

Studies in Semitic Vocalisation and Reading Traditions

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Cover image: Detail from a bilingual Latin-Punic inscription at the theatre at Lepcis Magna, IRT 321 (accessed from https://it.wikipedia.org/wiki/File:Inscription_Theatre_Leptis_Magna_Libya.JPG). Leaf of a Syriac prayer book with Western vocalisation signs (source: Wikimedia Commons). Leaf of an Abbasid-era Qur'ān (vv. 64.11–12) with red, yellow, and green vocalisation dots (source: Wikimedia Commons). Genizah fragment of the Hebrew Bible (Gen. 11–12, Cambridge University Library T-S A1.56; courtesy of the Syndics of Cambridge University Library). Genizah fragment of a Karaite transcription of the Hebrew Bible in Arabic script (Num. 14.22–24, 40–42, Cambridge University Library T-S Ar. 52.242; courtesy of the Syndics of Cambridge University Library). Greek transcription of the Hebrew for Ps. 22.2a in Matt. 27.46 as found in Codex Bezae (fol. 99v; courtesy of the Syndics of Cambridge University Library).

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SOME FEATURES OF THE IMPERFECT ORAL PERFORMANCE OF THE TIBERIAN READING TRADITION OF BIBLICAL HEBREW IN THE MIDDLE AGES

Geoffrey Khan

1.0. PRELIMINARY REMARKS

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*. One of the known Masoretes was, indeed, the ‘head of the Academy’, namely Pinḥas Rosh ha-Yeshiva (‘head of the Academy’), who lived in the ninth century.¹

¹ See the *Treatise on the Shewa* edited by Levy (1936, 9), the document published by Mann (1969, 2:43–44) and Gil (1992, 179).

The medieval sources describe how teachers from Tiberias would travel to various communities of the diaspora to give instruction in the Tiberian reading and how people from the diaspora communities would travel to Tiberias (Khan 2020, 87–88).

The prestige and authoritative nature of the Tiberian reading are reflected in various ways.

One indicator of the prestigious nature of the Tiberian reading tradition is the fact that the early traditions of Hebrew grammar that emerged in the tenth century, i.e., those of Saadya Gaon and the Karaite grammarians, were based on the Tiberian reading.² The grammarian Ibn Janāḥ (eleventh-century Spain) states that the Tiberians were “the most eloquent of the Hebrews in language and the most lucid.”³

A further indicator is the fact that many manuscripts with Babylonian vocalisation exhibit convergence with the Tiberian tradition of reading, eliminating thereby distinctly Babylonian features. In some manuscripts with Babylonian signs, there is almost total convergence with the Tiberian pronunciation tradition and additional signs were even created to ensure a maximally close correspondence.⁴ The same applied to biblical manuscripts with Palestinian vocalisation. Many of these represent a reading

² Dotan (1997), Khan (2000a; 2000b). Some features of Babylonian pronunciation sporadically appear in the works of the eastern grammarians, such as Saadya (Dotan 1997, 39) and the Karaites (Vidro 2011, 131–36).

³ *Kitāb al-Lumaʿ* (ed. Derenbourg 1886, 29): הם אפצח אלעבראנין לסאנא ואכתרהם ביאנא.

⁴ Yeivin (1985, 77–87).

tradition that is very close to the Tiberian one. This is almost certainly due to convergence, which involved the creation of signs to express vowel-quality distinctions that did not occur in the Palestinian pronunciation.⁵

These convergences in manuscripts with Babylonian and Palestinian vocalisation show that the Tiberian pronunciation was the ideal target in the oral reading of the Bible in communities where other traditions of pronunciation were current. 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. In this paper, I shall adduce evidence of features in reading that appear to have arisen on account of such imperfect performances and propose explanatory models for how such features arose.

Most of the evidence will be drawn from the Karaite Arabic transcriptions of the Hebrew Bible. The majority of these reflect the Standard Tiberian pronunciation.⁶ A number of the transcriptions, however, exhibit deviations from the Standard Tiberian tradition. In most manuscripts of this nature, the deviations are not simply a reflection of the pronunciation of Hebrew with a non-Tiberian tradition, but rather are the result of striving to perform the Tiberian reading, but not producing exactly the Stand-

⁵ Some scholars, however, have taken the view that the Tiberian type of vowel distinctions that appear in some varieties of the Palestinian vocalisation are native to the Palestinian tradition; cf. Revell (1970, 52), Yahalom (1997, 9).

⁶ For this corpus of texts see Khan (2013; 2016).

ard Tiberian tradition. I shall examine three factors that were operative, viz. (i) the interference from a lower prestige substrate, (ii) the application of hypercorrect orthoepic measures, and (iii) varying degrees of correct acquisition of the Tiberian reading.

2.0. INTERFERENCE FROM A SUBSTRATE

2.1. Pronunciation of Interdental Consonants

Some of the Karaite transcriptions reflect the interference of a substrate in the achievement of the target of pronouncing the Tiberian interdental consonants.

In most of the Sefardi reading traditions of the Levant and North Africa that have continued down to modern times, the letters *tav* and *dalet* are pronounced as stops in all contexts. They are not pronounced as interdentals where the Tiberian tradition had fricative *tav* [θ] or fricative *dalet* [ð],⁷ e.g.,

Aleppo

kəvrat 'ʔe,rø's (Katz 1981, 9 | BHS: כְּבֵרֶת-אֶרֶץ Gen. 49.19
'some distance')

'gad ge'dud (Katz 1981, 8 | BHS: גָּד גִּדּוּד Gen. 49.19 'Gad, a
troop ...')

Jerba

we,həthal'le'x (Katz 1977, 17 | BHS: וְהִתְהַלֵּךְ Exod. 21.19
'and he walks about')

⁷ For this phenomenon see Garbell (1954, 232), Katz (1977, 16–18, 1981, 4–5), Akun (2010, 35–37, 46–47), Henshke (2013).

jaʕaʔbod (Katz 1977, 18 | BHS: יַעֲבֹד Exod. 21.2 ‘he will work’)

Morocco

tihuʔmut (Akun 2010, 46 | BHS: תְּהִמָּוֶת Exod. 15.8 ‘depths’)

miʔyad (Akun 2010, 36 | BHS: מִיָּד Exod. 14.30 ‘from the hand of [cstr.]’)

The Sefardi reading traditions had their origin in the Palestinian reading tradition of Hebrew. This phenomenon, however, was not an original feature of the Palestinian reading tradition, but appears rather to be the result of interference from the Arabic dialects spoken by the Jews of the regions in question, in which stops have replaced the interdental consonants.⁸ In regions where the Arabic dialects of the Jews preserved the interdentals, these consonants were generally preserved also in the local Sefardi reading traditions of Hebrew.⁹

In some medieval Karaite transcriptions, there is evidence that readers sometimes pronounced *tav* and *dalet* as stops where interdental realisations would be expected. This is seen particularly clearly in the case of the transcription of *tav*, since the stop and fricative realisations are distinguished by different Arabic diacritics (i.e., ت versus ث), whereas the occurrence of an Arabic ﺕ without a diacritic in a manuscript containing a transcription

⁸ See, for example, Nevo (1991, 3–4: Aleppo), David Cohen (1975, 19: Tunis), Marcel Cohen (1912, 21: Algiers).

⁹ This is seen, for example, in the reading traditions of the Jews of Yemen (Morag 1963, 41–42) and of the Jews of Baghdad (Morag 1977, 5).

could, in principle, be the result of the scribal omission of the diacritic from the letter *dhāl* and need not necessarily be interpreted as a *dāl*.

One manuscript of interest in this respect is BL Or 2551, fols. 31–101, which is an Arabic transcription of Psalms accompanied by an Arabic commentary. Where fricative *tav* occurs in the Tiberian tradition, this manuscript generally has the Arabic letter interdental *thā'* in the transcription of the biblical text, e.g.,

مِشْلَاحْ (BL Or 2551 fol. 31r, 3 | BHS: מִשְׁלַחַת Ps. 78.49
‘sending of’)

مَمَاوْثْ (BL Or 2551 fol. 31v, 10 | BHS: מִמָּוֶת Ps. 78.50 ‘from
death’)

رَاشِيتْ (BL Or 2551 fol. 32r, 6 | BHS: רֵאשִׁית Ps. 78.51 ‘be-
ginning’)

On several occasions, however, it has Arabic *tā'* where the Tiberian pronunciation has a fricative *tav*, reflecting the pronunciation of the consonant as a stop, e.g.,

هَتَعْبَارْ (BL Or 2551 fol. 34v, 3 | BHS: הִתְעַבֵּר Ps. 78.62 ‘he
was angry’)

اَتْ (BL Or 2551 fol. 37r, 14 | BHS: אֶת Ps. 79.1 object
marker)

The fact that in many places the manuscript has *thā'* where fricative *tav* is expected in the Tiberian tradition shows that the

reading that it represents is not a type of Sefardi reading without any interdental consonants such as those discussed above. It appears to be an attempt at reading with a Tiberian pronunciation. The reader was successful in achieving the correct pronunciation of fricative *tav* in many places, but in several cases interference from a substrate resulted in this being read incorrectly as a stop.

It is significant to note that in this manuscript transcriptions of Tiberian fricative *tav* with the Arabic stop *tā'* are much more common in the Hebrew words that are embedded within the Arabic commentary, e.g.,

משלחת (BL Or 2551 fol. 31v, 7 | BHS: מְשַׁלַּח commentary on Ps. 78.49 'sending of')

נתיב (BL Or 2551 fol. 31v, 12 | BHS: נְתִיב commentary on Ps. 78.50 'a path')

לא תִּסָּוּר (BL Or 2551 fol. 31r, 13 | BHS: לֹא תִסָּוּר Deut. 17.11 'you shall not decline' in the commentary on Ps. 78.50)

The Hebrew words within the commentary evidently reflect a less learned type of pronunciation than the pronunciation of the biblical text itself. Less effort was made to achieve the prestigious Tiberian target. They were not an oral performance of the biblical text, but rather non-performative citations embedded within the Arabic commentary text.

The ultimate origin of this elimination of interdentals in the the pronunciation of the Hebrew is likely to have been the lack of interdentals in the vernacular Arabic speech of the reader, as

is the case with the modern Sefardi traditions without interdental. There is, indeed, evidence from inscriptions and papyri that interdental consonants were lost in some Arabic dialects as early as the beginning of the eighth century CE (first century AH).¹⁰

A possible way of explaining the suboptimal distribution of stops and interdentals in the manuscript is the model proposed by Blevins (2017) for phonological processes that take place in language contact situations. In the spoken vernacular of the reader, there was no unvoiced interdental phoneme /θ/, but only a stop phoneme /t/ or, more likely, /t^h/, i.e., an aspirated unvoiced stop. This had only stops as its phonetic realisation, i.e., [t^h] and most likely also environmentally conditioned deaspirated [t]. When the reader heard in the Tiberian pronunciation the interdental phonetic tokens [θ], these were perceptually matched to the stop /t^h/ prototype phoneme of the writer's vernacular. This matching brought about a 'perceptual magnet effect', to use Blevins' metaphor, whereby the interdental tokens of Tiberian were perceived as being like the stop tokens of the prototype in the native vernacular. As a result of this lack of perception, or at least difficulties in perception, of phonetic difference, the two tokens were confused.

It is significant that the distinction between Arabic *tāʾ* and *thāʾ* is maintained perfectly throughout the Arabic text of the commentary. The interdental *thāʾ* is regularly marked with three

¹⁰ See Hopkins (1984, 33–36). To the material cited by Hopkins can be added inscription no. 15 in Combe, Sauvaget, and Wiet eds. (1931–1991). The main evidence in these sources is the occurrence of the pointing of Arabic *tāʾ* where *thāʾ* is expected.

diacritical dots, e.g., ثالث 'third' (fol. 31r, ln. 11), من حيث 'because' (31r, 12), مبعوثة 'sent' (31v, 8). This must reflect the fact that the writer's grammatical competence in literary Arabic had the two distinct phonemes /θ/ and /t^h/, whose morpholexical distribution had been learnt perfectly. This contrasts with the writer's pronunciation of Biblical Hebrew, in which the distribution of the stop and interdental was confused, reflecting imperfect learning.

According to the model described above, the imperfect learning of the Tiberian reading resulted from the perceptual matching of the interdental phone [θ] in the Tiberian Hebrew reading to the stop /t^h/ prototype phoneme of the writer's vernacular. It should be taken into account, however, that vernacular Arabic dialects spoken by Jews in the Middle Ages would almost certainly have contained a Hebrew component, i.e., Hebrew words and phrases. Such a Hebrew component is found in medieval written Judaeo-Arabic (Blau 1999, 133–66) and is likely to have been an integral part of the living Arabic vernacular of Jews in the Middle Ages, as is the case with modern spoken Judaeo-Arabic dialects. The question arises, therefore, as to whether the direct substrate of the imperfectly performed Tiberian reading was the Arabic dialect in general or specifically the Hebrew component in the Arabic dialect. The phonology of the Hebrew component in the modern Jewish Arabic dialects has, in principle, assimilated to that of the host language. In Arabic dialects without interdentals, these are lacking also in the Hebrew words of

the Hebrew component.¹¹ The situation reflected in our medieval text, therefore, may have arisen due to the matching of the phones [θ] and [t^h] with a single prototype phoneme /t^h/ specifically in the Hebrew component of the writer's dialect. Another possibility is that the two phones were matched with a single prototype phoneme /t^h/ in a less learned pronunciation of Biblical Hebrew. Such a less learned pronunciation, however, would be likely to have had its roots in the phonology of the Hebrew component. In this particular case it cannot be proved whether the direct substrate was the phonological system of the Arabic dialect or that of the Hebrew component. In the discussion of the imperfect performance of the vowel system below (§2.2), however, I shall present evidence that the immediate substrate is the phonological system specifically of the Hebrew component or of a less learned pronunciation of Hebrew deriving from that of the Hebrew component.

In the meantime, I would like to draw attention to another manuscript of a Karaite transcription, BL Or 2552 fols. 90–141, which, in most cases, has an Arabic *tā'* where a fricative *tav* occurs in the Tiberian tradition, e.g.,

בִּי־מִוֹת נָמוּת | BHS: כִּי מוֹת נָמוּת (BL Or 2552 fol. 90v, 2)

2 Sam. 14.14 'because we have to die')

¹¹ E.g., Algeria (Bar-Asher 1992, 40–42), Tunisia (Henshke 2007, 32–33), Syria (Arnold 2013), Egypt (Rosenbaum 2013).

قوهالت (BL Or 2552 fol. 90v, 3 | BHS: קוהלת Eccl. 1.1
'preacher')

يترون (BL Or 2552 fol. 92v, 2 | BHS: יתרון Eccl. 1.3 'profit')

A Tiberian fricative *tav* is represented by Arabic *thā'* only in a few cases, e.g.,

راشي (BL Or 2552 fol. 106v, 3 | BHS: ראיתי Eccl. 4.15 'I saw')

ناحلائانو (BL Or 2552 fol. 133v, 1 | BHS: נחלתנו Lam. 5.2
'our inheritance')

يثوميم (BL Or 2552 fol. 133v, 11 | BHS: יתומים Lam. 5.3 'or-
phans')

This indicates that the reader was making some attempt at the prestigious Tiberian pronunciation. The process of levelling of vernacular and Tiberian phonetic tokens had, however, progressed further than in BL Or 2551, fols. 31–101. This would have involved, presumably, a lesser degree of ability to perceive differences between the tokens and a lesser degree of knowledge of the correct distribution of tokens in the Tiberian pronunciation. A further reflection of this in the manuscript is the occurrence of an Arabic *thā'* where there was a stop in the correct Tiberian reading:

ال ترشاع (BL Or 2552 fol. 113v, 2 | BHS: אל-תרשע Eccl.
7.17 'do not be wicked!')

This can be regarded as a hypercorrection, whereby the reader strives to achieve the prestigious Tiberian reading by using an interdental token, but this is used incorrectly where the stop token should have occurred, resulting in a distribution of tokens that corresponds to that of neither Tiberian pronunciation nor the vernacular substrate.

2.2. Pronunciation of Vowels

The Karaite transcription BL Or 2555 offers evidence for the pronunciation of vowels in an imperfect performance of the Tiberian reading tradition.

2.2.1. Interchange of *Ṣere* and *Segol*

This manuscript exhibits interchange of *ṣere* and *segol* signs in syllables where the vowel is long. In the transcription such vowels are represented sometimes by Arabic *ʿalif* and sometimes by Arabic *yāʿ*. This can be interpreted as reflecting the fact that the scribe read each of the two vowel signs with two different qualities. These may be reconstructed as [ɛ:], which was represented by *ʿalif*, and [e:], which was represented by *yāʿ*. Some examples are as follows.

Where Standard Tiberian has *segol*

(i) *Segol* sign corresponding to Tiberian *segol* is represented by *ʿalif*:

יָאֲזָחָא [jɑːʔɛːχɑː] (BL Or 2555 fol. 71v, 5 | BHS: יָאֲזָחָא Eccl.

7.18 ‘your hand’)

(ii) *Ṣere* sign corresponding to Tiberian *segol* is represented by *ʿalif*:

הַבֵּל [ʰe:ɪvɛl] (BL Or 2555 fol. 26r, 12 | BHS: הֶבֶל Eccl. 4.8
‘vanity’)

(iii) *Segol* sign corresponding to Tiberian *segol* is represented by *yāʿ*:

יָפִי [jɔ:ʰfe:] (BL Or 2555 fol. 10r, 5 | BHS: יָפִי Eccl. 3.11
‘beautiful’)

(iv) *Ṣere* sign corresponding to Tiberian *segol* is represented by *yāʿ*:

יֵלֵד [ʰje:lɛð] (BL Or 2555 fol. 31v, 1 | BHS: יֵלֵד Eccl. 4.13
‘child’)

Where Standard Tiberian has *ṣere*

(i) *Ṣere* sign corresponding to Tiberian *ṣere* is represented by *yāʿ*:

יֵדָע [je:ʰða:af] (BL Or 2555 fol. 81r, 2 | BHS: יָדַע Eccl. 8.5
‘he will know’)

(ii) *Segol* sign corresponding to Tiberian *ṣere* is represented by *yāʿ*:

הַבֵּהֶמָה [habbehe:ʰmɔ:] (BL Or 2555 fol. 18r, 1 | BHS: הֶבֶה Eccl. 3.21
‘the beast’)

(iii) *Ṣere* sign corresponding to Tiberian *ṣere* is represented by *ʿalif*:

הָמָּא [ˈhɛːɛmmɔː] (BL Or 2555 fol. 14v, 2 | BHS: הָמָּא Eccl.

3.18 ‘they’)

(iv) *Segol* sign corresponding to Tiberian *šere* is represented by *ʿalif*:

כָּאן [ˈkʰɛːɛn] (BL Or 2555 fol. 14v, 5 | BHS: כָּאן Eccl. 3.19

‘thus’)

This shows that interchanges of vowel signs can reflect a pronunciation with interchanges of vowel qualities that is independent of the interchange of the signs.

2.2.2. *Pataḥ* Sign in Place of Standard Tiberian *Segol*

In the transcription BL Or 2555, the *pataḥ* sign is sometimes marked where Standard Tiberian has *segol*. This is found predominantly in the following contexts.

(i) In the environment of guttural consonants, especially *ḥet* and *ʿayin*, e.g.,

זָרְעָאָחַ (BL Or 2555 fol. 124v, 10 || BHS: זָרְעָאָחַ Eccl. 11.6

‘your seed’)

וּלְעָרֵב (BL Or 2555 fol. 124v, 10 || BHS: וּלְעָרֵב Eccl. 11.6

‘and for the evening’)

הָאֲעָיִם (BL Or 2555 fol. 129v, 10 || BHS: הָאֲעָיִם Eccl. 12.2

‘the clouds’)

אֲחִיכָּמָא (BL Or 2555 fol. 73r, 15 || BHS: אֲחִיכָּמָא Eccl. 7.23 ‘I shall be wise’)

הָאֲחִיכָּמָא (BL Or 2555 fol. 89r, 6 || BHS: הָאֲחִיכָּמָא Eccl. 8.17 ‘the wise’)

(ii) On the subordinating particle *š*, e.g.,

בְּשָׁל (BL Or 2555 fol. 89r, 5 || BHS: בְּשָׁל Eccl. 8.17 ‘because’)

שִׁיָּאֻמוּתָא (BL Or 2555 fol. 94v, 7 || BHS: שִׁיָּאֻמוּתָא Eccl. 9.5 ‘that they will die’)

כִּשְׁיִפּוּל (BL Or 2555 fol. 102r, 2 || BHS: כִּשְׁיִפּוּל Eccl. 9.12 ‘when it will fall’)

שִׁלּוּ (BL Or 2555 fol. 68v, 8 || BHS: שִׁלּוּ Eccl. 7.14 ‘that not’)

שִׁיֹּחַל (BL Or 2555 fol. 11r, 9 || BHS: שִׁיֹּחַל Eccl. 3.13 ‘he will eat’)

שִׁיָּאֻמּוּל (BL Or 2555 fol. 46v, 2 || BHS: שִׁיָּאֻמּוּל Eccl. 5.15 ‘that he will labour’)

In a few cases, however, the particle has *segol*, e.g.,

ماشاهایا (BL Or 2555 fol. 73v, 13 || BHS: מֵה־שֶׁהִיא Eccl. 7.24
 - - - -

‘that, which was’)

شاهياميم (BL Or 2555 fol. 58v, 8 || BHS: שְׁהַיָּמִים Eccl. 7.10
 - - - -

‘that the days’)

In one case long *segol* in the particle is transcribed by *yā*:

ما شيهايا (BL Or 2555 fol. 57v, 1 || BHS: מֵה־שֶׁהִיא Eccl. 6.10
 - - - -

‘that which was’)

(iii) Occasionally the *pataḥ* sign is written in place of Standard Tiberian *pataḥ* in other contexts, e.g.,

عذان (BL Or 2555 fol. 22r, 5 || BHS: עֲדָן Eccl. 4.3 ‘yet’)
 - -

هتافل (BL Or 2555 fol. 53v, 6 || BHS: הַנֶּפֶלְ: Eccl. 6.3 ‘the
 - - - -

miscarriage’)

2.2.3. *Segol* for Standard Tiberian *Pataḥ*

There are sporadic cases of *segol* being marked where Standard Tiberian has *pataḥ*:

اشر نائن لو (BL Or 2555 fol. 48v, 7 || BHS: אֲשֶׁר־נָתַן־לּוֹ Eccl.
 - - - -

5.17 ‘which he gave to him’)

2.2.4. Standard Tiberian *Pataḥ* Transcribed by *Yā*’

In a few isolated cases a *yā*’ is written in the transcription where Standard Tiberian has a stressed *pataḥ*:

מִתִּיֹּת (BL Or 2555 fol. 50r, 5 || BHS: מִתִּיֹּת Eccl. 5.18 ‘a gift of’)

מִתִּיֹּת (BL Or 2555 fol. 11r, 10 || BHS: מִתִּיֹּת Eccl. 3.13 ‘a gift of’)

מֵאֵיֹת (BL Or 2555 fol. 85r, 12 || BHS: מֵאֵיֹת Eccl. 8.12 ‘hundred’)

2.2.5. *Pataḥ* for *Qameṣ*

The Standard Tiberian distribution of *qameṣ* is generally maintained in the vocalisation:

הָאֱלֹהִים (BL Or 2555 fol. 12r, 9 || BHS: הָאֱלֹהִים Eccl. 3.14 ‘the god’)

וְאָבָד (BL Or 2555 fol. 46r, 7 || BHS: וְאָבָד Eccl. 5.13 ‘and it perished’)

הָאִישׁ (BL Or 2555 fol. 55v, 4 || BHS: הָאִישׁ Eccl. 6.7 ‘the man’)

הַמָּוֶת (BL Or 2555 fol. 59v, 13 || BHS: הַמָּוֶת Eccl. 7.1 ‘death’)

In some isolated cases *pataḥ* is marked where Standard Tiberian has *qameṣ*. This is attested in the environment of *yāʾ* and the guttural ‘*ayin*’:

הַעֲנִיָּאן (BL Or 2555 fol. 9v, 6 || BHS: הָעֲנִיָּאן Eccl. 3.10 ‘the task’)

עֲנִיָּאן (BL Or 2555 fol. 37r, 2 || BHS: עֲנִיָּאן Eccl. 5.2 ‘business’)

אֵילָאִי (BL Or 2555 fol. 103r, 10 || BHS: אֵילָאִי Eccl. 9.13 ‘to me’)

רַעָא (BL Or 2555 fol. 102r, 1 || BHS: רַעָא Eccl. 9.12 ‘evil’).

2.2.3. Interpretation of the Data

These various phenomena reflect an imperfect performance of the Tiberian vowel contrasts by a speaker of Arabic. As with the imperfect realisation of Tiberian *tav*, these vowel distributions can be explained as being the result of the matching of phonetic vowel tokens heard in the Tiberian tradition with non-Tiberian phonemes. It is difficult, however, to explain satisfactorily the distribution of the *matres lectionis* and vowel signs in the manuscript if it is assumed that this matching was directly between Tiberian phonetic tokens and Arabic phonemes. A more satisfactory model is one in which the Tiberian phonetic tokens are matched with a Palestinian type of Hebrew vowel system and this, in turn, is matched with an Arabic vowel system. The Palestinian reading tradition had only one *e*-vowel phoneme and only one *a*-vowel phoneme. This corresponded to the sound system of Jewish Palestinian Aramaic, which, in turn, is likely to have

arisen by convergence with the sound system of Greek in Byzantine Palestine.¹² It can be assumed that it was this pronunciation tradition of Hebrew in which the writer was most competent. It is, moreover, likely that the Hebrew component in his Arabic dialect had the same Palestinian type of vowel system.

I shall first address the interchange of *šere* and *seḡol* signs and the *matres lectionis* 'alif and yā' that represent them. We may assume that the reader had only one long *e*-vowel prototype phoneme in the pronunciation tradition in which he was most competent and in the Hebrew component in his Arabic dialect.

This one *e*-vowel prototype phoneme can be represented as /e/ and we may assume that it had the phonetic token [e:] when pronounced long. When the reader heard in the target Tiberian pronunciation the phonetic tokens of *šere* [e:] and long *seḡol* [ɛ:], both of these were perceptually matched with the prototype /e/. This matching brought about a 'perceptual magnet effect', whereby the [e:] and [ɛ:] tokens of Tiberian were perceived as being like the [e:] tokens of the prototype in the substrate pronunciation. The reader attempted to pronounce the tokens of the Tiberian target pronunciation, but had difficulty in distinguishing between them and, moreover, could not match the signs with the phonetic tokens that he pronounced.

The fact that the writer was able to maintain by and large the standard Tiberian distribution of the *qameṣ* and make the correct morpholexical contrasts with *pataḥ* could be explained by the assumption that the *qameṣ* phonetic token [ɔ:] that was heard in the Tiberian reading was not matched with the *a*-vowel of the

¹² See Kantor and Khan (forthcoming).

Palestinian pronunciation, which we may represent as /a/. This is likely to have been due to its being sufficiently distinct in quality from the phonetic tokens of Palestinian /a/ 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 native language. When there is a high degree of resemblance between distinct sounds in the target and native languages, they are more liable to be wrongly matched.¹³ The few occurrences of *pataḥ* in place of Standard Tiberian *qameṣ* attested in our manuscript were induced by the phonetic environment, namely the palatal *yā'* and pharyngeals.

Tiberian *pataḥ*, on the other hand, was easily matched with Palestinian /a/. How can we explain the interchange of *pataḥ* and *segol*? This interchange is far more frequent than the replacement of *qameṣ* by *pataḥ*. A possible explanation is that Palestinian /a/ was itself matched with the similar sounding Arabic /a/ and /a:/. Arabic /a/ and /a:/ would have had a range of allophones, as in the modern Arabic dialects, that included not only the qualities [a], [a:], but also the higher quality [ɛ], [ɛ:], by the process of raising (*'imāla*), and the back quality [ɑ] by the process of supra-segmental pharyngealisation (*tafkhīm*) (Barkat-Defradas 2011a; 2011b; Levin 2011). This would have facilitated the interchange of the qualities of Tiberian *pataḥ* [a], [a:] and Tiberian *segol* [ɛ], [ɛ:]. It is relevant to note that *'imāla* is blocked in some modern

¹³ See, for example, Eckman and Iverson (2003) and the literature cited there.

Arabic dialects in the environment of back consonants, including the pharyngeals (Levin 2011).

The frequent vocalisation of the subordinate particle ψ in the manuscript could have a different explanation. In his study of the vocalisation in Genizah manuscripts of the Mishna, Birnbaum (2008, 324) noted that some manuscripts that do not otherwise interchange *segol* and *pataḥ* frequently have *pataḥ* in place of *segol* with the particle. The occurrence of *pataḥ* in our manuscript, therefore, could have arisen by the influence of such a tradition of Mishnaic Hebrew.

In some modern Arabic dialects, the realisation of /a/, /a:/ is sometimes raised higher to [e], [e:] and this can be reconstructed for earlier periods (de Jong 2011). This is reflected by some medieval Judaeo-Arabic texts with Tiberian vocalisation signs, which represent such raised /a/ and /ā/ vowels by *ṣere* (Khan 2010, 204), e.g.,

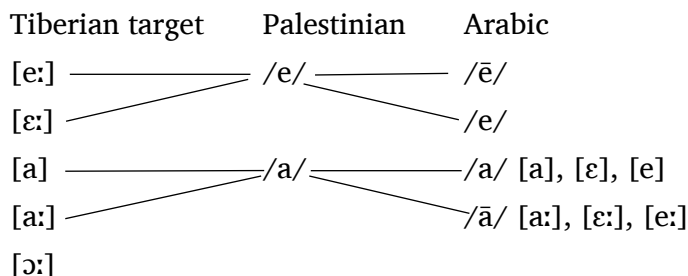
עָלֶי עַבְדָּךְ [ʕale: ʕibe:dak] = Classical Arabic *ʿalā ʿibādak* ‘on your servants’ (T-S Ar.8.3, fol. 16v)

וְלֹא [walem] = Classical Arabic *wa-lam* ‘and not’ (T-S Ar.8.3, fol. 22v)

This may explain the occasional transcription of long stressed *pataḥ* in our manuscript with *mater lectionis yāʾ*, e.g.,

מִתִּיב (BL Or 2555 fol. 50r, 5 || BHS: מִתָּת Eccl. 5.18 ‘a gift of’)

The various phonological matchings that have been proposed above may be represented as follows:



In this proposed system the vowels of the Palestinian ‘interlanguage’ were themselves matched with phonemes of the same quality in the Arabic vernacular.

We need to posit the presence of the Palestinian Hebrew interlanguage in order to explain the various realisations of the vowels. If it were not there, the Tiberian phones [e:], [ɛ:], and [a:] would have been expected to be matched in an undifferentiated manner with Arabic /ā/ or /ē/, which would have resulted in their free interchange. Instead, the [e:] and [ɛ:] tokens clearly group together in the vast majority of their distribution. This arose since they were matched with /e/ in the morpholexical environments in which this vowel occurred in the Palestinian Hebrew interlanguage. The less frequent interchange of [e:], [ɛ:], and [a:] can, as discussed, be explained by positing a further layer of phonological matching with Arabic.

As remarked, the distinctive Palestinian Hebrew vowel system appears to have developed by assimilation to the vowel system of Jewish Palestinian Aramaic and Palestinian Greek, which were the native languages of the Jews of Palestine until the early Islamic period. This levelling with the vowel system of the vernacular would be expected to have taken place most easily in

Hebrew words and phrases that were embedded in the spoken form of Jewish Palestinian Aramaic, and this is likely to have been the main source of the change.

It is relevant to note that Aramaic inflectional morphology occurs in various non-Tiberian traditions of Hebrew texts of Palestinian background. This applies, for example, to the Greek transcription in Origen's Hexapla (the middle of the third century CE), which exhibits Aramaic pronominal suffixes, such as the 2ms suffix *-akh*, e.g., *σεμαχ* 'your name' (Tiberian *šmāḥ* Ps. 31.4).¹⁴ This is also a feature of the Samaritan tradition, e.g., *yēdāk* 'your hand' (Tiberian: *šḏāḥ*).¹⁵ Some of these Aramaic forms of suffixes appear in medieval non-biblical texts with Palestinian vocalization. In the second half of the first millennium, however, it appears that popular biblical reading converged to a greater extent with the prestigious Tiberian tradition. As a result, the Aramaic type of suffixes were eliminated in biblical reading.¹⁶ It is problematic to regard the occurrence of Aramaic inflectional morphology in Palestinian traditions of Hebrew as having the status of loanwords. Inflectional morphology is extremely rarely loaned in a language contact situation. A more satisfactory model of explanation is that of codeswitching. In such a situation of codeswitching between two languages, one language is generally regarded as the

¹⁴ Brønno (1943, 110, 196–200).

¹⁵ Ben-Ḥayyim (2000, 228).

¹⁶ Yahalom (1997, Introduction).

dominant ‘matrix’ language and the other language as the ‘embedded’ language.¹⁷ In the language situation in which the aforementioned Palestinian texts were produced we may posit that there was codeswitching between Hebrew and Aramaic, in which Hebrew had the status of the embedded language and Aramaic the status of the matrix language. It is a feature of such codeswitching that the most tenacious component of the dominant matrix language is grammatical morphology, even where all else is from the embedded language.¹⁸ This would explain, therefore, why Aramaic inflectional morphology occurs in the aforementioned Palestinian traditions of Hebrew. We could assume that they are a product of a language situation in which there was frequent codeswitching between Aramaic and Hebrew, at least in learned discourse.¹⁹ This is clearly reflected in Jewish Palestinian Aramaic sources such as the Palestinian Talmud. The form of this embedded Hebrew, with the phonology and elements of the inflectional morphology of the matrix language, was then transferred to independent performances of Hebrew texts. The ‘Hebrew component’ that is embedded in Jewish vernacular languages has a status analogous to that of the status of Hebrew as an embedded language in a codeswitching situation such as the one just described, and indeed may be regarded as a historical development of such a situation.

¹⁷ Myers-Scotton (1993).

¹⁸ Myers-Scotton (1993, 83).

¹⁹ I am grateful to Ivri Bunis for our discussions together about this subject.

The role of the Hebrew component of a Jewish language as the vehicle of sound change and assimilation of the Hebrew phonological system to that of a vernacular can be identified in the documented history of the Ashkenazi tradition of Hebrew pronunciation.

The distribution of vowel signs in manuscripts from medieval Ashkenaz dating to the twelfth and thirteenth centuries reflects a five-vowel system, in which no distinction is made between *qameṣ* and *pataḥ*, nor between *ṣere* and *segol*.²⁰ This indicates that at that period the pronunciation of the Ashkenazi communities still had the original Palestinian five-vowel system. By the middle of the fourteenth century a new vowel system had evolved in the Ashkenazi tradition of Hebrew, in which there was a distinction in pronunciation between *qameṣ* and *pataḥ* and between *ṣere* and *segol*. The cause of this change in the vowel system was the occurrence of vowel shifts in the dialects of German that were spoken by the Jews. In the twelfth century a number of German dialects, including Yiddish, developed a labio-velar pronunciation (in some [o] and in others [u]) of Middle High German [a:] as well as of [a] in an open syllable. This shift was applied also to the Hebrew component of Yiddish. Since, however, words of Hebrew origin were assimilated into Yiddish at an earlier period, in which there were no quantitative distinctions (between long and short *a*), this shift only affected cases of [a] in an open syllable. In Hebrew words that met the criteria for the shift to [o] or [u], a lengthened [a] in most cases corresponds to historical *qameṣ*, e.g., [poter] (= פֶּטֶר), [boro] (= בֹּרָא), [dvorim]

²⁰ Eldar (1978).

(= *דְּבָרִים*), and in a few cases also to historical *pataḥ*, as in [noxem] (= *נָחוּם*), [kadoxes] (= *קָדוֹחַת*). In the thirteenth and fourteenth centuries Yiddish began to develop a diphthongised articulation of long [e:] in an open syllable. The shift [e:] > [ei] or [ai] entered the Hebrew component of Yiddish as a reflection of *šere* (in an open syllable), as in [eyme] (= *אֵימָה*), [breyšis] (= *בְּרֵאשִׁית*) and also as a reflection of *segol* (in an open syllable) in a small group of words that were pronounced in Yiddish as if they were vocalised with *šere*, e.g., [meylex] (= *מֵלֶךְ*), [keyver] (= *קֵבֶר*), etc. The variations between [o] and [u], on the one hand, and [ei] and [ai], on the other, in Ashkenazi Hebrew were reflections of the local dialects of Yiddish. This shift in the pronunciation of the Hebrew component subsequently spread to the liturgical reading of Hebrew.²¹

When the vernacular of the Jews in the medieval Middle East changed from Aramaic to Arabic, the vowel system of the Palestinian pronunciation of the Hebrew component and of popular Hebrew reading would have been retained as a linguistic heritage, resulting in the three phonological layers discussed above, viz. (i) prestigious Tiberian Hebrew, (ii) Palestinian heritage Hebrew and (iii) the Arabic vernacular. When the Tiberian pronunciation fell into oblivion in the later Middle Ages, only two layers remained, viz. the Palestinian heritage and the Arabic vernacular. There was also, of course, the layer of written Classical Arabic, or an approximation to this. This is found in the commentaries accompanying the transcription texts, but did not play

²¹ See Weinreich (1965) and Eldar (2013) for further details.

a direct role in conditioning the imperfect performance of the Tiberian pronunciation that is reflected by the manuscripts.

An important feature of the model proposed above to explain the distribution of the vowels in our manuscript is the assumption of the existence of an /e/ vowel in the Hebrew component, which, in turn, would be matched with a phoneme or phonemes of the same quality in the host Arabic dialect. Phonemes with an *e* quality still exist in Arabic dialects of the Levant region and Egypt today.²² They are found in Jewish Arabic dialects of the region and their Hebrew components, as well as in the Hebrew reading traditions of these communities.²³ As far as can be established, the Arabic transcriptions were produced by Karaites in Palestine or in Egypt, after the occupation of Palestine by the Crusaders (Khan 1992).

A few extant manuscripts from the Genizah with Non-Standard Tiberian vocalisation exhibit the kind of multiple interchanges that, as remarked above, would have been expected if Tiberian phones were matched only with Arabic without a heritage Palestinian interlanguage. A number of these have been discovered by Estara Arrant, who refers to them in her article in this volume (Arrant 2020, 530-531) as manuscripts exhibiting the

²² E.g., Damascus (Rosenhouse 2011), Jerusalem (Rosenhouse 2011), Cairo (Woidich 2011).

²³ E.g., Jewish Arabic of Aleppo (Nevo 1991, 13, 15), Jewish Arabic of Damascus (Matsa 2018, 34, 57), the Hebrew component in Jewish Arabic of Syria (Arnold 2013), the Hebrew component in Jewish Arabic of Cairo (Rosenbaum 2013). For *e*-vowels in Hebrew reading tradition of the Jews of Aleppo, see Katz (1981, 42–45).

five-way interchange *pataḥ–segol–qameṣ–ṣere–hireq*. The Genizah manuscript Lewis-Gibson Bible 1.56 (henceforth LG B1.56), for example, exhibits such a multiple interchange, e.g.,

וַיַּעַן (LG B1.56, Arrant 2020 | BHS: וַיַּעַן Gen. 23.10 ‘and he answered’)

שַׁעַר (LG B1.56, Arrant 2020 | BHS: שַׁעַר Gen. 23.10 ‘gate’)

זָקֵן (LG B1.56, Arrant 2020 | BHS: זָקֵן Gen. 24.1 ‘old’)

סָבִיב (LG B1.56, Arrant 2020 | BHS: סָבִיב Gen. 23.17 ‘around’)

עֶבְדּוֹ (LG B1.56, Arrant 2020 | BHS: עֶבְדּוֹ Gen. 24.2 ‘his slave’)

לְעֵת (LG B1.56, Arrant 2020 | BHS: לְעֵת Gen. 24.11 ‘at the time of’)

מְרֹאֶה (LG B1.56, Arrant 2020 | BHS: מְרֹאֶה Gen. 24.16 ‘appearance’)

שָׁתָה (LG B1.56, Arrant 2020 | BHS: שָׁתָה Gen. 24.14 ‘drink!’)

Such a complex configuration of interchanges could be explained as follows.

A distinction should be made between the interchange of the vowels *pataḥ–segol–qameṣ–ṣere*, on the one hand, and the occurrence of *hireq* in place of another vowel, on the other.

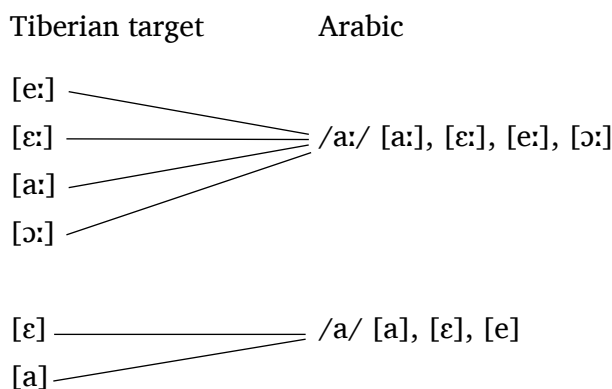
The interchange of the vowels *pataḥ–segol–qameṣ–ṣere* could reflect a scenario in which the Arabic prototype phonemes /a/ and /ā/ are matched with the phonetic tokens of not only Tiberian *pataḥ* and *segol*, but also with those of *ṣere* and long

qameš, i.e., [e:] and [ɔ:]. As remarked, Arabic /a/ and /ā/ could be realised with the high allophones [e], [e:] by the process of vowel raising (*ʿimāla*), evidence for this being found in vocalisations of medieval Judaeo-Arabic texts. In such medieval vocalised Judaeo-Arabic manuscripts, the Tiberian *qameš* sign is generally restricted to the representation of the /a/ vowel in the diphthong /aw/, reflecting, it seems, the partial phonetic assimilation of the vowel to /w/, which resulted in a back open-mid quality close to that of Tiberian *qameš*, i.e., [ɔw] (Khan 2010, 210), e.g.,

נִבְּחָה [nɔwba] = Classical Arabic *nawba* ‘accident’ (T-S Ar.8.3 fol. 17r)

This suggests that the range of phonetic allophones of Arabic /a/ and /ā/ included also [ɔ] and [ɔ:], respectively.

The phonological matching reflected by the *pataḥ-segol-qameš-šere* interchange of the manuscript LG B1.56 could be represented as follows:



This, therefore, seems to reflect a situation in which there was no Palestinian type of Hebrew interlanguage containing an /e/ phoneme to which the Tiberian phones [e], [ɛ], and [ɛ:] could be matched.

It is unlikely, however, that the writer's Arabic dialect did not contain a Hebrew component. The explanation may be, therefore, that there was a Hebrew component, but this did not contain a phoneme with an /e/ quality corresponding to Tiberian *šere* and *segol*. Hebrew components with such a profile are, indeed, found in North African Jewish Arabic dialects in modern times, from Libya westwards. In such dialects the /e/ vowel of the Palestinian tradition has shifted to an /i/ vowel. This has taken place due to the assimilation of the vowel system of the Hebrew component with that of the host Arabic dialects, which also do not contain phonemes with the *e* quality.²⁴

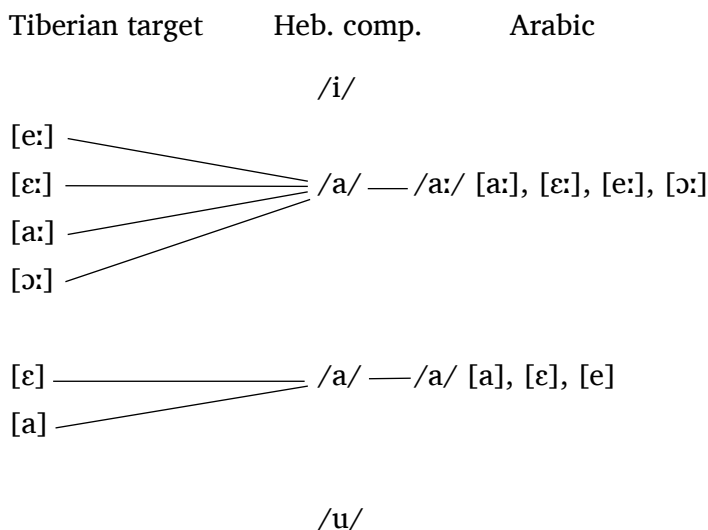
The Hebrew component of the Jewish Arabic dialect of Libya, for example, has, according to Yoda (2013), [i:] or centralised [ə] where Tiberian has *šere* or *segol*. According to Bar-Asher (1992, 53–54), a vowel with the high quality [i], [i:] is the normal realisation of *šere* and *segol* in the Hebrew component in Algeria, with an [e], [e:] quality occurring as a conditioned variant

²⁴ For the vowel system of North African Judaeo-Arabic vernaculars, see, for example, Tripoli (Libya) (Yoda 2005, 31–93), Tunis (D. Cohen 1975, 46–71), Algiers (M. Cohen 1912, 103–39). A historical diphthong **ay* in these dialects shifts to the high vowel *ī*, e.g., Algiers *bīt* < **bayt* 'house'. This contrasts with **ay* > *ē* in Egypt and the Levant, e.g., Aleppo (Nevo 1991, 88), Damascus (Matsa 2018, 30).

in the environment of emphatic and guttural consonants. A similar situation in the Hebrew component in the dialects of Tunisia is described by Henshke (2007, 53–54).

According to Akun (2010, 41–44), the default realisation of *šere* and *segol* in the Hebrew reading traditions in Morocco is an [i], [i:] quality, with [e], [e:] occurring as a conditioned variant. According to Katz (1977, 67–69) and Henshke (2013), in the Hebrew reading traditions of Tunisia, vowels of the reflexes of *šere* and *segol* have the qualities [i], [e], and [ɪ] in free variation.

The Tiberian phones [ɛ], [ɛ:], and [e:] would not have been easily matched perceptually with /i/ in such a North African type of vowel system. The phones of Tiberian *segol* ([ɛ], [ɛ:]) and *šere* ([e:]), therefore, could not be linked to the morpholexical distribution of the vowel corresponding to Tiberian *šere* and *segol* in the Hebrew component, i.e., /i/. An easier perceptual match of these Tiberian phones was with the allophones of the prototype phoneme /a/. The matching of this can be represented as follows:



The interchange of the vowels *pataḥ*–*segol*–*qameṣ*–*ṣere* in a manuscript such as LG B1.56, therefore, may reflect the North African origin of the scribe.

As for the occurrence of *hireq* in place of another vowel, as in הִשָּׂה (= הִשָּׂה Gen. 24.14 ‘drink!’), this could be explained as being the direct interference of a North African type of pronunciation, in which an /e/ vowel shifted to an /i/ vowel, rather than an imperfect performance of a Tiberian target. The occurrence of *hireq* in place of another vowel in other manuscripts classified by Arrant as exhibiting five-way interchanges could, likewise, be due to such a direct interference. In the manuscript T-S A5.7, for example, Arrant (2020, 531) notes that *hireq* occurs in place of *segol*, e.g. אֶתְּנֶנָּה for אֶתְּנֶנָּה (‘I will give it’ Deut. 34.4) and in place of *pataḥ* in the unstressed closed syllable of נַפְתָּלִי for נַפְתָּלִי (‘Naftali’ Deut. 34.2). The former, as remarked, would be the North African type of pronunciation of an /e/ vowel. The latter can also be identified as reflecting a feature of North African pronunciation, namely the attenuation of an /a/ vowel in a closed unstressed syllable, e.g. Jerba xəspo: (חִסְפוֹ ‘his money’ Exod. 21.21) (Katz 1997, 84).

Furthermore, the fact that the morpholexical distribution of the Tiberian *qameṣ* phone [ɔ:] was completely confused in manuscripts with these multiple-way interchanges, unlike in the manuscript BL Or. 2555 discussed above, reflects a lower level of acquisition of the Tiberian reading by the scribes than by the scribe of BL Or. 2555. The existence of varying degrees of correct learning of the Tiberian tradition is reflected in diversity of Non-Standard Tiberian vocalisation described by Arrant in her paper

in this volume. Arrant shows that such vocalisation exhibits varying degrees of deviation from Standard Tiberian across Genizah manuscripts. Pattern 1b in her classification, for example, has *segol-šere* interchange, but not *pataḥ-qameš* interchange. This would correspond to a level of learning of Tiberian pronunciation in which the reader distinguished the *qameš* and had acquired its correct morpholexical distribution, as in BL Or. 2555. Patterns of vocalisation with greater degrees of interchange of signs reflect lower levels of learning.²⁵ We have seen in §2.1. that Karaite transcriptions reflect different degrees of elimination of Tiberian interdental fricatives from the reading, which likewise reflects varying levels of correct acquisition of the Tiberian target.

3.0. HYPERCORRECT LENGTHENING OF VOWELS

In the Masoretic literature it is reported that a long vowel in word-final position is shortened by the phenomenon known as *deḥiq* (Aramaic: ‘compressed’). The long vowel in question is usually *qameš* [ɔ:] or *segol* [ɛ:], which are lax, rather than the tense

²⁵ It is relevant to note that in a study of the patterns of distribution of Palestinian vowel signs in the various manuscripts, Revell has shown that many manuscripts maintain a distinction between two ‘a’ vowel signs that corresponds to the distinction between Tiberian *qameš* and *pataḥ* but exhibit a confusion of ‘e’ vowel signs, whereas other manuscripts confuse both ‘a’ vowels and ‘e’ vowels (see Table 1 in Revell 1970, 53). This, likewise, would reflect different levels of learning of the Tiberian target.

long vowels *shureq* [u:], *holem* [o:], and *hireq* [i:].²⁶ The compression takes place typically when (i) the final lax vowels *qameš* and *segol* occur in a word that has the stress on the penultimate syllable and is read with a conjunctive accent or when the word has *maqgef* and (ii) the following word has stress on its initial syllable, or at least on a full vowel after an initial *shewa*. When a vowel is in *dehiq*, the consonant at the beginning of the following word has *dagesh*,²⁷ e.g. (citations from BHS),

וְאֶעֱיֶדָה בָּם 'I shall cause to witness against them' (Deut. 31.28)

עָלִיךָ פָּרַץ '(you breached) for yourself a breach' (Gen. 38.29)

מִי־אַלֶּה לָּךְ 'who are these to you?' (Gen. 33.5)

בְּמִרְעָה־טוֹב 'in good pasture' (Ezek. 34.14)

²⁶ Phonetic studies of other languages have shown that, all other things being equal, unstressed lax vowels are shorter than unstressed tense vowels; cf., for example, Delattre and Hohenberg (2009).

²⁷ For further details concerning *dehiq* see Yeivin (1980, 292–93).

According to the Masoretic treatise *Hidāyat al-Qārī*, the final vowel here “is not dwelt upon or prolonged in pronunciation,”²⁸ “it does not have an exhalation of breath, but is very compressed.”²⁹ In an anonymous Masoretic treatise, the syllable containing a vowel in *deḥiq* is described as “shortened” (*makḥṭūf*).³⁰ The vowel can be represented, therefore, as half-long, e.g., וְאֶעֱיֶדָה [vəʔə:ʕi:ðəʔəʕm].³¹

The Karaite Arabic transcriptions, most of which indicate long vowels by Arabic *matres lectionis*, represent the final *qameṣ* and *segol* in *deḥiq* constructions, with a *mater lectionis*, e.g.,

וְאֶעֱיֶדָה בָּךְ (BL Or 2551 fol. 41r, 8 | BHS: וְאֶעֱיֶדָה בָּךְ Ps. 81.9
‘I shall testify for you’)

וְשִׁים עֲלֶיהָ (BL Or 2549 fol. 145r, 1 | BHS: וְשִׁים עֲלֶיהָ
‘and set up against it the battering rams’)

וְנִדְמָה-שָׁם (BL Or 2549 fol. 64r, 1 | L BHS: וְנִדְמָה-שָׁם Jer.
8.14 ‘and let us be silent there’)

²⁸ לא יתאנא ולא יטול פי אלנטק בדלך אלמלך, Long version, edition in Khan (2020, 2:§II.L.1.7.4).

²⁹ לים פיה תנפס בל הו מציך גדא, Long version, edition in Khan (2020, 2:§II.L.1.7.4.).

³⁰ Bod. Heb. d 33, fol. 16: ‘the letter under which the *segol* occurs is shortened’.

³¹ See Khan (2020, 443–53) for more details.

These show that in the Tiberian reading tradition, which is what most of the transcriptions reflect, the final vowel was not fully reduced to a short vowel. This is likely to have been an orthoepic measure to prevent complete shortening.

The Babylonian tradition exhibits a lesser tendency than the Tiberian tradition for such an orthoepic measure. In many manuscripts with compound Babylonian vocalisation, the vowel at the end of the first word in a *deḥiq* construction is marked with a *ḥitfa* sign, which indicates that it was pronounced as a short vowel (Yeivin 1985, 338), e.g.,³²

לִי הִשְׁבַּעְתָּ [hiʃʃɛ:vʔɛ lli:] ‘swear to me’ (Gen. 21.23 | BHS:
(הִשְׁבַּעְתָּ לִי)

בְּאֶרֶץ גִּרְתָּהּ [gaʔrtʰɛ bbɔ:] ‘[the land] where you have sojourned’
(Gen. 21.23 | BHS: בְּאֶרֶץ גִּרְתָּהּ)

Due to imperfect learning of the Tiberian tradition, the orthoepic measure of sustaining the duration of the word-final vowels *qameṣ* and *segol* in *deḥiq* was sometimes extended hypercorrectly to historically short *qameṣ* and *segol*. This is reflected in the Karaite transcription BL Or 2539 MS B (= fols. 115–32), which represents historically short *qameṣ* and *segol* in unstressed closed syllables with *mater lectionis* *ʾalif*. The fact that other historically short vowel qualities in these conditions are not represented by *matres lectionis* suggests that this phenomenon is related to the orthoepic lengthening of *qameṣ* and *segol* in *deḥiq*, e.g.,

³² Data supplied by Shai Heijmans.

قاذشي (BL Or 2539 MS B, fol. 125r, 15 | BHS: קָדְשֵׁי Num.

18.8 ‘the holy gifts of’)

לماشח (BL Or 2539 MS B, fol. 125r, 16 | BHS: לְמִשְׁחָה Num.

18.8 ‘a priestly portion’)

لحاق (BL Or 2539 MS B, fol. 125r, 16 | BHS: לְחָקֶה Num.

18.8 ‘as a due’)

عَاغْلَوْت (BL Or 2539 MS B, fol. 115v, 6 | BHS: עֲגֻלֹת Num.

7.3 ‘covered wagons’)

This manuscript reflects the hypercorrect lengthening also of *ḥatef qameṣ*, e.g.,

اهاليهام (BL Or 2539 MS B, fol. 122v, 13 | BHS: אֶהְיֶהֶם Num.

16.27 ‘their tents’)

4.0. CONCLUDING REMARKS

The various phenomena described in this paper arose when the Tiberian pronunciation was still a living tradition. It was familiar to the scribes of the manuscripts, even if imperfectly, and it was regarded as a prestigious target. In the later Middle Ages, after the Tiberian pronunciation had fallen into oblivion, the prestige and authority of the oral Tiberian reading shifted to the written sign system (Khan 2020, 105–15). The Tiberian vocalisation of manuscripts was then largely disconnected from the pronuncia-

tion of readers. Since there was no longer any attempt at achieving a pronunciation that differed from the local traditions, the Hebrew Bibles came to be read with the pronunciation of these local traditions.

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