How was the *dageš* in Biblical Hebrew בָּתִּים pronounced and why is it there?

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The *dageš* in the Biblical Hebrew plural form בָּתִּים 'houses' is generally presented as an enigma in descriptions of the language. A wide variety of opinions about it have been expressed in Biblical Hebrew textbooks, reference grammars and the scholarly literature, but many of these are speculative without any direct or comparative evidence. One of the aims of this article is to examine the evidence for the way the *dageš* was pronounced in this word in sources that give us direct access to the Tiberian Masoretic reading tradition. A second aim is to propose a reason why the word has a *dageš* on the basis of comparative evidence within Biblical Hebrew reading traditions and other Semitic languages.

1.0. The Pronunciation of the *Dageš* in בָּתִּים

The Tiberian vocalization signs and accents were created by the Masoretes of Tiberias in the early Islamic period to record an oral tradition of reading. There is evidence that this reading tradition had its roots in the Second Temple period, although some features of it appear to have developed at later periods.[1] The Tiberian reading was regarded in the Middle Ages as the most prestigious and authoritative tradition. On account of the authoritative status of the reading, great efforts were made by the Tiberian Masoretes to fix the tradition in a standardized form. There remained, nevertheless, some degree of variation in reading and sign notation in the Tiberian Masoretic school. By the end of the Masoretic period in the 10th century C.E. this internal variation had resulted in two main authoritative sub-traditions associated with the Masoretes Aharon ben Asher

and Moshe ben Naphtali respectively, though some variants in the later Masoretic period are associated with the names of other Masoretes.[2]

The activities of the school of Tiberian Masoretes ceased in the 10th century after the generation of Ben Asher and Ben Naphtali. The Tiberian reading tradition continued to be transmitted into the 11th century by teachers in Palestine who had associations Tiberian Masoretic circles, but in the later Middle Ages the orally transmitted reading tradition fell into oblivion and the Tiberian sign notation remained a fossilized vestige of this tradition. As a consequence of this, Bible texts with the Tiberian sign began to be read with other reading traditions and the original denotation of the signs became a matter of interpretation rather than direct knowledge.[3]

Many features of the original Tiberian reading tradition can now be reconstructed on the basis of medieval sources. The two main types of sources available that have advanced our knowledge of the Tiberian reading are a corpus of Arabic transcriptions of the Hebrew Bible written by Karaite scribes and Masoretic treatises concerning the Tiberian pronunciation. Most Karaite transcriptions are datable to the 10th and 11th centuries and reflect the oral reading of the biblical text (i.e. the *qere*) according to the Tiberian tradition.[4] The Masoretic treatises in question were written in Palestine during the Masoretic period or shortly thereafter in the early 11th century when knowledge of the Tiberian reading was still alive.[5] We shall first examine the evidence for the pronunciation of בָּתִּים in Karaite Arabic transcriptions and then look some of the extant Masoretic treatises.

The two relevant features of the Karaite transcriptions is that most manuscripts represent long vowels by Arabic *matres lectionis* and that many manuscripts represent the *dageš* of the reading tradition with the Arabic *šadda* sign, which denotes consonant gemination. These are two features external to Hebrew orthography and Masoretic notation that were transferred from

Arabic orthographic practice. They, therefore, cast light on the Hebrew reading that is represented by the Tiberian Hebrew notation system.

With regard to the length of the *qameṣ* vowel in the word בָּתִּים, all manuscripts that use Arabic *matres lectionis* according to Arabic orthography represent this vowel as long with *mater lectionis ʾalif*. This can be seen in the examples presented below.

The manuscripts that use the Arabic *šadda* sign to reflected consonant gemination can be divided into two groups according to the distribution of the gemination. One group (which we shall call group A) uses *šadda* to represent only a subset of the occurrences of *dageš* in the Tiberian notation. This subset corresponds to what we normally now identify as *dageš forte*. The plosive *bgdkpt* consonants with what we now refer to as *dageš lene* is not marked with *šadda*. In the second group of manuscripts (which we shall call group B) the *šadda* sign is used to represent all occurrences of *dageš*, both *dageš forte* and *dageš lene* according to our normal interpretation of the sign.

In manuscripts of group A the *dageš* on the *taw* of בָּתִּים is not represented with *šadda* and so one should infer that the letter was pronounced as an ungeminated plosive. Some examples are given below from the corpus of Karaite transcriptions in the British Library. In the manuscripts Hebrew vowel and accent signs are marked on the Arabic transcriptions. Due to the difficulty in printing Hebrew vowels and accents over Arabic script the examples attested in the manuscripts are presented here in two versions. First the Arabic script of the transcription is presented together with the Arabic *šadda* and Arabic vowel signs that appear in the manuscript. This is then followed by a letter for letter transliteration of the Arabic into Hebrew letters with the Hebrew vowel and accent signs that are marked in the manuscripts:

הַבָּתִּים هباتم (BL Or 2544, fol. 189r, 13 || L הַבָּתִּים Ex. 9:20 'the houses')

מִן־הַבָּתִּים من هباتِم (BL Or 2544, fol. 159r, 8 || L מִן־הַבָּתִּים Ex. 8:9 'from the houses')

בָּתֵּי باتى (BL Or 2544, fol. 181v, 4 || L בָּתֵּי Ex. 8.17 'the houses')

בָּאתֵּיהֶם֥ باتِيهام (BL Or 2549, fol. 40v, 8 || L בָּתֵּיהֶם֥ Jer. 6.12 'their houses').

וּמִבָּאתֵּאכָא ومباتيخا (BL Or 2544, fol. 158r, 13 || L וּמִבָּתֶּיךָ Ex. 8:5 'and from your houses')

In a number of cases in the Masoretic Text the plural form בָּתִּים and its inflections with pronominal suffixes have two musical accents, a primary disjunctive on the syllable beginning with the *taw* and a secondary conjunctive on the syllable beginning with the *beth*. Also in such cases the first group of manuscripts do not mark *šadda* on the *taw*, e.g.

וּמִבָּאתֵּאכָא ومباتوخا (BL Or. 2544, fol. 158v, 10 || L וּמִבָּתֵּ֣יךָ Ex. 8.7 'and from your houses').

בָּאתָֽאו باتاو (Or 2556, fol. 122r, 7 || L בָּתָּ֣יו 1 Chron. 28.11 'its houses')

וּבָאתִּ֣ים وباتِم (Or. 2442, fol. 213v, 13 || L וּבָתִּ֣ים Deut. 6:11 'and houses')

A secondary accent is in principle not put on an open vowel before the main stress, e.g. in a word such as דְּבָר, which takes an accent on the final syllable expressing the main stress, e.g. דְּבָ֣ר (Gen. 18:14), but never has a secondary accent on the first syllable. A secondary accent requires a buffer syllable between the main stress and the syllable of the secondary accent, e.g. הָֽאָדָ֣ם (Gen. 2:19). A secondary accent can occur on a closed syllable containing a long vowel that is separated from the main stress by silent *shewa*, e.g. וְעָֽבְד֣וּ 'and they shall serve' (Jer. 30:9). In the Tiberian reading a *shewa* after a syllable with a long vowel was in principle silent.[6] Elsewhere I have

proposed that the secondary accent could occur in such contexts since an epenthetic vowel was inserted before the coda of the closed syllable, thus [ˈɔː-ɔb̠-d̠uː], and this epenthetic served as the buffer.[7] In the Tiberian reading, syllables had a canonical prosodic weight of two morae, i.e. their rhymes consist of two morae, which meant that the canonical forms of syllables were CVC or CVV. A closed syllable with a long vowel had the structure of CVVC and so was overlong. The splitting of such syllables by an epenthetic, i.e. CVV-VC, ensured that the syllable had a canonical structure. This must have resulted on the phonetic level in an extra-long vowel. The medieval Arabic *tajwīd* manuals refer to the existence of extra-length of long vowels in Arabic closed syllables, which presumably likewise developed by a similar process of repairing an overlong syllable.[8] If the plural form בָּתִּים could take a secondary accent, it follows that at the period when the conjunctive accents were fixed the first syllable with long *qameṣ* was closed, resulting in the structure [ˌbɔːɔtˈtʰiːim] with a buffer of an epenthetic vowel before the final syllable (which, by the way, should also be assumed to have an inserted epenthetic). A secondary accent could only have been placed on the form if it had a geminated middle consonant at the period when the cantillation of the conjunctive accents was fixed.[9] By contrast, the distribution of the *gaˀya* sign in the early Masoretic manuscripts reflects the stage of development in which the gemination had been reduced and the first syllable of בָּתִים was open and pretonic. This is because the *gaˀya* was a later feature in the development of the Tiberian prosodic system.[10]

The lack of *šadda* representing the *dageš* on the *taw* in Karaite manuscripts of group A reflects a weakening of the original geminate *taw*. This is likely to have been the result of an alternative strategy to repair the overlong first syllable. The syllable was repaired by reducing the geminate to a non-geminate consonant, leaving the first syllable open: [bɔːt-tʰiːim] > [bɔː-tʰiːim].[11]

It is possible that this occurred first in cases where there was no secondary accent and then was extended to forms with a secondary accent. The secondary accent was retained through conservatism in the transmission of the accents. Elsewhere in the Tiberian tradition gemination of a consonant after a long vowel tends to occur only where the vowel is the nucleus of a syllable taking the primary stress, e.g. לָמָּה 'why' שָׁמָּה 'to there', יָמָּה 'seawards', אֵלֶּה. 'these'. Likewise a series of two identical consonants occurs after a long vowel only where this vowel has the main stress, e.g. יִמְצָאֻנְנִי [jimṣɔːˈʔuːunniː] 'they (m) will find me' (Prov. 8.17). When the main stress is on a following syllable in such forms the gemination is generally eliminated, e.g. לָמָה, and a series of two identical consonants is split by pronouncing the *shewa* as vocalic, e.g. לָקֲקוּ [lɔːqaˈquː] 'they licked' (1 Kings 21.19).[12] An exception to this is the interjection אָנָּא, which retains gemination of the *nun* after a long *qameṣ*. Just like בָּתִּים this word may take a secondary accent, e.g. אָנָּא 'alas!' (Exod. 32.31), but unlike בָּתִּים the gemination is retained, as reflected by the *dageš* in the *nun*, which can only reflect gemination in this letter. As one would expect, it is represented by a *šadda* in manuscripts of Karaite transcriptions that lack *šadda* on the *taw* of בָּתִּים, e.g.

אָנָּא اٮّا (Or 2556, fol. 4or, 9 || L אָנָּא Neh. 1.5. 'Oh!')[13]

The fact that the *taw* in בָּתִּים remains a stop after its gemination is reduced rather than become a fricative reflects the fact that this reduction must have taken place after the rule of lenition of postvocalic *bgdkpt* consonants had ceased to operate. This is reflected elsewhere in the Tiberian vocalization in forms such as לָקַחַתְּ 'you (fs.) have taken' (Ezek. 22.12), where the 3fs suffix remains a plosive after an epenthetic vowel, and in forms such as מַלְכֵי 'kings of' (Gen. 17.16), in

which a fricative is retained after the elision of a vowel (< *malaḵē). In fact the cessation of the rule passed through a transition period in which there was variation, as one would expect in diachronic change, and this resulted in some variation of plosive and fricative exponents of the *bgdkpt* in similar contexts in the Tiberian tradition, e.g. רִשְׁפֵי (Ps. 76.4), רִשְׁפֶּ֫יהָ (Cant. 8.6) 'flames'. It is significant to note that in Karaite manuscripts in group A a similar type of variation is reflected with regard to the realization of the word בָּתִּים in that in sporadic cases the *taw* is represented by an Arabic *ṯāʾ*, reflecting a lenition of the plosive in conformity with the origin rule, e.g.

باثِيهام בָאתִיהֶאם (BL Or 2549, fol. 34v, 1 ‖ L בָּתֵּיהֶם Jer. 5.25 'their houses').

A parallel to this phenomenon of lenition of the *taw* is attested in the Babylonian tradition of Biblical Hebrew, in that one manuscript with Babylonian vocalization has a Babylonian *rafe* sign over the *taw*:

וּבָֿתֵּי (L וּבָתֵּי Ezek. 26:12 'and the houses of' (Yeivin 1985, 868))

In Origen's Hexapla (3rd century C.E.) we find the transcription βηθαμου corresponding to Tiberian בָּתֵּימוֹ (Psa. 49.12 'their houses'). The scribe may have intended to write βαθημου and transcribe the plural form that occurs in the Tiberian tradition. If this is the case, then the transcription would be evidence for the lack of gemination of the *taw*.[14] The *theta*, however, is not evidence for the fricative pronunciation of the letter, since the letter is used to transcribe both plosive and fricative *taw*.[15]

The Karaite lexicographer David ben Abraham al-Fāsī, who was writing in Palestine in the second half of the tenth century, provides further evidence for the lack of gemination of the *taw*. He states in his work *Kitāb Jāmiʿ al-ʾAlfāẓ* ('The Book of the Collection of Words') (ed. Skoss 1936,

vol. 1, 282) that the *taw* in בָּתִּים was pronounced *bi-l-taḵfīf* 'lightly', i.e. it was pronounced ungeminated.

In Karaite manuscripts of group B, which use the Arabic *šadda* sign to represent *dageš* in all contexts, the *šadda* sign is marked over the transcription of the *taw* in בָּתִּים and its inflections, e.g.

בבאתי بَبَاتِّي (BL Or 2550 fol. 18v, 5 ‖ L בְּבָתֵּי Zeph. 2.7 'in the houses of').

Elsewhere I have argued that the marking of the *šadda* sign in the Karaite manuscripts of group B reflects a variant type of pronunciation within the Tiberian tradition, in which gemination (i.e. *dageš forte*) had been extended to plosive forms of *bgdkpt* consonants in all contexts, including those that had originally *dageš lene*.[16] This variant type of pronunciation is what I term the 'extended *dageš* forte' pronunciation. It was the result of an increasing concern with orthoepy in the Tiberian school to ensure maximally clear and distinct pronunciation of letters and words in the Masoretic text. In this type of pronunciation, therefore, the *taw* in the word בָּתִּים and its inflections was pronounced geminated. A pronunciation tradition without this extended use of *dageš forte* will be referred to as a '*dageš forte—dageš lene*' pronunciation.

Evidence for the existence of the extended *dageš forte* reading can be found also in the Masoretic treatise *Hidāyat al-Qāriʾ*. This was composed in the early 11th century by the Karaite grammarian ʾAbū al-Faraj Hārūn, who had direct access to teachers of the Tiberian reading in Palestine.[17] The passage in question concerns the consonant *taw*, which is said to differ from other letters in having three grades of strength. The form of the passage from the original Arabic long version of this work is as follows:[18]

באב פי מא יגי מן אלחרוף עלי תלאתה מנאזל

אעלם אן כמא גא פי אלחרוף מא אדא אסתנד עלי גירה כפפה ורפאה כדאך פי אלחרוף מא יגי עלי גֿ

מנאזל פי אלתקל ואלכפה אלמנזלה אלֹא אלתכפיף אלבֿ אלדגש אלמעהוד אלגֿ אלדגש אלכביר והו אלתו

אעלם אן אלתו אן דון סאיר אלחרוף קד יגי רפי כק וְתָאֵי הַשַּׁעַר וקד יגי דגש כקול תחת הנחשת תורי זהב

וקד יגי דגש כביר והו תלת תאואת וַיְשִׂימֶהָ תֵּל־עֹולָם ובתָיו וגנזכיו וגברייֵא אלך תְּלָתֵהֹון פהדה אלתלת

תאואת מא ערפת מן כאלף פיהא ואמא לשון בתים פקד אכתלף פיה ואעלם אן אלטבראניין דכרו אן להם

ריש לא יקראה ואלקריב אן הוא בלדהם יפעלה והו יגרי מגרי אלתו פי לשון בתים עלי ראי בן

נפתלי אלדי יגעלה הו מנזלה בין מנזלתין

Chapter concerning letters that occur in three grades

Know that just as there are among the letters those that when they are adjacent to another letter, this latter makes them light with *rapē*, likewise among the letters are those that occur in three grades with regard to heaviness and lightness. The first grade is lightening. The second is the normal *dageš*. The third is the major *dageš*. This includes the *taw*.

Know that the *taw*, unlike the other letters, may occur *rapeh*, as in וְתָאֵי הַשַּׁעַר 'rooms of the gate' (Ezek. 40:10); it may occur with *dageš*, as in תַּחַת הַנְּחֹשֶׁת 'instead of bronze' (Isa. 60:17), תֹּורֵי זָהָב 'ornaments of gold' (Cant. 1:11); and it may occur with major *dageš*. The latter includes three *taw*s: וַיְשִׂימֶהָ תֵּל־עֹולָם 'He made it an eternal heap of ruins' (Josh. 8:28), וְאֶת־בָּתָּיו וְגַנְזַכָּיו 'and its houses and its treasuries' (1 Chron. 28:11), וְגֻבְרַיָּא אִלֵּךְ תְּלָתֵּהֹון 'and these three men' (Dan. 3:23). I do not know anybody who differs (in reading) with regard to these three *taw*s. As for the form בָּתִּים, there were differences (of reading) with regard to it. Know that the Tiberians said that they have a

resh that is not read (in the same way) by anybody else. It is likely that (the climate of) their town

caused this. It has the same status as the *taw* in the word בָּתִּים according to the view of Ben

Naphtali, who gives it a grade in between two grades.

The short version of *Hidāyat al-Qāri'* supplies more details about the differences in the

reading of בָּתִּים:

וכל תאו פי לשון בָּתִּים מא כֹלא ובתיו וגנזכיו הו כֹלף מן אראד אן יכרגֹה בדגש אלתאו אלמעהוד

ומן אראד יכרגֹה בתקל תאו ובתיו בשרט אן יכון פי אללפטֹה כֹאדם ולחן וליס בינהמא חרף[19]

'There are differences with regard to (the reading of) the word בָּתִּים 'houses' with the exception of

וְאֶת־בָּתָּיו וְגַנְזַכָּיו 'and its houses and its treasuries' (1 Chron. 28:11).[20] There are some who want to

pronounce it with the normal *dageš* and there are some who want to pronounce it with the

heaviness of the *taw* in בָּתָּיו (1 Chron. 28:11) on condition that there are a conjunctive accent and a

disjunctive accent in the word and they are not separated by a letter.'

Since in these passages it is stated that there are only three *taw*s that all readers agree should be

given a major *dageš*, this major *dageš* must be something different from normal *dageš forte*. Both

what is traditionally regarded as *dageš lene* and also what is traditionally regarded as *dageš forte*

would, therefore, have to be considered to belong to the second grade, the 'normal *dageš*'. The

examples cited for the 'normal *dageš*' include only words that contain what is traditionally

identified as *dageš lene*, viz. תַּחַת and תּוֹרֵי. It does not follow, however, that 'normal *dageš*' must

be identified as *dageš lene*. Rather the author makes no distinction between *dageš lene* and *dageš forte*. This could have been because the 'normal *dageš*' was considered to include a range of phonetic realizations and degrees of muscular pressure that included an ungeminated stop and a geminated stop. Alternatively the passage could be interpreted as meaning that there was no phonetic distinction between what we call *dageš lene* and *dageš forte*. Rather *taw* with *dageš* was normally realized with a similar degree of muscular pressure and duration, whether in contexts where it is traditionally interpreted as *dageš lene* or in contexts where it is traditionally interpreted as *dageš forte*. This, in fact, is the more straightforward interpretation of the passage, especially since the point of the passage is the division into 'grades' based on differences in degrees of 'heaviness' (*ṯiqal*), i.e. muscular pressure, and one grade would not be expected to contain a range of different pressures. The third grade would, therefore, involve an exceptionally high degree of muscular pressure and, one can infer, duration, which are found only in a few isolated words. The author applies the same classification of three grades (*manāzil*) to the three variant articulations of *resh*. These were non-emphatic uvular, emphatic alveolar and geminate respectively, which can, likewise, be correlated with three degrees of muscular pressure (Khan 1995; 2013c). What we seem to have here, therefore, is a description of an 'extended *dageš forte*' type of reading with the addition of three cases of extra-long *dageš*.

According to the Masoretic treatise *Kitāb al-Khilaf* of Mishael ben ʿUzziʾel, which lists differences between the Masoretes Ben Asher and Ben Naphtali, the Masorete Ben Naphtali read all cases of בָּתִּים that had two accents by applying more muscular force than in cases without two accents (Lipschütz 1965, 4; Eldar 1994, 77).[21] Ben Asher, however, is said to have disagreed with Ben Naphtali and read only בָּתָּיו (I Chron. 28:11) and וּבָתִּים (Deut. 6:11) with strong pressure. The second

example is not mentioned in *Hidāyat al-Qāri'* but has the same accents (*'azla* + *geresh*). Ben Asher

did not read any other cases of בָּתִּים with the same degree of pressure.[22] Misha'el ben 'Uzzi'el

(Lipschütz ibid.) cites a Masoretic statement that is attributed to Ben Asher: לאנה דכר פי מאסרתה

וקאל אן פי אלקראן ארבעה בלשון מרובה דגשין 'because he (Ben Asher) mentioned in his Masorah

saying that in the Bible are four cases with intense *dageš*.' These statements in *Kitāb al-Khilaf*

indicate that the pronunciation of *taw* as extra-long in some cases was a feature of the reading of

Ben Asher and Ben Naphtali.

At the end of the passage from the long version of the *Hidāya* it is stated that in the Tiberian

reading there is a realization of *resh* that is not found in any other reading and that this 'has the

same status as the *taw* in the word בָּתִּים according to the opinion of Ben Naphtali,' who

pronounced the *taw* of this word with 'a grade in between two grades' (*manzila bayna*

manzilatayn). This latter term is likely to originate in the Mu'tazilite theological tradition.[23] It is

used in Arabic grammatical literature to refer to cases of intermediate grammatical status. Jurjānī

(d. 471/1078), for example, states that the Arabic negator *laysa* has an intermediate position

(*manzila bayna manzilatayn*) between the verb *kāna* and the negative particle *mā* with regard to

the extent of its inflection.[24] Mishael ben 'Uzzi'el states that the distinctive feature of Ben Naftali's

reading of בָּתִּים was that he regularly pronounced the *taw* in it with more force when it had two

accents than when it lacked a secondary accent. The term *manzila bayna al-manzilatayn*,

therefore, must be referring to a degree of strength that was greater than a normal *dageš*. In the

passage in the *Hidāya* the normal *dageš* was a geminate so the intermediate position of Ben

Naphtali is presumably referring to a degree of strength that was greater than normal gemination

but less than the extra-long pronunciation in the specified cases. The practice of pronouncing the

dageš of *taw* with a strength greater than normal gemination was, according to the *Hidāya*, unique to the Tiberian tradition.[25]

We may summarize the interpretation of the various sources cited above with regard to the *taw* in the word בָּתִּים and its inflections as follows. In medieval Palestine two variant forms of reading existed in the Tiberian tradition, viz. the *dageš forte—dageš lene* reading and the extended *dageš forte* reading. In the *dageš forte—dageš lene* reading it was pronounced with a *dageš lene*. This applied also to occurrences of the word with two accents, including the two cases (1 Chron. 28:11 and Deut. 6:11) in which the *taw* is said in the Masoretic treatises to have been pronounced extra-long (cf. the examples above from the Karaite transcriptions in group A). The presence of two accents in some occurrences of the word indicates that at some earlier historical period the *taw* must have been geminate. In the extended *dageš forte* reading, however, the *taw* in בָּתִּים was pronounced geminate. In the extended *dageš forte* reading the *taw* in בָּתָּיו (1 Chron. 28:11) was extra-long and some readers pronounced the *taw* as extra-long also in other occurrences of the word with a secondary accent. The sources state that the Masorete Ben Asher had a pronunciation of *taw* that was greater than the normal gemination in his reading of some cases (one according to the *Hidāya*—בָּתָּיו (1 Chron. 28:11), and two according to *Kitāb al-Khilaf*— בָּתָּיו (1 Chron. 28:11) and וּבָתִּים (Deut. 6:11)). Ben Naphtali also had an extra-strong *dageš* of *taw* in his reading of all instances of the word with a secondary accent, but this was said to be of intermediate status, presumably less than that of the extra-long gemination of Ben Asher in the specified cases. Since the *Hidāya* states that all readers agree in the reading of the specified cases of extra-long *dageš* in

taw, then the reading by Ben Naphtali of the *taw* of בָּתִּים with intermediate status may have applied to cases other than בָּתָּיו (1 Chron. 28:11) and וּבָתִּים (Deut. 6:11).

The increased muscular pressure in the third grade of the *dageš* of *taw* as described by the *Hidāya* was associated with greater duration of the consonant. The motivation for the third grade of the *dageš* appears to be related to the length of the preceding *qameṣ* vowel. In all cited cases there was a secondary accent on the syllable before the *taw*. The secondary accent would have given the *qameṣ* vowel additional length. This may be correlated with a phenomenon in the recitation of the Arabic Qurʾān which is noted in manuals of *tajwīd* contemporary with *Hidāyat al-Qāri'* whereby *tašdīd* of a consonant (a strengthening of a consonant equivalent to *dageš*) is given increased force when it is preceded by an extra-long /ā/ vowel in a closed syllable.[26] The explanation for this phenomenon in both Hebrew and Arabic seems to be that some of the length-timing of the preceding extra-long vowel spread to the following consonant.

The passage cited above from the original Arabic versions of *Hidāyat al-Qāri'* underwent an adaptation in the Hebrew versions of the work that were produced in medieval Europe, such as *Horayat al-Qore* (12th century) and *Sefer Ṭaʿame ha-Miqra* (13th century) (Eldar 1994, 16–18). In *Horayat al-Qore* the passage has the following form (ed. Busi 1984, 60, with the punctuation of the edition):

שער התי״ו. בג׳ מקומות נדגשת התי״ו, מכל התוי״ן הנדגשות והם וישימה תל עולם, ובתיו וגנזכיו,

וגובריא אלך תלתיהון. וכל בתים, שהן לשון מדה, כגון: ויין בתים עשרים אלף ושמן בתים עשרים אלף,

דכותהון פתח ודגש. אבל, בתים שהן לשון דירה, כגון: ובתים מלאים כל טוב, הניס את עבדיו ואת מקנהו

אל הבתים, כולהון קמצין, ואין ידגיש בחוזק. מבלעדי: ואת בתיו וגנזכיו, שאע״פ שהוא לשון דירה הוא

מדגיש בחוזק ובקמץ, מפני שיש בו משרת וטעם, ונראה כאילו הוא שני תיבות. ויש שמוסיפין עליהן,

להדגיש בחוזק: ובתים מליאים טוב, הואיל שהמשרת והטעם יחד בתיבה.

'Chapter on the *taw*. In three places *taw* has a (stronger) *dageš* than all (other) *taw*s with

dageš, namely : וַיְשִׂימֶהָ תֵּל־עוֹלָם ,וְאֶת־בָּתָּיו וְגִנְזְכָּיו 'He made it an eternal heap of ruins' (Josh. 8:28),

'and its houses and its treasuries' (1 Chron. 28:11), וְגֻבְרַיָּא אִלֵּךְ תְּלָתֵּהוֹן 'and these three men' (Dan.

3:23), and all cases of בתים that denote measurement, such as וְיַיִן בַּתִּים עֶשְׂרִים אֶלֶף וְשֶׁמֶן בַּתִּים

עֶשְׂרִים אֶלֶף 'and twenty thousand baths of wine, and twenty thousand baths of oil' (2 Chron. 2:9)

and the like with *pataḥ* and *dageš*. But (cases of) בתים that denote habitation, like וּבָתִּים מְלֵאִים

כָּל־טוּב 'and houses full of all good things' (Deut. 6:11), הֵנִיס אֶת־עֲבָדָיו וְאֶת־מִקְנֵהוּ אֶל־הַבָּתִּים 'he

made his slaves and his cattle flee into the houses' (Exod. 9:20), all have *qameṣ* and are not given

strong *dageš* (i.e. they have *dageš lene*), with the exception of וְאֶת־בָּתָּיו וְגִנְזְכָּיו (1 Chron. 28:11),

which, although it denotes habitation, it has strong *dageš* and *qameṣ*, because it contains a

conjunctive accent and main accent, and it is as if it is two words. Some add to the ones (i.e. these

examples) that should be given strong *dageš* וּבָתִּים מְלֵאִים כָּל־טוּב (Deut. 6:11), because the

conjunctive accent and main accent are together in the word.'

Here a section has been added to the original passage referring to the plural form בַּתִּים 'baths'. This

version of the passage conveys the sense that there are two types of *dageš*, viz. *dageš forte* and

dageš lene. The three cases of *dageš* in the *taw* after *qameṣ* in וַיְשִׂימֶהָ תֵּל־עוֹלָם ,וְאֶת־בָּתָּיו (Josh. 8:28),

וְגַנְזְכַּיו (1 Chron. 28:11) and וְגֻבְרַיָּא אִלֵּךְ תְּלָתֵּהֹון (Dan. 3:23), and some also include the *dageš* after the

qameṣ in וּבָתִּים מְלֵאִים כָּל־טוּב (Deut. 6:11), are equated with the *dageš* of בַּתִּים, i.e. they are

interpreted as 'normal' *dageš forte*. In all other case of בָּתִּים the *dageš* is *dageš lene*. There is no

reference here at all to an extra-long grade of *dageš*. Evidently the author of *Horayat ha-Qore* was

not familiar with the version of the Tiberian reading tradition in which the extra-long *dageš*

existed. For this reason he misunderstood the point of the original passage that the *dageš* in the

taw after *qameṣ* in the specified cases was exceptional in the degree of its strength and was not like

the normal *dageš forte* of words such as בַּתִּים. The author of *Horayat ha-Qore* was also unfamiliar

with the extended *dageš forte* reading, since he alludes to a *dageš lene* in most cases of בָּתִּים.[27]

One may infer from this that extra-long *dageš* was a phenomenon of the extended *dageš*

forte reading and was not known in the *dageš forte—dageš lene* reading. It would appear that only

the latter was transmitted to Europe. If this is the case, then the reference to the Masoretes Ben

Asher and Ben Naphtali having extra-long *dageš* in their reading of *taw* in specific words would

imply that their reading was of the extended *dageš forte* type.

Yehudah Ḥayyūj, writing in Spain at the end of the 10th century, considered that the *taw* in

all instances of בָּתִּים was pronounced as an ungeminated stop. This is implied by the following

passage from his *Kitāb al-ʾAfʿāl Ḏawāt Ḥurūf al-Līn* (ed. Jastrow 1897, 12–13):

فامّا الخفيف فمثֹל בְּרֵאשִׁית בָּרָא אלהים ... ومثֹל ומלאו בָתֶּיךָ וּבָתֵּי כל עבדיך

'As for the 'light' (type of *bgdkpt*), this is like בְּרֵאשִׁית בָּרָא אֱלֹהִים 'in the beginning God

created' (Gen. 1:1) ... and like וּמָלְאוּ בָתֶּיךָ וּבָתֵּי כָל־עֲבָדֶיךָ 'and they shall fill your houses and the

houses of your servants' (Exod. 10:6).[28]

Yekuti'el ha-Naqadan, who was active in medieval Ashkenaz in the second half of the 13th century, writes in his work *'En ha-Qore* that the *taw* in the word בָּתִּים should be read with *dageš lene* following Ḥayyūj (ed. Gumpertz 1958, 46):

מצאתי שאמר ר׳ יהודה חיוג ז״ל בָּתֶּיךָ בָּתִּים ודומי׳ יש בהם דגש קל בתו״יהם ... השמר לך שלא
תדגיש את התי״ו בחזק

'I have found that R. Yehudah Ḥayyūj, of blessed memory, said that there is a *dageš lene* in the *taw*s of בָּתֶּיךָ, בָּתִּים and the like. .... Be careful not to pronounce the *dageš* strongly.'

The reading traditions of the Jewish communities in Arabic-speaking countries in modern times preserved the gemination of *dageš forte* according to the distribution of the *dageš forte—dageš lene* system of reading. There is no trace of an extended *dageš forte* type of reading. Nor is there any trace of an extra-long gemination of *taw*. The plural form בָּתִּים is regularly read with *dageš lene*, e.g. Yemen: bavoːtʰeːxäm (בְּבָתֵּיכֶם) 'in your houses' Isa. 3:14) (Morag 1963, 38; Ya'akov 2015, 72 n.134). This applied even to cases where the word has secondary accent.

It appears, therefore, that the extended *dageš forte* reading, which included the reading of the *taw* of בָּתִּים as geminate and as extra-long in some cases where it had two accents, fell into oblivion in Jewish communities outside of medieval Palestine.[29]

In the Samaritan reading tradition of the Pentateuch, which has been independent of the Jewish traditions since the Second Temple Period, the word בָּתִּים and its inflections are pronounced with gemination of the */t/: báttəm* (בָּתִּים), *battínu* (בָּתֵּינוּ) (Ben-Ḥayyim 2000, 419–20). It should be pointed out that in the Samaritan tradition the plural of some monosyllabic nouns

without an original geminated consonant have acquired gemination by analogy, e.g. *dámmǝm*, which corresponds to Tiberian דָּמִים (Ben-Ḥayyim 2000, 421), but the form *báttǝm* is at least not counter-evidence to the claim that the /t/ was geminated at an early period.

2.0. The Origin of the *Dageš* in בָּתִּים

In the plural form בָּתִּים the medial weak radical of the singular form בַּיִת has been contracted. A similar contraction of a medial weak radical has taken place in the plural forms עָרִים 'towns' (sing. עִיר), יָמִים 'days' (sing. יוֹם). We can envisage a development such as the following in which the pattern **qVtalīm*, the usual pattern of plurals of nouns of an original **qVtl* pattern (i.e. segholates), undergoes loss of the medial radical: **bayatīm > *bātīm, *ʿiyarīm > *ʿārīm* [Tiberian: ʕɔːriːim], **yawamīm > *yāmīm* [Tiberian: yɔːmiːim].[30] The contraction is likely to be due to frequency of use of these common forms, it being a general feature of frequent tokens to undergo phonetic reduction.[31] In some nouns with a medial weak radical the medial radical has been retained, e.g. sing. תַּיִשׁ 'he-goat'—pl. תְּיָשִׁים, sing. שׁוֹר 'ox'—pl. שְׁוָרִים. The lack of contraction of such plurals forms can be correlated with their lesser degree of frequency of use. As can be seen in the reconstruction just proposed of the original plural form of בַּיִת, there is no gemination of the *taw* (**bātīm*), just as there is no gemination in the second consonant of the forms **ʿārīm* 'cities' and **yāmīm* 'days'. As we have seen in the previous section, the *dageš* in the plural בָּתִּים must have originally expressed gemination. Contraction through frequent use involves reduction and deletion and would not have been expected to add further prosodic weight to the word by geminating a consonant.[32] The gemination is more likely to have been added to the plural form

'houses' after the contraction had taken place on account of some feature that the word had that was not shared by other contracted plurals such as *ʿārīm and *yāmīm.

A plural with the same morphological shape as the Hebrew form בָּתִּים with added gemination of the /t/ is found in Aramaic, e.g. in Biblical Aramaic in the Masoretic Text וּבָתֵּיכוֹן 'and your houses' (Daniel 2.5). Independently of the Masoretic Text the gemination is attested in the reading tradition of Syriac, in which the classical form is bāttīn.[33]. Consonant gemination in general was lost in the western reading tradition of Syriac in the late classical period, with the result that the word came to be pronounced bōtīn.[34] Gemination has been preserved in the eastern reading tradition of written Syriac (Knudsen 2015, 71–72). In the modern dialects of Aramaic spoken in northern Mesopotamia, viz. Central Neo-Aramaic (CA) and North-Eastern Neo-Aramaic (NENA), consonant gemination has been lost in most contexts, which include gemination after historical *a and *ā, so the /t/ in our plural form is not geminated, but the segment remains a plosive /t/, which reflects its original gemination, e.g. Ṭuroyo (CA) bote, Jewish Arbel (NENA) bate. Since this is a shared feature of the CA and NENA subgroups of Neo-Aramaic, it must have developed at an early historical period. The preservation of gemination in the eastern reading of written Syriac is, therefore, a learned archaism of the literary language.

On account of the occurrence of a plural form in Aramaic that resembles Hebrew בָּתִּים with gemination of the /t/, it has been suggested by some that the Hebrew form is a borrowing from Aramaic (e.g. Bauer and Leander 1922, 617). Due to the fact that it is fully embedded in the pre-exilic layers of Classical Biblical Hebrew, it is more likely that its origin was in an earlier common North-West Semitic ancestor of Hebrew and Aramaic.

Aramaic has a denominal verb derived from *byt* 'house', viz. *bwt* 'to 'lodge, to pass the night',

and such a verb is attested in North-West Semitic in Ugaritic, viz. *ybt* 'he stayed the night', *btt* 'I

lodged',[35] and also outside North-West Semitic, e.g. Akkadian *biātum* 'to pass the night', Arabic *byt*

(*bāta*) 'to pass the night', Ethiopic *bēta*. The verb does not occur in Hebrew, which uses instead the

verb *lwn*. Given the widespread use of the verbal root *bwt/byt* elsewhere, Hebrew *lwn* is likely to be

an innovation.

In Hebrew the phonological form of the participle of qal stem middle weak verbs (e.g. קָם)

indicates that it must be derived historically from a verbal adjective rather than the original active

participle pattern *CāCiC.*[36] If the participle קם were a contraction of the historical pattern *CāCiC*,

one would expect it to contain /ō/, due to Canaanite vowel shift of original *ā to ō. Rather the form

must be a contraction of a verbal adjective of a historical pattern such as *CaCaC* (cf. חָכָם 'wise' <

ḥakam), i.e. *qayam > qām*. One may compare the participle of the stative verb מֵת, which is

clearly a verbal adjective with a historical deriviation such as *mayit > mēṯ*. Aramaic has the

regular active partciple pattern in middle weak verbs, i.e. *qāʾem/qāyem*. The participles of these

verbs in Ugaritic and Phoenician, on the other hand, are written without a medial /ʾ/ or glide /y/,[37]

which suggests that they had the pattern of a verbal adjective like Hebrew. By the principle of

archaic heterogeneity in the comparative method of historical linguistics,[38] one may posit that the

irregular use of a verbal adjective in this verbal category is the more original situation in the

North-West Semitic subgroup and that Aramaic has innovated to bring the participle into line

with the pattern of qal participles in other verbal categories.

I would like to argue for the view that the gemination of the /t/ in the stem of the plural

form 'houses' in Hebrew and Aramaic had its origin in an ancestor language which had the

denominal verb *bwt/byt* and which, moreover, formed the qal participle of middle weak verbs with the pattern of a verbal adjective, viz. *bāt*. As a result there would have been homophony between the plural of the noun *bātīm/bātīn* and the mpl. of the participle *bātīm/bātīn*. The noun plural was given a phonological augment in the form of gemination in order to distinguish it from the verbal participle plural.[39]

As remarked, such a homophonous pair is not attested in Hebrew, which has innovated by substituting the verb *lwn* for *bwt*, or in the extant forms of early Aramaic, in which the *CāCiC* pattern has been innovatively extended to middle weak participles. Ugaritic has the denominal middle weak verb, which in the mpl. participle would have been *btm*, and attests also to the plural form *btm* 'houses'. The internal vocalic patterns of these are not attested, but it is likely that they were homophonous.[40] This could explain why the most commonly attested plural form of the noun 'houses' in Ugaritic is in fact *bhtm*, in which the augment element /h/ has been added. It has been suggested that this /h/ is added to form a 'plural of excellence' and the plural form *bhtm* meant originally 'mansions' or the like.[41] The motivation for this augment, however, may have been to distinguish homophonous forms. The augment /h/ is attested elsewhere in Ugaritic, e.g. *ʾilm* and *ʾilhm* 'gods',[42] and other North-West Semitic languages, where possible other cases of its function to express semantic distinctions can be identified, e.g. in the pair of proper names אַבְרָם vs. אַבְרָהָם (Montgomery 1927). Ugaritic also attests to one case of the plural form *bwtm*, where the /w/ is consonantal (Sivan 1997b, 67) and may also be an augment with a similar function to the /h/.

In various traditions of Biblical Hebrew there is evidence for the distinguishing of homophones by gemination of a consonant. Several examples can be found in the Tiberian tradition. The negator לֹא is homophonous with the prepositional phrase לוֹ and when they occur

in juxtaposition a *dageš* is added to the negator to distinguish the two, e.g. Prov. 26.17 לֹא־לֹ֥ו [llo: lo:] (Yeivin 1980, 49, 294). In some cases the occurrence of *dageš* in *resh* may have had the purpose of distinguishing meaning. This may apply, for example, to the *dageš* in הַרְּעִמָ֖הּ 'to irritate her (referring to an action of a human)' (1 Sam. 1.6), to distinguish it from the meaning of the verb in אֵל־הַכָּבֹ֥וד הִרְעִ֑ים 'the God of glory thundered (referring to an action of God)' (Psa. 29.3).[43] The *dageš* in the interjection word אָנָּ֣ה (also written אָנָּ֣א) may, moreover, have been a device to distinguish it from אָ֫נָה 'to where?'[44] In these examples innovative gemination appears to have been added to a consonant of a word, as we propose was the case in בָּתִּים.[45]

There are a number of other homophonous pairs of words in the Tiberian tradition that are distinguished by *dageš*. These include cases such אֲבִיר 'powerful' referring to God, used as in the construct state in phrases such as אֲבִ֣יר יַעֲקֹ֑ב 'the Mighty One of Jacob' (Gen. 49.24, Isa. 49.26, Isa. 60.16, Psa. 132.2, 5) vs. אַבִּיר 'powerful' use to refer to humans, עֲצָבִים 'toils' vs. עֲצַבִּים 'idols', יָנִ֫יחַ 'he gives rest' vs. יַנִּ֫יחַ 'he places', תָּלִ֫ינוּ 'you spend the night' vs. תַלִּ֫ינוּ 'you murmur against', and the 'virtual' gemination separating the pairs יָחֵל 'he begins' (Jud. 10.18) vs. יַחֵל 'he profanes' (Num. 30.3).[46] The gemination in the pairs in this second group most likely originates in existing variant morphological patterns that have been exploited to avoid homophony.[47]

The use of *dageš* to distinguish the meaning of homophones or polysemous words is more frequently encountered in the Babylonian tradition of Biblical Hebrew (Yeivin 1985, 355–63). In Babylonian vocalization a *dageš* (known as *digša* in the Babylonian tradition) is represented by a superscribed minute *gimel* and *rafeh* (known as *qipya*) by a superscribed minute *qof*.

In many cases in the Babylonian tradition a *dageš* is added to distinguish between the use of a word that has an association with God and the use of the same word that has an association with humans (often with negative connotations) or foreign gods. This has been seen already in the Tiberian tradition in pairs such as in הִרְעִמָהּ (1 Sam. 1.6) vs. הִרְעִים (Psa. 29.3), אַבִּיר vs. אֲבִיר and עֲצַבִּים vs. עֲצָבִים. As in the Tiberian tradition, the *dageš* is used in the Babylonian tradition in the member of the pair associated with humans or foreign gods. The word אלוהים, for example, is marked with *dageš* when it refers to foreign gods (Yeivin 1985, 357, 909–10), e.g.

אֱלֹהִים אֲחֵרִים Deut 11.16 'other gods' OB אלֹהים

אֱלֹהֵי מִצְרַיִם Exod 12.12 'the gods of Egypt' OB אלֹהי

The *dageš* is used also in the cognate word in Biblical Aramaic when it refers to foreign gods, e.g.

לֵאלָהֵי דַהֲבָא: Dan 5.4 'the gods of gold' MB לאֹלהי דהבא

The *rafeh* sign is sometimes used on the Hebrew word אלהים or אלוה to indicate that the word refers to the Jewish God, e.g.

שָׁפְטֵנִי אֱלֹהִים Ps 43.1 'Vindicate me, o God!' OB אלֹהים

יִזְבְּחוּ לַשֵּׁדִים לֹא אֱלֹהַ אֱלֹהִים לֹא יְדָעוּם Deut 32.17 'They will sacrifice to demons that are not God (OB אלוֹה), to gods (OB אלֹהים) they had not known'

The word אדני is marked with a *rafeh* when it refers to the Lord God, as opposed to a human lord (Yeivin 1985, 912), e.g.

וַיֹּאמֶר מֹשֶׁה אֶל־יְהוָה֙ בִּי אֲדֹנָי֒ Exod 4.10 'and Moses said to the Lord: O my Lord' OB אֲדֹ⟨ני⟩

The word כהנים is marked with a *dageš* when it refers to 'priests of foreign gods' (Yeivin 1985, 358), e.g.

הכֹּהֲנִים Zeph 1.4 'the priests' MB הַכֹּהֲנִֽים:

וַתַּעֲשׂוּ לָכֶם כֹּהֲנִים֙ כְּעַמֵּי הָאֲרָצֹ֔ות 2 Chr 13.9 'and you will make for yourselves priests like the peoples of the lands' MB כֹּהֲנִים

The noun עמל is marked with *dageš* when it refers to human toil and trouble, but a *rafeh* when it refers to service of God (Yeivin 1985, 940), e.g.

עָמָ֗ל וְזֹרְעֵ֖י עָמָ֣ל יִקְצְרֻֽהוּ: Job 4.8 'those who sow trouble will reap it' OB עָמָ֗ל

לְעָמָ֥ל כִּֽי־אָ֭דָם לְעָמָ֣ל יוּלָּ֑ד Job 5.7 'because man was born to service (of God)' OB לְעָמָ֥ל (cf. Targum

ארום בר נש למלעי באוריתא אתברי).

A *dageš* is used elsewhere in manuscripts with Babylonian vocalization to mark other types of semantic distinctions of homophones. It is frequently marked on the prepositional phrase לֹו, for example, to distinguish it from the homophone לא (Yeivin 1985, 1132–33), e.g.

מִ֤י יְשַׁלֶּם־לֹֽו: Job 21.31 'who will repay him' OB לֹו

לְאֹויֵ֣ב לֹֽו: Job 33.10 'as an enemy for him' OB לֹו

This includes cases where the *qere* is לֹו but the *ketiv* is לא, e.g

וְלֹו־שֵׁם K ולא Q 1 Chron. 11.20 'and he has a name' OB ולֹא

Other cases include, for example, a *dageš* on the word נא in Exod. 12.9, where it denotes

'raw', to distinguish it from נא expressing a request (Yeivin 1985, 357) and a *dageš* on the *resh* of

עריך 'your enemy' in 1 Sam. 28.16 presumably to distinguish it from the plural of ערים 'towns'

(Yeivin 1985, 354):

מִמֶּנּוּ נָא אַל־תֹּאכְלוּ מִמֶּנּוּ נָֿא Exod 12.9 'do not eat any of it raw' OB

עֹרְֿךָ 1 Sam 28.16 'your enemy' OB עֹרֶךָ:

The examples of *dageš* functioning to distinguish meaning in the Babylonian tradition cited

above are most easily interpreted as innovative additions to existing forms rather than

morphological variants. It should be noted that in some cases the *dageš* is marked after a long

vowel, e.g. עֹרְֿךָ, עֹֿמֹל. The question arises as to whether these *dageš* signs reflect gemination or are

simply diacritical signs. Yeivin (1985, 355–63) believes they indeed have the function of *dageš forte*.

This would conform to independently verifiable gemination of *dageš* to distinguish meaning in

the Tiberian tradition (cf. the Karaite transcription of the word אָנָּה cited above) and also the

general phenomenon of morphophonemic restructuring for the sake of semantic distinction in

other reading traditions and natural spoken languages, which will be examined in what follows.

The adding of gemination after a long vowel was evidently tolerated if there was a need to express

semantic distinction although this was not optimal in terms of syllable structure. In the case of the

reading of בָּתִּים in would appear that the original gemination was abandoned at some point to

optimize syllable structure, since within the corpus of the Hebrew Bible there was no longer a

motivation to mark semantic distinction.

The function of gemination to distinguish meanings of homophones is identifiable also in the reading traditions of Rabbinic Hebrew that are reflected in the early vocalized manuscripts of the Mishna. Kutscher (1969, 56, 76) drew attention to the following pair of words in the Kaufmann manuscript.

חֲתִיכָה 'cutting'   vs.   חֲתִיכָּה 'piece'

The use of the pattern with *dageš* to distinguish the concrete entity resulting from the cutting from the verbal noun of the same root is likely to have developed by analogy with other nouns with the morphological pattern *CCiCCa* that express concrete entities in Rabbinic Hebrew (Bar-Asher 2015, 1342).

Various cases of gemination to distinguish meaning have been identified in the living oral tradition of Rabbinic Hebrew of the Yemenite Jews and the Hebrew component in their speech by Gluska (1995). These include distinctions between verbal forms and nouns, in which the noun has the gemination, e.g.

גְּבִינָה 'making cheese'   vs.   גְּבִנָּה 'cheese (noun)'

חָיִים 'living (3pl. verbal adjective)'   vs.   חַיִּים 'life (noun)'

These, as well as the case of חֲתִיכָה vs. חֲתִיכָּה in the Kaufmann manuscript, correspond to the typology of the proposed use of gemination to distinguish the plural noun בָּתִּים from a homophonous plural verbal participle, in that it is the noun that is given the heavier coding through gemination rather than the verbal form.

Morag (1996) draws attention to some uses of gemination to distinguish meaning in the living oral tradition of Aramaic among the Yemenite Jews, e.g.

חַיָּא 'living' (referring to God) vs. חַיָּא 'living' (referring to humans)

In the Samaritan oral tradition of reading the Pentateuch there are numerous examples of morphophonemic restructuring to distinguish homophones,[48] e.g.

wtå̊råd 'and she went down' (Tiberian וַתֵּ֫רֶד), by analogy with the pattern *qå̊tål* vs. *téråd* 'she goes down'(Tiberian תֵּרַד, תֵּ֫רֶד)

Many of these homophones arise due to the loss of the guttural consonants, e.g.

yēyyi 'he will be' (Tiberian יִהְיֶה) vs. *yiyya* 'he will live' (Tiberian יִחְיֶה)

Of particular significance for the theme of this paper is the strategy of distinguishing forms by the addition of gemination to one of the pair, e.g.

å̄:rəm 'the cities' (Tiberian הֶעָרִים) vs. *árrəm* 'cities' (Tiberian עָרִים)[49]

wå̄må̊ 'and the cubit' (Tiberian וְהָאַמָּה) vs. *wå̊mmå̊* 'and a cubit' (Tiberian וְאַמָּה)[50]

å̄då̄ni 'Lord' (divine) vs. *å̄danni* 'master' (human)[51]

å̄:sīdå̊ 'the stork' (animal) (Tiberian הַחֲסִידָה Lev. 11.19) vs. *assidåk* 'your pious one' (human) (Tiberian חֲסִידֶךָ Deut. 33.8)[52]

yamən 'Yamin' (proper name) (Tiberian יָמִין Gen. 46.10) vs. *yammən* 'right hand' (Tiberian יָמִין).[53]

wyå̊bbåd 'and he perished (past)' (Tiberian וַיֹּאבַד) vs. *yå̊bbåd* 'he perishes (non-past)' (Tiberian יֹאבַד).[54]

As discussed above, the gemination of the /t/ in the Aramaic plural form *bāttīn* is attested in the reading tradition of Classical Syriac. The strategy of distinguishing pairs of homophones by innovative gemination in one of the members of the pair is not a feature that continued in Syriac.[55] This is likely to be due to the fact that gemination was lost in the western tradition of Syriac and also in the spoken vernacular Aramaic dialects of northern Mesopotamia. In these spoken dialects, however, a related strategy developed which applied pharyngealization to distinguish homophones. Pharyngealization like gemination involves the increase in muscular tension in the tongue root. Pharyngealization involves articulating a consonant with accompanying coarticulation consisting of the retraction of the tongue root into the upper pharynx. This strategy of distinguishing homophones has been identified in several NENA dialects. It is applied to many cases of homophones where one of the pair is a verb and the other a noun. In such cases it is significant that the noun is pronounced with the added muscular tension of the pharyngealization. In the Christian Barwar dialect several pairs of homophones are found with the consonant /r/, which is pharyngealized in the noun of the pair (Khan 2008, 33, 59):

Verb		Noun	
dare	'he puts'	*daṛe*	'generations'
parma	'she cuts'	*paṛma*	'oak tree'
dwara	'threshing'	*dwaṛa*	'rest area for sheep'

In some cases the verb and the noun are clearly derived from the same historical root, e.g.

gawra	'she marries'	*gawṛa*	'man'

Similar distinctions are found in other dialects. In the Christian Urmi dialect pharyngealization is suprasegmental and affects the whole of the word (marked below by a

superscribed ⁺). Some examples of verbs and nouns from the same historical root include the

following (Khan 2016b vol. 1, 130, 257)

ḵora	'she buries'	⁺ḵora	'grave'
ɟora	'she marries'	⁺ɟora	'husband'

The examples of the phonological distinction between homophones in the various

traditions of Hebrew and living vernacular dialects of Aramaic that have been presented above

provide typological parallels that support the hypothesis presented in this paper regarding the

origin of the gemination in the form בָּתִּים. These parallels include a clear tendency to distinguish

nouns from homophonous verbal forms by heavier coding of the noun than of the verb, by

increasing muscular tension of articulation through gemination or pharyngealization. This would

correspond to the typology of the proposed strategy to distinguish the hypothesized original pair

of homophones *bāṯīm (noun) vs. bāṯīm (verbal participle), whereby gemination was added to the

noun.

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[1] For the evidence see Morag (1974), Grabbe (1977, 179–197), Khan (2013a, 43–107; 2013b) and Joosten (2015b; 2015a).

[2] Various lists are extant of differences between Ben Asher and Ben Naphtali, the most extensive one being *Kitāb al-Khilaf* 'Book of differences' of Mishaʾel ben ʿUzziʾel (ed. Lipschütz 1965). For the sub-traditions of other Masoretes see Mann (1926), Morag (1969) and Yeivin (1981).

[3] See Khan (2013a, 43–65), where it is noted that even the grammarian Ibn Janāḥ expressed regret that in eleventh century Spain there were no traditional readers and teachers (*ruwāt wa-ʾashāb al-talqīn*) with a first hand knowledge of the Tiberian reading: *Kitāb al-Lumaʿ* (ed. Derenbourg 1886, 322–323)(1886, 322–323).

[4] For these transcriptions see Hoerning (1889), Khan (1990; 1992; 1993; 2013e; 2016a) and Harviainen (1993a; 1993b; 1994; 1996).

[5] For an overview of Tiberian Masoretic treatises see Khan (2013a, 71–77).

[6] Cf. the evidence presented in Allony (1942) and Khan (1987, 54–55).

[7] See Khan (1987; 2013d).

[8] See Khan (1987) for further details.

[9] Although the accent signs were created in the early Islamic period by the Masoretes, the oral reading of Hebrew Bible with cantillation can be traced to earlier periods; cf. Khan (2013a, 37–38).

[10] In the Aleppo codex *gaʿya* is never marked on the form בָּתֵּים or its inflections when the main accent falls on the syllable beginning with the *taw*. If there were a buffer syllable between the main accent and the syllable beginning with the initial *beth*, one would have expected major *gaʿya* in some cases, especially when the accent is *pašṭa* (Yeivin 1968, 144).

[11] A similar repair process of syllables is found in some Arabic dialects, e.g. *dābba > dāba* 'pack-animal' (Fleisch 1961, 1:164; Blau 1990, 109).

[12] For the pronunciation of the *shewa* as vocalic in such contexts see *Diqduqe ha-Ṭeʿamim* (ed. Dotan 1967, para. 5).

[13] In this manuscript initial *ʾaleph* + long *qameṣ*, i.e. *ʾɔ̄*, is represented by a single *ʾalif*. In Biblical Aramaic a long vowel is more widely tolerated in an unstressed syllable closed by a geminated consonant, e.g. עָלִּין 'they enter' (Dan. 4.4 Qǝre); cf. also Syriac *ʿāllīn* (Nöldeke 1869, 457).

[14] Some scholars who have worked on the Hexapla material have indeed interpreted this form as a mistake for an intended βαθημου, e.g. Speiser (1925, 356) and Pretzl (1932, 10). Brønno (1943, 143) and Janssens (1982, 126), however, interpret the transcription as reflecting a reading of the word as a singular form.

[15] On this issue see Kutscher (1965).

[16] See Khan (2017a; 2017c).

[17] For the background and structure of this text see Eldar (1994).

[18] MS II Firk. Evr. Arab. I 2390, fols. 18a-18b. For the different versions of the *Hidāyat al-Qāriʾ* see Eldar (1994).

[19] Eldar (1987, 12; 1994, 77-78).

[20] The manuscript has ובתיו וגנזכיו (Eldar 1987, 12).

[21] בָּתִּים ‏כל לשון בתים מא כאן מנה בלחנין כאן בן־נפתלי ידגשה אעני ישד פיה זאיד עלי גירה 'Every case of בָּתִּים with two accents was given *dageš* by Ben Naphtali, I mean he pronounced it with force more than other cases (of he word without two accents)'.

[22] ‏ומא כאן גירהא מא כאן ישד פיה אמתֿאל הדֿא אלשד 'He did not pronounce other cases with the similar strength' (Lipschütz 1965, 4; Eldar 1994, 77).

[23] It was one of the principles of Muʿtazilite doctrine that the term 'unbeliever' could not be applied to a Muslim believer who had committed a grave sin. The latter, therefore, could be neither a believer nor an unbeliever, but in an intermediate state (*manzila bayna manzilatayn*); cf., e.g., Gimaret, D.. "Muʿtazila." Encyclopaedia of Islam, Second Edition. Edited by: P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel, W.P. Heinrichs. Brill Online, 2015..

[24] See Baalbakki (2008, 132).

[25] The Masorah Parva to I Chron. 28:11 contains the note: ‏ה׳ תוין דגשי׳ בחוזק 'There are five *taw*s that have strong *dageš*'. It is not clear in which words these *taw*s occur apart from the *taw* in בָּתָּיו in the 1 Chron. 28:11 (Dotan 1967, 15).

[26] Makkī ibn ʾAbī Ṭālib (d. 437 A.H./1045 C.E.), for example, states that in a word such as *al-ḍāllīn* 'those going astray' the /ā/ is given increased length (ʾišbāʿ al-madd) and 'as a consequence of the increase in length (of the vowel) the *tašdīd* is strengthened (*bi-ʾišbāʿ al-madd yatamakkan al-tašdīd*) (*Al-Riʿāya li-Tajwīd al-Qirāʾa wa-Taḥqīq Lafẓ al-Tilāwa*, ed. Aḥmad Ḥasan Farḥāt, 1417/1996, Ammān: Dār ʿAmmār, 253).

[27] The passage has the same adapted form also in *Sefer Ṭaʿame ha-Miqra*. Eldar (1984, 28) used this adapted version of the passage on the *taw* in his interpretation of the original Arabic version of *Hidāyat al-Qāriʾ* and this, therefore, led him to misinterpret the original.

[28] The plosive pronunciation of the *taw* after long *qameṣ* was regarded as anomalous by Ḥayyūj and he is quoted by Ibn Ezra in his *Sefer Ṣaḥot* (ed. del Valle Rodríguez 1977, 1:289) to the effect that the *qameṣ* occurs to differentiate the word in meaning from בַּתִּים 'baths' (measure of capacity); cf. Charlap (1999, 121–22). The source of such a statement about the differentiating fuction of the *qameṣ* cannot be identified in the extant corpus of Ḥayyūj's writings. It may be based on Ibn Ezra's misinterpreation of the passage concerning the *bgdkpt* consonants and בָּתִּים in *Kitāb al-ʾAfʿāl Ḏawāt Ḥurūf al-Līn* (ed. Jastrow 1897, 12–13) (José Martínez Delgado, personal communication).

[29] I have argued elsewhere that the extended *dageš* forte reading gave rise to the practice of marking *dageš* on all non-guttural consonants in contexts where *bgdkpt* consonants have *dageš*, which is found in some medieval manuscripts (Khan 2017b), e.g. יִשְׁמֹּר. Yeivin (1983) has argued that this *dageš* was *forte* . The practice of marking this *dageš* continued in some manuscripts written in medieval Europe, but it appears that readers in European communities did not pronounce it as *dageš forte*; cf. the remarks of Yekutiʾel ha-Naqdan in his *ʿEn ha-Qore* (ed. Yarqoni 1985, 105).

[30] Cf. Bergsträsser (1918, 99–100). Already the medieval grammarian Ibn Janāḥ, *Kitāb al-ʾUṣūl* (ed. Neubauer 1875, 278–79), proposed that the plurals of these words developed by contraction of the middle radical.

[31] For this general phenomenon in languages see Bybee (2015, 40–41). The contraction in יָמִים was attributed to frequency by König, but he regarded this as unlikely to be the cause of the contraction in בָּתִּים (König 1895, 51, 55).

[32] It is unlikely, therefore, that the gemination is due to assimilation of the medial /y/ as has been suggested by some scholars, e.g. Rahlfs (1896, col. 587), who compares this to the assimilation of initial *yod* to the second radical in some verbs (Gesenius 1910, para. 71). This was already proposed by Ibn Parḥon in the 12th century, *Maḥberet he-ʿArukh* (eds. Stern and Rapoport 1844, 4b). König (1895, 55) appears to hold the same opinion, though his argumentation is not clear. He refers to the *dageš* as *dageš forte orthoconsonanticum*, which he identifies also in forms such as לִיִסֹּד 'to establish' (2 Chron. 31.7) for לִיסוֹד (König 1881, 53). Wright (1890, 80)

proposed that the form developed from *baytīm* by the contraction of the diphthong /ay/ to /ā/, as in אָן 'where' < *ʾayin or the place name עֵינָם (cf. LXX Ηναειμ). The form בָּתִּים would, therefore, be derived from a pattern *qatlīm* like a plural such as זֵיתִים 'olives' (sing. זַיִת) rather than the *qatalīm*, like a plural such as תְּיָשִׁים 'goats' (sing. תַּיִשׁ). According to this theory the /t/ of בָּתִּים must have always been originally non-geminate, which, as we have seen, is contrary to other evidence. Some scholars proposed to read the *qameṣ* in the unstressed syllable of בָּתִּים as short *qameṣ ḥaṭuph*, e.g. Ewald (1844, 40, 42, 356), Olshausen (1861, 272), Böttcher (1866 vol. 1, 156), Gordon (1965, 372), but, as we have seen, this is contrary to the evidence from the medieval sources. This led some scholars to hold that the plural form was from the root בת″ת, e.g. Gesenius (1835, 191), who considers בָּתִּים to be the plural of an unattested singular בֹּתֶת.

[33] Nöldeke (1869, 456–58; 1904, 16). The Aramaic plural is spelt with an ʾaleph in the Qumran manuscript 5Q15 (באתין) (Joüon and Muraoka 2011, 294 n.5) and in Classical Mandaic (באתיא) (Nöldeke 1875, 183).

[34] Nöldeke (1869, 456).

[35] del Olmo Lete and Sanmartín (2015, Part One:241).

[36] See, for example, Joüon and Muraoka (2011, 197) and the references cited there.

[37] See Gordon (1965, 157), Tropper (2000, 642, 648–49), Friedrich and Röllig (1970, 166).

[38] See Hetzron (1976).

[39] Delitzsch (1866, 98, n.1) attributes a similar view to Ḥayyūj: 'Die Grundform dieses metaplastischen Plur. zu בַּיִת ist … בָּת, wov. nach Chajuǵ *bâttim* im Untersch. von *bâtim* Uebernachtende'. No such statement can, however, be identified in the extant corpus of Ḥayyūj's writings. I am grateful to José Martínez Delgado for checking his forthcoming edition of this corpus. Delitzsch was possibly misinterpreting the comments of Ibn Ezra cited above in n.28. This note of Delitzsch was quoted in subsequent literature, e.g. by Böttcher (1866, 646) and, anonymously by Gesenius (1910, 285, n.2), who refers to it as the 'traditional view'. It should be noted that Ḥayyūj read the *dageš* in בָּתִּים as *dageš lene*, so even if had ever made such a statement the distinguishing feature would not have been gemination.

[40] According to Sivan (1997a, 158) the attested form ʾar with an initial ʾa is a participle, i.e. ʾāru '(the moon) illuminates', which would be evidence for the vocalism of middle weak participles. This form has, however, been interpreted differently, e.g. Tropper (2000, 646) interprets it as a fs. imperative.

[41] See del Olmo Lete and Sanmartín (2015, Part One:244) and the references cited there.

[42] Tropper (2000, 163).

[43] Melamed (1948, 1).

[44] Yeivin (1985, 1119).

[45] The notion that the *dageš* in בָּתִּים distinguishes meaning was already expressed by Qimḥi, who proposed that it served to distinguish the form internally within the biblical corpus from the word בָּתָה 'destruction' (Isaiah 5.6) (Chomsky 1952, 23).

[46] Yeivin (1985, 361–63).

[47] A few cases of a *dageš* that appear in the BHS edition and were identified by Knauf (1979) as serving to distinguish meaning have recently been shown by Golinets (2013, 247–52) to be no more than specks on the parchment of the manuscript.

[48] See in particular Florentin (1996) for examples of this phenomenon.

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[49] Ben-Ḥayyim (2000, 92).

[50] Ben-Ḥayyim (2000, 92).

[51] Ben-Ḥayyim (1957 vol. 4, 8-9, vol. 5, 194; 2000, 260).

[52] Florentin (1996, 231).

[53] Florentin (1996, 234).

[54] Florentin (1996, 218). This particular minimal pair is not attested in the Samaritan Pentateuch, but it can be inferred from the contrasting patterns used for the attested forms of the past and non-past, e.g. *wyå̄bå̄du* וַיֹּאבְדוּ 'and they perished' (Num. 16:33) vs. *tå̄bbåd* תֹּאבַד 'it becomes lost' (Deut. 22:3).

[55] Nöldeke (1904, 18–19) mentions a few cases of the expression of semantic distinctions between homophones by changing a plosive realization of a *bgdkpt* consonant to a fricative, e.g. *ʾeṣḇoʿ* 'I dye' vs. *ʾeṣboʿ* 'I dip into', *ʾāḥḏīn* 'shutting (pl.)' vs. *ʾāḥdīn* 'holding (pl.)'.