

REMARKS ON VOWELS REPRESENTED BY ŠEWA AND HATEP SIGNS IN THE TIBERIAN VOCALIZATION SYSTEM

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In the Tiberian Masoretic text a *hatep qames* sign (representing the quality [ɔ]) sometimes occurs on a non-guttural letter in a syllable that originally had short [o], e.g. וְאֶת־קִדְשׁוֹ, קָדֵם, קָבֵל, צָרִי, דָּמִי (2 Kings 12:19), וְצִפְּרִים, כְּתֻנֹת (Ex. 28:40), הַגִּרְנוֹת (Joel 2:24). The syllable with originally short [o] sometimes takes secondary stress, which is often marked by a *ga'ya* sign, and the *hatep* sign is replaced by an ordinary *qames*. This occurs when the syllable in question is separated from the main stress by another syllable: קָדְמוֹהִי, קִדְשִׁים, שְׂרָשׁוֹ.

The occurrence of secondary stress is sometimes marked on vocalic *šewa* or a *hatep* vowel on a guttural letter by a *ga'ya* sign, e.g. בְּנוֹתֵיכֶם (Ezra 9:12), הֶמְמָנִי (Jer. 32:27). The *ga'ya* sign also marks secondary stress in at least two other contexts. It may occur on a long vowel in an open syllable or on a long vowel before *šewa*, e.g. יֶאֱמָר (Gen. 22:14), נִלְכָּה (Gen. 22:5). This is known as major *ga'ya*. It may also occur on a short vowel in a closed syllable, e.g. וְתַעֲלִי (Is. 57:8), מִצִּדְדֶּךָ (Ezek. 4:8). This is known as minor *ga'ya*. The major and minor *ga'yas* were treated as different entities by the Masoretes. The marking of major *ga'ya* was not standardized in the Masoretic tradition. This is reflected by the fact that the major *ga'ya* does not form the subject of disagreements between Masoretes that are recorded in the Masoretic literature. The early Tiberian manuscripts, moreover, exhibit differing patterns of marking. The marking of minor *ga'ya*, on the other hand, was standardized and is frequently recorded as a subject of disagreement between Masoretes. The pattern of marking of minor *ga'ya* is more or less the same in all the early Tiberian manuscripts.

The treatment of *ga'ya* on *šewa* in the Tiberian Masoretic tradition was similar to that of minor *ga'ya*. In the Tiberian manuscripts there are many parallels in the patterns of distribution of these two types of *ga'ya*. The marking of *ga'ya* on *šewa* was standardized, as was that

of minor *ga'ya*, and so it is included as a subject of recorded differences between the Masoretes.¹

The similarity between the pronunciation of *ga'ya* on *šewa* and that of minor *ga'ya* is now confirmed by the Karaite transcriptions of the Hebrew Bible into Arabic script. These transcriptions regularly represent by an Arabic *mater lectionis* a vowel in the syllable with the main stress (e.g. مَلِيح = מַלִּיחַ), long vowels before *šewa* (e.g. شَامِرُو = שָׁמְרוּ) and all vowels in open syllables (e.g. هَامُو = הָהוּא, دَابَّار = דָּבָר). A syllable which could take major *ga'ya*, therefore, is always represented by a *mater lectionis*, irrespective of whether the *ga'ya* is marked in the manuscript. Syllables with minor *ga'ya* and with *ga'ya* on *šewa*, on the other hand, are not consistently marked with *matres lectionis* in the manuscripts. The situation in most manuscripts is that only a proportion of the syllables with minor *ga'ya* or *ga'ya* on *šewa* are represented by *matres lectionis* whereas the syllables that have major *ga'ya* are transcribed with *matres lectionis* in all cases. Examples:

Minor *ga'ya*. MS British Library Or. 2539 ff. 56-114: وَاِبْرٰهِيْمُ (Gen. 14:19, fol. 56v:8) - وَاِبْرٰهِيْمُ (Gen. 16:7, fol. 61r:2); هٰنِيْعَر (Deut. 22:19, fol. 110r:7); but وَيٰعٰرُوْع (Deut. 22:16, fol. 110r:1); هٰنِيْعَر (Deut. 22:16, fol. 110r:1); وَنَشْتَحِيْحُو (Gen. 22:5, fol. 67r:1).

Ga'ya on *šewa*. BL Or. 2549 fols. 1-140: وَنَاوُف (Jer. 7:9, fol. 50r:13); وَهٰشَلِيْحِي (Jer. 7:29, fol. 56v:11); but وَلَوْ جَالُو (Jer. 11:12, fol. 81r:3); وَهٰلَحُو (Jer. 11:12, fol. 81r:3); وَهٰلَحُو (Jer. 11:12, fol. 81r:3); وَهٰلَحُو (Jer. 11:12, fol. 81r:3).

In separate studies of this phenomenon I have argued that this discrepancy in the use of *matres lectionis* in the transcriptions reflects the perception of differences in the duration of the vowels in the various types of syllable. The minor *ga'ya* and the *ga'ya* on *šewa* lengthened the vowel but the relative duration of this vowel was less than that of a long vowel in an open syllable marked by a full vowel sign.

In the Masoretic literature it is said that a *šewa* with *ga'ya* was pronounced as a long vowel and that it was equal in status to a full vowel represented by a vowel sign. For instance:

בְּקוֹלֶךָ וְהָיָה אִדָּא גַּעֲלַת מַעָה גַּעֲיָה עָלֶיּהָ אֵלֶּמַחַל וְהָיָה יִקְאֵל וְהָיָה בְּקִמָּץ
תָּאם וְכִדְלָךְ בְּתַלְתָּה גַּסְתָּ מַחַל וְהַחֲזִיקוּ כְּאֵנֶךְ תְּקוּל וְהַחֲזִיקוּ ... כֹּל הָדָה וּמָא
שְׂאֵכְלָהָ תִּכְרֹג כְּרֹג תָּאם כְּכֹרֹג אֶלְחָרֶף אֶלְמַגְאוּר לְהָא מִן אַחֲזַע בְּסַבֵּב
אַלְעָלִי אֶלְתִּי לִלְגַּעֲיָה לֹאן אֶלְגַּעֲיָה הִי אֶלְתִּי תִתְקַלְהָא

¹ Cf. I. Yeivin, *The Aleppo Codex of the Bible: A Study of its Vocalization and Accentuation* (Jerusalem 1968), 128-37.

As in the word וְהָיָה, when you add *ga'ya* to the *šewa*, i.e. וְהָיָה, it is pronounced וְהָיָה with full *qames*. The same is so in the case of *segol*, e.g. וְהָיָה וְהָיָה is pronounced as וְהָיָה וְהָיָה ... All such instances of *šewa* are pronounced full with the pronunciation of the (vowel of the) adjacent guttural letter, on account of the principle of the *ga'ya*, for it is the *ga'ya* that lengthens them.²

This description reflects the perception that the *šewa* was pronounced as a long vowel. It misses, however, the distinction in relative duration between *šewa* with *ga'ya* and a long vowel marked with a vowel sign, which is reflected by the Karaite transcriptions.³

In a few isolated cases in the early Tiberian model manuscripts an ordinary vowel is written when *ga'ya* occurs on what is expected to be *šewa* or a *hatep*,⁴ e.g. הֶמְבִּלִי (Ex. 14:11, MS I Firkovitch B19a, instead of הֶמְבִּלִי), וְחָלֶת (Ex. 29:23, MS B19a, instead of וְחָלֶת). This type of change in vocalization no doubt arose since the pronunciation of the vowel was perceived to be close to that of a full vowel marked by an ordinary vowel sign. In the vast majority of cases, however, the *šewa* or *hatep* sign is retained when *ga'ya* is added.

This should be contrasted with the phenomenon whereby a *hatep qames* on a non-guttural letter is frequently treated like a syllable that is suitable for major *ga'ya* and is replaced in the vocalization by an ordinary *qames* when it takes a secondary stress. When this occurs the *ga'ya* is not always marked, although it is likely that the secondary stress was present,⁵ e.g. MS I Firk. B19a: קִדְשִׁים (Ex. 29:37), קִדְמִי (Dan. 2:9), but קִדְמִי (Ezra 4:18). The vocalization with full *qames* is standard in the early manuscripts. In the Karaite transcriptions the *qames* in the first syllable is regularly transcribed by a *mater lectionis*, e.g. قَادِشِيم (קִדְשִׁים) – Lev. 7:6, British Library, Or. 5563D fol. 41r:7).⁶

² K. Levy, *Zur masoretischen Grammatik* (Stuttgart 1936), כ"ט. Cf. also *Hidāyat al-qāri*, short version, I. Eldar (ed.), *Lēšonenu* 51 (1986-87), 16-17; S. Baer and H.L. Strack (eds.), *Die Dikduke ha-T'amim des Ahron ben Moscheh ben Ascher und andere alte grammatisch-masoretische Lehrstücke* (Leipzig 1879), 12-13; David Qimḥi, *Sefer Miklōl* (Fürth 1793), 154b-155a.

³ See the sources cited in G. Khan, 'The Pronunciation of *šewa* with *ga'ya* in the Tiberian Tradition of Biblical Hebrew', to appear in *Vetus Testamentum*.

⁴ Cf. Yeivin, *Aleppo Codex*, 18; idem, 'Marking of *šewa-ga'ya* in Biblical Manuscripts' in H. Ben-Shammi (ed.), *Hebrew and Arabic Studies in Honour of Joshua Blau* (Tel-Aviv 1993), 342.

⁵ In the early manuscripts major *ga'ya* was not always marked where it was pronounced; see I. Yeivin, *Introduction to the Tiberian Masorah*, ed. and tr. E.J. Revell (Missoula 1980), 251.

⁶ Published in G. Khan, *Karaite Bible Manuscripts from the Cairo Genizah* (Cambridge 1990), 90.

The writing of ordinary *qameṣ* in place of *hatep qameṣ* is found in some early manuscripts also in a pre-tonic syllable, e.g. I Firk. B10: צָרִי (Gen. 43:11, most MSS have צָרִי), קִדְקֹדֶךָ (Deut. 28:35, most MSS have קִדְקֹדֶךָ); MS I Firkovitch B19a: יִהְיֶה פָּנָי (Num. 35:20, most MSS have יִהְיֶה פָּנָי); MS I Firkovitch B19a: יִהְיֶה פָּנָי (Num. 35:20), יִגְפֹּנִי (1 Sam. 26:10, most MSS have יִגְפֹּנִי).

In some manuscripts a full *segol* is occasionally written in place of *hatep segol* on non-guttural consonants, e.g. I Firk. B19a: וּבְצִלְצִלִּים (2 Sam. 6:5, most MSS have וּבְצִלְצִלִּים). A difference between Masoretes is recorded for the word בְּנִיתָהּ (Dan. 4:27). Ben Asher read this without lengthening of the vowel on the first letter. Ben Naphtali, however, read it as a full *segol* lengthened by secondary stress: בְּנִיתָהּ.⁷

These are variations that are found in the accurately vocalized model manuscripts. Many manuscripts written for private use, which were not so accurately vocalized, exhibit a frequent interchange of *hatep* signs with *šewa* signs and bare vowel signs in all contexts.

In the Tiberian Masoretico-grammatical literature a consonant with a vocalic *šewa* or a *hatep* vowel was not considered to stand independently but was said to be bound to the following consonant. Thus the word תִּסְפְּרוּ was considered to have been composed of two syllables: *tis-parū*.⁸ The treatise *Hidāyat al-qārī* notes that the syllables thus formed have the status of 'words', i.e. they can stand independently: ומן עלאמתה איצא אנה יקסם אלכלמה מתאבה כלם ... המצפצפים 'one of its [= the *šewa*'s] features is that it divides the word into [units with] the status of words ... תרכבנה תשלחנה – each of these words is equivalent to three words',⁹ i.e. [ham-šaf-ša'fīz:m], [tīr-'kazv-nōz], [θīf-'laxh-nōz].

This concept of the syllable that is found in the medieval Masoretic literature is reflected also by some features of Tiberian Hebrew phonology. The occurrence pattern of the allophones of Tiberian *reš* is a clear examples of this. Tiberian *reš* had an uvular allophone and

⁷ Yeivin, *Aleppo Codex*, 38.

⁸ Cf. K. Levy, *Zur masoretischen Grammatik*, p. אף (the Arabic term used for syllable is *maqṭa'*), and also other Masoretico-grammatical sources cited by I. Eldar, *The Hebrew Language Tradition of Medieval Ashkenaz*, vol. I (Jerusalem 1978), 185-7 and I. Yeivin, משמעות סמן הדגש בניקוד הטברני המורחב, in M. Bar-Asher et al. (eds.), *Hebrew Language Studies Presented to Professor Zeev Ben-Hayyim* (Jerusalem 1983), 298-99.

⁹ *Hidāyat al-qārī*, short version, I. Eldar (ed.), *Lěšonenu* 51 (1986-87), 14.

an emphatic, apico-alveolar allophone.¹⁰ The apico-alveolar allophone occurred when it was adjacent to one of the dental/alveolar consonants דוּטסצתלן and when either the *reš* or one of these letters had *šewa*, as in דְּרֹר, דְּרֹרִים, וְאֹרִים, בְּמִזְרָה, צְרוּפָה, לְמִטָּה, שָׁר, לְמִטָּה, תְּרוּמָה, תְּרוּמָה. When the dental/alveolar was followed by a full vowel the *reš* was realized with the uvular allophone [R], e.g. in תְּרוּץ [taru:ʔRuʔ]. How did words such as לְמִטָּה [lim'ʔaʔr] and תְּרוּמָה [taru:ʔRuʔ] differ from תְּרוּץ [taru:ʔRuʔ]? The most obvious answer is that in לְמִטָּה and תְּרוּמָה the *reš* was in the same syllable as the dental/alveolar, whereas in תְּרוּץ it was in a different syllable.

According to Saadya Gaon, the rules for the occurrence of the apico-alveolar allophone of the Tiberian *reš* treat a non-guttural consonant with a *hatep qameš* as an independent syllable.¹¹ The *reš* had an uvular pronunciation not only in words such as דְּרֹר, and תְּרוּץ, where a vowel comes between a dental/alveolar consonant and a following *reš*, but also in a word such as צָרִי where the dental/alveolar has a *hatep qameš*. It is clear that in דְּרֹר and תְּרוּץ the dental/alveolar letter is in a different syllable from *reš*. The inclusion of the word צָרִי in this list by Saadya demonstrates that in the rules for the distribution of the allophones of *reš* the language treated also the *šade* with *hatep qameš* as an independent syllable. The syllabic status of צָרִי was, therefore, different from the ת in תְּרוּמָה.

In a passage in the treatise on the *šewa* concerning the *hatep* vowels on non-guttural consonants it is stated that the *šewa* is added to the vowel to shorten it:

לאן אצל בניה אלשווא אנמא הי עלי אלתכפיה ... פאדא אראדו יכפפן אלקוף
געלוא מע אלתלתה שוא פיציר קרי ... וכדלך איצא אראדו יכפפן
אלקמן געלוא מעה שוא כקולך והוא משניא מן כל חיותה די קדמה אלקוף
תקיל ואן געלט אלשווא תחת אלקוף צאר כפיה כקולך ונפלה מן קדמה וכדלך
קדשים קדשים

Since the [occurrence] of the *šewa* is determined by shortness [of the vowel] ... if they wished to shorten [the vowel of] the *qūp* they added *šewa* to *segol* and the result is קָר... Likewise if they wanted to shorten *qameš* they marked a *šewa* next to it as in כל חיותה די (Dan. 7:7), where the *qameš* is long. But if you place *qameš* under the *qūp* it would become short as in ונפלה מן קדמיה (Dan. 7:20), likewise קדשים vs. קדשים.¹²

¹⁰ See G. Khan, 'The pronunciation of *reš* in the Tiberian tradition of Biblical Hebrew', to appear in the *Hebrew Union College Annual*.

¹¹ Mayer Lambert (ed. and tr.), *Commentaire sur le Séfer Yesira ou Livre de création par le Gaon Saadya de Fayyoun* (Paris 1891), 79.

¹² The treatise on the *šewa*, ed. K. Levy, *Zur masoretischen Grammatik*, p. כ.

It is to be noted that there is no reference to the joining of the letter with the added *šewa* to the next syllable. The syllables with *šewa* are being treated as short variants of syllables that can be pronounced long.

We have evidence that unstressed long vowels were perceived to 'be of shorter duration than stressed long vowels. Joseph and David Qimḥi, when discussing the length of vowels, refer to the lengthening of stressed *pataḥ* and the shortening of unstressed *qameṣ* in a word such as *שָׁמַר*.¹³ According to Ḥayyūj a quiescent soft letter can be pronounced after the stressed *segol* and *pataḥ* in words such as *נָחַל*, *אָרֶץ*, i.e. they were pronounced long.¹⁴ Ibn Janāḥ states that a quiescent soft letter is clearly pronounced also after a stressed *pataḥ* in a closed syllable in such words as *בְּנִתָּה* (Ps. 139:2), *שְׁמִתִּי* (Jer. 5:22), *קָרָתִי* (Is. 37:25).¹⁵ Neither Ḥayyūj nor Ibn Janāḥ refer to the pronunciation of quiescent soft letters in unstressed syllables such as the first syllable of *הֶהוּא*, which had a long vowel in the Tiberian pronunciation tradition.

The author of the *Hidāyat al-qārī*, who had first-hand knowledge of the Tiberian reading tradition, describes the phenomenon of *dehiq*¹⁶ as the compression of an unstressed long final vowel: אלמלך אלדי בעד אלטעם פי ואעידה במ ליס פיה תנפס בל הו מציק גרא 'The vowel that follows the accent in *וְאֶעֱיֶדָה בָּם* (Deut. 31:28) is not extended but is considerably compressed.'¹⁷ According to the *Hidāya* this compression takes place also in short words that are connected by *maqṣep* to a following word when the initial consonant of the second word has *dageš*: וקד יכון אלציק חאצל פי כלמה לא יכון פיה טעם גיר אנהא תכון כלמה צגירה כק' מה תאמר זה בני מה ברי מה תעשה אלי 'The compression may take place in a word without an accent if it is a short word as in *וְהָיָה בְּנִי* (1 Sam. 20:4), *וְהָיָה בְּנִי* (1 Kings 3:23), *וְהָיָה בְּנִי* (Prov. 31:2), *וְהָיָה בְּנִי* (Josh. 7:9) and the like.' This implies that the *pataḥ* in the word *מָה* before *dageš* was long, which is confirmed by the Karaite transcriptions, e.g. *ما بين لى* (מה-תתן-לי) – Gen. 15:2, BL Or. 2539, fol. 57v:8).¹⁸

¹³ Joseph Qimḥi, *Seper Zikkaron*, W. Bacher (ed.) (Berlin 1888), 17, David Qimḥi, *Seper Miklol*, J. Rittenberg (ed.) (Lyck 1862), 136bff.

¹⁴ *Kitāb al-tanqīṭ*, J.W. Nutt (ed.) (London 1870), 181-2.

¹⁵ *Kitāb al-luma'*, J. Derenbourg (ed.) (*Le livre des parterres fleuris. Grammaire Hébraïque en arabe d'Abou'l-Walid Merwan ibn Djanah de Cordoue*) (Paris 1886), 331.

¹⁶ i.e. the occurrence of *dageš* on the initial letter of a word when the preceding word ends in a long vowel and has a conjunctive accent on the penultimate syllable.

¹⁷ Cf. I. Eldar, 'חוק או"ה ובגורכפ"ת', *Hebrew Union College Annual* 45 (1984), Hebrew section, 1.

¹⁸ See G. Khan, 'The Pronunciation of *מָה* before *dageš* in the Medieval Tiberian Hebrew Reading Tradition', *Journal of Semitic Studies* 34 (1989), 433-41.

As has been remarked, in most of the Karaite transcriptions unstressed long vowels marked by an ordinary vowel sign in the Tiberian text are transcribed with a *mater lectionis*, e.g. שָׁלַח (שָׁלַח), (הָהוּא) הָמוּ. In a few manuscripts the *mater lectionis* is occasionally omitted in an unstressed syllable, e.g. Cambridge University Library, Or. 1081.1.23: עָלִי (עָלִי – Ps. 109:6), שָׁלַח (שָׁלַח – Ps. 111:14).¹⁹ In the same manuscript the 'compressed' long vowel of the word מָה before *dageš* is also not represented by a *mater lectionis*: מֵהָ (מֵהָ – Ps. 36:8), מֵהָ (מֵהָ – Ps. 114:5).²⁰ All these sources can be reconciled if it is assumed that they are reflecting the perception of a reduction in the duration of an unstressed long vowel. This has led to a vacillation between treating it as a short vowel or a long vowel. The Spanish grammarians and the Kimḥis treat them as short. The majority of the Karaite transcriptions, on the other hand, treat them as long. A few transcriptions treat them as short and do not represent them with a *mater lectionis*. The author of the *Hidāyat al-qāri*, with great acuity, refers to compression, but not complete shortening.

We have seen that in some early Tiberian manuscripts *hatep qameṣ* and *hatep segol* on non-guttural consonants were replaced by ordinary *qameṣ* and *segol*. It is likely that this reflected a similar vacillation with regard to the perception of the length of the vowel.

In his discussion of the difference between cohortative forms with *hatep qameṣ* as in וְאֶשְׁקֶלֶה (Ezra 8:25) and those with *šewa* such as וְאֶשְׁמְרָה, Ibn Janāḥ refers to the latter being 'lighter' than the former:

והוא הוּא אלקיאס פי כל פעל מסתקבל יכון עלי יפעול אן יכון אדא זידת עליה אלהא אן תסקט אלווא ואן תנוב עונה אלקמצות פי אתצאל אלכלאם ואן אכתד הדא אלבאב קד יכרז אלי באב נשכבה בבשתנו נקדבה הלם באן יסקטוא מנה אלקמצות אסתכפאפא מתל אשמרה לפי מחסום אוכרה אלהים ואהמיה ארדפה איבי וגיראה כתיר גדא

The rule with all verbs with a future יפעול is that, when *he* is added to it, the *waw* is elided and *qameṣ* takes its place, when in context, but most verbs of this category change to forms such as וְשָׁכַבְתָּ (Jer. 3:25), וְנִקְדְּבָה (1 Sam. 14:36), in that the *qameṣ* is elided from them for the sake of lightness, for example וְאֶשְׁמְרָה (Ps. 39:2), וְאֶזְכְּרָה (Ps. 77:4), וְאֶרְדְּפָה (2 Sam. 22:38) and many others.

¹⁹ Published in G. Khan, *Karaite Bible Manuscripts from the Cairo Geniza* (Cambridge 1990), 152-6.

²⁰ In compound Babylonian vocalization the compressed long vowel in *dehiq* is usually marked as short by superscribing the *šewa* sign above the vowel sign, which is equivalent to a *hatep* sign in Tiberian, e.g. הִשְׁבַּעָה לִי (Gen. 21:23 – הִשְׁבַּעָה לִי), (וְנִדְתָּהּ בָּהּ – Gen. 21:23); see I. Yeivin, *The Hebrew Language Tradition as Reflected by the Babylonian Vocalization* (Jerusalem 1985), 338-9.

This description of lightening is found also David Qimḥi's *Seper Miklol*, which was no doubt indebted to Ibn Janāḥ: **ובאו הרוב בשוא** 'most of them have *šewa* for the sake of lightening'.²¹

Judging by its lengthening by *ga'ya* and the statements in the medieval sources, the vowels marked by *ḥaṭep* signs on non-gutturals were intermediate in length between vocalic *šewa* and a vowel in a closed unstressed syllable, on the one hand, and a long vowel marked by a full vowel sign, on the other.

There is evidence that such half-long vowels in unstressed syllables were vulnerable to shortening. This is reflected by differences in vocalization between various Tiberian Masoretes. With regard to some words with *ḥaṭep qameṣ* on a non-guttural consonant it is recorded that a number of Masoretes read them with *ḥaṭep pataḥ*. In at least two cases, there was a Masoretic difference as to whether an imperfect verb should be vocalized with *ḥaṭep pataḥ* or *ḥaṭep qameṣ*. Some Masoretes vocalized the word **יִרְדֹּף**, which occurs twice in Ezek. 35:6, with *ḥaṭep pataḥ* under the *dalet* (**יִרְדֹּף**) while others vocalized in with *ḥaṭep qameṣ* (**יִרְדֹּף**). The reading with *ḥaṭep pataḥ* is attributed to Ben Naphtali and Pinḥas and the reading with *ḥaṭep qameṣ* to Ben Asher and Moshe Moḥe.²² The Aleppo Codex (A), MS I Firkovitch B19a (L) and the Cairo Codex of the Prophets (C) have *ḥaṭep pataḥ*. In A, however, the original vocalization in both instances of the word in this verse had *ḥaṭep qameṣ*, which was subsequently corrected to *ḥaṭep pataḥ*.²³ A Masoretic list published by C. Ginsburg (*The Massorah* III [New York 1975], 32) records a difference between

²¹ Jonah ibn Janāḥ, *Kitāb al-luma'*, ed. J. Derenbourg (Paris 1886), 323. David Qimḥi, *Seper Miklol* (Fürth 1793), 20a.

²² The sources referring to the differences between Ben Asher and Ben Naphtali are: MS Harley 1528 of the British Library; cf. L. Lipschütz (ed.), *Kitāb al-khilaf: Misha'el Ben Uzziel's Treatise on the Differences between Ben Asher and Ben Naphtali* (Jerusalem 1965), 27, **לה**; Jonah ibn Janāḥ, *Kitāb al-luma'*, ed. Derenbourg, 149; David Qimḥi, *Miklol*, ed. Lyck 1862, 17b; *Šorašim*, s.v. **רדף**. The difference between Pinḥas and Moshe Moḥe appears in MS Tschufut Kale Paper 1; cf. *Diqduq ha-Te'amim*, ed. Baer and Strack, 84: **מחלפ ירדפך וחביר תריוהן לרב פיו ורב** 'There is a difference, R. Pinḥas vocalizes **יִרְדֹּף** in both occurrences of this word (Ezek. 35:6) whereas R. Moshe (Moḥe) vocalizes with (*ḥaṭep*) *pataḥ*.' Moshe Moḥe and Pinḥas belong to an earlier generation of Masoretes than Ben Asher and Ben Naphtali; cf. I. Yeivin, 'From the Teachings of the Masoretes', *Textus* 9 (1981), **כג**, **כז**. A. Dotan dates Pinḥas to the middle of the ninth century AD. (*The Diqduq Ha'Te'amim of Aharon ben Moše ben Ašer* [Jerusalem 1967], 303, 305). Aharon ben Moshe ben Asher and Ben Naphtali were active in the first half of the tenth century.

²³ Yeivin, *Aleppo Codex*, 36.

two authoritative manuscripts in the vocalization of this word: ... 'ירדפך ירדפך תרויהון בהללי בקמ' חטף ובמוגה בשוא ופת' ... 'both words have *hatep qameṣ* in the Hilleli codex, but in the Muggah codex they have *šewa* and *pataḥ*'.

Masoretic differences are recorded also for the vocalization of the word אכתבנה (Jer. 31:33). Ben Asher read it with *hatep qameṣ* (אֲכַתְּבֵנָה) and Ben Naphtali with *hatep pataḥ* (אֲכַתְּבֵנָה, vocalized so in A and L, C has ת but ת in the margin).²⁴

There seems to have been a similar Masoretic difference concerning ואשקלה- in Jer. 32:9. According to a Masoretic text published by Ginsburg (*Massorah* III, 31) there is a variant reading with *hatep qameṣ*: ואשקלה-.

The readings with *hatep pataḥ* are said to be those of the school of Ben Naphtali, which was, in many respects, less conservative than the school of Ben Asher.²⁵ *Hatep pataḥ* was equivalent to a vocalic *šewa*, which had the same quality. The readings with *hatep pataḥ* instead of *hatep qameṣ* reflects the shortening of the vowel and the levelling of its quality. This phonetic process no doubt took place by analogy with the normal verb morphology, which has vocalic *šewa* in the contexts in question.

To summarize: vocalic *šewa* and vowels marked by *hatep* signs were sometimes lengthened by *ga'ya*. The marking patterns of *ga'ya* with *šewa* are similar to those of minor *ga'ya* on short vowels in closed syllables. In the standard Tiberian text the *šewa* or *hatep* sign that has *ga'ya* is not replaced by a full vowel sign. The Karaite transcriptions show that the pronunciation of a *šewa* with *ga'ya* was similar to that of a short vowel in a closed syllable with minor *ga'ya*. In both cases the representation of the vowel by a *mater lectionis* is not regular. This appears to reflect the fact that the vowel was lengthened but its duration was less than a long vowel with major *ga'ya*. So, as far as *ga'ya* is concerned, vocalic *šewa* was equivalent to a short vowel in a closed syllable. We have further evidence for this equivalence from other sources.²⁶

²⁴ David Qimḥi, *Šorašim*, s.v. כתב, British Library MS Harley 1528; cf. L. Lipschütz (ed.), *Kitāb al-khilaf*, לו.

²⁵ See A. Ben-David, על מה נחלקו בן-אשר ובן-נפתלי, *Tarbiz* 26 (1957), 384-409.

²⁶ See G. Khan, 'Vowel Length and Syllable Structure in the Tiberian Tradition of Biblical Hebrew', *Journal of Semitic Studies* 32 (1987), 37-9; idem, 'The Function of the *šewa* sign in Vocalized Judaeo-Arabic Texts from the Genizah', in J. Blau and S.C. Reif (eds.), *Genizah Research After Ninety Years: The Case of Judaeo-Arabic* (Cambridge 1992), 105-11.

The vowel marked with a *ḥaṭep* sign on a non-guttural consonant in a word such as קָדֶם had a different status from that of vocalic *šewa* or *ḥaṭep* vowels elsewhere. It could be lengthened by major *ga'ya*, in which case the lengthened vowel was represented by a full vowel sign (קָדֶמִיָּה). The Karaite transcriptions regularly represent this lengthened vowel by a *mater lectionis* just as they do other vowels with major *ga'ya*. It was perceived by the Masoretes to be less closely connected to the following letter than a syllable with vocalic *šewa*. The linguistic reality of this difference in syllabic status is reflected by the distribution of the allophones of *reš*. Vocalic *šewa* was sensed to be 'lighter' than *ḥaṭep qameš* on a non-guttural. In some early manuscripts that exhibit variant vocalizations with a full vowel sign in place of a *ḥaṭep*, the *ḥaṭep qameš* and *ḥaṭep segol* on non-guttural consonants have a marked tendency to be so replaced. Vowels marked by *ḥaṭep* signs on non-guttural consonants were intermediate in length. Finally, one can identify a tendency in the reading of the school of Ben-Naphtali to shorten such vowels when they occurred in verbs to bring the forms in line with normal verb morphology.

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Septuagint, Underlying Knowledge of Hebrew

Although the Septuagint is a Greek text, it is possible to reason back to the mental dictionary and grammar of the translators. This provides an interesting window on the knowledge of Hebrew during the Hellenistic period (the bulk of the Septuagint having been produced between ca. 280 and 120 B.C.E.). A number of caveats need to be taken into account, however (Barr 1968:245–251). Any given passage of the Septuagint may be based on a text diverging from the received Masoretic text. In addition, the Greek text available to us today may here and there have been altered from the original translation. Finally, the process of translation itself remains a 'black box': we can never know for sure what went on in the minds of the translators. In light of these sources of uncertainty, conclusions should preferably be based on an accumulation of evidence, not on single readings and certainly not on approximations.

The first things that Hebrew scholars have tried to extract from the Septuagint are forgotten meanings of rare words. It is certainly possible that the translators were familiar with words that later dropped from use, and with lexical traditions that were later forgotten. In practice, however, it is often difficult to prove that felicitous renderings do indeed reflect linguistic knowledge. Where a formulation is contextually apt, the translator may have had access to authentic linguistic information, but he may just as well have made an inspired guess. Thus, in Gen. 23.16, the expression כֶּסֶף עֹבֵר לַסֹּחֵר, *keṣef 'ōḇēr las-ṣōḥēr* 'money current (?) with the merchant', is rendered ἀργύριον δόκιμον ἐμπόροις 'silver approved by merchants'. This may reflect a special usage of the verb עֲבָר *'āḇar* known to the translator of Genesis. The Arabic cognate 'abara does have the meaning 'to examine (said of dirhams)' (Gesenius 1815:78), but the Greek translation may also have been derived from the context. The expression ἀργύριον δόκιμον, 'approved or genuine silver', is common in documentary papyri (for other examples, see Barr 1968).

A different aspect of the translators' knowledge of Hebrew can be established with greater certainty. In many cases the Septuagint version appears not to reflect the Hebrew form contained in the source text, but an Aramaic or Late Hebrew form written in the same way. For example, in Ezek. 13.18, 20, biblical כֶּסֶת, *kst* 'band' (?), is translated by προσκεφάλαιον, 'pillow'. Renderings like this often fit somewhat uneasily into the context (Ezek. 13.20 LXX reads: 'I will tear your pillows...from your arms'), showing that it is really the translator's knowledge of Hebrew that has led him astray. Furthermore, unlike 'forgotten meanings', Aramaic and Late Hebrew words and forms are usually well attested elsewhere. When an element of the source text corresponds precisely, at least in regard to its consonantal form, to an Aramaic or Late Hebrew word whose meaning exactly matches that of the Greek equivalent in the Septuagint, it is fairly certain that the rendering reflects the translator's knowledge of Hebrew.

In some instances the word rendered into Greek is etymologically related to the one used in the Hebrew source text. Thus, מַס *mas* 'corvée' is translated φόρος 'taxes', in several

passages (e.g., Judg. 1.28; 2 Sam. 20.24; 1 Kgs 5.27; 2 Chron. 8.8; cf. Deut. 20.11), in accordance with the word's meaning in Late Biblical Hebrew (Esth. 10.1) and Post-Biblical Hebrew (1QpHab. 6.7). The verb קָרַב *qārāḇ* 'to approach' is at times rendered by ἅπτομαι, 'to touch' (e.g., Gen. 20.4; Num. 3.10; 17.28), according to the meaning of its Aramaic cognate. In other cases the form intended in the biblical text and the form translated into Greek may be unrelated homonyms (or homographs). In Gen. 18.12, the noun עֲדָנָה *'ednā* 'pleasure', is read as עֲדָנָה *'ādenā* 'until now' (Eccl. 4.2) and translated ἕως τοῦ νῦν. The verb דִּקְקָה *dikkā* 'to crush' is at times translated after Aramaic דַּכָּה *dk* 'to purify' (e.g., in Isa. 53.10). The underlying procedure is the same in all these cases: the Septuagint translators read the biblical text in light of the Hebrew they knew. The process is essentially akin to linguistic interference, in which a bilingual speaker of languages A and B inadvertently uses a phonetic, morphological, lexical, or syntactic element belonging to language B in language A (e.g., a Modern Hebrew speaker might say in English 'The water are cold', reflecting the plural form מַיִם *mayim*, the Hebrew word for 'water'). Even the difference between Hebrew and Aramaic is not to be taken too seriously in this connection; although some words reflected in the Septuagint are exclusively Aramaic, the translators probably took them to be Hebrew.

Research on the Hebrew of the translators is of great importance for Septuagint studies. Many Greek renderings become comprehensible only when the linguistic background of the translators is taken into account. But Hebrew studies can benefit as well (Kutscher 1974:73–78). In some instances, Septuagint renderings can help to interpret the use of Hebrew words in sources of the Hellenistic period. For example, the fact that Hebrew שָׁחַת *šahat* (originally 'pit') came to possess the meaning 'perdition' (e.g., 1QS 9.16) is confirmed by the fact that the word is sometimes rendered as ἀπώλεια, 'perdition' (Ezek. 18.28), or διαφθορά, 'corruption' (Ps. 16.10). In some cases, the Septuagint can prove the existence of a form or a usage. The translation of זֵן *zan* 'sort' in Ps. 144.13 as τοῦτο 'this' confirms the reading זֵן in 4Q371 1.8. And the occasional rendering of מֵן 't + pronominal suffix as a nominative pronoun (Num. 6.13; Ezek. 10.22; 1 Kgs 9.25 [Codex

Alexandrinus]; cf. Num. 33.8) attests to the use of a syntagm that will first turn up in Hebrew texts at a much later date (e.g., Genesis Rabba, p. 181, line 5: אָוִרוֹ שָׁמַע לְאִשְׁתּוֹ *'wtw šm' l-'štw* 'He listened to his wife').

More generally, the Septuagint gives witness to Hebrew knowledge such as one might expect in learned Jewish circles during the Hellenistic period, knowledge based on diligent study of the classical texts, yet essentially tainted by Aramaic influence and perhaps also by spoken Hebrew dialects. Many typological features link the Hebrew of the translators to that of the latest books of the Bible and of the Qumran Scrolls (Joosten 2000).

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Shewa: Pre-Modern Hebrew

The *shewa* sign (,) in the → Tiberian reading tradition of Biblical Hebrew had two types of phonetic realization, viz. (i) a short vowel (referred to below as 'vocalic *shewa*') or (ii) zero (referred below to as 'silent *shewa*'). In the Tiberian Masoretic literature (→ Masoretic Treatises) it is stated that vocalic *shewa* binds the letter to the syllabic unit of the letter that follows it, whereas a silent *shewa* separates it from the following letter. The word תִּפְסָרָה

vowel in certain circumstances, according to Ben Asher. In forms from the root גר"ש *g-r-š* it is vocalic when the third radical has *seghol*, e.g., אֶגְרֹשׁוּ [ʔaʕa:raʕennu:] 'I will drive them out' (Exod. 23.30), but is otherwise silent, e.g., וַיֵּגְרֹשׁוּ [waʕa:raʕu:] 'and they drove out' (Judg. 11.2). The same applies to the root אכ"ל. So the *shewa* is vocalic in, for example, תֹּאכְלֶנָּה [to:ʕa:le:nnu:] 'you (ms) shall eat it' (Ezek. 4.12), but silent in תֹּאכְלֶנָּה [to:ʕa:le:nnu:] 'you (mpl) shall [not] eat' (Num. 11.19), the only exception being אוֹכְלֶיהָ [ʔo:ʕa:le:ha:] 'those (m) who eat it' (Eccl. 5.10), in which it is silent. In forms with *shewa* on the *resh* from the root ברכ"ל *b-r-k* 'bless', if the accent is on the *bet*, the *shewa* is silent, e.g., וְהִתְבָּרְכוּ בוֹ [wihiθbɔ:ʕa:ru:vo:] 'they will bless themselves in him' (Jer. 4.2), but if the accent is on the *kaf*, the *shewa* is vocalic, e.g., בְּרַכְנִי [bɔ:ʕa:ʕe:ni:] 'bless (ms) me!' (Gen. 27.34). When forms from the roots ירד"ג *y-r-d* 'to come down' and הל"ק *h-l-k* 'to go' are followed by נָ with *dagesh* due to the rule of *dehiq*, then a *shewa* on the medial radical is vocalic, e.g., אֶרְדָּה-נִי [ʔe:raðə:ni:] 'I will go down' (Gen. 18.21), אֶלְכָּה-נָּא [ʔe:laʕa:na:] 'let me go' (Exod. 4.18), but otherwise is silent. Sa'adya gives the general rule that *shewa* after a long vowel is always vocalic when the vowel two syllables after it is stressed and is preceded by *dagesh* (Dotan 1997:464–466), so it is vocalic also in forms such as נֹתְרָה-בָּהּ [no:θa:ʕa:bbə:] 'there is left in it' (Ezek. 14.22).

A *shewa* in the middle of a word after a short vowel is silent, e.g., יֶתְרוֹ [jəθo:] 'Jethro'. If the short vowel is lengthened by what Yeivin calls a 'phonetic *ga'ya*' (Yeivin 1980:257–264), then the *shewa* is vocalic. This applies to a *shewa* on *mem* after the definite article with *pataḥ*, e.g., הַמְנַדִּים [ha:manaddi:m] 'the ones who drive away' (Amos 6.3), and also elsewhere, e.g., בְּנֵיחֻשְׁתַּיִם [ba:niħuʕta:jim] 'with bronze fetters' (Judg. 16.21), וְשִׁלַּח [ʔu:ʕa:la:h] 'and send (ms)' (2 Kgs 9.17), הֲתִמְלִיךְ [ħaθi:ma'lo:ʕ] 'are you a king?' (Jer. 22.15). When a short vowel has a musical *ga'ya*, known as 'minor *ga'ya*', the following *shewa* is silent. Minor *ga'yot* occur predominantly on words with disjunctive accents on a closed syllable that is separated from the stress syllable by another syllable followed by vocal *shewa* or a *ḥateph*, e.g., נִתְחַכְמָה [ni:θħakka'ma:] 'let us deal wisely' (Exod. 1.10), מִשְׁתַּחֲוִיִּים [mi:ʕta:ħa'vi:m] 'pros-

trating (mpl) themselves' (Gen. 37.9) (Yeivin 1980:244–245). A word such as הַמְשַׁחֲקוֹת 'the ones (fpl) playing' (1 Sam. 18.7), therefore, has a structure suitable for minor *ga'ya* and so it is read with minor *ga'ya* and the *shewa* after the *pataḥ* is silent [ħa:msa:ħa'qo:θ] (Yeivin 1980:278–279).

There was some variation in the reading of *shewa* among the Tiberian Masoretes, notably between Ben Asher and Ben Naftali. The readings with vocalic *shewa* after long vowels given above are those of Ben Asher. Ben Naftali read the *shewa* as silent in some cases (cf. *Kitāb al-Khilaf*, ed. Lipschütz 1965:17). Some manuscripts, moreover, mark a *ḥateph pataḥ* to represent vocalic *shewa* after long vowels in words that are not mentioned in Masoretic treatises, e.g., אֶזְלָתָם [ʔe:zalaθ] (L אֶזְלָתָם) 'their power' has gone' (Deut. 32.36).

The reading of a *shewa* as vocalic rather than silent in the Tiberian tradition was to some extent independent of rules relating to the phonetic environment. It was sometimes read as vocalic in morphological patterns where it would normally be silent, e.g., אֶמְרוּתָם [ʔi:ma'ro:θ] 'the words of' (Ps. 12.7), הֲתִמְלִיךְ [ħaθi:ma'lo:ʕ] 'are you a king?' (Jer. 22.15). In these cases the vowel is lengthened before vocalic *shewa*. Sometimes the preceding consonant is geminated, e.g., מִקְדָּשׁ [miqqaðə:] 'sanctuary' (Exod. 15.17), עֵקְבוֹתַי [ʔi:qqa'vo:θ] 'footprints of' (Ps. 89.52), מַמְרָרִים [mammaro:ri:m] 'bitterness' (Job 9.18). In יִרְדֹּף [ji:raðdo:f] 'let him pursue' (Ps. 7.6) the consonant after the vocalic *shewa* is geminated and so the letter is vocalized with a *pataḥ* sign. The elongation of such words by reading a silent *shewa* as vocalic sometimes seems to have a pragmatic purpose, to give the word more discourse prominence.

The *shewa* sign is combined with the vowels *pataḥ*, *seghol*, and *qames* to form the so-called *ḥateph* vowels (אֶ, אִ, אֵ). The *ḥateph* signs were marked mainly under the guttural letters, where the pronunciation of the *shewa* was less predictable than under other letters. For instance, there were variations between silent and vocalic *shewa* in verbal forms such as וַיַּחֲבֹשׁוּ [vajħaħba'ʕu:] 'and they (m) saddled' (1 Kgs 13.13) versus וַיַּחֲבֹשׁ [va:ħjaħba'vo:] 'and he saddled' (Gen. 22.3). In these cases the *ḥateph* sign represents an epenthetic vowel and can be regarded as equivalent to vocalic *shewa*. The *shewa* was explicitly marked as vocalic

by the addition of a vowel sign due to the fact that the Masoretes expected that readers would have greater difficulty predicting its realization than in other contexts. We have already seen this practice on non-guttural consonants where *shewa* was read as vocalic in environments where it would normally be silent. Recent research has identified various linguistic factors that condition the distribution of the epenthetic marked by *ḥateph* vowels in the environment of gutturals (DeCaen 2003; Alvestad and Edzard 2009), but the fact remains that the occurrence of the epenthetic in the environment of gutturals was perceived to cause difficulties to readers by the Masoretes. The quality of an epenthetic also deviates from the normal rules, which likewise motivated the addition of a vowel sign to the *shewa*. A *shewa* on a guttural, for example, retained the quality of [a] even if it preceded a guttural that was followed by a vowel of a different quality, e.g., יִמְחֲאוּ [jimħaʕu:] 'they (m) clap' (Ps. 98.8). An epenthetic vowel on a guttural became assimilated to the quality of a preceding *seghol* or *qames*, e.g., הִעֲמִיד [ħe:ʕe'mið] 'he set up', הִעֲמִיד [ħe:ʕe'ma:ð] 'it was set up'.

The tendency for variation in the distribution of *ḥateph* vowels in the environment of gutturals was exploited to express a semantic distinction between the verb יַעֲקֹב [jaʕqo:v] 'he supplants' (Jer. 9.3) and the proper name יַעֲקֹב [ja:ʕa:qo:v] 'Jacob'.

In a few cases in the Tiberian manuscripts a *ḥateph qames* sign is written before a guttural consonant where a vocalic *shewa* is expected in order to indicate that the quality of the *shewa* has been assimilated to that of a *qames* following the guttural, as is the general rule (see above), e.g., שִׂמְחָהּ [simħa:hu:] 'he made him glad' (Jer. 20.15). This type of vocalization was practiced more frequently by some Masoretes than others (*Diqduq haṭ-Te'amim*, ed. Dotan 1967:§19).

In some cases a consonant with a *ḥateph qames* or *ḥateph seghol* appears to have the status of a syllable and so the sign is marking a phonological short vowel nucleus rather than an epenthetic. This applies notably to *ḥateph qames* on non-guttural consonants in words such as דְּמִי [ðəmi:] 'silence', צָרִי [ʕa:ri:] 'balsam', צִפּוֹרִים [ʕippo:ri:m] 'birds', קִדְּשִׁים [qidðə:ʕi:m] 'holy things' (→ Syllable Structure: Biblical Hebrew; Tiberian Reading Tradition). Unlike vocalic *shewas*, these preserve the quality of

the original short vowel (or at least a historical development of this original quality). In the aforementioned contexts, however, the *ḥateph qames* exhibits a certain amount of instability in the Tiberian tradition, e.g., they are replaced by full vowels in some manuscripts (e.g., צָרִי vs. צָרִי) or they are replaced by epenthetic vocalic *shewa* or *ḥateph pataḥ* (e.g., הִקְדָּשִׁים [Exod. 26.33] vs. הִקְדָּשִׁים [Ezek. 44.13], שִׁבְלִים 'ears of grain' [Gen. 41.5] vs. שִׁבְלֵי 'branches' [Zech. 4.12]). There are differences between the Masoretes in this regard, e.g., Ben Asher's אֶכְתָּבָהּ [ʔeħtəvə:nnu:] 'I will write it' vs. Ben Naftali's אֶכְתָּבָהּ [ʔeħtəvə:nnu:] (Lipschütz 1965:33; Khan 1996b).

Occasionally *ga'ya* is marked on a *shewa* or an epenthetic *ḥateph* vowel (known as *shewa ga'ya*), as a result of which these were lengthened, e.g., תִּשְׁלַחְוּ [ta:ʕallaħu:] 'you (mpl) shall let go' (Jer. 34.14), עֲלִיזוֹתָיו [ʔa:lijo:θo:ʕu:] 'his chambers' (Ps. 104.3) (Yeivin 1980:253–254; Khan 2009). In some cases a *shewa* that is normally silent is given *shewa ga'ya* and read as a lengthened vowel, e.g., אֲשֶׁרִי [ʔa:ʕa:re:] 'blessed is' (Ps. 32.2).

What has been described so far is the distribution of *shewa* in the standard Tiberian vocalization, which is found in the Masoretic manuscript codices. Numerous medieval manuscripts are extant that use Tiberian vocalization signs in a way that deviates from this standard system. Some of these non-standard systems fall into the category of Palestino-Tiberian vocalization (→ Vocalization, Palestino-Tiberian); others, most of which are found in Genizah fragments, are of no clear category. The *shewa* and *ḥateph* signs are used in various ways that differ from those of the standard system in such manuscripts. In some manuscripts the *shewa* sign is regularly used where standard Tiberian has *ḥateph* signs, e.g., עַבְדֶּיךָ [ʕavəðe:ħa:] (standard Tiberian עַבְדֶּיךָ) 'your (mpl) slaves'. Some manuscripts use the *shewa* sign to mark the short vowel segment [a] in any syllabic context. In such cases the *shewa* sign was reinterpreted as a marker of a phonetic vowel segment rather than a marker of phonological zero. This is shown by the fact that it was used to represent a short [a] segment even in a closed syllable, e.g., וַיֹּאמֶר [vajjo:mer] (standard Tiberian וַיֹּאמֶר) 'and he said' (Gen. 1.3). *Ḥateph* signs are sometimes used to represent short vowels in closed syllables, e.g., לְאַבְרָהָם

[laʔavru:ħo:im] (standard Tiberian לְאַבְרָהָם 'to Abraham' (Gen. 35.12) (Khan 1991:862–863). The use of *shewa* on gutturals can be regarded as a primitive stage of development in which vocalic *shewa* on guttural consonants has not been explicitly marked as vocalic by combining them with a vowel sign. A vestige of this in the standard system can be identified in the vocalization of the *qere* of the tetragrammaton with *shewa* on the 'alef (יְהוָה = יְהוָה [ʔəħo:ħi:m]) (Khan 2012:44). Sporadic cases of *hataf* signs in closed syllables are found in L, e.g., בְּחַרְטָמִם [baħarʔum:mi:m] 'upon the magicians' (Exod. 9.11), יְיָכָרְךָ [yaħkar:ħi:] '[the Lord] brings trouble on you' (Josh. 7.25). The *shewa* sign is even found in a closed syllable in L, e.g., וְהָרַגְנוּ [vahaɾaħnu:hu:] 'and we shall kill him' (Judg. 16.2) (Yeivin 1968:18; Dotan 1985).

The typology of marking a *shewa* on a letter without vocalization to indicate that it should be pronounced in the reading in such forms as וַיִּשְׁתְּ way-yēšt 'and he drank' (Gen. 9.21) in standard Tiberian is extended in some non-standard systems to other contexts. In Palestino-Tiberian vocalization this is found in particular on word-final *het* and 'ayin and word-final consonantal *waw* (→ Vocalization, Palestino-Tiberian). Some manuscripts mark it more widely on consonant letters and vowel letters that do not have vocalization signs, e.g., וַיְיָבוּ [vajjir'bu:] (standard Tiberian וַיִּיבֹּוּ) 'and they became great' (Gen. 7.18), מְלַאכְתּוֹ [malax'to:] (standard Tiberian מְלַאכְתּוֹ) 'his work' (Gen. 2.2). The vowel sign is sometimes placed on the vowel letter and the preceding consonant is marked with *shewa*, e.g., כָּאן [ka:n] 'here' (Bar-Asher 1980:48). In some manuscripts of European provenance the vowel letter has a *hataf patah* sign instead of *shewa*, e.g., רִאשׁוֹן 'first', בָּאֵתִי 'I came'. It is not clear whether these were intended to have a phonetic realization (Eldar 1978:69).

In the Babylonian vocalization system the sign corresponding to Tiberian *shewa* was a horizontal line above a letter (𐤀) known as *hitfa* 'shortness' (→ Vocalization, Babylonian). It is marked only sporadically in the manuscripts, mainly in contexts where *shewa* is vocalic in Tiberian. In manuscripts reflecting the variety of pronunciation tradition known as Middle Babylonian the sign exclusively marks

vocalic *shewa* according to Yeivin (1985: 398–412). It appears, therefore, that it tended to be used to mark a short vowel segment, as in some non-standard systems of Tiberian vocalization, rather than phonological zero. Indeed, as in non-standard Tiberian systems, the *shewa* in some Babylonian manuscripts is occasionally used to mark a short [a] vowel segment in a closed syllable (Yeivin 1985:413–416), e.g., יָפָן [yaʔan] (Tiberian יָפָן) 'because' (Ezek. 34.21), דְּלָתוֹת [dalθo:θ] (Tiberian דְּלָתוֹת) 'doors' (Ezek. 41.25). The *hitfa* sign was used in the 'compound system' of Babylonian vocalization to distinguish between long and short vowels, in that it was marked together with a vowel sign on short vowels in open and closed syllables. Unlike the Tiberian *hataf* signs, the Babylonian compound signs were used to mark short vowels also in closed syllables, although, as we have seen, a few examples of Tiberian *hataf* signs in closed syllables are found in the Tiberian Masoretic codices, and this practice is more extensively attested in non-standard Tiberian vocalization.

There is evidence that in the variety of pronunciation known as Old Babylonian there was no vocalic segment in some contexts where Tiberian has vocalic *shewa*. This is seen in deviations from Tiberian vocalic patterns that result from the formation of consonantal clusters. *Hireq*, for example, sometimes occurs instead of *shewa* on initial *yod*, e.g., יְסוֹד [yasod] (Tiberian יְסוֹד) 'foundation', which appears to be the development of an initial cluster *ys* to *īs* (*ysod* > *īsod*). Furthermore, where Tiberian has vocalic *shewa* in word-internal position, Old Babylonian sometimes has an additional vowel on the preceding letter. This is an epenthetic vowel that has developed before a consonantal cluster, e.g., תִּקְרְבוּ < *tigrbū* (Tiberian תִּקְרְבוּ) 'you (mpl) approach' (→ Epenthesis; Syllable Structure: Biblical Hebrew).

If Yeivin is correct that the *shewa* sign in Middle Babylonian manuscripts was always vocalic, it appears that the *shewa* was pronounced in some contexts where it was silent in Tiberian. This is notably the case after long vowels in the middle of a word, e.g., וְהָיָה וְהָיָה [wəħajəħajə] (Tiberian וְהָיָה) 'and it (f) shall be' (Jer. 21.9) (since the exact phonetic realization of Babylonian vocalic *shewa* is not certain, standard EHLL transcription is used

to transcribe the Babylonian forms), אַיְנָם [ʔein'ħe:m] (Tiberian אַיְנָם) 'you are not' (Ezek. 20.39) (Yeivin 1985:405–406).

Manuscripts with Babylonian vocalization in some contexts preserve an original short vowel where this has in most cases been reduced to *shewa* in Tiberian. This is the case, for example, with prefix conjugation verbs with pronominal object suffixes, which retain the *holem* in Babylonian, whereas in Tiberian the vowel is reduced to *shewa*, e.g., יִשְׁמְרֵנִי [jiʃma're:ni:] (Tiberian יִשְׁמְרֵנִי) 'he guards me' (Yeivin 1985:469–472). *Holem* regularly occurs before the cohortative suffix in 1st person verbal forms where Tiberian has *shewa*, e.g., אֲשַׁמְרָה [ʔəʃma'ra:] (Tiberian אֲשַׁמְרָה) 'I guard', נִשְׁמְרָה [niʃma'ra:] (Tiberian נִשְׁמְרָה) 'we guard' (Yeivin 1985:472–478). In such cases the *holem* reflects a short vowel (→ Vocalization, Babylonian). In a few isolated places in the Tiberian tradition *hataf patah* rather than *shewa* occurs on verbs in the aforementioned contexts, e.g., אֶשְׁתַּלֵּן [ʔəʃtə'le:nnu:] 'I will plant it (m)' (Ezek. 17.23), וְאֶשְׁקוּלָהּ [wəʔəʃkə'lo:] 'and I weighed' (Ezra 8.25), אֶלְקָטָהּ נָא [ʔəlaqə'təħə] 'let me glean' (Ruth 2.7). Babylonian has *holem* where Tiberian has *shewa* also in some nominal forms, e.g., a *holem* preserving a short *o* vowel (< **u*) in an open unstressed syllable occurs in a number of noun forms, e.g., לְבִקְרִים lab-boqārim (Tiberian לְבִקְרִים) 'in the mornings' (Lam. 3.23).

The system of Palestinian vocalization does not have a *shewa* sign. Where Tiberian has vocalic *shewa*, manuscripts with Palestinian vocalization either leave the letter without a vowel or add a simple vowel sign. The vowel signs that elsewhere mark the vowel qualities *a* and *e* are generally used for this purpose (Revell 1970:83–93) (→ Vocalization, Palestinian). The use of the *e* vowel signs can be regarded as reflecting some degree of centralization of *a* by a process of reduction. The quality of *e* is the predominant pronunciation of *shewa* in the modern Sephardic traditions of Hebrew, which are closely related to the medieval Palestinian pronunciation tradition. This is mentioned already by grammarians from the late Middle Ages, who equate it with the vowel *sere* (Levy 1936:73; Morag 1982). Some early manuscripts of the Mishna represent vocalic *shewa* in the orthography by a *mater lectionis*

yod, which is likely to reflect its pronunciation like *sere*, e.g., הַכִּיפּוֹר hak-keḥpor 'the frost' (Kaufmann manuscript, Mishna Ohalot 8.5, → Orthography: Rabbinic Hebrew). Medieval Muslim transcriptions sometimes represent vocal *shewa* with *mater lectionis* 'alif, e.g., ساروغ sārūg (Tiberian סָרוּג sārūg 'Serug'), دافورا d'fūrā (Tiberian דַּבּוּרָה dāḇōrā 'Deborah') (→ Transcriptions into Arabic Script: Medieval Muslim Sources). These may reflect a pronunciation such as [se:ru:γ] and [de:vo:rai], respectively, with *shewa* pronounced like a full *sere* as in Sephardic traditions.

The distribution of vocalic and silent *shewa* was different in the Biblical and Mishnaic reading traditions of the Sephardic communities, e.g., Biblical šomerim vs. Mishnaic šómrim (שומרים) (Morag 1982; → Stress: Biblical and Rabbinic Pronunciation Traditions). In the Hebrew component in Jewish languages of communities following the Sephardic tradition of pronunciation vocal *shewa* was sometimes elided in an initial consonantal cluster when the second consonant is a sonorant already in the medieval period, e.g., trefa 'unfit for Jewish use' (Tiberian טְרֵפָה tərēḫā) (→ Judeo-Spanish (Judezmo), Hebrew Component in).

The Samaritan tradition of Hebrew developed independently of the reading traditions reflected by the medieval vocalization systems. At some point in the history of Samaritan Hebrew short vowels were reduced and lost their original quality, which was the origin of the *shewa* in other traditions. In the Samaritan reading tradition that has been documented in modern times, however, the vowels of reduced quality are now treated like full vowels. These are long when in open syllables, like the Sephardi *shewa*, normally with the quality *ē* or *ā*, e.g., māḏabbār (Tiberian מַדְבָּר [maḏabbe:ɾ]) 'speaking (ms)', or followed by a geminated consonant when short, e.g., lillammed (Tiberian לִלְמַד [lalamme:ð]) 'to teach'. One of the features of the Samaritan tradition is that many of the vowels that developed historically from epenthetic *shewa* vowels were vowels in syllables that normally had silent *shewa* in the medieval non-Samaritan traditions, e.g., yēzākār (Tiberian יִזְכֹּר yizkōr) 'he remembers', wyāfānu (Tiberian וַיִּפְנוּ way-yifnū) 'and they (m) turned', mālēki (Tiberian מַלְכֵי malkē) 'kings of' (Ben-Hayyim and Tal 2000:53–60). One may compare these to isolated cases, such as הַתְּמַלֵּךְ [ħaθi:ma'lo:ɣ]

'are you a king?' (Jer. 22.15) in the Tiberian tradition (→ Samaritan Hebrew).

In the Hebrew of the → Dead Sea Scrolls prefix conjugation verbs are frequently written with *waw* after the second radical where Tiberian has vocalic *shewa*, e.g., יקטלו *yqtlw*, יקטלוהו *yqtlw*. Yeivin argues that the *waw* after the second radical in all these forms reflects the preservation of an unstressed short *o* vowel as in Babylonian vocalization (Yeivin 1972; → Vocalization, Babylonian). Qimron (1986:51), on the other hand, holds that only in the forms with pronominal suffixes is the *waw* in an unstressed syllable, since in the other forms it was stressed as in Tiberian pausal forms. A *waw* sometimes occurs where Tiberian has a vocalic *shewa* in other contexts. Several examples are found in the Isaiah Scroll (1QIsa) (Kutscher 1979:56, 496–501). Some of these are in the environment of labial consonants or *resh*, e.g., רומליהו *rumlyhw* (Tiberian רמליהו [ramaly:hu]) 'Remaliah' (Isa. 7.1), שובי *šwby* (with superscribed *waw*, Tiberian שבי [šavi]) 'captives' (Isa. 49.25). Note also הורט *hwrt*, where Tiberian has *hateph patah* (ארט [arət]) 'Ararat' (Isa. 37.38). Other examples include פורת *pwrt* (Tiberian פרת [parət]) 'Euphrates', פותאים *pwṭym* (Tiberian פתאים [paṭa'im]) 'simple people'. The *waw* remains when preceded by the particle *l-*, which in Tiberian has *shewa* and would cause the following *shewa* to be silent, e.g., לפורת *lpwrt* (Tiberian לפרת [lifarət]) 'to the Euphrates' (Qimron 1986:35–40). Labials and *resh* condition a shift of *a* or *i* to *o/u* also in the western tradition of Rabbinic Hebrew and Palestinian Aramaic (→ Phonology: Rabbinic Hebrew; *Resh*: Pre-Modern Hebrew). The realization of *shewa* as a rounded vowel in the environment of labials is also found in Iranian pronunciation traditions of Hebrew from the Middle Ages to the present day, e.g., פושאט *pušāt* (= פשט) 'literal meaning' (→ Judeo-Persian, Hebrew Component in).

The *waw* also occurs in the Dead Sea Scrolls where there is an *o* or *u* sound in the following syllable, e.g., סודום *swdwm* (Tiberian סדום [saḏom]) 'Sodom'. The *waw* is sometimes not written in the second syllable due to a form of defective spelling, e.g., סודם *swdm*, note also עומרה *wmrh* (Tiberian עמרה [amara]) 'Gomorra', עוז *wzz* (Tiberian עוז [əzu]) 'strength' (Isa. 42.25). The assimilation of the

vowel corresponding to *shewa* to the quality of the following vowel across consonants other than gutturals can also be identified in Rabbinic Hebrew, e.g., ביסיד *by-syd* (Tiberian בסייד [basi:d]) 'with lime' (Kutscher 1979:501). The medieval sources only refer to it occurring across gutturals, but there is evidence from Judeo-Arabic texts with Tiberian vocalization that it operated more widely in some medieval pronunciation traditions, in that *shewa* is used to represent short *u* before *u*, e.g., אמור *ʔumur* 'matters', קלובבום *qulu:bkom* 'your hearts' (Khan 1992:111). In the Dead Sea Scrolls *waw* also occurs where Tiberian has vocalic *shewa* before gutturals, e.g., מואד *mwʔd* (Tiberian מאד [moʔd]) 'very' (Isa. 16.6), פועלתי *pwʔlty* (Tiberian פועלתי [fuʔl:ti]) 'my recompense' (Isa. 49.4), שויו *šwʔw* (Tiberian שיו [šuʔw]) 'look' (Isa. 22.4), which may reflect assimilation or total elision of the guttural in pronunciation. A similar phenomenon is sometimes found in the Tiberian Masoretic manuscripts, e.g., לראובני, but א לראובני (with *rafe* over the *alef* in the latter) 'to the Reubenite' (Josh. 12.6), both vocalizations it seems were intended to represent [lu:ruibe:ni]. Occasionally a prosthetic *alef* is written, reflecting the silent pronunciation of word-initial *shewa*, e.g., אשאל *ʔswl* (Tiberian שאל [šoʔl]) 'Sheol' (Ps. 141.7) (Qimron 1986:41).

Greek and Latin transcriptions of Hebrew from the pre-Masoretic period exhibit some parallels to the pronunciation of *shewa* reflected in the medieval vocalization systems (Margolis 1909; Yuditsky 2005; → Transcription into Greek and Latin Script: Pre-Masoretic Period).

The Greek transcription in the Hexapla of Origen (ca. 185–254 C.E.) in some cases has a vowel where the *shewa* is vocalic in the Tiberian reading. This is often *ε*, e.g., שמנו *šmno* 'his name' (Ps. 29.2), גדוד *gaḏuḏ* 'a troop' (Ps. 18.30), לבושי *laʔu:ši* 'my clothing' (Ps. 35.13); sometimes *ι*, e.g., כסוס *ka:su:s* 'like a horse' (Ps. 32.9). Both seem to reflect a realization close to that of the Palestinian and Sephardic *shewa*. The vowel *α* occurs where there was historically an original *a* vowel, so it may reflect phonetic archaism, e.g., נקמות *naqomot* 'vengeance' (Ps. 18.48), צבאות *ṣavʔot* 'hosts' (Ps. 46.8). Note, however, also θσβαβηνη *ṭaso:vaʔe:ni* 'you (ms) surround me' (Ps. 32.7), where it is unlikely to be historical.

There is sometimes no vowel where the *shewa* is silent in the Tiberian reading tradition, e.g., in the middle of a word after a short vowel, as in βαρσων (Tiberian ברסון [birso:ʔn]) 'in his favor' (Ps. 30.6), and after a long vowel, as in τανου (Tiberian טמנו [tʔmnu:ʔ]) 'they have hidden' (Ps. 31.5), ασωμριμ (Tiberian השמרם [haʃso:mri:m]) 'those (m) who keep' (Ps. 31.7), but note οϊβαϊ *ʔoiʔvai* 'my enemies' (Ps. 18.38). A vowel is omitted, however, also in some cases where Tiberian has a vocalic *shewa*, such as at the beginning of a word: μσυχ (Tiberian משיח [maʃi:ħe:ħ]) 'your (ms) anointed' (Ps. 89.39), σμη (Tiberian שמח [sameħe]) 'those (m) who rejoice in' (Ps. 35.26). This is more characteristic of Old Babylonian pronunciation and, indeed, some transcriptions reflect the insertion of an epenthetic vowel, as is found in Old Babylonian, e.g., ιερσους (Tiberian יקראו [yiqraʔu]) 'let (my haters not) wink' (Ps. 35.19), ημ (Tiberian imē < ymē < ymē) (Tiberian ימי [yaʔme]) 'days' (Ps. 89.46).

A short *o* sometimes occurs in verbs where Tiberian has *shewa*, e.g., ιεφολου (Tiberian יפלו [yipʔalu]) 'they (m) fall' (Ps. 18.39), τεσσορηνι (Tiberian תצריני [tiṣṣaʔe:ni]) 'you (ms) preserve me' (Ps. 32.7). This may reflect the retention of the original stem vowel, as in Babylonian. The Hexapla has *o* where Tiberian has *shewa* elsewhere when in contact labials, e.g., σβωμσαβ (Tiberian שבמושב [šuvmoʔʔav]) 'and in the seat' (Ps. 107.32), μσασε (Tiberian משנה [maʃavʔe]) 'making resemble' (Ps. 18.34), which has probably arisen due to assimilation (Brønno 1943:321; Kutscher 1979:501).

Occasionally a vowel is written where Tiberian has silent *shewa*, e.g., εμαραδ (Tiberian אמרה [ʔimʔra:θ]) 'the word of' (Ps. 18.31), εφικω (Tiberian אפקיד [ʔafqiḏ]) 'I will entrust' (Ps. 31.6).

The Latin transcriptions of Jerome (ca. 347–420 C.E.) likewise exhibit some features that are more characteristic of Babylonian than Tiberian pronunciation. It is often the case, for example, that no vowel is marked at the beginning of words where Tiberian has vocalic *shewa*, e.g., drusa (Tiberian דרשה [daʔru:ʔ]) 'sought out (fs)' (Isa. 62.12), sgolla (Tiberian סגולה [saɣulla]) 'treasured possession' (Mal. 3.17). Epenthetic vowels are inserted as in Babylonian due to the lack of a vowel in the middle of a word where Tiberian has vocalic *shewa*, e.g., masarfoth (cf. Babylonian משרפות *masirfoṭ*, but Tiberian משרפות [miʃraʔo:θ]) 'burnings'

(Jer. 34.5). The transcription *iezbuleni* (Tiberian יזבליני [yizbaʔle:ni]) '(my husband) will exalt me' (Gen. 30.20) reflects the preservation of the original rounded stem vowel of the prefix conjugation, as is found in Babylonian. Jerome's transcriptions also have *e* or *a* where Tiberian has a vocalic *shewa*, e.g., cherethim (Tiberian כרתים [kare:θi:m]) 'Cherethites' (Ezek. 25.16), gebul (Tiberian גבול [gaʔvu:l]) 'border' (Obad. 7), carioth (Tiberian קריות [qarijʔo:θ]) 'Kerith' (Jer. 48.24), saba (Tiberian שבא [ʔavʔa]) 'Sheba' (Gen. 10.28). In most cases the *a* vowel occurs where there is a historical *a*, so this may reflect the conservation of the original vowel. Occasionally a form has a vowel where there is a silent *shewa* in Tiberian. In some cases this preserves an original vowel that has been elided in the medieval reading traditions, e.g., malache (Tiberian מלכי [malħe:ʔ]) 'kings of'. This should be contrasted with forms such as *mālēki* 'kings of' in the modern Samaritan tradition, in which the medial vowel is a lengthened epenthetic rather than the original vowel (Ben-Hayyim and Tal 2000:55).

In Greek transcriptions in the Septuagint a variety of vowels occur where Tiberian has vocalic *shewa* and there are some variations in the manuscripts (Könnecke 1885; Sperber 1937; Lisowsky 1940). An *omicron* is found in names such as Σοδομα (Tiberian סדום [saḏom]) 'Sodom', Γομορρα (Tiberian עמרה [amara]) 'Gomorra', Ρωβ (Tiberian רוב [roḥo:v]) 'Rehob', and Γεδολιας (Tiberian גדליהו [gaḏalya:hu]) 'Gedaliah'. In these forms the *omicron* is followed by another vowel of the quality of *o* and it is likely that it has acquired the quality by assimilation to the following vowel. As we have seen already in the Dead Sea Scrolls, this assimilation takes place across the boundary of various consonants, not just gutturals, as is described in the medieval sources. There are some differences in the manuscripts in this respect, in that some manuscripts exhibit the assimilation while others do not, e.g., Σολωμων/Σαλωμων (Tiberian שלמה [šalo:ma]) 'Solomon' (Lisowsky 1940:126).

Elsewhere the vowel corresponding to Tiberian vocalic *shewa* is generally either *α* or *ε*. Examples with *α*: Ναθανιας (Tiberian נתניה [naṭanyia]) 'Nethaniah', Ζακαρίας (Tiberian זכריה [zaħarija]) 'Zechariah', Σαμαιας (Tiberian שמעיה [šamaia]) 'Shemaiah', and Γαμαριος (Tiberian גמריה [gamaria]) 'Gemariah'. Ζαβουλων (Tiberian זבולן [zabul-])

lu:n]) 'Zebulun', Ραγουηλ (Tiberian רְעוּיָל [ruʔu:ʔe:l]) 'Reuel', Μαναση (Tiberian מְנַשֶּׁה [mana:ʔe:m]) 'Menahem', Μανασση (Tiberian מְנַשֶּׁה [manaʃʃe:]) 'Manasseh', Χαναν (Tiberian קְנַעַן [kanan:ʔan]) 'Canaan', Μαγεδδω/Μαγεδω (Tiberian מְגִידּוֹ [mayiddo:ʔ]) 'Megiddo', Βαναβακατ (Tiberian בְּנֵי־בָרַק [bane:vara:q]) 'Beneberak', Ασκαλων (Tiberian אֲשְׁקֶלֶן [ʔaʃqalo:n]) 'Ashkelon'. Examples with *e*: Φερεζαῖος (Tiberian פְּרִיזִי [parizzi:ʔ]) 'Perizzite', Ιεβουσαῖος (Tiberian יְבוּסִי [javu:si:ʔ]) 'Jebusite', Κεβεζ (Tiberian קְנִיז [qana:z]) 'Kenaz', Βεωρ (Tiberian בְּעוֹר [boʔo:ʔ]) 'Beor', Μεγεδδω (Tiberian מְגִידּוֹ [mayiddo:ʔ]) 'Megiddo', Ιεθет (Tiberian יֶתֶת [yathet:ʔ]) 'Jetheth', μεχωνωθ (Tiberian מְכֻנּוֹת [maxo:ʔno:ʔ]) 'stands, bases' (1 Kgs 7.20: הַמְּכֻנּוֹת [hammaxo:ʔno:ʔ]). This evidently reflects a reduction of the original vowel towards a quality similar to that of the Palestinian and Sephardic *shewa*, which probably involved a degree of centralization. In some cases there are variants, e.g., Μαγεδδω / Μεγεδδω 'Megiddo', one, presumably, preserving the original vowel and the other exhibiting reduction. A similar phenomenon is found in the Greek transcriptions of Aramaic, e.g., Ζαβίνας / Ζεβίνας < *zabīnā (Kaufman 1984:90).

Where the Tiberian Masoretic Text has *shewa* before a laryngeal, both are generally elided, e.g., Ιωαχας (Tiberian יְהוֹחָז [joho:ʔa:ʔ]) 'Jehoahaz', Ιωαθαν (Tiberian יְהוֹחָנָן [joho:ʔa:ʔna:n]) 'Jonathan', Ιωραμ (Tiberian יְהוֹרָם [yohor:ʔam]) 'Jehoram', Ρουβην (Tiberian רְאוּבֵן [ruʔu:ʔve:n]) 'Reuben', Ιουδας (Tiberian יְהוּדָה [yuhu:ʔda:ʔ]) 'Judah'.

In several cases transcriptions in the Septuagint have a vowel where Tiberian have silent *shewa* (Bergsträsser 1918:I 120, 135). This is predominantly in an open syllable before the stress, e.g., Μαδεβα (Tiberian מֵדְבָה [me:ʔda:ʔ]) 'Medeba', Σαρεπα (Tiberian צָרְפַּת [ʃarfa:ʔ]) 'Zarephath', Ακκαρων (Tiberian עֲקֶרֶן [ʔeqro:n]) 'Ekron', Εζεκιας (Tiberian חֶזְקִיָּה [hizqiyya:ʔ]) 'Hezekiah', Ιερεμιας (Tiberian יִרְמְיָה [yirmiyya:ʔ]) 'Jeremiah'.

Many of the proper names that are transcribed into syllabic cuneiform in Akkadian sources datable to the 1st millennium B.C.E. have *shewa* in their corresponding Tiberian forms (for details of sources → Transcriptions into Cuneiform). When these transcriptions have a vowel where Tiberian has *shewa*, it appears that this is generally an original historical short vowel.

Many cuneiform transcriptions have an *a* vowel where Tiberian has a vocalic *shewa*. It is regularly found, for example, in the first syllable of suffix conjugation verbal forms in theophoric names, which had the original pattern *qatal*, e.g., na-tan-ya-u (Tiberian נְתַנְיָהוּ [naʔan:ʔyahu:ʔ]) 'Nethaniah', za-kar-ya-a-ma (Tiberian זַכְרְיָהוּ [zaʔar:ʔyahu:ʔ]) 'Zechariah', sa-me-e'-ya-a-u (Tiberian שְׁמַעְיָהוּ [ʃamaʃʃe:ʔyahu:ʔ]) 'Shemaiah', ga-mar-ya-a-ma (Tiberian גַּמְרְיָהוּ [gamariyya:ʔ]) 'Gemariah'. The names in cuneiform preserve the original vowel *a* in the initial divine element -יהו [joho:ʔ], e.g., ya-ú-ḥa-zi (Tiberian יְהוֹחָז [joho:ʔa:ʔ]) 'Jehoahaz', ya-ḥu-ú-na-ta-nu (Tiberian יְהוֹחָנָן [joho:ʔa:ʔna:n]) 'Jonathan', ya-ḥu-ú-ra-am (Tiberian יְהוֹרָם [yohor:ʔam]) 'Jehoram'. Note also ba-na-a-a-bar-qa (Tiberian בְּנֵי־בָרַק [bane:vara:q]) 'Beneberak', where the *a* vowel is historical (cf. בְּנִים [bni:m]) 'sons'). The vowel *a* is found also in other forms, e.g., ma-ga-du-ul-ma-gi-du-u (Tiberian מְגִידּוֹ [mayiddo:ʔ]) 'Megiddo', ya-u-dil-ya-u-du (Tiberian יְהוּדָה [yuhu:ʔda:ʔ]) 'Judah', is-qa-lu-na (Tiberian אֲשְׁקֶלֶן [ʔaʃqalo:n]) 'Ashkelon', al-ta-qu-u (Tiberian אֶלְתֵּקָה [ʔeltaqe:ʔ]) 'Elteke'.

Occasionally the cuneiform transcriptions have a high vowel where Tiberian has vocalic *shewa*. A rounded *u* occurs occasionally adjacent to labials and another *u*, probably having arisen due to assimilation to the phonetic environment, e.g., gab-bu-tú-nu (Tiberian גַּבְבֻּתוֹן [gabbaʔo:n]) 'Gibbethon', šu-bu-nu-ya-a-ma (Tiberian שְׁבֻנְיָהוּ [ʃavan:ʔyahu:ʔ]) 'Shebaniah'. The high vowels *i*, *e*, and *u* are found in the prefix of *pīel* participles, e.g., mi-na-ḥi-mil-me-ni-ḥi-im-mel/mi-ni-ḥi-im-me (Tiberian מְנַחֵם [mana:ʔe:m]) 'Menahem', mi-na-si-il-me-na-se-el/mu-na-se-e, but also ma-na-si-ʔ (Tiberian מְנַשֶּׁה [manaʃʃe:]) 'Manasseh'. It is possible that the Hebrew *pīel* participle originally had a high front vowel *i* in its prefix. This appears to have been the original quality of the vowel of the prefixes of the prefix conjugation of the *pīel* (Steiner 1980). The *u* and the *a* in the variant transcriptions would, therefore, be due to assimilation, in the case of *u* to a preceding labial and in the case of *a* to the following vowel.

Some transcriptions have a vowel in the middle of a word where Tiberian has a silent *shewa*, e.g., ḥa-za-qí-a-ú (Tiberian חֶזְקִיָּהוּ [hizqiyya:ʔ]) 'Hezekiah', am-qar-ru-na (Tiberian עֲקֶרֶן [ʔeqro:n]) 'Ekron', šá-ma-aḥ-ú-nu (Tiberian שִׁמְעוֹן [ʃimʔo:n]) 'Simeon', sa-me-ri-na/sa-mir-i-na (Tiberian שׁוֹמְרוֹן [ʃo:ʔmro:n]) 'Samaria'.

There is a close correspondence between the vowels and syllable structure represented by the cuneiform transcriptions and those reflected by the Greek transcriptions in the Septuagint. The cuneiform transcriptions, however, are more conservative in their preservation of the original *a* vowel before laryngeals. As indicated, the high vowels in the prefix of the participle forms *mi-na-ḥi-mi* (מְנַחֵם [mana:ʔe:m]), *mi-na-si-il/mu-na-se-e* (מְנַשֶּׁה [manaʃʃe:]) may be more conservative than the *a* vowels in related transcriptions in the Septuagint, e.g., Μαναση/Μανασση).

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Shewa: Modern Hebrew

1. ORTHOGRAPHIC SHEWA

שְׁוָא *šva* 'shewa' is the name given to the Hebrew vowel that is denoted orthographically by two points arranged in a vertical line under a consonant as exemplified here under the Hebrew letter *samekh*: סָ. The vowel shewa stands for either no vocalic sound (known as *šva naḥ* 'quiescent [lit. 'resting'] shewa') or a short epenthetic vowel. In words like סָגַרְתָּ *sagart* 'you (fs) closed' there are two shewas at the end of the word: under the penultimate letter *reš* (ר) and under the final letter *tav* (ת). In both cases the shewas indicate that no vowel is present after the relevant segment—there is no vowel following *reš* and no vowel following *tav*. The final sequence *rt* is a true cluster and is realized as such, i.e., with no intervening vowel between the two final consonants.

However, when the shewa appears under word initial clusters, as in words like כְּלָבִים *klavim* 'dogs,' it is treated differently. In Biblical and Tiberian Hebrew the shewa indicated the presence of a transitional vowel, a short, unstressed epenthetic vowel. This type of shewa is known as שְׁוָא נָע *šva na'* 'mobile shewa'. Word-initial consonantal clusters were prohib-

ited and therefore all word-initial onset clusters were separated by a transitional shewa, with the exception of the shewa in the word שְׁתַּיִם *štayim* 'two' (→ Shewa: Pre-Modern Hebrew).

In Modern Hebrew these transitional vowels receive ambiguous treatment. Some of them became the Modern Hebrew vowel *e*, as in verbal forms like מְדַבֵּר *medaber* 'speaks/talks (ms)' and מְשַׁלֵּם *mešalem* 'pays (m)', whereas others indicate no vowel, as in the word כְּלָבִים *klavim* 'dogs', which is realized as [klavim]. Whether the shewa remains a zero vowel or becomes the vowel *e* is determined by the nature of the cluster. If the cluster is a permitted cluster in Modern Hebrew, the shewa will indicate no vowel. If the cluster is an illicit cluster, then the vowel *e* is epenthesized to break up the offending cluster (see Kreitman 2008 for a list of permissible and impermissible clusters; also → Epenthesis: Modern Hebrew). Since Modern Hebrew tolerates word-initial onset clusters, many forms which were not tolerated in Biblical Hebrew and required a transitional shewa, are perfectly acceptable in Modern Hebrew and are realized as consonantal clusters.

2. PHONETIC SHEWAS

Phonetically, shewa is the most neutral vowel in articulatory terms. During the production of a shewa the active articulators, namely the tongue and the lips, are in their most neutral position. There is no tenseness in the tongue and the lips are slightly and effortlessly spread. Acoustically, the formant structure of a shewa is: First formant (F1) at 500Hz, F2 is 1500Hz and F3 is 2500Hz (→ Phonetics of Modern Hebrew: Acoustic for the definitions of a 'formant'). The shewa is located in the middle of the vowel space, as can be seen in Figure 1, where the vowel shewa is circled.

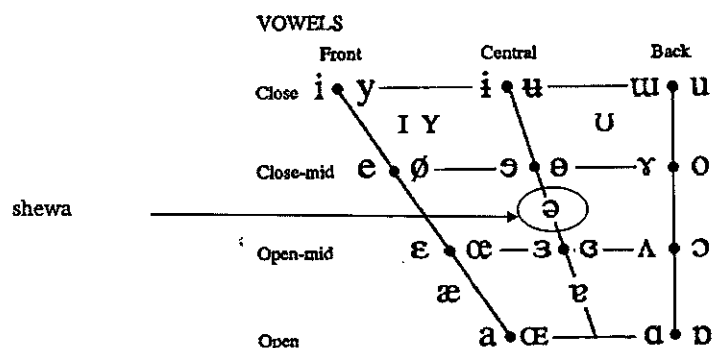


Figure 1. The vowel space

In Modern Hebrew phonetic shewas exist in speech but are not always related to orthographic shewas. They often occur as neutralized versions of unstressed vowels. These phonetic shewas are not marked orthographically and they are not phonemic in Modern Hebrew. That is, they do occur as an allophone of unstressed, neutralized vowels in casual speech. For example, in words like כְּלִים *kelim* 'tools, vessels, instruments' or גְּדָלִים *gdalim* 'sizes, measurements', the first unstressed syllables *ke* and *gda* respectively, can be realized with a phonetic shewa rather than a full vowel *e* or *a*. This shewa is an allophonic shewa which is a variation of a neutralized vowel and not a phonemic one. There is no difference between pronouncing the words *kelim* or *gdalim* with a neutralized vowel realized as shewa as in [kəlim], [gdəlim] or with a fully pronounced vowel *e* or *a* as in [kelim] or [gdalim]. Often the choice between pronunciation of a full vowel or a more neutralized realization depends on rate of speech or other factors, such as dialect, accent, etc. For more on shewa in Modern Hebrew see Bolozky (2007).

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Shewa: The Term *schwa* in Modern Linguistics

In modern general linguistics the term *schwa* is used in a number of distinct senses (Van Oostendorp 1998; Silverman 2011). In the scholarly literature it is usually spelled according to the German orthography, although *šva*, *sheva*, and *shewa* are also found.

Broadly speaking, the term has two different meanings in modern general linguistics. Most commonly *schwa* refers to a vowel of a certain 'neutral' acoustic quality, e.g., the vowel in the second syllable of the English word *model*. The other meaning is a vowel which alternates

with zero; an example is the second vowel in the Hindi word *dewar* 'brother in law', which does not show up in the related word *dewrani* 'brother in law's wife', (Ohala 1999). This second use of the term has given rise to a (folk) etymology of the word, which derives it from the Sanskrit *svarabhakti* 'epenthesis' (from Sanskrit *svara* 'vowel' and *bhakti* 'divide').

In neither of its two main meanings does *schwa* denote an unambiguously specific vowel. Thus, while the International Phonetic Association IPA has assigned the symbol [ə] to schwa in its International Phonetic Alphabet (IPA 1999; the term *schwa* is 'unofficial', since symbols do not have official names in IPA, only phonetic descriptions), Pullum and Ladusaw (1996:48) note that this symbol is used "for a range of distinguishable non-peripheral vowels for which other symbols could also be used" and that "there is a wide range of variation in the articulatory descriptions given to Schwa by American phoneticians". This is so probably because schwa is realized without an independent constriction in the mouth (Browman and Goldstein 1992).

The second meaning, too, can be refined in several ways. The fact that a vowel alternates with zero in a given language may be due to at least two different historical processes, deletion and epenthesis. The Hindi example given above is probably an example of the latter; an example of the former may be found in (varieties of) French, where *petit* can be pronounced with a neutral vowel in the first syllable, or with no vowel there at all ([pti]; Eychenne 2006).

The reason why the two interpretations of the term are easily confused is that in many languages they converge. The neutral vowel can be easily epenthesized or deleted, and conversely, if a language deletes or epenthesizes a vowel, it is very often the neutral vowel. However, it is not always the case that neutral vowels and deletion go together; thus Bolozky (2005) identifies a 'new' schwa in Modern Hebrew, which alternates with zero but has a low front articulation [ɛ], while the literature on French has a tradition of recognizing a 'stable' schwa, which has a quality similar to [ə], but does not alternate (e.g., Morin 1978).

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According to E. Pulgram³ the syllables of a language are defined by phonotactic rules. The basic principle is that a sequence of consonant and vowel segments has the status of a syllable only if the onset of the sequence can stand in word-initial

The dichotomy of principle sequence and dependent sequence should be distinguished from that of phonological and non-phonological syllables that I presented in an earlier article.⁶ The former relates to the phonotactics of physically perceptible phonetic segments. The latter relates to more abstract units that can be

³ *Syllable, word, nexus, cursus*, The Hague-Paris, 1970, 40ff.

5 *Hidāyat al-qārī*, short version, ed. I. Eldar, *Lěšonénu* LI (1986-87), 14.

6 *Journal of Semitic Studies* XXXII, 23-82.

extrapolated from the distribution of vowel length and stress. The word *תָּבַרְבָּר*, for instance, consists of two phonological syllables (marked in roman) and two non-phonological syllables (marked in italics): *ta-dab-ba-rū*. The word *יָאֻמְדֻ* consist of two phonological syllables and one non-phonological syllable: *yā-^fam-dū*. Segolates such as *קָרָעַ* consist of one phonological syllable and one non-phonological syllable: *kē-rem*. The word *וַיֵּעֲבֹק* has two phonological syllables and one non-phonological syllable: *way-yē-ebk*. The phonological syllable had a canonical quantity of two morae (CVC or CVV), whereas non-phonological syllables were not of a fixed quantity. They could have one mora (*ta-dab-ba-rū*, *yā-^fa-lē*), two morae (*yā-^fam-dū*) and even three morae (*way-yē-ebk*). Stress rules treated phonological syllables differently from non-phonological syllables even if they were of the same quantity on the phonetic level. The second syllable of a form such as *יָאֻמְדֻ*, for instance, is not taken into account by the rules governing *nāsiga* (retraction of the accent) whereas these rules do take into account the second syllable of a word such as *וַיֵּעֲבֹק*. In most Hebrew word forms in Tiberian Hebrew stress fell on the final syllable but in segolates the stress remained on the penultima.⁷

In practice phonological syllables always coincide with what we have referred to above as principle sequences and the non-phonological syllables nearly always coincide with dependent sequences. Since, however, there are a few cases of non-phonological syllables that have the phonotactic status of principle sequences (e.g. in the form *yā-^fam-dū* and the final syllable of segolates: *kē-rem*) a distinction in terminology reflecting the two different levels of analysis is necessary. The fact that CVC can be either a phonological or a non-phonological syllable demonstrates that the dichotomy between the two types does not crucially relate to the physical structure of the syllable but rather it concerns the sensitivity of a sequence to the rule of the canonical syllable quantity and to stress placement. The dichotomy between dependent and principle sequence, on the other hand, relates solely to the physical structure of syllables as determined by phonotactic rules. For the sake of clarity, therefore, we shall henceforth refer to syllables that are defined by the criterion of phonotactic rules as 'physical syllables'. A physical syllable always contains a principle sequence. To the onset of this principle sequence a dependent sequence may be attached. A dependent sequence has a coda that is not permissible in word final position and so cannot constitute a physical syllable by itself.

7 Cf. Khan, *Journal of Semitic Studies* XXXII, 42-43.

The principle vowel signs of the Tiberian vocalization system, therefore, mark the vowel of the principle sequence of physical syllables.⁸ For purposes of the graphical representation of the vowels words were divided into syllables and not segments. This would be in conformity with a common tendency in the development of graphical systems for the representation of language, viz. a stage in which segments are not treated independently of the syllable precedes a stage, if any such develops, in which segments are represented independently of the syllable.⁹ In contrast to the Tiberian Hebrew system of vocalization the Arabic system of vocalization, from its earliest period of development, marked all vowels, both long and short in both open and closed syllables. This does not necessarily mean that Arabic vocalization marked vowel segments without taking account of syllable structure. In Arabic a short vowel can occur at the end of a word and so can constitute the coda of a syllable. Consequently the sequence CV in Arabic, unlike in Tiberian Hebrew, formed an independent syllable and all short vowels formed the nucleus of a full physical syllable.¹⁰

In the Standard Tiberian vocalization system the short vowels of the dependent sequence CV are marked either by a *šəwa* sign or by a *ḥataf-pataḥ* sign.

The Hebrew term *šəwa* is likely to be related to the Syriac term *šəwayyā*, which denoted an accent sign consisting of two dots arranged on a vertical plane, one being placed above the other.¹¹ The Syriac accent *šəwayyā* had the function of marking the end of a syntactic unit:

8 It is worth noting that certain transcriptions of Hebrew made in the first millennium A.D. represent graphically the vowel nuclei of only phonological syllables. Origen, for instance, in his Greek transcription of Hebrew represented neither vocalic *šəwa* nor the vowel of the second syllable of segolates. The vowel of the final syllable of segolates is often left unrepresented also in the Latin transcriptions of Jerome; cf. M. L. Margolis, 'The pronunciation of the *šəwa* according to new Hexaplaric material', *American Journal of Semitic Languages and Literatures* XXVI (1909-10), 62-70; E. Brønno, *Studien über hebräische Morphologie und Vokalismus*, Leipzig, 1943, 125ff.; J. Blau, 'Hebrew stress shifts, pretonic lengthening, and segolization: possible cases of Aramaic interference in Hebrew syllable structure', *Israel Oriental Studies* VIII (1978), 102-103. Likewise in the Latin transcriptions of Hebrew in the tenth-century Ripoll manuscript no. 74 the vowel of the final syllable of segolates is not represented, e.g. Charm = *קָרָעַ*, Zambr = *וַיֵּעֲבֹק*; cf. J. M. Millas Vallicrosa, 'Un antiguo glossario Hispanohebraica con transcripciones preTiberienses', *Sefarad* XXI (1961), 224.

9 Cf. I. Gelb, *A Study of writing*, Chicago, 1965.

10 Considerations of syllable structure rather than the nature of the vowel segment may have conditioned the development of also the Syriac vocalization system. Further investigation of the nature of 'reduced' vowels in open syllables is required before this can be clarified.

11 Cf. W. Bacher, *Die Anfänge der hebräischen Grammatik*, Leipzig, 1895, 18 n.3.

A. Dotan has argued that the Hebrew *šəwa* was related to the Syriac *šəwayyo* not only in name and graphical form but also in function, in that the *šəwa* also marked boundaries, in this case the boundaries of syllables.¹² This would correspond to the interpretation of the *šəwa* sign that is found in the masoretico-grammatical sources. According to these texts the vocalic *šəwa* bound a letter to the following letter and the quiescent *šəwa* bound the letter to the preceding letter. Thus it occurred at either the onset or the closure of a syllable.¹³

The masoretico-grammatical texts that present this analysis were written around the end of the Masoretic period. Their statements concerning the function of the *šəwa* sign may have been no more than an interpretation of a existing system of vocalization signs. They do not necessarily cast light on the original function of the *šəwa* sign when it was first used in the formative stage of the Tiberian system. There is, moreover, a difficulty with the hypothesis that the *šəwa* sign was added to mark syllable boundaries. If this was its original function why was it not marked at all syllable boundaries, i.e. on every consonant irrespective of whether it was marked with a vowel sign or not?

It is easier to take the view that the *šəwa* sign was related to the Syriac *šəwayyo* only in form and that one should not seek a connection between the function of the two signs. In the Standard Tiberian tradition *šəwa* is marked at the end of a word only on the letters *kap* and *taw* and on letters that form a cluster with a preceding consonant. In Palestinian-Tiberian vocalization,¹⁴ however, *šəwa* is also marked on final *ayn*, *het* and *waw*. The function of the sign on these letters was to signal to the reader that the letters were to be pronounced with their correct consonantal value. These consonants were evidently considered to be particularly susceptible of being incorrectly pronounced. In this case, therefore, the primary purpose of the *šəwa* seems to have been to ensure that a consonant was not left unpronounced rather than to mark a syllable boundary. One may interpret this as one of those features of Palestinian-Tiberian vocalization that constitute a development of features present in the Standard Tiberian system.¹⁵

12 A. Dotan, שמותיו של השוא בראשיתו של הדקדוק העברי, *Lēšonenu* XIX (1953-54), 13-30.

13 For references see n.4 above.

14 This system has been given various other names. These include 'Ben-Naptali', 'Pseudo-Ben-Naptali', 'Fuller Palestinian', 'Palestinian' and 'Expanded Tiberian'.

15 For this general tendency see I. Yeivin, *Hebrew language studies presented to Professor Zeev Ben-Hayyim*, Jerusalem, 1983, 293-307.

The original function of the *šəwa* sign of the Standard Tiberian tradition, therefore, could have been to indicate that a consonant without a vowel sign should not be left unpronounced.¹⁶ This is clear in the contrast between forms such as *וְיִשְׁקֶה*, *וְיִשְׁקֶה* in which the final consonant is pronounced, and forms such as *וְיִשְׁקֶה*, *וְיִשְׁקֶה* in which the *alep* is left unpronounced. A development of this function of *šəwa* is found in some medieval manuscripts, whereby the *šəwa* sign is placed under all letters without vocalization. In such manuscripts a *šəwa* is placed under a *mater lectionis*, that has no vowel sign. This feature is found most frequently with *mater lectionis* *alep*. It is attested in some Bible manuscripts from the Cairo Genizah with an otherwise predominantly Tiberian type of vocalization, e.g. *מְלֹאכְתָּו* (T-S A22.54, *מְלֹאכְתָּו*, Gen. 2:2). It has also been recorded in Genizah Bible manuscripts with a Palestinian-Tiberian type of vocalization¹⁷ and in several manuscripts of European provenance containing post-Biblical Hebrew texts, the vocalization of many of which is related to the Palestinian-Tiberian type, e.g. *לְאֹמֹר*, *רְאֵשִׁית*, *מְצֻאֵת*, *מְצֻאֵת*, *צִאֲנָךְ*, *מְצֻאֵת*.¹⁸ In some manuscripts of European provenance the *mater lectionis* has *ḥataf pataḥ* instead of *šəwa*, e.g. *רְאֵשִׁית*, *מְצֻאֵת*.¹⁹ The vowel sign is sometimes placed on the *mater lectionis*, in which case the preceding consonant is marked with *šəwa*, e.g. *צִאֲנָךְ*.²⁰ This is found in the case of *šureq*, which is always written within *mater lectionis* *waw*, e.g. in Bible manuscripts from the Cairo Genizah: *וְיִרְבּוּ* (T-S A22.58 - *וְיִרְבּוּ*, Gen. 7:18); in Mishnaic Hebrew texts: *וְיִרְבּוּ*, *וְיִרְבּוּ*.²¹ Alternatively, when the *mater lectionis* has a vowel sign, the preceding consonant is sometimes also marked with a vowel sign, e.g. *וְיִרְבּוּ*, *וְיִרְבּוּ*.²²

16 Cf. S. Morag, *The vocalization systems of Arabic, Hebrew and Aramaic*, S Gravenhage, 1972, 29.

17 Cf. Revell, 'A new subsystem of "Tibero-Palestinian" pointing', 92 n.5.

18 I. Eldar, *Lēšonenu* XXXIX, 195; *The Hebrew language tradition of medieval Ashkenaz*, 68-69;

19 Mr Bar-Asher, *The tradition of Mishnaic Hebrew in the communities of Italy [according to MS Paris 328-329]*, Jerusalem, 1980, 48.

20 Eldar, *The Hebrew language tradition in medieval Ashkenaz*, 69; also M. Beit-Arie, *Lēšonenu* XXIX, (1964-65), 38.

21 Bar-Asher, *The tradition of Mishnaic Hebrew*, 48.

22 Sharvit, *Bar Ilan Annual* VI, 24.

23 Eldar, *Lēšonenu* XXXIX, 195; Bar-Asher, *The tradition of Mishnaic Hebrew*, 48. These three types of double vocalization of vowels marked by *mater lectionis* are also found in medieval Judaeo-Arabic texts that are vocalized with Tiberian vowel signs, see G. Khan, 'The function of the *šəwa* sign in vocalized Judaeo-Arabic texts from the Genizah' (to appear in the Proceedings of the 3rd Conference of the International Society for Judaeo-Arabic Studies).

It was noted above that one of the characteristic features of Palestinian-Tiberian manuscripts is the marking of *šəwa* on final *het*, *ʿayn* and *waw*. Some Biblical manuscripts with this type of vocalization sporadically mark *šəwa* at the end of a word also on other consonants, e.g. JTS ENA 2640 f. 11: כְּהִכֵּל (Ps 11:4 = כְּהִכֵּל), אֲנִישׁ (Ps. 10:18)²³ JTS. 522 ff. 14-15: אֲשִׁיר (Is. 20:6).²⁴ Some non-Biblical manuscripts exhibit the tendency to place a *šəwa* under all consonants at the end of a word, e.g. כְּהִכֵּל. By way of typological comparison note the vocalization הִכְהִיכִי (= הִכְהִיכִי), which occurs in a poetic text from the Genizah (T-S NS 150.13). In addition to the placement of *šəwa* on the final consonant this also exhibits the 'double' vocalization of the *matres lectionis*.

The *ḥataf* signs were introduced in certain circumstances, mostly on guttural letters, as a refinement to the system of vocalization to ensure that the *šəwa* was read as vocalic.

In some Genizah fragments that contain vocalization of the so-called Palestinian-Tiberian type, the *šəwa* sign is regularly used where Standard Tiberian has *ḥataf* signs. The manuscripts that exhibit this feature belong to the oldest layer of Palestinian-Tiberian manuscripts.²⁵ Some of the early manuscripts with this type of vocalization use *šəwa* and bare vowel signs interchangeably, where Standard Tiberian uses *ḥataf* signs.²⁷

Vocalization of the letter preceding a *mater lectionis* with *šəwa* is found in vocalized Genizah manuscripts of Aramaic poetry; cf. Y. Yahalom and M. Sokoloff, *Western Jewish Aramaic poetry*, Jerusalem, 1991, introduction.

²³ Cf. A. Diez-Macho, *Manuscriptos hebreos y arameos de la Biblia*, Rome, 1971, 293-94.

²⁴ For a description of this manuscript see A. Murtonen, 'Spoken Hebrew from the tenth century A.D.', *Abr Nahrain* III (1961-62), 45-59.

²⁵ Eldar, *Lšonenu* XXXIX, 194.

²⁶ Cf. A. Diez-Macho, 'Un manuscrito hebreo protomasorético y nueva teoría acerca de los llamados MSS. Ben-Naftali', *Estudios bíblicos* XV (1956), 194; idem, 'A new list of so-called "Ben Naftali" manuscripts', in D. Winton Thomas and W. D. McHardy (eds.), *Hebrew and Semitic studies presented to Godfrey Driver*, Oxford, 1963, nos. 7, 13; A. Murtonen, 'Spoken Hebrew from the tenth century A.D.', *Abr Nahrain* III (1961-62), 55-59; E. J. Revell, 'A new subsystem of "Tibero-Palestinian" pointing', *Proceedings of the fifth world congress of Jewish studies*, vol. IV, Jerusalem, 1969, 91.

²⁷ E.g. A. Diez-Macho, 'A new list of so-called "Ben Naftali" manuscripts', nos. 3 and 4. The practice of marking *šəwa* or a bare vowel sign instead of *ḥataf* signs is also found in manuscripts of European provenance; cf. I. Eldar, *The Hebrew language tradition in medieval Ashkenaz*, 54-64, idem, 'The vocalization of the Haggada in Mahzor Vitry (Ms. Sassoon 535)', *Lšonenu* XXXIX (1974-5), 196. The vocalization of many of these manuscripts is related to the Palestinian-Tiberian tradition of vocalization and this feature may be a continuation of the same feature that is found in the old Eastern Palestinian-Tiberian manuscripts. One must

Many of the features of Palestinian-Tiberian vocalization that deviate from Standard Tiberian correspond to features found in the various Palestinian vocalization systems. Some of the features deviating from Standard Tiberian, however, are independent of the known Palestinian systems. A number of the latter features are conspicuous in the later layers of Palestinian-Tiberian vocalization and represent a more developed stage of vocalization than the Standard Tiberian system.²⁸

Since the early Palestinian-Tiberian manuscripts in question exhibit clear affinities to Palestinian traditions of vocalization, the use of *šəwa* or bare vowel signs in place of *ḥataf* signs in these manuscripts is likely to be a reflection of Palestinian practice. Similar vocalization patterns are found in manuscripts with a mixture of Palestinian and Tiberian vowel signs. In many of these manuscripts the Tiberian vocalization has been added by a second hand. The Tiberian vocalization of the second hand often vocalizes gutturals with *šəwa* or with a bare vowel sign where Standard Tiberian has a *ḥataf*.²⁹

Where Standard Tiberian has vocalic *šəwa* or *ḥataf* signs Palestinian vocalization either leaves the letter without a sign or else adds a simple vowel sign. Manuscripts with Palestinian vocalization exhibit differences as to the frequency with which a vowel sign is marked on a letter that in Standard Tiberian has a *šəwa* or *ḥataf*. Some manuscripts with an otherwise abundant use of vocalization leave such letters without a sign in nearly all cases whereas other manuscripts mark them with vowels signs with greater regularity.³⁰ The early Palestinian-Tiberian manuscripts and the second Tiberian hand of manuscripts with a mixture of Palestinian and Tiberian signs reflect Palestinian practices transferred into Tiberian signs. The use of the *šəwa* sign where Standard Tiberian has a *ḥataf* corresponds to the omission of a sign in the Palestinian system. The use of a simple vowel sign where Standard Tiberian has a *ḥataf* corresponds to the use of a simple vowel sign

take into account, however, that the local pronunciation tradition of Hebrew may have been behind some of the vocalization patterns of the European manuscripts; cf. the remarks of Eldar, *The Hebrew language tradition in medieval Ashkenaz*, 59-64; H. Yalon, *Inyane Lašon* (1941-42), 32 and M. Bitt-Arie, *Lšonenu* XXIX, (1964-65), 38.

²⁸ This applies particularly to the expanded use of the *dages* sign in some Palestinian-Tiberian manuscripts; cf. I. Yeivin, *Hebrew language studies presented to Professor Zeev Ben-Hayyim*, 293-307.

²⁹ Cf. M. Dietrich, *Neue Palästiniſche Punktierſe Bibelfragmente*, Leiden, 1968, Cb 3, Cb 7, Cb 10.

³⁰ Cf. E. J. Revell, 'Studies in the Palestinian vocalization of Hebrew', in J. W. Wevers and D. B. Redford (eds.), *Essays on the ancient Semitic world*, Toronto, 1970, 83-93.

in the Palestinian system. The marking of the *šəwa* sign, therefore, would correspond directly to the absence of a vowel sign on gutturals in the Palestinian vocalization system.³¹ Its function was not regarded as a marker of syllable boundaries since it was not used in combination with a simple vowel sign in manuscripts that used simple vowel signs on gutturals corresponding to a parallel Palestinian usage.

The stream of tradition that crystalized in the Standard Tiberian vocalization developed *ḥaṭap* signs. These were also regularly used in the later layers of Palestinian-Tiberian vocalization. The *ḥaṭap* signs are most easily explained as a development of an earlier system that marked all CV sequences with *šəwa*. Several pieces of evidence may be adduced to support this hypothesis.

The marking of *ḥaṭap* signs on non-guttural consonants was regarded as optional by the medieval masoretic-grammatical sources that were concerned with the Standard Tiberian tradition. According to these texts many scribes wrote *šəwa* rather than *ḥaṭap* on these letters. The orthoepic work *Hidāyat al-qārī* (written in Palestine of in the first half of the the eleventh century) contains a passage relating to this:³²

פאן קאל אלויס קד אנתמע אלשא ואלקמז מן תחת אלדאל בן מרדכי ותחת אלקמז
אלקמז מן קד מיהון ותחת אלמם מע אלקמז מן משכנ אותה ותחת אלבא פ
די אנא בניתה מע אלטולה קיל לה לוס דלך בנאקז אלמדונה אלדי דכרתה ודלך
אן אהל הדי אלשאן אצטלח אן לא ינמעו אלשא ואלמלך אלא תחת הדי אלארבע
חרוף ואנז קיל אן בעז אלסופרים אראד אן ירפע אלשאכאל מן אלמאצע אלמלשה
פומע מלך מע אלשא להדי אלונה לאן ראי אלנאס נגלש פי קראה מחדכי פמנהם
אדי ראי אלשא בלא קמז קראה מפתח חנואן ראי אלקאמצה וחדהא לם יאמן אן
יסתופי אלקאמצה פדא אן יומעהמא חתי ירפע הדי אלקאר מן אלשאכאל וכדלך
מא מאתלה וחדו כארג ען סננהם ואלדי יקוי אן הדי ראי אלבעז מנהם פי נגר
אלארבעה חרוף הן אן אחר אלמצאחק לא יוגד פיהא מא אעתרץ בה אלמעתרץ
ואלמצאחק כלדהא מטבקה עלי נמע אלשא ואלמלך תחת הדי אלארבעה חרוף

31 This should be contrasted with the marking of Tiberian *šəwa* on gutturals in many Yemenite manuscripts that are direct transcriptions of manuscripts with Babylonian vocalization; cf. S. Morag, 'השווא כהגייתם של בני ח'ימן', *Leshonenu* XXI (1956-57), 106. In these manuscripts the Tiberian *šəwa* sign is used where the Babylonian vocalization has a *šəwa* sign. It is not used to correspond to the lack of a sign in the Babylonian vocalization.

32 *Hidāyat al-qārī*, long version, JTS EMC 829/832 [Mid. 8Y10], fols. 46-47. Cf. also the parallel passages in the shorter versions of this work: *Horayal ha-Qore*, ed. G. Busi, Frankfurt am Main, 1984, 146-148; J. Derenbourg, *Manuel du lecteur*, Paris, 1871, 65 [373].

'If someone says, "Is it not the case that *šəwa* is combined with *qameṣ* under the *dalet* of מרדכי, with *qameṣ* under the *qūṭ* of קד מיהון, with *qameṣ* under the *mem* of מושכנ אותה (Ezek. 32:20) and with *segol* under the *bet* in בנייתה (Dan. 4:27)", I would reply that this does not contradict what I have stated.³³ This is because those concerned with this matter agreed on the practice of not combining a *šəwa* with a vowel sign except under these four [guttural] letters. It has been reported, however, that some scribes wished to remove uncertainty from certain places that were liable to lead [the reader] into error and they combined a vowel sign with the *šəwa* in this way; since they saw people err in the reading of מרדכי, in that when some of them saw the *šəwa* without *qameṣ*, they read it as a *pataḥ*. If they were to see *qameṣ* by itself they would not be safe from [falling into the error of] pronouncing the *qameṣ* with its full length. Consequently, they [= some scribes] resolved to combine the two signs to remove readers' such as these from the possibility of error, and [they did] likewise with similar [words]. This deviated from their general practice. What strengthens [the claim] that this is the view of [only] some of them [= the scribes] regarding the non-guttural letters is that in most codices, one does not find what was presented as an objection [i.e. *ḥaṭap* signs under non-gutturals] whereas all the codices are agreed on the combination of *šəwa* with a vowel sign under the four gutturals.³⁴

The *Diqduq ha-ta'amim* indicates that there was no consistency among the scribes in the marking of *ḥaṭap qameṣ* in words such as: וְנִפְתָּחָהּ (Gen. 43:21); וְנִפְתָּחָהּ (Ps. 39:13); וְנִפְתָּחָהּ (Zech. 8:3); מְרִדְכִי and בְּנִיתָהּ. Some scribes vocalized these words with *šəwa* instead of *ḥaṭap*.³⁵ The words can be divided into two groups: those in which the *ḥaṭap qameṣ* occurs before a guttural that is vocalized with *qāmeṣ* and those in which the *ḥaṭap qameṣ* reflects an original short *u* vowel. With regard to the first group compare the remarks of David Qimhi, *Sefer Miklot*, ed. J. Rittenberg, Lyck, 1862, 138b: הגימל כך קריאתה. ויגמל נקודה בקמץ הטכך נוטה לקמץ חטף מפני העיין ויש ספרים מדויקים שהגימל נקודה בקמץ הטכך 'Likewise with *ḥaṭap qameṣ*, as in וְנִפְתָּחָהּ (Is. 54:9), the reading of the [vowel on] the *gimel* is similar to *ḥaṭap qameṣ* on account of the *ayn*. There are

33 I.e. that vowel signs are combined with *šəwa* only under guttural letters.

34 The word מְרִדְכִי is included in this passage as an example of a *ḥaṭap* sign occurring under a non-guttural letter. The discussion of the origin of the *ḥaṭap qameṣ* in מְרִדְכִי, however, does not apply also to its occurrence in מושכנ. The latter is a different phenomenon, namely the writing of *ḥaṭap qameṣ* for *qameṣ ḥaṭap* in a closed syllable, for which see below.

35 The *diqduq ha-ta'amim* of Aharon ben Moše ben Ašer, ed. A. Dotan, Jerusalem, 1967, section 19.

accurately vocalized codices in which the *gimel* is vocalized with *ḥaṭap qameṣ*.³⁶ Dotan, in his comments to section 19 of *Diqduq ha-ṭ'amim* (pp. 371-2), argues that the words in which the *ḥaṭap qameṣ* reflects an original short *u* vowel were added in later recensions due to a misunderstanding of the original text by scribes who were not familiar with the Tiberian pronunciation tradition. We have seen, however, that words of this type are mentioned in the long version of the *Hidāyat al-qāri*. The author of this work was familiar with the Tiberian pronunciation tradition and so there is no reason to doubt that the vocalization of these words with *ṣewa* rather than with *ḥaṭap qameṣ* was a genuine practice of some of the Tiberian scribes.

The Masorete Rab Pinḥas is reported to have added a *pataḥ* sign to many instances of vocalic *ṣewa* under non-guttural consonants, e.g. *בְּכִי* (Ex. 25:3); *וְקָרְבָּנוֹ* (Ps. 55:22); *הַתְּפִלָּה* (Is. 24:19); *וְשִׁבְהָ* (Jud. 5:12); *קָשִׁי* (Deut. 9:27).³⁷

The Tiberian model codices that are extant agree with one another in their marking of *ḥaṭap* signs under guttural letters but vary in the frequency with which a non-guttural letter is marked with a *ḥaṭap* sign in place of a vocalic *ṣewa*. Considerable differences are found among the manuscripts in the marking of *ḥaṭap pataḥ* on non-gutturals. The vocalizer of the Aleppo codex was particular liberal in his use of this sign under these letters.³⁸ In some manuscripts, on the other hand, *ḥaṭap pataḥ* never occurs on non-gutturals, e.g. MS Sassoön 507.³⁹ The vocalizers of the manuscripts also differ as to whether they chose to mark *ḥaṭap qameṣ* or *ṣewa* before a guttural with *qameṣ*.⁴⁰ The variation among the manuscripts regarding the marking of *ḥaṭap qameṣ* or *ḥaṭap segol* that reflects the original quality of the vowel of the syllable are few. They do occasionally occur. MS Sassoön 507, for instance, sometimes has *וְתִנְנִי* where other manuscripts have *וְתִנְנִי*.⁴¹ It is interesting to note that this is one of the words that is mentioned in the *Diqduq ha-ṭ'amim* as being vocalized by some scribes with *ṣewa*.

These variations in the manuscripts, which are alluded to also in the masoretico-grammatical sources, reflect the fact that the adding of a vowel sign to

vocalic *ṣewa* on the non-guttural consonants was not standardised in the Tiberian tradition to the same extent as the adding of a vowel sign to vocalic *ṣewa* on gutturals. The marking of *ḥaṭap* signs on the gutturals was standardised in the Tiberian tradition in the Masoretic period. Complete standardisation of the marking of *ḥaṭap* signs on non-guttural letters was not achieved in the Masoretic period. The variation between *ṣewa* and *ḥaṭap* signs on non-gutturals in the Standard Tiberian tradition indicates that the *ḥaṭap* was a development of the *ṣewa*.⁴²

The original purpose of the *ṣewa* sign was not to mark a short vowel segment or the lack of one. The fact that a consonant without a vowel sign was sometimes followed by a short vowel and sometimes not was a result of the syllabic nature of the vowel notation. The *ṣewa* sign supplemented the marking of the vowel signs by filling the graphical gap left by the system of vowel notation.

The Tiberian vocalization in its standard form was a syllabic system. It did not mark all vowel segments but only those in the principle sequences of syllables. Vowel segments that occurred in sequences that did not have the status of syllables, i.e. CV, were not marked with vowel signs. These were marked either with the graphical filler sign *ṣewa*, which indicated that the consonant was empty of a vocalization sign, though not necessarily empty of a vowel, or with *ḥaṭap* sign, which was a development of the *ṣewa* sign designed to disambiguate its phonetic realisation.

As has been remarked above, the masoretico-grammatical literature, which was composed at the end of the Masoretic period, refers to the function of the *ṣewa* to bind a letter to the one that followed or preceded. These texts contain a number of statements that indicate that the *ṣewa* sign was interpreted as also having the function of marking the vowel as short, e.g. *וְהִי מְרַכְבָּה מֵעַל כָּל מִצְוָתָהּ מִן הַדָּה אֵלֶיךָ* 'and it is marked with *ṣewa* above all its commandments from the day that I came to you' (Ex. 28:38). *אֵמָּה בְּאֵלֶיךָ וְאֵמָּה בְּאֵלֶיךָ אֵמָּה בְּאֵלֶיךָ אֵמָּה בְּאֵלֶיךָ אֵמָּה בְּאֵלֶיךָ אֵמָּה בְּאֵלֶיךָ אֵמָּה בְּאֵלֶיךָ* 'It [the *ṣewa*] is combined with each of these seven vowels either in reality or in pronunciation. By 'in reality' I mean in the pointing, by 'in pronunciation' [I mean] the shortening of the [vowels] the *ṣewa* brings this about.⁴³ *לֹא אֵצֶל בְּנֵי-אֱלֹהִים אֵמָּה דִּי עָלִי אֶלְתַּכְּפִיךָ ... פֶּאֶדָּא אֶרְאָדוּ יִכְפְּפוּן* 'Since the [occurrence] of the *ṣewa*

36 *Diqduq ha-ṭ'amim*, ed. Dotan, section 20.

37 Cf. I. Yeivin, *The Aleppo Codex of the Bible, a study of its vocalization and accentuation*, Jerusalem, 1968, 22-49.

38 Cf. Y. Shashar, *The Jerusalem manuscript 5702 24 (Sassoön 507) and its place in the formation of the Tiberian Textus Receptus*, Ph.D. thesis, Hebrew University, 1983, 20.

39 Cf. Yeivin, *Aleppo codex*, 35-36.

40 Yeivin, *Aleppo codex*, 35; Shashar, *The Jerusalem manuscript 5702 24*, 21.

41 It is possible that the vocalization of the *qere* of the tetragrammaton with *ṣewa* is a vestige from the period in which also guttural letters at the onset of a CV sequence were marked with *ṣewa* rather than with *ḥaṭap* signs.

42 *Kitāb al-Muṣawwītāt*, ed. N. Allony, *Léonénu* XXIX, (1964-65), 140.

is determined by shortness [of the vowel] ... if they wished to shorten [the vowel] of the *qūp*, they added *šəwa* to segol and the result is קָ.⁴³

אלשוא אדרי אנתמע מע מלך [בהדרגה סלב אלמלך חטה מן אן יסתופא... ואנמא] When *šəwa* is combined with a vowel on a letter the vowel is deprived of its ability to be pronounced with full length... they combined them [the *šəwa* and the vowel sign] so that the nature of the vowel [i.e. its length] might be obliterated.⁴⁴

This could not have been the original function of the *šəwa* sign in the original Tiberian system, since it was not marked on all short vowels but only where a short vowel occurred in the dependent sequence CV. Its original function was a graphical filler of letters without vocalization. The shortness of the vowel in a syllable with a *šəwa* sign was only an implicature of the sign's occurrence. It appears, however, that what was originally only an implicature of the sign's use was later taken to be one of its primary denotations. It would follow from such an interpretation of the sign that it could be used to mark all short vowels, irrespective of the syllabic context, i.e. in both dependent sequences (CV) and primary sequences (CVC).

Traces of the application of this interpretation of the *šəwa* sign are already found in the early model Tiberian codices. In some manuscripts, for instance, the *ḥataf* signs are occasionally used in closed syllables, e.g. Leningrad B, 19a: בְּחֶרֶטִּים (Ex. 9:11), הָעֵרֶבִים (Ex. 30:8), יְחִזְקִי (II Sam. 10:11), יִנְעֹכָךְ (Josh. 7:25).⁴⁵ This use of *ḥataf* vowels in closed syllables is also found in Palestinian Tiberian manuscripts. The occurrence of *ḥataf qameṣ* in place of *qameṣ ḥataf* is especially common in these manuscripts. This may be a development of the sporadic use of *ḥataf qameṣ* in closed syllables that is traceable in the Standard Tiberian manuscripts. There are a few instances of a *šəwa* sign occurring instead of *pataḥ* in the Standard Tiberian codices, e.g. Leningrad B 19a: הָרִנְנוּ (Jud. 16:2); BL Or. 4445: לְמַלְךְ (Lev. 20:3). Conversely *āwāre pataḥ* sign occasionally occurs in place of *šəwa*, e.g. BL Or. 4445: הִצְפִּהֶךָ (Ex. 8:2); or a bare vowel sign occurs in place of a *ḥataf* sign, e.g. BL Or. 4445: לִי־נָנוּ (Num. 33:42); Leningrad, Firkovitch II 10: אֶל־הֵיָהֶם (Deut. 12:30).⁴⁶

⁴³ The treatise on the *šəwa* ed. K. Levy, *Zur masoretischen Grammatik*, p. 3.

⁴⁴ *Hidāyat al-qārī*, long version, MS JTS EMC 829/832 [Mic. 8110], fols. 48-49, reproduced by I. Eldar, 'Biblical orthodoxy', *Qaribz* LIV (1984-85), 242-3.

⁴⁵ Cf. A. Dotan, 'עיון ברכבים קדומים של הניקוד', in B. Z. Luria (ed.), *Festschrift in Honour of Even-Shoshan*, Jerusalem, 1983, 157-165; Yeivin, *Aleppo codex*, 18, 20.

⁴⁶ Cf. Yeivin, *Aleppo codex*, 18.

A similar tendency is discernible in the Hebrew Bible manuscripts from the Cairo Geniza with Tiberian vocalization that were written for private use and did not serve as model codices.⁴⁷ These are in many cases datable to the beginning of the period in which manuscripts were accumulated in the Geniza, i.e. the tenth and eleventh centuries A.D. They are contemporary with many model Tiberian codices that were accurately vocalized according to the Standard system. In the Bible manuscripts that were written for private use the fixed tradition of the written representation of the reading tradition was generally adhered to less accurately than in the model codices. This is displayed by the tendency in some of the manuscripts to use *scriptio plena* where the Standard Tiberian tradition has *scriptio defectiva*. The deviations from the Standard Tiberian system discussed above, namely the interchange of the *šəwa* and *ḥataf* signs with the bare vowel signs, which are found in a few isolated words in the model codices, are attested in abundance in some of the Tiberian manuscripts written for private use. This reflects the fact that a trend in the usage of the Tiberian signs that was restricted by the conservative tradition of the model codices developed freely in the private manuscripts, which were not so constrained by tradition. Examples: T-S A21.14: מִרְחֶפֶת (Gen. 1:2 - מִרְחָפֶת), וִיאָמַר (Gen. 1:3 - וִיאָמֶר), וִיִּקְרָא (Gen. 1:5 - וִיִּקְרָא), וִיִּבְרָא (Gen. 1:5 - וִיִּבְרָא), וִיִּבְרָא (Gen. 7:21 - וִיִּבְרָא), וִיִּבְרָא (Gen. 7:16 - וִיִּבְרָא), וִיִּבְרָא (Gen. 7:17 - וִיִּבְרָא), וִיִּבְרָא (Gen. 19:12 - וִיִּבְרָא), וִיִּבְרָא (Gen. 19:12 - וִיִּבְרָא), וִיִּבְרָא (Gen. 19:12 - וִיִּבְרָא), וִיִּבְרָא (Gen. 19:13 - וִיִּבְרָא), וִיִּבְרָא (Gen. 35:8 - וִיִּבְרָא), וִיִּבְרָא (Gen. 35:12 - וִיִּבְרָא), וִיִּבְרָא (Gen. 35:17 - וִיִּבְרָא), וִיִּבְרָא (Gen. 35:17 - וִיִּבְרָא), וִיִּבְרָא (Gen. 35:17 - וִיִּבְרָא).

These interchanges of signs do not necessarily reflect a pronunciation tradition that differed from the one that was represented by the Standard Tiberian vocalization system. Rather they reflect a tendency to mark vowel segments according to their quality, and also sometimes their quantity, without consideration of the syllabic context in which they occur. The use of a *ḥataf* sign or a *šəwa* instead of a bare vowel sign in a closed syllable reflects a tendency to use the same notation to mark short vowel segments in both open and closed syllables. This implies that the *ḥataf* and *šəwa* signs of the Standard Tiberian system were interpreted as representing segmental vowel quality and quantity independently of the syllabic context. The use of a bare vowel sign instead of a *ḥataf* sign or vocalic

⁴⁷ For this type of Biblical Geniza manuscript see M. Goshen-Gottstein, 'Biblical manuscripts in the United States', *Textus* II (1962), 39ff; A. Diez-Macho, *Manuscriptos hebreos y arameos de la Biblia*, 92.

šəwa reflects a tendency to use the same notation for all vowel segments with the same quality irrespective of their quantity or syllabic context. This feature implies that a bare vowel sign of the Standard Tiberian system was interpreted as representing a vowel segment of a given quality independently of the syllabic context.

In terms of the typology of vocalization these deviations from Standard Tiberian reflect a trend towards segmental vocalization, in that one sign is used to represent a vowel segment of a given quantity and quality in both dependent sequences and principle sequences of a syllable.

Summary:

Three levels should be distinguished in the analysis of syllables in the Tiberian tradition of Biblical Hebrew.

1. Phonological syllable.

Phonological syllable: of canonical quantity and taken into account by rules relating to stress.

Non-phonological syllable: not bound by the principle of canonical quantity, not taken into account by some rules relating to stress.

2. Physical syllable.

Principle sequence - CV or CVC. Can stand independently. The nucleus is marked by a vowel sign.

Dependent sequence - CV-. Cannot stand independently. The nucleus is not marked by a vowel sign.

3. Vowel segment.

Letters left without vocalization that were pronounced, with the exception of most word-final letters, were marked with the šəwa sign. The original function of this sign was to fill the graphical gap left by the notation of the vowel signs both under consonants without a vowel and also under consonants the vowel of which was not the nucleus of a principle syllabic sequence. Subsequently, in many cases where the šəwa marked a letter that was followed by a short vowel in a dependent sequence

(CV) vowel signs were added to the šəwa to safeguard the correct reading of the word.

The interchange of šəwa, *ḥatāp* and bare vowel signs reflects a drift from the strictly syllabic system of the Standard Tiberian vocalization and a tendency to use the signs to mark vowel segments without consideration of the syllabic context in which they occur.



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