* with a following vowel, which was pronounced with an admixture of nasal resonance, and *nun* without a vowel, which was articulated entirely in the nasal cavity.

[103] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.3; ed. Eldar (1980, fol. 10b, line 77); *Sefer Yeṣira* (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98).

Sporadic examples of the pharyngealization of *samekh* in the environment of pharyngeals is attested in the Dead Sea scrolls, e.g.[104]

ועוצותם (4Q76 4.12 | L [BHS]: וְעַסּוֹתֶם Mal 3.21 'and you [pl] will trample')

I.1.16. *ʿAYIN* עַיִן (ע)

Voiced pharyngeal fricative [ʕ]

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

عيْناها (BL Or 2539 MS A, fol. 64v, 3 | L [BHS]: עֵינֶיהָ Gen. 21.19 'her eyes')

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

سماع (BL Or 2539 MS A, fol. 63v, 3 | L [BHS]: שְׁמַע Gen. 21.12 'hear!')

Hidāyat al-Qāriʾ 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 *ʾalef* and *he* (see §I.1.8.).

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

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[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, *ᶜayin* does not take *dagesh*.

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

עֹתֵי (T-S NS 249.6, Dietrich 1968, 74* | L [BHS]: עַתַּי 1 Chron. 2.35 'Attai')

[פר[עֹ]ה] (T-S A43.1, Kahle 1930, 94 | L [BHS]: פַּרְעֹה Jer. 25.19 'Pharaoh')

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

יַﬞעֲרָךְ (T-S A13.18, Blapp 2017, 140 | L [BHS]: יַעֲרָךְ Psa. 89.7 'is comparable')

לָﬞעָם (T-S A13.20, Blapp 2017, 177 | L [BHS]: לָעָם Psa. 68.36 'to the people')

The *rafe* sign is occasionally found on *ᶜayin* also in Palestinian vocalization, e.g.

עֵﬞינַי (T-S NS 249.3, Dietrich 1968, 128 | L [BHS]: עֵינָי Psa. 77.5 'my eyes')

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[105] *Hidāyat al-Qāriʾ*, 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

הוֹדַֿע (T-S A13.18, Blapp 2017, 127 | L [BHS]: הוֹדַע Psa. 90.12 'teach!')

רָשָֿע (T-S A13.20, Blapp 2017, 156 | L [BHS]: רָשָע Psa. 71.4 'wicked')

European manuscripts

וַיִּשְׁמַֿע (Codex Reuchlinianus, Morag 1959, 233 | L [BHS]: וַיִּשְׁמַע 2 Sam. 22.7 'and he heard')

הָרַֿע (ACAMO 28 2v, Pilocane 2004, 29 | L [BHS]: הָרַע '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. שְׁמַעְיָהוּ [ʃaˌmaʕˈjɔːhuː] 'Shemaiah (2 Chron. 11.2), שְׁמַֽע־נָא [ʃaˌmaʕˈnɔː] '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.

C: יַעְקֹּב (L [BHS]: יַעְקֹב 'he supplants' Jer. 9.3)

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

 יבור (1QIsaᵃ 22.19 | L [BHS]: K עבר Q יַעֲבֹר Isa. 28.15 '[the flood/whip] shall pass')

משתרייס (1QIsaᵃ 22.26 | L [BHS]: מֵהִשְׂתָּרֵעַ Isa. 28.20 '[is too short] to stretch out')

זלׁפות רׁעב (5Q6 f1v.6 | L [BHS]: זַלְעֲפוֹת רָעָב Lam. 5.10 'fever from hunger')

נטה (4Q27 f24ii+27–30.18 | L [BHS]: נָטַע Num. 24.6 '[Yhwh] planted')

מסלה (1QIsaᵃ 13.17 | L [BHS]: מִסֶּלַע Isa. 16.1 'from Sela')

ואתה (1QIsaᵃ 4.16 | L [BHS]: וְעַתָּה Isa. 5.5 'and now')

אציח (1QIsaᵃ 19.27 | L [BHS]: עֵצוֹת Isa. 25.1 'counsel')

In the modern Samaritan reading tradition *ʿayin* has weakened in most contexts to *ʾalef* or zero (Ben-Ḥayyim 2000, 38–39), e.g.[107]

ʾaz (L [BHS]: עֵז Lev. 3.12 'goat')

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

[107] Data supplied by Aaron Hornkohl.

yišmā̊ʾu (L [BHS]: יִשְׁמְע֖וּ Gen. 11.7 'they will (not) understand')

miyyūlå̄m (L [BHS]: מֵעוֹלָ֑ם Gen. 6.4 'of old')

šār (L [BHS]: שֵׂעָ֔ר Gen. 25.25 'hair')

šū (L [BHS]: שׁ֖וּעַ Gen. 38.2 'Shua')

The measures taken to ensure the correct reading of the ʿ*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* פֶּה (פ, ף)

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

Pe without *dagesh* (פ): 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 פא or פי.[108]

According to *Hidāyat al-Qāriʾ, 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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[108] E.g. *Hidāyat al-Qāriʾ*, short version, edition in vol. 2 of this book, §II.S.1.7.

[109] Long version, edition in vol. 2 of this book, §II.L.1.3.9.; ed. Eldar (1980, fols. 10b-11a, lines 84-88).

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]: פַּלְטִיאֵל Num. 34.26 'Paltiel')

Ἀρφαξὰδ (Göttingen Septuagint | L [BHS]: וְאַרְפַּכְשַׁד Gen. 10.22 'Arpachshad')

Ζέλφα (Göttingen Septuagint | L [BHS]: זִלְפָּה Gen. 30.12 'Zilpah')

Hexapla of Origen (c. 185–254 C.E.)

φααδ (Ambrosiana Palimpsest | L [BHS]: פַּחַד 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.

φαδιθ (Ambrosiana Palimpsest | L [BHS]: פָּדִיתָה Psa. 31.6 'you redeemed')

φαλητ (Ambrosiana Palimpsest | L [BHS]: פַּלֵּט Psa. 32.7 'deliverance')

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

λαμεσφατι (Ambrosiana Palimpsest | L [BHS]: לְמִשְׁפָּטִי Psa. 35.23 'to my judgment')

Jerome (346-420 C.E.)

pharis (Jerome, *Commentary on Ezekiel*, ed. Glorie, VI.18.504 | L [BHS]: פָּרִיץ Ezek. 18.10 'violent one')

phacud (Jerome, *Commentary on Ezekiel*, ed. Glorie, VII.23.1001 | L [BHS]: פְּקוֹד Ezek. 23.23 'Pekod')

iesphicu (Jerome, *Commentary on Isaiah*, ed. Gryson, I.52.4 | L [BHS]: יַשְׂפִּיקוּ Isa. 2.6 '[they] clap')

mesphat (Jerome, *Commentary on Isaiah*, ed. Gryson, II.42.6 | L [BHS]: לְמִשְׁפָּט Isa. 5.7 'judgment')

Saadya refers to the existence of a 'hard *pe*' (*al-fā' al-ṣulba*) in the hapax legomenon אַפַּדְנוֹ 'his palace' (Dan. 11.45), which he describes as 'between *bet* and *pe* with *dagesh*'.[113] 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] פי מא בין אלבי ואלפי אלדגש, *Commentary on Sefer Yeṣira* (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 *ḍāʾ*, 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 אַפֶּדְנוֹ 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]

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[114] Dunash ibn Tamim, *Commentary on Sefer Yeṣira* (ed. Mann 1931, 1:670, n.106). For this passage see §I.1.4.

[115] *The Assyrian Dictionary of the Oriental Institute of the University of Chciago*, 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]

Απαδανω (Theodoretus, fifth century C.E., *Commentarius in Visiones Danielis Prophetae*, e.g. Migne, 81.1532)

apedno (Jerome, fourth century C.E., *Commentarii in Danielem*, ed. Glorie, IV.11)

In these transcriptions the *pe* is represented by Greek π 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 φ 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 φ (i.e. [ph]), in that particular place (i.e. Dan. 11.45) among the Hebrews *phe* (i.e. פ [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 φ, reflecting an aspirated pronunciation, e.g.

εφαδανω (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: ܐܦܕܢܐ (ʾāpadhnā). 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 אַפַּדְנוֹ 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. *ṭet* 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 *ṭāʾ* and the *qāf*). It is not clear whether the pharyngealization of the *pe* in אַפַּדְנוֹ 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 *ṭet* and *qof*, as shown by Greek transcriptions of Hebrew, e.g. Λώτ (Septuagint, לוֹט Gen. 11.27 'Lot'), Ἐνάκ (Septuagint, עֲנָק Deut. 9.2 'Anak') and by Greek loanwords in Hebrew, e.g. פרסטלון 'colonnade' < περίστυλον (Copper Scroll 3Q15), קיתָרוֹס (*ketiv* קתרוס) 'zither' < κίθαρος (Dan. 3.5, 7, 10, 15) (Heijmans 2013a).

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

ג̇ מפק̇ פ̇ בפומיהון וסימנהון פסנתרין פטשיהון אפדנו משנין לקראה

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 פְּסַנְתֵּרִין 'stringed instrument' (Dan. 3.5, 3.7, 3.10, 3.15), פַּטְּשֵׁיהוֹן 'their tunics' (*ketiv* פטישיהון Dan. 3.21), אַפַּדְנוֹ 'his palace' (Dan. 11.45).

This suggests that the *pe* also of the words פְּסַנְתֵּרִין and פַּטְּשֵׁיהוֹן, which occur in the Aramaic section of the Bible, were pronounced unaspirated. The word פְּסַנְתֵּרִין is a loan from Greek ψαλτήριον, so the *pe* would correspond to the unaspirated segment in the affricate ψ [ps]. The word פַּטְּשֵׁיהוֹן 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 *ṭet* 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. אֲחַשְׁדַּרְפְּנִים 'satrap' (< Old Persian *xšaθra-pāwan*) (Esther 3.12, 8.9, 9.3; Ezra 8.36), פִּתְגָם 'message' (< Old Persian **patiy-gama*) (Ecc. 8.11; Esther 1.20), פַּתְשֶׁגֶן 'a copy' (< Old Persian **patiy-caɣniya* or **patiy-caɣna*) (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 אַפַּדְנוֹ in some reading traditions.

I.1.18. *ṢADE* צָדֵי (צ, ץ)

Unvoiced emphatic (pharyngealized) alveolar sibilant [sˤ]

The name of the letter is vocalized צְדֵי 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*,[117] 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

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[117] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.3.8.; ed. Eldar (1980, fol. 10b, line 77), *Sefer Yeṣira* (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98).

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

صباأو (BL Or 2539 MS A, fol. 64v, 9 | L [BHS]: צְבָאֹו־ Gen. 21.22 'his host')

مصرايم (BL Or 2539 MS A, fol. 92r, 6 | L [BHS]: מִצְרָיִם־ Deut. 7.18 'Egypt')

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

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

وفوريس (BL Or 2555 fol. 111v, 3 | L [BHS]: וּפֹרֵץ Ecc. 10.8 'and he who breaks')

I.1.19. *QOF* קוֹף (ק)

Unvoiced advanced uvular unaspirated plosive [q̟]

According to *Hidāyat al-Qāriʾ*, *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'.[118] This suggests an advanced uvular point of articulation. In the Karaite transcriptions, this letter is represented by Arabic *qāf*, e.g.

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[118] Long version, edition in vol. 2 of this book, §II.L.1.3.6.; ed. Eldar (1980, fols. 10a–10b, lines 61–72).

حالَاق (BL Or 2539 MS A, fol. 85v, 4 | L [BHS]: חָלַ֥ק Deut. 4.19 'he divided')

وبَاقَارْ (BL Or 2539 MS A, fol. 74r, 5 | L [BHS]: וּבָקָר֙ Gen. 24.35 'and cattle')

لِزِقوناو (BL Or 2539 MS A, fol. 63r, 2 | L [BHS]: לִזְקֻנָֽיו׃ Gen. 21.7 'in his old age')

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]: קְדֵמֹ֔ות Deut. 2.26 'Kedemoth')

Ἐνάϰ (Göttingen Septuagint | L [BHS]: עֲנָ֑ק Deut. 9.2 'Anak')

Hexapla of Origen (c. 185–254 C.E.)

ϰουμ (Ambrosiana Palimpsest | L [BHS]: ק֣וּם Psa. 18.39 'to rise')

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[119] Data suppied by Ben Kantor.

ουακισα (Ambrosiana Palimpsest | L [BHS]: וְהָקִיצָה 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]: קִירָה 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* רֵישׁ (ר)

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

According to *Hidāyat al-Qāriʾ*, the Tiberians pronounced *resh* in two different ways, as was the case with the letters בגדכפת.

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].[120]

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-Qāriʾ* as being intermediate in status

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[120] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.3.6.; Eldar (1984a).

(*manzila bayna manzilatayn* 'grade between two grades'), i.e. intermediate between the simple primary *resh*, which is described as 'light' (*khafīf*), and geminated *resh* marked with the *dagesh* sign in the Tiberian vocalization, which is termed 'major *resh*' (*al-resh al-kabīr*).[121] When contrasting it with the primary *resh*, *Hidāyat al-Qāriʾ* describes the secondary *resh* as having the feature of 'heaviness' (*thiqal*) whereas the simple *resh* has the feature of 'lightness' (*khiffa*).[122] 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 [ʀ̟ʀ̟], e.g. הַרְעִמָהּ [haʀ̟ʀ̟iʕiːˈmɔːħ] 'to irritate her' (1 Sam. 1.6).

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

[122] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.9.5., §II.L.1.9.7. The Hebrew *Maḥberet 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, בג״ד כפר״ת. 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 בגדכפרת 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]

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[123] שבע כפולות בג״ד כפר״ת ... ומתנהגות לשונות כפולות שלתמורות: בית בית, גימל גימל, דל דל, כף כף, פה פה, ריש ריש, תיו תוי כנגד רך וקשה תבנית גיבור כנגד חלש (ed. Gruenwald 1971, 156; ed. Hayman 2004, 54). For variant versions see Hayman (2004, 51, 127).

[124] לאן כל חרף מנהא יכרג בצותין צות כֹשן וצות ליין (ed. Lambert 1891, 29).

[125] ואמר תֹצֹאעף אלריש פאנה ללטבראניין פי אלמקרא, וללעראקיין פי כלאמהם לא פי אלמקרא. פאמא רסום אלעראקיין פי דֹלך ויקולון הֹדֹא ריש מכרוך וריש גיר מכרוך

Elsewhere in his commentary on *Sefer Yeṣira* 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 כָּרוּךְ 'wrapped up, closed up', analogous to the forms *madgūsh* 'with *dagesh*' and *marfī* 'with *rafe*', which are widely attested Arabicizations of the Hebrew terms דָּגוּשׁ and רָפוּי. The term כָּרוּךְ is found in Masoretic sources in reference to closed syllables, as in the following passage from *Diqduqe ha-Ṭeʿamim*:

> אם לשון ברכה עם בי״ת משוכה ובו הטעם תמוכה לעולם היא כרוכה כמו
> והתבָּרְכו בו ... ואם על כ״ף טעמו יפתח נאמו ובלשון ינעימו כמו ואבָרֲכָה

פאלתמסנאהא פלם נגֿד להא אצלא יגֿמעהא. ואמא רסום אלטבראניין פאנא נדֿכרהא פי תפֿסיר אלפֿרק אלראבע מן הדֿא אלכתאב (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 *Maḥberet 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 דזצתטסלן nor is it followed by לֹ. 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).

מְבָרֲכֶיךָ ... חוץ מאחד במקרא מיוחד כי על כ״ף טעמו ולא יפתח בנאמו
מנדעי עלי יתוב ולעלאה בָּרְכֵת

If a form of the root בר״ך has a *bet* with a vowel and the
accent falls on it (i.e. the *bet*), it is always pronounced
'closed up' as in וְיִתְבָּרְכוּ בוֹ '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 וַאֲבָרֲכָה מְבָרֲכֶיךָ '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: וּמַנְדְּעִי עֲלַי יְתוּב וּלְעִלְּאָה וּלְעִלָּאָה בָּרְכֵת 'and my reason returned
to me and I blessed the Most High' (Dan. 4.31).[128]

In this passage, the term כרוך 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 כרוך is when יפתח בנאם, 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.[129] 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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[128] Ed. Baer and Strack (1879, §53). For variant texts of this passage see
ed. Dotan (1967, 140, 263).

[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 כרוכה and יפתח בנאם
in the passage from *Diqduqe ha-Ṭeʿamim* above would, therefore,
be directly parallel to the contrasting pair of terms *muṭbaq* vs.
munfatiḥ, which designated emphatic vs. non-emphatic con-
sonants.

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 וַיִּדְרְכוּ 'and they bent' (Jer. 9.2)
like the pharyngealized Arabic letter *ḍād* (ויצרכו את לשונם), by
which he meant a pharyngealized voiced interdental [ðˤ]. 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

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[130] وهذه الحروف الاربعة اذا وضعت لسانك فى مواضعهن انطبق لسانك من مواضعهن الى ما حاذى
الحنك الاعلى من اللسان ترفعه الى الحنك فاذا وضعت لسانك فالصوت محصور فى ما بين اللسان
والحنك الى موضع الحروف, *al-Kitāb*, ed. Derenbourg (1889, 455).

[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-Qāriʾ* 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. בְּמִזְרֶה [bamizˈrˤɛː] 'with a pitchfork' (Jer. 15.7), מַצְרֵף [masˤˈrˤeːef] 'crucible' (Prov. 17.3).

(ii) *Resh* is in the same syllable, or at least the same foot, as a preceding alveolar, e.g. דַּרְכּוֹ [darˤˈkʰoː] 'his way' (Gen. 24.21), טַרְפֵּי [tˤarˤˈpʰeː] '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).

[134] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.9.4., §II.L.1.9.7.; Saadya, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 79); Masoretic treatise attributed to Yehudah ha-Nazir (ed. Allony, 104, text lines 51-56).

although the *resh* is not marked with a *shewa* in such cases, e.g. שַׂר [sɑrˤ] 'commander of' (1 Sam. 18.13), לַמָּטָר [limˈtˤɑːɑrˤ] 'by the rain' (Deut. 11.11).[135] 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. צְרוּפָה [(sˤɑ.rˤuː.)(ˈfɔː)] '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 לַמָּטָר [limˈtˤɑːɑrˤ], 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. [(lim.)(ˈtˤɑː.ɑrˤ)] (§I.2.4.). On the phonetic level, therefore, the *resh* is strictly not in the same syllable as the alveolar in forms such as צְרוּפָה [sˤɑ.rˤuː.ˈfɔː] and לַמָּטָר [lim.ˈtˤɑː.ɑrˤ]. 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 ל or נ, e.g. עַרְלֵי־לֵב [ʕarˤleː-leːev] 'uncircumcised in heart' (Jer. 9.25), גָּרְנִי [gɔrˤniː] 'my threshing-floor' (Isa. 21.10), רַנְּנוּ [rˤannaˈnuː] 'rejoice!' (Psa. 33.1), רְנָנָה [rˤanɔːˈnɔː] 'joyful cry' (Job 3.7).

Elsewhere *resh* had an advanced uvular realization, e.g. רֶכֶב [ˈʁɛːxɛv] 'chariotry' (Exod. 14.9), מַרְאֶה [maʁˈʔɛː] 'appearance'

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[135] These last two examples are cited by Saadya, *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 79).

(Gen. 12.11), שָׁמֵר [ʃɔːˈmaːaʀ�] 'he kept' (Gen. 37.11), אֶרְדּוֹף [ʔɛʀ̥ˈdoːof] (Psa. 18.38).

As can be seen in (ii) above, Saadya cites the example שַׂר [saɾˤ] with *sin*. The letter *sin* (שׂ), 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 [rˤ], generally in the environment of *a* or *u* or an emphatic consonant

ʔúrˤ (Akun 2010, 49 | L [BHS]: אֹ֑ור/אֹ֖ור Gen. 1.3 'light')

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

isˤrˤaˈil (Akun 2010, 72 | L [BHS]: יִשְׂרָאֵל Exod. 15.1 'Israel')

jarˤˈdˤu (Akun 2010, 72 | L [BHS]: יָרְד֖וּ 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. גוברא (< *gavrā*), 'man', רומשא (< *ramšā*) 'evening', תורעא (< *tarʿā*) 'door', יורדנא (< *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.[136] 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'[137] 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).

[137] בין שינים ובלשון ישן 'between the teeth and with a resting tongue', בלשון שכובה ושטוחה 'with a resting and flat tongue' (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98).

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.'[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 *resh* is found also in a Hebrew treatise in the corpus published by Baer and Strack,[139] in which, likewise, it is stated that this pronunciation existed in the conversational speech of the common people.

I.1.21. *SIN* שִׂין (שׂ)

Unvoiced alveolar sibilant [s]

This had the same pronunciation as *samekh* in the Tiberian tradition. It is not distinguished from *samekh* in *Hidāyat al-Qāriʾ*. When it is stated in this work that 'The fourth place of articulation is the teeth, from which are heard four letters, namely זסצש (*zayin, samekh, ṣade* and *shin*),'[140] the letter ס is intended to refer to both *samekh* and *sin*. As discussed in the

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[138] וכנת אטיל עלﺗﻟוס פי סוחאﺓ טבריה ושוארעהא א[סת]מע כלאם אלסוקה ואלעאמה ואבחﺚ ען עללﻐה ואצול[הא] אנﻄﺮ הל ינכסר שי ממא אצלﺔ או ינפסד שי ממא טהר לי ופי מא נֶקﻂ ב[ה מן] אלעבראני ואלסריאני ואנואעה אﻟﻊ לﻐה אלתרגום וגירה פאנה מﻐאלﻂ ללעבראני ... פﺠﻮﺝ צחיח מחרר (Allony 1973, 98–100).

[139] Baer and Strack (1879, §7).

[140] Long version, edition in vol. 2 of this book, §II.L.1.3.8.

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.

حسنيداخا (BL Or 2551 fol. 10r, 8 | L [BHS]: חֲסִידֶיךָ Psa. 52.11 'your saints')

مسنتتير (BL Or 2551 fol. 13v, 7 | L [BHS]: מִסְתַּתֵּר Psa. 54.2 'he who hides')

كاخاسنذ (BL Or 2539 MS A, fol. 65r, 3 | L [BHS]: כַּחֶסֶד 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: וְסֹכְרִים 'and they hire' vs. 2 Chron. 24.12 שֹׂכְרִים

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.[141]

פשח (4Q136 f1.8 | L [BHS]: פֶּסַח Exod. 12.48 'Passover')

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[141] Data supplied by Aaron Hornkohl.

ושרתם (XHev/Se5 f1.14 | L [BHS]: וְסַרְתֶּ֖ם Deut. 11.16 'and you [mpl] will turn away')

שעפי הסלעים (1QIsaᵃ 47.4 | L [BHS]: סְעִפֵ֣י הַסְּלָעִ֑ים Isa. 57.5 'the clefts of the rocks')

ישד ארץ (4Q93 1.11 | L [BHS]: יָֽסַד־אֶ֭רֶץ Psa. 104.5 'he established the earth')

סדהו (4Q134 f1.26 | L [BHS]: שָׂדֵ֖הוּ Deut. 5.21 'his field')

ולחסוף (1QIsaᵃ 24.23 | L [BHS]: וְלַחְשֹׂ֥ף Isa. 30.14 'and to scoop')

סאי (1QIsaᵃ 41.16 | L [BHS]: שְׂאִי Isa. 49.18 'lift up [fs]!')

Ibn Janāḥ (Spain, eleventh century) states that the *dagesh* in the *sin* of עִשְׂבּוֹת 'herbage' (Prov. 27.25) has the purpose of ensuring that it is not interchanged with *zayin*.[142] 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 *ṣād* [sˤ] in the name עֵשָׂו: عيصو (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

[wajjɪsˤtˤɜːm]) (Morag 1963, 37-38 | L [BHS]: וַיִּשְׂטֹ֣ם Gen. 27.41 'and [Esau] hated')

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[142] *Kitāb al-Lumaʿ* (ed. Derenbourg 1886, 240), Schreiner (1886, 241).

I.1.22. *SHIN* שִׁין (שׁ)

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.[143] 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',[144] 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].[145] Tiberian *shin* was not primarily palatal, since it was not included by *Hidāyat al-Qāriʾ* among the letters that are pronounced with the middle of the tongue.

I.1.23. *TAV* תָּו (ת)

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

Tav without *dagesh* (ת): 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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[143] *Hidāyat al-Qāriʾ*, Long version, edition in vol. 2 of this book, §II.L.1.3.8.; ed. Eldar (1980, fol. 10b, line 77). *Sefer Yeṣira* (ed. Gruenwald 1971, 147; ed. Hayman 2004, 92–98).

[144] חרף אלתפשׁי (*Kitāb al-Lumaʿ*, ed. Derenbourg, 27).

[145] Roman (1983, 202, 218, 248).

In some manuscripts of *Hidāyat al-Qāriʾ*, the name of this letter is spelt תיו or תאו.[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 (*ʾaṣl*) and the fricative [θ] as secondary (*farʿ*).[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

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[146] E.g. short version, edition in vol. 2 of this book, §II.S.3.0., §5.1.

[147] Long version, edition in vol. 2 of this book, §II.L.1.3.7.; ed. Eldar (1980, fol. 10b, lines 67–69).

[148] *Commentary on Sefer Yeṣira* (ed. Lambert 1891, 75).

[149] Long version, edition in vol. 2 of this book, §II.L.1.2.

[150] Kutscher (1965, 24–35).

period, it is represented by the Latin digraph *th*, which likewise represented an aspirated stop [tʰ]. Examples:[151]

Septuagint (third century B.C.E.)

> Θάρα (Göttingen Septuagint | L [BHS]: תֶּרַח Gen. 11.24 'Terah')

> Νεφθαλί (Göttingen Septuagint | L [BHS]: נַפְתָּלִי Gen. 30.8 'Naphtali')

Hexapla of Origen (c. 185–254 C.E.)

> θαμιμ (Ambrosiana Palimpsest | L [BHS]: תָּמִים Psa. 18.26 'blameless')

> αμαρθι (Ambrosiana Palimpsest | L [BHS]: אָמַרְתִּי Psa. 30.7 'I said')

Jerome (346-420 C.E.)

> tharsis (Jerome, Commentary on Ezekiel, ed. Gorie, III.10.763 | L [BHS]: תַּרְשִׁישׁ Ezek. 10.9 'Tarshish')

> machthab (Jerome, Commentary on Isaiah, ed. Gryson, XI.14.6 | L [BHS]: מִכְתָּב 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.[152]

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[151] Data supplied by Ben Kantor.

[152] Roman (1983, 55).

I.1.24. CONSONANT PHONEMES

The inventory of consonant phonemes in the Tiberian reading tradition can be reconstructed as follows:[153]

Phoneme	Allophones	Orthography	Comments
/ʔ/	[ʔ]	א	
/b/	[b]	בּ	
/v/	[v]	ב	See §I.1.25. below
/g/	[g]	גּ	
/ʁ/	[ʁ]	ג	See §I.1.25. below
/d/	[d]	דּ	
/ð/	[ð]	ד	See §I.1.25. below
/h/	[h]	ה	
/v/	[v], [w]	ו	There are variations in the realization of the allophones across different sub-traditions of reading (§I.1.6.).
/z/	[z]	ז	
/ħ/	[ħ]	ח	
/tˤ/	[tˤ]	ט	
/j/	[j], [ɟ]	י	The stop allophone [ɟ] occurs only when the consonant is geminated.

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[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.

/kʰ/	[kʰ]	כּ, ךּ	
/χ/	[χ]	כ, ך	See §I.1.25. below
/l/	[l]	ל	
/m/	[m]	מ, ם	
/n/	[n]	נ, ן	
/s/	[s]	שׂ, ס	These were equivalent in the oral reading tradition. The distinction in orthography is an archaism (§I.0.8.).
/ʕ/	[ʕ]	ע	
/pʰ/	[pʰ]	פּ	
/pˤ/	[pˤ]	פּ	This is attested only in אַפַּדְנוֹ 'his palace' (Dan. 11.45), where its occurrence is not conditioned by the phonetic environment, so it should be identified as a phoneme (§I.1.17.).
/f/	[f]	פ	See §I.1.25. below
/sˤ/	[sˤ], [zˤ]	צ	For the voiced variant see §I.1.7.
/q/	[q]	ק	
/r/	[ʀ�], [rˤ]	ר	The two variant realizations are conditioned by the phonetic environment and so should be identified as allophones (§I.1.20.).

/ʃ/	[ʃ]	שׁ	
/tʰ/	[tʰ]	ת	
/θ/	[θ]	ת	See §I.1.25. below

I.1.25. DISTRIBUTION OF THE VARIANTS OF בגדכפת

In general, the fricative variants of the בגדכפת letters (i.e. the forms written without a *dagesh* sign: [v], [ʁ], [ð], [χ], [f] and [θ], respectively) occur after a vowel when the letter is not geminated, e.g. רַב [ˈʁaːav] 'much' (Gen. 24.25), יִשְׁכְּבוּ֙ [jiʃkʰaˈvuː] '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.

בְּכָתְבוֹ֙ [baχɔθˈvoː] '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.

רִשְׁפֵי [ʁiʃˈfeː] (Psa. 76.4), רְשָׁפֶּ֔יהָ [ʁiʃˈpʰeː] (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.

מַלְכֵי /malχē/ [malˈχeː] 'kings of' (Gen. 17.16)

בִּנְפֹּל /binfol/ [binˈfoːol] 'at the falling of' (Isa. 30.25)

In the corpus of the Hebrew Bible, however, there is no certain minimal pair arising from the phonemicization of the variants of the בגדכפת consonants, though such oppositions could hypothetically occur in Tiberian Hebrew. Such minimal pairs are found in Aramaic, where the בגדכפת consonants were likewise phonemicized (Khan 2005, 84–87).