Studies in the Masoretic Tradition of the Hebrew Bible

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Cover images: A fragment of a Hebrew Bible manuscript (1 Sam. 25.44–26.8) from the Cairo Genizah containing vocalisation, accents, Masoretic notes and Masoretic marks (Cambridge University Library, T-S A8.10). Courtesy of the Syndics of Cambridge University Library.

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HEBREW VOCALISATION SIGNS IN KARAITE TRANSCRIPTIONS OF THE HEBREW BIBLE INTO ARABIC SCRIPT

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1.0. The Karaite Transcriptions

In the 10th and 11th centuries CE many Karaite scribes in the Middle East used Arabic script to write not only the Arabic language, but also the Hebrew language. Such Hebrew texts in Arabic transcription were predominantly Hebrew Bible texts. These were sometimes written as separate manuscripts containing continuous Bible texts. Some manuscripts in Arabic script contain collections of biblical verses for liturgical purposes. Arabic transcriptions of verses from the Hebrew Biblical or individual Biblical Hebrew words were in many cases embedded within Karaite Arabic works, mainly of an exegetical nature, but also in works of other intellectual genres. Several Karaite Arabic works also contain Arabic transcriptions of extracts from Rabbinic Hebrew texts (Tirosh-Becker 2011). The Karaites transcribed into Arabic script only texts with an oral reading tradition, as was the case with the Hebrew Bible and rabbinic texts in the Middle Ages. The transcriptions reflect, in principle, these oral traditions. It is for this reason that their transcription of the Hebrew Bible represents

the *qere* (the orally transmitted reading tradition of the text) rather than the *ketiv* (the written tradition). Other types of Hebrew text that were written by Karaites during the Middle Ages without an oral tradition, e.g., documents, commentaries, law books, were always written in Hebrew script (Khan 1992).

Most of the known manuscripts containing Karaite transcriptions of Hebrew into Arabic script are found in the British Library (Khan 1993), the Firkovitch collections of the National Library of Russia in St. Petersburg (Harviainen 1993), and in the Cairo Geniza collections (Khan 1990). These manuscripts emanate from Palestinian circles of Karaites or Karaites in Egypt who had migrated to Egypt from Palestine after the capture of Jerusalem by the Crusaders in 1099. The majority of them were written in the 10th and 11th centuries.

Most of the transcriptions of Biblical Hebrew reflect the Tiberian reading tradition or an attempt to reflect this tradition.

The Tiberian pronunciation tradition of Biblical Hebrew was regarded as prestigious and authoritative in the medieval Middle East. It is likely that the authoritativeness of the Tiberian tradition had its roots primarily in its association with the Palestinian *Yeshiva* 'Academy', the central body of Jewish communal authority in Palestine, which was based in Tiberias from late antiquity until the Middle Ages. The Masoretes were closely associated with the Palestinian *Yeshiva* (Khan 2020b, I:86). Due to its authority and prestige, the Tiberian pronunciation was the ideal target in the oral reading of the Bible in communities. In such situations, outside the inner circles of the masoretic masters of Tiberias, there was always a risk that the ideal target would have been missed, resulting in an imperfect performance of the Tibe-

rian tradition. In a previous paper (Khan 2020a), I discussed various aspects of the imperfect performance of the Tiberian tradition that are reflected by some of the manuscripts of Karaite transcriptions form the British Library. This imperfect performance was attributed to the impact of the phonological system of the vernacular language of the scribes. In the current paper I shall expand on the previous study by examining reflections of imperfect performance in a wider range of manuscripts from the British Library. I shall discuss aspects of imperfect performance discernible in the distribution of the vocalisation signs that are used in the manuscripts. Many of the Karaite transcriptions have Tiberian vocalisation signs. In several manuscripts these correspond to the distribution of signs in the standard tradition of Tiberian vocalisation, as it appears in the model Tiberian masoretic codices. In many manuscripts, however, some of the signs deviate from this standard distribution. The paper will focus in particular on (i) deviations in the distribution of vowel signs that reflect imperfect performance of Tiberian vowel qualities and (ii) deviations in the distribution of *shewa* and *ḥaṭef* signs that reflect imperfect performance of Tiberian syllable structure. In such manuscripts these types of deviation in the use of signs do not take place in every case and a certain proportion of the marking of signs corresponds to the standard Tiberian usage.

The corpus that has been used for this study includes the following manuscripts (BL = British Library):

BL Or 2539 MS A, fols 56–114
BL Or 2549 MS A, fols 1–140
BL Or 2549 MS B, fols 141–308
BL Or 2551 MS A, fols 1–30
BL Or 2551 MS B fols 31–101

BL Or 2552 MS A, fols 1–89

BL Or 2556

BL Or 2559

2.0. Vowel Quality

The Tiberian vowel signs reflect in principle distinctions in quality (Khan 2020b, I:244–45). Deviations from the standard distribution of the signs could, in principle, reflect either the application of the Tiberian signs to represent a different pronunciation tradition or an inability to distinguish correctly the qualities of the Tiberian vowels. It is the latter explanation that is the most satisfactory for the majority of the cases of deviation in distribution of the vocalisation signs in the corpus of manuscripts studied in this paper.

The deviations that are found in the manuscripts have been classified into the following categories:

(1) *pataḥ* for *segol* (but not vice versa)
(2) *pataḥ-segol* interchange
(3) *pataḥ-segol* interchange, marginal *pataḥ-qameṣ* interchange
(4) *pataḥ-segol* interchange, *pataḥ-qameṣ* interchange

2.1. *Pataḥ* for *segol* (but not vice versa)

BL Or 2559 fols 1–53

نافس (BL Or 2559, fol. 5v, 4) || L[1] נֶפֶשׁ 'corpse' lit. 'soul' (Lev. 22.4)

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[1] L = Codex Leningradensis, which is the basis of *BHS* (*Biblia Hebraica Stuttgartensia*). Biblical citations are from *BHS* unless otherwise indicated.

وَاتّٰام (BL Or 2559, fol. 6v, 8) || L וְאַתֶּ֖ם 'and you (MPL)' (Gen. 9.7)

BL Or 2549 MS A fols 140–41

ولِبَاهمَاث (BL Or 2549, fol. 58r, 6) || L וּלְבֶהֱמַ֖ת 'and for the beast of' (Jer. 7.33)

In this manuscript *ḥaṭef pataḥ* occurs in place of *ḥaṭef segol*:

اعبُور (BL Or 2549, fol. 2v, 2) || L אֶעֱב֔וֹר (*ketiv*: אעבד) 'I will transgress' (Jer. 2.20)

اعسنا (BL Or 2549, fol. 22r, 8) || L אֶעֱשֶׂ֑ה: 'I will (not) make' (Jer. 4.27)

الاهيّا (BL Or 2549, fol. 72r, 14) || L אֱלָהַיָּ֗א 'the gods' (Jer. 10.11)

BL Or 2551 MS A, fols 1–30

ابطَح بَاخ (BL Or 2551 MS A, fol. 21r, 12) || L אֶבְטַח־בָּֽךְ: 'I will trust in you' (Ps. 55.24)

2.2. *Pataḥ-segol* Interchange

BL Or 2552 MS A, fols 1–89

2.2.1. *Pataḥ* for *segol*

ويّحفارو (BL Or 2552 MS A, fol. 12r, 11) || L וַיֶּחְפָּֽרוּ: 'and they were ashamed' (Job 6.20)

يعتار (BL Or 2552 MS A, fol. 52r, 8) || L יֶעְתַּ֖ר 'he prays' (Job 33.26)

הִתְשַׂחֶק־בּוֹ (BL Or 2552 MS A, fol. 84v, 11) || L هاثسناحق-بو 'will you play with him?' (Job 40.29)

In this manuscript *ḥaṭef pataḥ* occurs in place of *ḥaṭef segol*:

اعسنا (BL Or 2552 MS A, fol. 36v, 6) || L אֱעֱשֶׂה '[What] shall I do?' (Job 31.14)

اعزوص (BL Or 2552 MS A, fol. 41r, 5) || L אֱעֱרוֹץ 'I tremble' (Job 31.34)

يَاحِضو (BL Or 2552 MS A, fol. 85r, 3) || L יֶחֱצוּהוּ 'will they divide him?' (Job 40.30)

2.2.2. *Segol* for *pataḥ*

معباذيهام (BL Or 2552 MS A, fol. 56r, 9) || L מַעְבָּדֵיהֶם 'their works' (Job 34.25)

2.3. *Pataḥ-segol, pataḥ-qameṣ* (Marginal) Interchange

2.3.1. *Pataḥ* for *segol*

BL Or 2549 MS B fols 141–308

وباحذاشيمْ (BL Or 2549 MS B, fol. 306r, 8) || L וּבֶחֳדָשִׁים 'and in the new moons' (Ezek. 45.17)

BL Or 2551 MS B fols 31–101

هرحب-فُيخا (BL Or 2551 MS B, fol. 41r, 4) || L הַרְחֶב־פִּיךָ 'make wide your mouth!' (Ps. 81.11)

نامنو (BL Or 2551 MS B, fol. 62r, 14) || L נֶאֶמְנוּ 'they are trust-

worthy' (Ps. 93.5)

BL Or 2556

باذراع (BL Or 2556, fol. 4r, 9) || L בְּאֶדְרָע 'by force' (Ezra 4.23)

يُنساللخون (*sic* with two *lāms*) (BL Or 2556, fol. 16r, 13) || L

יִשְׁאֲלֶנְכוֹן 'requires of you' (Ezra 7.21)

In this manuscript *ḥaṭef pataḥ* occurs in place of *ḥaṭef segol*:

الاهاخ (BL Or 2556, fol. 15v, 12) || L אֱלָהֲךָ 'your God' (Ezra 7.19)

وهاعماذنو (BL Or 2556, fol. 69v, 12) || L וְהֶעֱמַדְנוּ 'and we

placed' (Neh. 10.33)

هاحطياو (BL Or 2556, fol. 84r, 12) || L הֶחֱטִיאוּ 'made sin (CPL)'

(Neh. 13.26)

اعسا-حاسذ (BL Or 2556, fol. 112r, 1) || L אֶעֱשֶׂה-חֶסֶד 'I will

deal loyally' (1 Chron. 19.2)

2.3.2. *Segol* for *pataḥ*

BL Or 2549 MS B fols 141–308

هاحشمالا (BL Or 2549 MS B, fol. 169r, 12) || L הַחַשְׁמַלָה:

'gleaming metal' (Ezek. 8.2)

In this manuscript *ḥaṭef segol* occurs in place of *ḥaṭef pataḥ*:

امولَا (BL Or 2549 MS B, fol. 234v, 3) || L אֲמֻלָ֖ה 'sick' (Ezek. 16.30)

BL Or 2551 MS B fols 31–101

واسمورا (BL Or 2551 MS B, fol. 57v, 4) || L וְאַשְׁמוּרָ֣ה 'and a watch' (Ps. 90.4)

لعزرث (BL Or 2551 MS B, fol. 68v, 1) || L לְעֶזְרָ֣ת 'for the help of' (commentary on Ps. 102.14)

ممنسلتو (BL Or 2551 MS B, fol. 76r, 11) || L מֶמְשַׁלְתֶּ֑ו 'his do-minion' (Ps. 103.22)

يحراص (BL Or 2551 MS B, fol. 32r, 1) || L יֶחֱרַ֖ץ 'he will (not) sharpen' (Exod. 11.7)

BL Or 2556

انسذذيّوث (BL Or 2556, fol. 83r, 7) || L אַשְׁדֳּדִיֹּ֔ות (*ketiv*: אשדודיות) 'women of Ashdod' (Neh. 13.23)

2.3.3. *Qameṣ* for *pataḥ* (Marginal)

BL Or 2549 MS B fols 141–308

خراث (BL Or 2549 MS B, fol. 224v, 16) || L ־כָּרַ֣ת 'it was [not] cut off' (Ezek. 16.4)

لاذماث (BL Or 2549 MS B, fol. 159v, 12) || L לְאַדְמַ֣ת 'to the land of' (Ezek. 7.2)

In this manuscript *ḥaṭef pataḥ* occurs very marginally in place of *ḥaṭef qameṣ*:

وباحذاشيمْ (BL Or 2549 MS B, fol. 306r, 8) || L וּבֶחֳדָשִׁים 'and in the new moons' (Ezek. 45.17)

BL Or 2551 MS B fols 31–101

تستاتار (BL Or 2551 MS B, fol. 58v, 10) || L תִּסְתַּתָּר׃ 'it will be hidden' (Isa. 29.14)

BL Or 2556

باناين (BL Or 2556, fol. 6v, 2) || L בָּנַיִן 'they are building' (Ezra 5.4)

2.4. *Pataḥ-segol, pataḥ-qameṣ* Interchange

BL Or 2539 MS A, fols 56–114

2.4.1. *Pataḥ* for *segol*

واثّ (BL Or 2539 MS A, fol. 63r, 6) || L וְאֶת־ 'and + object marker' (Gen. 21.10)

وتيلخ (BL Or 2539 MS A, fol. 63v, 8) || L וַתֵּלֶךְ 'and she went' (Gen. 21.14)

قْاسث (BL Or 2539 MS A, fol. 64r, 3) || L קֶשֶׁת 'a bow' (Gen. 21.16)

2.4.2. *Segol* for *pataḥ*

هناعر (BL Or 2539 MS A, fol. 63v, 2) || L הַנַּעַר 'the boy' (Gen. 21.12)

وتيلاخنا (BL Or 2539 MS A, fol. 77r, 9) || L וַתֵּלַכְנָה 'and they (FPL) walked' (Gen. 24.61)

ناثِن لاخ (BL Or 2539 MS A, fol. 95r, 4) || L נָתַן־לָךְ׃ 'he gave to you (MS)' (Deut. 8.10)

2.4.3. *Pataḥ* for *qameṣ*

يَادَاعْتِيّ (BL Or 2539 MS A, fol. 67v, 9) || L יָדַעְתִּי 'I know' (Gen. 22.12)

ابراهام (BL Or 2539 MS A, fol. 68r, 5) || L אַבְרָהָם 'Abraham' (Gen. 22.14)

هااِنْسا (BL Or 2539 MS A, fol. 70r, 8) || L הָאִשָּׁה 'the woman' (Gen. 24.5)

دباراي (BL Or 2539 MS A, fol. 84r, 1) || L דְּבָרַי 'my words' (Deut. 4.10)

هشامايم (BL Or 2539 MS A, fol. 85v, 6) || L הַשָּׁמַיִם׃ 'the heav- ens' (Deut. 4.19)

2.4.4. *Qameṣ* for *pataḥ*

حالاَق (BL Or 2539 MS A, fol. 85v, 4) || L חָלַק 'he divided' (Deut. 4.19)

ارباعيم (BL Or 2539 MS A, fol. 94r, 8) || L אַרְבָּעִ֑ים 'forty' (Deut. 8.4)

2.5. Discussion

The deviations from the standard distribution of the Tiberian vocalisation signs indicate that the scribes were not copying the signs directly from model Tiberian Bible codices. They must either have been copied from manuscripts with a non-standard distribution of signs or marked independently by the Karaite scribes in an attempt to represent an oral reading tradition of the text. In effect, the cause in both scenarios amounts to the same process. If they were copied from other manuscripts with non-standard Tiberian vocalisation, the non-standard distribution in such manuscripts would itself have been the result of an attempt to represent an oral reading tradition. It can be assumed, therefore, that the phenomenon is the result of the assigning of signs to represent an oral tradition. This oral tradition can be assumed to be the Tiberian pronunciation tradition. The deviation in distribution is most easily explained as the result of imperfect learning and performance of the standard Tiberian tradition rather than the reflection of a different pronunciation tradition, such as the Palestinian or Babylonian pronunciation, or an extended type of Tiberian pronunciation tradition. This is because the vocalisation and transcription of the manuscripts do not reflect distinctive features of these other traditions of pronunciation. These would include features such as the lack of distinction between *segol* and *ṣere*, which is a feature of the Palestinian pronunciation (Revell 1970), distinctive Babylonian syllabic structure (Yeivin 1985,

283–398), or the extended use of *dagesh* to all non-guttural consonants as a marker of syllable onset after a preceding closed syllable, which is characteristic of the extended Tiberian tradition (Morag 1959; Yeivin 1983; Khan 2017).

The various different typologies of deviation in the distribution of the signs from the standard Tiberian vocalisation that are presented above in §§2.1–4 reflect different degrees of imperfect learning and performance of the Tiberian pronunciation tradition. The manuscripts in categories §§2.1–2 exhibit deviations only with regard to the *pataḥ* and *segol* signs. The manuscripts in categories §§2.3–4, however, exhibit deviations with regard to the distribution of *pataḥ, segol,* and *qameṣ.* It is important to observe that there is an implicational hierarchy in the typology of the categories. If there are deviations with regard to *qameṣ,* this implies that there are also deviations with regard to *pataḥ* and *segol.* If there are deviations with regard to *pataḥ* and *segol,* however, this does not imply that there is necessarily deviation with regard to *qameṣ.*

This hierarchy corresponds to different degrees of imperfection in the learning and performance of the Tiberian tradition. Manuscripts with deviation only in the distribution of *pataḥ* and *segol* reflect a lesser degree than those with deviations also with regard to *qameṣ.*

It can be safely assumed that the vernacular language of the scribes was Arabic. The fact that some manuscripts reflect deviations only with regards to *pataḥ* and *segol,* which had the qualities [a] and [ɛ] in the Tiberian pronunciation, indicates that the Arabic-speaking scribes had greatest difficulty distinguishing these qualities. This can be explained by the hypothesis that Hebrew [a] and [ɛ] and their respective long counterparts [aː] and

[ɛː] were matched by the scribes with the similar sounding Arabic phonemes /a/ and /aː/. This is a recognised process when two languages are in contact. It involves the convergence of phono-logical systems of the languages, whereby phonetic tokens in one language are matched with a phoneme in a contact language.[2] The Arabic phonemes /a/ and /aː/ would have had a range of allophones, as in the modern Arabic dialects, that included not only the quality of [a] and [aː], but also the higher quality of [ɛ] and [ɛː], by the process of raising (*ʾimāla*), and the back quality [ɑ] by the process of suprasegmental pharyngealisation (*tafkhīm*) (Barkat-Defradas 2011b; 2011a; Levin 2011). This would have facilitated the interchange of the qualities of Tiberian *pataḥ* [a] and [aː] and Tiberian *segol* [ɛ] and [ɛː]. Due to both of these qual-ities being matched by the Arabic-speaking scribes with the Ara-bic prototypes [a] and [aː], the speakers had difficulty distin-guishing their quality in the reading tradition and so imperfectly applied the standard Tiberian distribution of the signs.

The fact that the scribes were able to maintain the standard Tiberian distribution of the *qameṣ* and make the correct morpho-lexical contrasts with *pataḥ* could be explained by the assumption that the *qameṣ* phonetic token [ɔː] that was heard in the Tiberian reading was not matched with the /aː/ phoneme of Arabic. This is likely to have been due to its being sufficiently distinct in qual-ity from the phonetic tokens of Arabic /aː/ for it to be kept apart. It is a recognised phenomenon in the research of second language acquisition that learners can more easily acquire a phoneme that is not similar to one in the native language than a phoneme that has phonetic tokens that are similar to those of a phoneme in the

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[2] For more details of the process see Blevins (2017).

native language. When there is a high degree of resemblance be-
tween distinct sounds in the target and native languages, they are
more liable to be wrongly matched.[3] The scribes of manuscripts
in categories §§2.1–2, therefore, correctly learnt the distribution
of Tiberian *qameṣ* and kept it separate from the vowel system of
their Arabic vernacular.

The scribes of manuscripts in categories §§2.3–4, however,
not only failed correctly to learn the Tiberian distribution of
pataḥ and *segol*, but also imperfectly learnt the distribution of
qameṣ. The vast majority of cases of Tiberian *qameṣ* that are in-
correctly vocalised in the manuscripts are long *qameṣ*, but there
are a few sporadic examples of short *qameṣ*. This imperfect learn-
ing and performance would have come about since the scribes
matched also the *qameṣ* with prototypes in the vowel system of
their vernacular speech. These, again, would have been Arabic
/a/ and /aː/. As remarked, Arabic /a/ and /aː/ were realised with
a range of qualities, including [ɛ] and [ɛː], by the raising process
of *ʾimāla*, and [ɑ] and [ɑː], by the backing process of *tafkhīm*. The
backed allophones [ɑ] and [ɑː] occurred in the environment of
the Arabic emphatic, i.e., pharyngealised, consonants, such as /ṣ/
and /ṭ/. The matching of the Hebrew *qameṣ* vowel, which had
the quality [ɔ], [ɔː], with Arabic /a/, /aː/, would have been fa-
cilitated by the existence of the similar sounding, though not
identical, backed allophones [ɑ] and [ɑː] of Arabic /a/ and /aː/.

In order to explain fully the distribution of vowel signs ex-
hibited in the data presented in §§2.1–4, it must be assumed that

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[3] See, for example, Eckman and Iverson (2003) and the literature cited
there.

the scribes had learnt the correct phonetic realisation of the Tiberian vowel signs (i.e., *pataḥ* [a], [aː], *segol* [ɛ], [ɛː], *qameṣ* [ɔ], [ɔː]). In fact, it is likely that Tiberian *pataḥ* had a back realisation [ɑ] in the environment of emphatic consonants such as *ṭet* and *tsade* (Khan 2020b, I:248), so the scribes would have learnt that the *pataḥ* sign had the range of qualities [a, aː, ɑ, ɑː]. The scribes did not, however, identify perfectly the sounds of the signs with what they heard in the reading tradition.

This assumption is necessary to explain why the *segol* and *pataḥ* signs interchange and the *pataḥ* and *qameṣ* signs interchange, but *segol* and *qameṣ* do not interchange, although all three vowels have been matched with the Arabic prototypes /a/, /aː/.

The realisation of the qualities of the vowel signs in question have the following relative position in the buccal vowel space:

Figure 1: *Segol* [ɛ]—*pataḥ* [a, ɑ]—*qameṣ* [ɔ] in the buccal vowel space
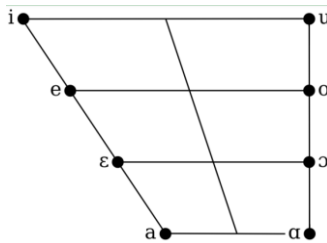
The quality of *segol* [ɛ] was articulated adjacent to the range of *pataḥ* [a, ɑ]. The quality range of *pataḥ* [a, ɑ] was adjacent to both [ɛ] on one side and [ɔ] on the other. The quality of [ɛ], however, was not adjacent to [ɔ]. The qualities of the Tiberian vowel signs that the scribe had learnt were confused with qualities adjacent to them in the reading tradition heard by the scribe. This can be represented as follows:

Table 1: Vowel adjacency and association

	vowel sign	associated sounds in the oral reading tradition
1	*pataḥ* [a, ɑ]	[ɛ], [a, ɑ]
2	*segol* [ɛ]	[ɛ], [a, ɑ]
3	*pataḥ* [a, ɑ]	[ɛ], [a, ɑ], [ɔ]
4	*qameṣ* [ɔ]	[a, ɑ], [ɔ]

In manuscripts in category §2.1 only process 1 is attested. In category §2.2 processes 1 and 2 are attested. In categories §§2.3–4 all four processes are attested.

The fact that manuscripts in category §2.1 exhibit only the marking of *pataḥ* for *segol* and not vice versa, i.e., process 1, may possibly be linked to the relative frequency of *pataḥ* and *segol* in the Tiberian Masoretic Text. *Pataḥ* occurs considerably more frequently than *segol*. A count of the tokens of *pataḥ* and *segol* in the whole Tiberian Masoretic Text using BibleWorks reveals the following statistics:

pataḥ sign   65,067

segol sign   21,874

This statistical dominance of *pataḥ* may have made it easier to confuse *segol* for *pataḥ* than *pataḥ* for *segol*. Process 1, therefore, would be the most liable to occur. The other processes would be increasingly liable to occur as the degree of imperfect learning of the reading tradition increased.

It should be remarked that deviation in vocalisation relating to *qameṣ* is only marginal in manuscripts of category §2.3.

This would reflect, therefore, a lower degree of imperfect learning than is reflected by manuscripts of category §2.4, in which *paṭaḥ* and *qameṣ* are frequently confused.

3.0. *Shewa* and *ḥaṭef* Signs

The deviations in the corpus from the standard Tiberian marking of *shewa* and *ḥaṭef* signs are presented in various categories below.

3.1. *Shewa* for *ḥaṭef*

3.1.1. *Shewa* for *ḥaṭef paṭaḥ* on Guttural Consonants

BL Or 2539 MS A

غۡسَارا (BL Or 2539 MS A, fol. 71r, 2) || L עֲשָׂרָ֖ה 'ten' (Gen. 24.10)

نَاهرَايم (BL Or 2539 MS A, fol. 71r, 4) || L נַהֲרַ֖יִם 'Naharaim' (Gen. 24.10)

وَاحمۡورِيم (BL Or 2539 MS A, fol. 74r, 8) || L וַחֲמֹרִ֑ים 'and donkeys' (Gen. 24.35)

BL Or 2540

عزِبتَان (BL Or 2540, fol. 7r, 7) || L עֲזַבְתֶּ֣ן 'you (FPL) have left' (Exod. 2.20)

حثن- (BL Or 2540, fol. 13r, 2) || L חֲתַן־ 'bridegroom of' (Exod. 4.25)

BL Or 2547

وامرتام (BL Or 2547 fol. 4v, 13) || L וַאֲמַרְתֶּם 'and you (MPL) will say' (Josh. 4.7)

هابانيم (BL Or 2547 fol. 5r, 1) || L הָאֲבָנִים 'the stones' (Josh. 4.7)

وهكوهنيم (BL Or 2547 fol. 2r, 2) || L וְהַכֹּהֲנִים 'and the priests' (Josh. 3.14)

ويماهرو (BL Or 2547 fol. 6r, 6) || L וַיְמַהֲרוּ 'and they (MPL) has-tened' (Josh. 4.10)

BL Or 2549

ناوم-اذوناي (BL Or 2549, fol. 2r, 1) || L נְאֻם־אֲדֹנָי 'utterance of the Lord' (Jer. 2.19)

ولباهماث (BL Or 2549, fol. 58r, 6) || L וּלְבֶהֱמַת 'and for the beast of' (Jer. 7.33)

لمناضاي (BL Or 2549, fol. 87r, 6) || L לִמְנַאֲצַי 'to those who despise me' (Jer. 23.17)

تلاحمو (BL Or 2549, fol. 95v, 3) || L תִּלָּחֵמוּ 'you will fight' (Jer. 32.5)

BL Or 2551 MS B

حنامال (BL Or 2551 MS B, fol. 31r, 2) || L חֲנָמַל 'frost' (com-mentary on Ps. 78.47)

BL Or 2552 MS A

واسلّذا (BL Or 2552 MS A, fol. 10r, 12) || L וְאֲסַלְּדָה 'and I shall
rejoice' (Job 6.10)

لاسار (BL Or 2552 MS A, fol. 18r, 12) || L לַאֲשֶׁר 'into whose'
(Job 12.6)

هغام (BL Or 2552 MS A, fol. 85v, 4) || L הֲגַם 'also?' (Job 41.1)

هييحيا (BL Or 2552 MS A, fol. 23v, 6) || L הֲיִחְיֶה 'will he live?'
(Job 14.14)

BL Or 2556

امارنا (BL Or 2556, fol. 6v, 1) || L אֲמַרְנָא 'we said' (Ezra 5.4)

وانى (BL Or 2556, fol. 19v, 5) || L וַאֲנִי 'and I' (Ezra 7.28)

واهواث (BL Or 2556, fol. 4v, 2) || L וַהֲוָת 'and it was' (Ezra 4.24)

كاهنّيا (BL Or 2556, fol. 12r, 9) || L כָּהֲנַיָּא 'the priests' (Ezra 6.16)

3.1.2. *Shewa* for *ḥaṭef pataḥ* on Non-guttural Consonants in L

BL Or 2549 MS B

توخلاؤّو (BL Or 2549 MS B, fol. 148r, 14) || L תֹּאכְלֶנּוּ 'you (MS)
will eat it' (Ezek. 4.9)

ونيشار (BL Or 2549 MS B, fol. 177v, 8) || L וָאֶשָּׁאֵר '(I) was
left' (Ezek. 9.8)

BL Or 2551 MS A

مقرب لي (BL Or 2551 MS A, fol. 19r, 12) || L מִקְּרָב־לִי 'and
from war against me' (Ps. 55.20)

وقربلبو (BL Or 2551 MS A, fol. 20r, 10) || L וְקֵרָב־לִבּוֹ 'and war
was in his heart' (Ps. 55.22)

BL Or 2551 MS B

بارخو (BL Or 2551 MS B, fol. 63v, 11) || L בָּרֲכוּ 'bless! (MPL)'
(Ps. 100.4)

BL Or 2552 MS A

بيرخوني (BL Or 2552 MS A, fol. 37v, 13) || L בֵּרֲכוּנִי 'they (did
not) bless us' (Job 31.20)

اقارباتّو (BL Or 2552 MS A, fol. 42r, 12) || L אֲקָרֲבֶנּוּ׃ 'I will go
near to him' (Job 31.37)

روطفانس (BL Or 2552 MS A, fol. 52r, 4) || L רֲטַפַשׁ 'it will be
fresh' (Job 33.25)

صيللو (BL Or 2552 MS A, fol. 83v, 4) || L צֶלֲלוֹ 'his shadow'
(Job 40.22)

BL Or 2556

وللمذام (BL Or 2556, fol. 1r, 6) || L וּלֲלַמְּדָם 'and to teach them'
(Dan. 1.4)

واشنسقلا (BL Or 2556, fol. 22r, 7) || L וָאֶשְׁקֲלָֿה 'and I weighed
out' (Ezra 8.26)

وايبارخو (BL Or 2556, fol. 75v, 10) || L וַיְבָרֲכוּ 'And they (M)
blessed' (Neh. 11.2)

صللو (BL Or 2556, fol. 81r, 8) || L צֲלֲלֹוּ 'began to be dark (MPL)'
(Neh. 13.9)

3.1.3. *Shewa* for *ḥaṭef segol* on Guttural Consonants

BL Or 2539

هالوهيم (BL Or 2539 MS A, fol. 66v, 6) || L הָאֱלֹהִים: 'God' (Gen.
22.3)

BL Or 2547

هاموري (BL Or 2547 fol. 15r, 2) || L הָאֱמֹרִי: 'the Amorites'
(Josh. 13.4)

هاريخو (BL Or 2547 fol. 18v, 15) || L הֶאֱרִיכוּ 'they outlived'
(Judg. 2.7)

اذوم (BL Or 2547 fol. 29v, 16) || L אֱדֹום| 'Edom' (Judg. 11.17)

BL Or 2552 MS A

اليهو (BL Or 2552 MS A, fol. 43v, 5) || L אֱלִיהֽוּא 'Elihu' (Job 32.2)

لاانوس (BL Or 2552 MS A, fol. 52r, 9) || L לֶֽאֱנוֹשׁ 'to man' (Job 33.26)

هاعويشي (BL Or 2552 MS A, fol. 52v, 7) || L הֶעֱוֵיתִי 'I have perverted' (Job 33.27)

هؤي (BL Or 2552 MS A, fol. 70r, 5) || L הֱוֵא 'fall!' (Job 37.6)

BL Or 2556

لاهوى (BL Or 2556, fol. 3r, 3) || L לֶהֱוֵא 'will be' (Dan. 2.28)

الاها (BL Or 2556, fol. 4v, 2) || L אֱלָהָא 'the God' (Ezra 4.24)

واذاين (BL Or 2556, fol. 6v, 13) || L וֶאֱדַיִן 'and then' (Ezra 5.5)

3.1.4. *Shewa* for *ḥaṭef segol* on Non-guttural Consonants in L

قرى (BL Or 2556, fol. 4r, 7) || L קֱרִי 'was read' (Ezra 4.23)

3.1.5. *Shewa* for *ḥaṭef qameṣ* on Guttural Consonants

BL Or 2552 MS A

اهلي (BL Or 2552 MS A, fol. 40r, 4) || L אָהֳלִי 'my tent' (Job 31.31)

3.1.6. *Shewa* for *ḥatef qameṣ* on Non-guttural Consonants in L

BL Or 2556

هقداسيم (BL Or 2556, fol. 122v, 1) || L הַקֳּדָשִׁים 'the dedicated gifts' (1 Chron. 28.12)

قدم-رحوم (BL Or 2556, fol. 4r, 7) || L קֳדָם־רְחוּם 'before Re-hum' (Ezra 4.23)

لاقبيل (BL Or 2556, fol. 11r, 12) || L לָקֳבֵל 'according to' (Ezra 6.13)

كل-قبيل (BL Or 2556, fol. 15r, 11) || L כָּל־קֳבֵל 'in accordance with' (Ezra 7.17)

قذام (BL Or 2556, fol. 14r, 13) || L קֳדָם 'before' (Ezra 7.14)

BL Or 2559

هقّذاشيم (BL Or 2559, fol. 3v, 5) || L הַקֳּדָשִׁים 'the sacred do-nations' (Lev. 22.3)

بقّذاشيم (BL Or 2559, fol. 5r, 12) || L בְּקָדְשִׁים 'of the sacred donations' (Lev. 22.4)

3.2. *Shewa* for Vowel in Unstressed Closed Syllables

Shewa occurs for *pataḥ* in closed unstressed syllables in L:

BL Or 2539 MS A

ويفتاح (BL Or 2539 MS A, fol. 73v, 8) || L וַיְּפַתַּח 'and he opened' (Gen. 24.32)

ولاقحتا (BL Or 2539 MS A, fol. 74v, 4) || L וְלָקְחְתָּ 'and you will take' (Gen. 24.38)

بنُوقر (BL Or 2539 MS A, fol. 74v, 6) || L בַּבֹּקֶר 'in the morning' (Gen. 24.54)

BL Or 2540

هِمَّراا (BL Or 2540, fol. 8r, 4) || L הַמַּרְאֶה 'the sight' (Exod. 3.3)

ملاّخ (BL Or 2540, fol. 8r, 2) || L מַלְאַךְ 'the angel of' (Exod. 3.2)

BL Or 2551 MS B

وياخ (BL Or 2551 MS B, fol. 32r, 6) || L וַיַּךְ 'and he smote' (Ps. 78.51)

وهمملاخا (BL Or 2551 MS B, fol. 39r, 13) || L וְהַמַּמְלָכֶה 'and the kingdom' (Isa. 60.12)

ياعمدو مايم (BL Or 2551 MS B, fol. 80v, 4) || L יַעַמְדוּ־מָיִם׃ 'the waters stood' (Ps. 104.6)

BL Or 2556

لمسمّريم (BL Or 2556, fol. 116v, 8) || L לַמִּסְמְרִים 'for nails' (1 Chron. 22.3)

3.3. *Ḥaṭef* for *shewa* in L

Ḥaṭef pataḥ occurs for *shewa* on non-guttural consonants in L:

BL Or 2539 MS A

وهناغرا (BL Or 2539 MS A, fol. 71v, 9) || L וְהַנַּעֲרָ֒ 'and the girl'
(Gen. 24.16)

غَذَولا (BL Or 2539 MS A, fol. 93r, 2) || L גְּדֹלָ֖ה 'great' (Deut. 7.23)

BL Or 2549 MS B

كِي مالاوْ (BL Or 2549 MS B, fol. 174v, 10) || L כִּי־מָלְא֣וּ 'be-
cause they filled' (Ezek. 8.17)

بثوْخِحام (BL Or 2549 MS B, fol. 157r, 1) || L בְּתוֹכְכֶ֑ם 'in the
midst of you' (Ezek. 6.7)

3.4. *Ḥaṭef* for Vowel in Unstressed Closed Syllables

3.4.1. *Ḥaṭef pataḥ* for *pataḥ* in Unstressed Closed Syllable

BL Or 2539 MS A

بِنوْقِر (BL Or 2539 MS A, fol. 74v, 6) || L בַּבֹּ֖קֶר 'in the morning'
(Gen. 24.54)

ولاقِحتا (BL Or 2539 MS A, fol. 74v, 8) || L וְלָקַחְתָּ֤ 'you (MS)
will take' (Gen. 24.40)

هفيلغِنسيمْ (BL Or 2539 MS A, fol. 78v, 5) || L הַפִּֽילַגְשִׁ֗ים 'the
concubines' (Gen. 25.6)

لماعنخام (BL Or 2539 MS A, fol. 81r, 5) || L לְמַעַנְכֶ֔ם 'because

of you (MPL)' (Deut. 3.26)

BL Or 2551 MS B

ياعنسقوني (BL Or 2551 MS B, fol. 83v, 1) || L יַּעַשְׁקֻ֫נִי 'let them

[not] oppress me' (Ps. 119.122)

وثقارتو (BL Or 2551 MS B, fol. 34r, 12) || L וְתִפְאַרְתּ֥וֹ 'and his

glory' (Ps. 78.61)

لاعغ (BL Or 2551 MS B, fol. 38v, 10) || L לַ֫עַג 'mocking' (Ps. 79.4)

كاعسخا (BL Or 2551 MS B, fol. 46r, 1) || L כַּעַסְךָ֑ 'your anger'

(Ps. 85.5)

3.4.2. *Ḥaṭef segol* for *segol* in Unstressed Closed Syllable

BL Or 2551 MS B

عليون (BL Or 2551 MS B, fol. 33r, 13) || L עֶלְי֑וֹן 'high' (Ps. 78.56)

ال عمو (BL Or 2551 MS B, fol. 47r, 2) || L אֶל־עַמּ֨וֹ 'to his peo-

ple' (Ps. 85.9)

3.5. *Ḥaṭef* for Vowel in Stressed Closed Syllables

3.5.1. *Ḥaṭef pataḥ* for *pataḥ* in Stressed Closed Syllables

BL Or 2551 MS B

اهاـتِي (BL Or 2551 MS B, fol. 82v, 4) || L אֲהַ֣בְתִּי 'I love' (Ps. 119.119)

3.5.2. *Ḥaṭef qameṣ* for *qameṣ* in Stressed Closed Syllable

BL Or 2551 MS B

اهاـبتِي (BL Or 2551 MS B, fol. 90r, 2) || L אָהָ֑בְתִּי 'I love' (Ps. 119.163)

3.6. Vowel for *shewa*

Pataḥ is marked in place of *shewa* in a number of manuscripts:

BL Or 2539 MS A

ويخرِثوۤ (BL Or 2539 MS A, fol. 65v, 3) || L וַיִּכְרְת֖וּ 'and they (MPL) cut off' (Gen. 21.27)

سِنر صِباۤاوۤ (BL Or 2539 MS A, fol. 66r, 3) || L שַׂר־צְבָא֖וֹ 'chief of his army' (Gen. 21.32)

فلنستِيم (BL Or 2539 MS A, fol. 66r, 4) || L פְּלִשְׁתִּֽים׃ 'Philistines' (Gen. 21.32)

BL Or 2540

مسكنُوثْ (BL Or 2540, fol. 4r, 7) || L מִסְכְּנוֹת 'supplies' (Exod. 1.11)

وايشرِصوٍ (BL Or 2540, fol. 3v, 7) || L וַיִּשְׁרְצוּ 'and they (MPL) swarmed' (Exod. 1.7)

BL Or 2551 MS B

لا-يِدرِخو (BL Or 2551 MS B, fol. 35v, 10) || L לֹא־יִדְרְכוּ 'they will not tread' (1 Sam. 5.5)

المنسؤرِريم (BL Or 2551 MS B, fol. 55v, 1) || L הַמְשֹׁרְרִים 'the singers' (commentary on Ps. 87.7)

BL Or 2559

ونخرِثا (BL Or 2559, fol. 3v, 12) || L וְנִכְרְתָ֖ה 'and she shall be cut off' (Lev. 22.3)

3.7. Vowel for *ḥaṭef*

3.7.1. *Pataḥ* for *ḥaṭef pataḥ* on Guttural Consonants

BL Or 2539 MS A

اماثاخا (BL Or 2539 MS A, fol. 63v, 2) || L ־אֲמָתֶ֔ךָ 'your hand-maid' (Gen. 21.12)

زرعﺨا (BL Or 2539 MS A, fol. 63v, 5) || L זַרְעֶ֑ךָ 'your seed' (Gen. 21.13)

كمطاحوي (BL Or 2539 MS A, fol. 64r, 3) || L כְּמִטַחֲוֵי 'like the shots of' (Gen. 21.16)

BL Or 2549

لهشتاحووث (BL Or 2549, fol. 47v, 8) || L לְהִשְׁתַּחֲוֺת 'to worship' (Jer. 7.2)

BL Or 2551 MS A

واني (BL Or 2551 MS A, fol. 9v, 10) || L וַאֲנִי 'but I' (Ps. 52.10)

راعنان (BL Or 2551 MS A, fol. 9v, 10) || L רַעֲנָן 'green' (Ps. 52.10)

واقوا (BL Or 2551 MS A, fol. 10r, 7) || L וַאֲקַוֶּה 'and I will wait' (Ps. 52.11)

هيش (BL Or 2551 MS A, fol. 11r, 9) || L הֲיֵשׁ 'is there?' (Ps. 53.3)

BL Or 2551 MS B

ابقاس (BL Or 2551 MS B, fol. 37r, 12) || L אֲבַקֵּשׁ 'I will seek' (Ezek. 34.16)

حخاماو (BL Or 2551 MS B, fol. 58v, 10) || L חֲכָמָיו 'its wise men' (Isa. 29.14)

عسني (BL Or 2551 MS B, fol. 84r, 2) || L עֲשֵׂה 'act! (ᴍs)' (Ps. 119.124)

هنسيينو (BL Or 2551 MS B, fol. 39v, 3) || L הֲשִׁיבֵנוּ 'restore us!

(MS)' (Ps. 80.20)

BL Or 2559

انسار (BL Or 2559, fol. 6v, 2) || L אֲשֶׁר 'which' (Lev. 22.5)

3.7.2. *Pataḥ* for *ḥaṭef pataḥ* on Non-guttural Consonants in L

BL Or 2539 MS A

وهشبارخو (BL Or 2539 MS A, fol. 68v, 4) || L וְהִתְבָּרֲכוּ 'and they

will bless themselves (MPL)' (Gen. 22.18)

BL Or 2551 MS B

وبارخو (BL Or 2551 MS B, fol. 99r, 1) || L וּבָרֲכוּ 'and bless!

(MPL)' (Ps. 134.2)

3.7.3. *Segol* for *ḥaṭef segol* on Guttural Consonants

BL Or 2539 MS A

نااحاز (BL Or 2539 MS A, fol. 68r, 3) || L נֶאֱחַז 'it was caught'

(Gen. 22.13)

BL Or 2540

الوهيم (BL Or 2540, fol. 8v, 6) || L אֱלֹהִים 'God' (Exod. 3.14)

اعسا (BL Or 2540, fol. 10r, 6) || L אֶעֱשֶׂה 'I shall do' (Exod. 3.20)

BL Or 2549 MS B

اموري (BL Or 2549 MS B, fol. 238v, 3) || L אֱמֹרִי׃ 'Amorite' (Ezek. 16.45)

BL Or 2551 MS A

الوهيم (BL Or 2551 MS A, fol. 9v, 3) || L אֱלֹהִים 'God' (Ps. 52.9)

هبيشوثا (BL Or 2551 MS A, fol. 12v, 3) || L הֱבִשֹׁתָה 'you put to shame' (Ps. 53.6)

انوش (BL Or 2551 MS A, fol. 17v, 1) || L אֱנוֹשׁ 'man' (Ps. 55.14)

باحوز (BL Or 2551 MS A, fol. 21v, 5) || L בֶּאֱחֹז 'when holding' (Ps. 56.1)

BL Or 2551 MS B

هنسيبوثا (BL Or 2551 MS B, fol. 45v, 2) || L הֱשִׁיבֹותָ 'you caused to return' (Ps. 85.4)

3.7.4. *Qameṣ* for *ḥaṭef qameṣ* on Guttural Consonants

BL Or 2540

عنـى (BL Or 2540, fol. 8v, 6) || L עֳנִי 'affliction' (Exod. 3.7)

BL Or 2551 MS A

وصاهرايم (BL Or 2551 MS A, fol. 19r, 8) || L וְצָהֳרַיִם 'and noon' (Ps. 55.18)

BL Or 2551 MS B

عقّاايم (BL Or 2551 MS B, fol. 81v, 7) || L עֳפָאיֽם 'foliage' (Ps. 104.12)

3.7.5. *Qameṣ* for *ḥaṭef qameṣ* on Non-guttural Consonants in L

BL Or 2556

عمنيّوث (BL Or 2556, fol. 83r, 7) || L עֲמֳנִיּֽוֹת (*ketiv*: עמוניות) 'women of Ammon' (Neh. 13.23)

3.8. Discussion

In the Tiberian pronunciation tradition, a vocalic *shewa* in principle represents a short vowel in an open syllable (CV).[4] Its quality was by default the same as that of the *pataḥ* vowel sign, i.e., the maximally low vowel [a], e.g.,

תְּכַסֶּה [tʰaχasˈsɛː] 'you (MS) cover' (Job 21.26)

מְדַבְּרִים [maðabbaˈʀˠiːim] 'speaking' (MPL) (Est. 2.14)

　　When vocalic *shewa* occurs before a guttural consonant or the letter *yod*, it was realised with different qualities through assimilatory processes. Before a guttural (i.e., א, ה, ח, ע) it was realised as a short vowel with the quality of the vowel on the guttural, e.g.,

בְּעֶרְכְּךָ [bɛʕɛʀˠkʰaˈχɔːɑd] 'by your evaluation' (Lev. 5.15)

וְהָיָה [vɔhɔːˈjɔː] 'and it became' (Gen. 2.10)

בְּאֵר [beˈʔeːeʀˠ] 'well'

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[4] For further details concerning *shewa* and *ḥaṭef* vowels in the Tiberian pronunciation tradition, see Khan (2020b, I:305–47).

מְאֹד [moˈʔoːoð] 'very'

Before *yod,* it was realised as a short vowel with the quality of short *ḥireq* [i], e.g.,

בְּיֹם [biˈjoːom] 'on the day' (Gen. 2.17)

לְיִשְׂרָאֵל [lijisrˤɔːˈʔeːel] 'to Israel (Gen. 46.2)

The *shewa* sign is combined with some of the basic vowel signs to form the so-called *ḥaṭef* signs. In such signs the vocalic reading of the *shewa* as well as its quality are made explicit. The vocalic *shewa* and the *ḥaṭef* vowels were quantitatively equivalent. In all cases they form short open syllables (CV).

In the Tiberian pronunciation the CV of a vocalic *shewa* or a *ḥaṭef* vowel cannot stand alone, but is prosodically dependent on the following syllable, which must be bimoraic (CVV or CVC). The CV syllable is bound with the following syllable in a single metrical foot. It is a metrically weak syllable and the following bimoraic syllable is the strong syllable of the foot. This can be represented thus: (. *), where the brackets enclose the syllables of the foot, the star * represents the strong prominent syllable, and the dot the weak syllable. On a prosodic level, therefore, the phonetic realisation of a word such as תִּסְפְּרוּ [tʰispʰaˈʁuː] would consist of three syllables parsed into two feet:

[(tʰis.)   (pʰa.ˈʁuː)]
(*)   (. *)

This dependent prosodic status of vocalic *shewa* and *ḥaṭef* vowels is associated with the fact that they have the status of epenthetic vowels that break up consonant clusters at syllable onset. On an underlying phonological level, a word such as תִּסְפְּרוּ [tʰispʰaˈʁuː] would have the form /tispruː/, with the *shewa* [a] as

an epenthetic that breaks the onset cluster /pr/ on the phonetic level. The fact that vocalic *shewa* is zero on the phonological level appears to be the reason why the Masoretes marked it with the same sign as they used to mark silent *shewa*. The *ḥaṭef* signs appear to be later developments of the notation system that made the reading of *shewa* as vocalic explicit in certain contexts.

Some of the deviations from the standard Tiberian vocalisation with regard to *shewa* and *ḥaṭef* vowels that are presented above from the Karaite manuscripts may be regarded as reflecting a more primitive stage of the development of the Tiberian vocalisation system. This may apply to the marking of *shewa* instead of a *ḥaṭef* sign on guttural consonants (§3.1), in which the reading of a *shewa* on a guttural was not marked explicitly as vocalic by the addition of a vowel sign next to the *shewa* sign. This phenomenon is found in many Hebrew manuscripts in Hebrew script with Non-Standard Tiberian vocalisation (Khan 2020b, I:340). This may also apply to the marking of *shewa* where L has a *ḥaṭef* sign on a non-guttural consonant (§§3.1.2, 3.1.4, §3.1.6). The model masoretic codices are not consistent in the marking of *ḥaṭef* in this context and some have *shewa* where L has a *ḥaṭef* (Khan 2020b, I:343–46).

The majority of the deviations, however, can be explained as being the result of a reanalysis of the syllable structure in the Tiberian pronunciation. This reanalysis resulted in *shewa* and *ḥaṭef* being interpreted as short vowels on the phonological level rather than phonetic epenthetic vowels. They were, therefore, equivalent to short vowels in closed CVC syllables. This arose since the monomoraic syllable CV with *shewa* or *ḥaṭef* vowels

came to be analysed as a legitimate syllable on the phonological level. As is the case with the phonological reanalysis of the quality of vowels, the reanalysis of CV as a legitimate phonological syllable is likely to have been induced by convergence with the phonological system of Arabic, which was the vernacular of the scribes. In Classical Arabic and also in the modern eastern Arabic dialects, such as those of Egypt and the Levant, CV is a legitimate syllable at the phonological level, whether stressed or unstressed, e.g. Modern Cairene Arabic: *ká.tab* 'he wrote', *ka.tábt* 'I/you (ms) wrote' (Mitchell 1962, 26; Watson 2007, 56–58). A word such as תְּסַפְּרוּ [tʰasappʰaˈʀuː] in the Tiberian pronunciation would have the phonological syllable structure /tsappruː/. If, however, [tʰasappʰaˈʀuː] were parsed according to Arabic syllabic principles, the CV syllables would be analysed as phonological syllables rather than the result of phonetic epenthesis, thus /tasapparuː/. As a result, the /a/ in the open CV syllables /ta/ and /pa/ would be interpreted as having the same phonological status as the /a/ in the closed syllable /sap/. It would follow from this reanalysis that a *shewa* sign and a *pataḥ* sign in a closed syllable represented vowels that were equivalent and this facilitated the interchange of the signs. The same would apply to *ḥaṭef* signs, which, after this syllabic reanalysis according to Arabic principles, would come to be interpreted as representing vowels that were equivalent to the vowel represented by a vowel sign of the same quality that is used to represent a short vowel in unstressed closed syllables, e.g., in a word such as אֲמַרְתֶּם 'you (MPL) spoke' (Gen. 43.27). According to this Arabic type of parsing of syllable structure, the notational distinction between *shewa, ḥaṭef,* and full vowel signs

lost its original function of distinguishing between phonological vowels and phonetic epenthetics, and so the signs were freely interchanged in open CV and closed CVC syllables.

All cases of *shewa* marked in closed syllables in the corpus are in unstressed closed syllables, in which the vowel would have been short. The vast majority of cases of *ḥaṭef* signs in closed syllables are likewise in unstressed syllables. There are only two cases in stressed syllables, viz.,

BL Or 2551 MS B

اهاتِبَي (BL Or 2551 MS B, fol. 82v, 4) || L אָהַבְתִּי 'I loved' (Ps. 119.119)

BL Or 2551 MS B

اهابتِي (BL Or 2551 MS B, fol. 90r, 2) || L אָהֲבְתִּי׃ 'I loved' (Ps. 119.163)

The practice of marking *shewa* and *ḥaṭef* signs in closed unstressed syllables is sporadically found even in some of the Standard Tiberian Masoretic codices,[5] e.g.

בַּחֲרְטֻמֵּם 'on the magicians' (L Exod. 9.11)

הָעֲרְבַּיִם 'the evening' (L Exod. 30.8)

יֶחֱזְקוּ 'they are strong' (L 2 Sam. 10.11)

יַעְכָּרְךָ 'he brings trouble on you' (L Josh. 7.25)

וַהֲרְגְנֻהוּ 'and we will kill him' (L Judg. 16.2)

לְמֹּלֶךְ (BL Or. 4445) || L לַמֹּלֶךְ 'to Molech' (Lev. 20.3)

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[5] Yeivin (1968, 18), Dotan (1985).

This practice in the vocalisation of the model codices may also have been facilitated by contact with Arabic syllable structure, as described above.

4.0. Concluding Remarks

In this paper I have presented various examples of the use of Tiberian vocalisation signs in the Karaite transcriptions of the Hebrew Bible into Arabic script. The focus in the paper has been on cases of vocalisation signs in the manuscripts that deviate from the distribution of the signs that are found in the Standard Tiberian Masoretic tradition. These deviations relate to the distribution of signs representing different vowel qualities and to the distribution of *shewa* and *ḥaṭef* signs. In both sets of cases, it was argued that the deviations can be explained by the hypothesis that the Hebrew of the scribes had undergone a convergence with the phonological structure of their Arabic vernacular. In the case of vowel qualities, this convergence would have resulted in difficulties in distinguishing between some of the Tiberian vowel qualities. In the case of *shewa* and *ḥaṭef* vowels, the convergence resulted in a reanalysis of epenthetic CV syllables of *shewa* and *ḥaṭef* as phonological syllables. It followed that the distinction between *shewa* and *ḥaṭef* signs in open CV syllables and vowel signs in CVC syllables became redundant and the signs, therefore, were interchanged.

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