The Pronunciation of the *Dagesh Lene* in the Tiberian Hebrew Tradition

Abstract

It is commonly assumed that the distinction between the *dagesh forte* (marking a geminated consonant) and the *dagesh lene* (marking a plosive, non-geminated pronunciation of the letters בגדכפ"ת) traces to the original Tiberian reading tradition. The use of only one sign for both entities in the Tiberian vocalization, however, as well as several findings from Tiberian-related sources, lead to the conclusion that both types of *dageshim* were realized with gemination in the Tiberian tradition. In contrast, there are texts with Babylonian and Palestinian vocalization that differentiate between the two types, probably representing a distinction in their realization. These facts suggest that this distinction, an integral component of standard Hebrew grammar that is maintained in many oral traditions, is not based on the Tiberian tradition and survives in non-Tiberian traditions only.

1. Introduction: unequivocality in the Tiberian vocalization system

One of the main qualities of a clear and useful writing system is the unequivocality of its components.[[1]](#footnote-1) Thus, when a writing system is created, one of the basic principles that its creator is expected to follow is having a unique representation of each phoneme in the language that the system is designed to represent. In practice, for various reasons, the existing writing systems usually deviate from this principle to some extent.[[2]](#footnote-2) Yet in examining the initial use of a given writing system and assessing its relation to the spoken language in the environment to which it was originally introduced, one would expect this fundamental principle to be upheld.

In regard to Hebrew vocalization systems, it is generally accepted that this postulate holds true. Added to the ancient consonantal biblical text, these systems were created and designed to allow their users to read the text meticulously in accordance with the tradition on which it was based in order to preserve the pronunciation maintained in this tradition with the greatest possible accuracy. For this reason, it is expected that these systems would strictly refrain from any ambiguity or uncertainty in the meanings of their signs and would, *a fortiori,* avoid built-in duality in the meaning of any sign, thus following the basic principle of a one-to-one relationship between the sign and its function.

In the case of the Tiberian reading tradition, which did not survive until the modern era as a living oral tradition, this assumption was a central working premise among modern researchers who sought to reconstruct its features on the basis of its vocalization system. Relating to the *qameṣ* sign, for example, which has two distinct realizations in the common Sephardi traditions (as **a—***qameṣ gadol* or *qameṣ raḥav*, or as **o—***qameṣ qatan*) according to the phonetic environment in which it occurs, it is agreed that it originally represented only one vowel in the Tiberian tradition (probably ɔ$)$.[[3]](#footnote-3) This also explains why researchers are challenged by situations in which signs representing more than one realization in this system and are prompted to propose various explanations.

Two signs are usually thought to have a dual function in Tiberian vocalization: the *dagesh* and the *shva*. According to the generally accepted grammar, the *dagesh*, a dot marked inside the letter, is used either to indicate gemination of the consonant thus marked (*dagesh forte* or *dagesh ḥazaq,* hereinafter DF), or the plosive pronunciation of six letters (בגדכפ"ת) that lend themselves either to plosive or to fricative realization (*dagesh lene* or *dagesh qal,* hereinafter DL). Therefore, a *dagesh* in these six letters has two functions that can be differentiated only with regard to its position (DL at the beginning of the word or after a zero-vowel, DF after a vowel[[4]](#footnote-4)).[[5]](#footnote-5) The *shva* sign is two vertical dots under the letter, which may be realized either as zero (quiescent *shva*, *shva naḥ*) or as a short or ultra-short vowel (mobile *shva, shva naʿ*).

As for the *shva*, several attempts to explain its dual value have been made. According to a common assumption, the *shva* sign was originally designated to mark a vowel-zero only. Some scholars postulate that the *shva* was always pronounced as zero irrespective of its phonetic environment (which, in later reading habits, determined its nature as quiescent or mobile),[[6]](#footnote-6) while others assume that the mobile pronunciation(s) of the *shva* are the actual realizations of its basic zero nature, entailed by phonetic constraints posed by certain phonetic conditions.[[7]](#footnote-7) Another possibility proposed is that all variants of the *shva* in the Tiberian tradition were originally very close in nature, with very slight distinctions among them, and that the Tiberian vocalizers did not differentiate among them, invoking only one sign for all.[[8]](#footnote-8) In another approach, it is postulated that the *shva* sign had the specific technical function of marking boundaries between syllables[[9]](#footnote-9) or filling the graphic gap between vowel signs that form a syllable[[10]](#footnote-10); therefore, it was not intended to mark its phonetic realization, which actually varied in accordance with its phonetic environment.

To the best of my knowledge, the only explanation that postulates a fundamental bivalent use of the *shva* sign is proposed by Morag. He assumes that the vocalizers preferred to economize in the use of signs, thus establishing one sign for several phonetic entities that are proximate in nature, namely, shorter than full vowels.[[11]](#footnote-11)

Therefore, researchers concur almost unanimously that the *shva* sign originally had only one specific function. For some reason, however, the same assumption is much less common with regard to the *dagesh*, many scholars simply attributing to it a dual function.

The aim of this paper is to propose a reexamination of the function of the *dagesh* sign in the Tiberian Hebrew tradition according to recently published findings from early manuscripts and masoretico-grammatical materials. Almost no new data is presented below; instead, a new interpretation of the existing data, introducing a novel point of view on the topic of interest, is offered.

2. The dagesh: a uniform pronunciation in the Tiberian tradition

Several explanations have been proposed for the use of the *dagesh*, which appears to be one mark that signifies two distinct functions.

Kahle assumes that the *dagesh* sign was originally used as a DF that signals gemination. Careful attention was paid in the Tiberian tradition to marking in particular the geminated consonants (בגדכפ"ת), which were always pronounced as plosives, in order to prevent a mistaken fricative realization. As a result, the use of the *dagesh* to mark a plosive pronunciation even when not geminated was developed in later stages of this tradition.[[12]](#footnote-12)

A similar explanation was introduced by Morag: since it is a sufficient condition for any of the בגדכפ"ת consonants to be geminated in order to be plosive, marking the plosive allophones of these consonants with the gemination sign even when they are not geminated was a reasonable practice in the eyes of the Tiberian vocalizers. This economical practice was enabled by the complementary distribution of the two functions.[[13]](#footnote-13)

Another explanation, based on an opposite assumption, is presented by Tur-Sinai.[[14]](#footnote-14) He postulates that the *dagesh* sign was originally used to mark the plosive pronunciation of בגדכפ”ת, which included all cases in which these consonants were geminated. In later stages, the *dagesh* was perceived as also marking gemination and its use as a gemination mark was expanded to all other consonants that might be geminated.

According to yet another proposal, introduced by G. Khan, both realizations of the *dagesh—*gemination and plosive pronunciation of בגדכפ”ת—are pronounced by applying greater muscular pressure than that invoked for their counterparts without the *dagesh*. It is this increase in pressure that the Tiberian vocalization marked, without any explicit distinction between the two manners of realization.[[15]](#footnote-15)

According to currently available data, however—some important parts of which presented by Khan himself—we may assume that the *dagesh* sign followed the premise of the unequivocal function of all signs in Tiberian vocalization, with DLand DF having the same pronunciation in the Tiberian tradition. In fact, this is not a new assumption; it was already proposed in 1922 by Bauer and Leander in their grammar of biblical Hebrew.[[16]](#footnote-16) Later scholars, however, did not accept this view, probably due largely to the lack of supportive evidence for the existence of such a pronunciation, thus leaving the postulation of two differently pronounced *dageshim* as the only common view.[[17]](#footnote-17)

The main grounds for reassessing the status of the *dagesh* sign in the Tiberian tradition is the discovery of a Karaite school, close to the Tiberian tradition in time and nature, in which both DF and DL were realized with gemination. This school was introduced to modern research by G. Khan,[[18]](#footnote-18) who found that in a group of Karaite manuscripts containing biblical texts transcribed in Arabic characters, all *dageshim* are marked with the Arabic gemination sign, the *shadda*. This set of texts stands in contrast to other Karaite transcriptions of this kind, which mark only DF with the Arabic *shadda* and leave unmarked all letters that are marked with DL in their parallels in Hebrew Masoretic texts. Since most of these manuscripts, as a rule, follow the standard Arabic orthography[[19]](#footnote-19) and since the *shadda* in Arabic orthography signifies only the lengthened pronunciation of the marked consonant and is never used to mark a non-geminated plosive consonant, Khan maintains that the former group of manuscripts represents a reading tradition that geminated the DL as well.

The uniform pronunciation of the *dagesh* is also evidenced, according to Khan, in masoretico-grammatical works close to the late Tiberian tradition [such as?] *Hidāyat al-Kāri* and Mishaʾel ben ʿUzziʾel's *Kitāb al-Khilaf*. The nature of these grammarians’ discussions of the *dagesh* in the *tav* of בָּתִּים and in other contexts proves that they had no conscious distinction between DF and DL in mind. One may therefore assume that in common pronunciation of *dagesh* in their environment did not distinguish between the two types of *dagesh*, and on the basis of the data from the Karaite transcriptions, it stands to reason that both were geminated.[[20]](#footnote-20)

Khan maintains that the uniform pronunciation of the *dagesh* is a feature of the late Masoretic period (ca. 10th century A.D. [CE?]). He assumes that this tradition first came into use among some Tiberian readers toward the late generations of the Tiberian Masoretes, in the wish to preserve the reading of the text in its full integrity and make maximally clear distinctions that might otherwise be lost. In accordance with this intention, these readers adopted the geminated pronunciation of DL in order to establish the clearest possible distinction between fricative and plosive forms of letters and to mark a clear separation of syllables.[[21]](#footnote-21) Khan postulates that this reading existed in Tiberian circles alongside the form of reading that differentiated between DF and DL, as in the traditional Hebrew grammar known today.[[22]](#footnote-22)

However, if the fundamental premise of a one-to-one relation between form and function is taken into account, one would do better to assume that the uniform realization of all *dageshim* as DF is an intrinsic feature of the Tiberian vocalization system, rather than a secondary development of its later stages. Thus, it is only the first aforementioned group of Karaite transcriptions, in which both DF and DL are marked with the *shadda*, that represents the original Tiberian pronunciation of the *dagesh*, the other group reflecting another tradition in regard to this point.

This assumption is supported by additional data from several sources. Important evidence is provided in Yeivin’s discussion of the sort of *dagesh* that he calls a “separating *dagesh*,”which is meant to mark boundaries between syllables by signaling the beginning of a new syllable in the letter in which it is marked. This kind of *dagesh* may appear in all non-guttural letters ((בגדזטכלמנספצקש"ת, under conditions very similar to the rules of DL in בגדכפ”ת, in which the *dagesh* is usually marked when it follows a pause or an unvowelled consonant.[[23]](#footnote-23) This *dagesh* is one of the typical features of the non-standard (“extended” or “Palestinian-Tiberian”) Tiberian vocalization; it also occurs several times in standard Tiberian manuscripts.[[24]](#footnote-24)

Yeivin’s main innovation is his assertion that this sort of *dagesh* was pronounced as DF.[[25]](#footnote-25) This conclusion also led him to question the nature of DL because the conditions under which DL occurs overlap those in which the “separating” *dagesh* is invoked; thus, the DL may have a separating function as well. Thus, there is no way to determine whether a given occurrence of the *dagesh* in בגדכפ”ת under these conditions is a DL or a “separating” *dagesh* realized as a DF. For this reason, Yeivin concludes that “the relation between DF and DL inבגדכפת consonants should be reexamined.”[[26]](#footnote-26) According to the thesis proposed here, however, there is no problem: All kinds of *dageshim—*forte, lene and “separating”—were pronounced through gemination. Therefore, DL is indistinguishable the “separating” *dagesh* and no such differentiation is needed because every DL automatically marks a separation between syllables.

This conclusion regarding the vocalization signs used in the Tiberian tradition also indicates that gemination in every *dagesh* was an intrinsic feature of this tradition and not a late development in some reading habits.

A source cited by Yeivin also reflects this point. When the author of “A Treatise on the *Shva*” discusses the relations between the *shva* and the *dagesh*, he compares occurrences of *dageshim* that we consider as DL with *dageshim* that we consider DF without making any distinction.[[27]](#footnote-27) In view of this text, Yeivin drew the conclusion that “The grammarians of the Masorah do not distinguish between DL and DF.”[[28]](#footnote-28) This further supports the assumption that there was actually no distinction between the two types in their pronunciation.

My conclusion may be corroborated not only by materials included in masoretico-grammatical texts but also by what these texts do not include. Here again, a comparison with the other bivalent sign—the *shva—*is beneficial: While identifying and determining the correct value of the *shva* in varying situations (quiescent or mobile, and variations in performing the mobile) are the topics of massive discussions in masoretico-grammatical works,[[29]](#footnote-29) no reference whatsoever to a distinction between DF and DL appears in the known Masoretic material and treatises close to it.[[30]](#footnote-30) This situation is also reflected in the terminology: In some Masoretic texts, the term specified for the quiescent *shva* is distinct from that reserved for the mobile *shva*,[[31]](#footnote-31) Where *dageshim* are concerned, however, no terminological distinction is made that may be identified as differentiating between the two types.[[32]](#footnote-32)

In sum, the use of one sign for both functions, the use of the *dagesh* for to separate syllables, and the data from masoretico-grammatical treatises all suggest that there was one pronunciation for both DF and DL. Furthermore, the use of the *shadda* to mark all *dageshim* in Karaite transcriptions of the Bible indicates that all *dageshim* were pronounced with gemination.

1. Pronunciation of the *dagesh* in non-Tiberian traditions.

Apart from the Tiberian sources, various manuscripts are vocalized according to two other vocalization traditions of the Bible—Babylonian and Palestinian—that reflect the distinction between DF and DL. These traditions, however, are inconsistent in this respect, as the main vocalizing method in both marks DF as well as DL with the same sign.

Such is the situation in the simple version of the Babylonian vocalization, which, like its Tiberian counterpart, uses one sign for both DF and DL.[[33]](#footnote-33) In some manuscripts that use the simple Babylonian vocalization, however, only DF is marked, leaving all expected occurrences of DL unmarked.[[34]](#footnote-34) The distinction between the types is even clearer in the compound version of the Babylonian vocalization, which employs two distinct signs for each function.[[35]](#footnote-35) Thus, the two types of *dageshim* were definitely pronounced differently in the tradition upheld by at least some users of the Babylonian vocalization. It is unclear, however, whether a uniform pronunciation of the *dagesh* sign coexisted with this tradition or whether the use of one mark for both types in the Babylonian vocalization is reminiscent of the Tiberian tradition or the result of its influence,[[36]](#footnote-36) as opposed to a reflection of the actual pronunciation of *dageshim* in this tradition.

As mentioned, texts with Palestinian vocalization also show no uniformity on this respect. While some texts use one sign to denote both functions, others mark only DF and leave unmarked letters that carry a DL in the Tiberian tradition.[[37]](#footnote-37) Here again, one may conclude a distinction in pronunciation between the two types was extant among users of this vocalization system, while it is uncertain if the manuscripts that mark the two functions identically reflect a uniform pronunciation or just a Tiberian influence on the Palestinian vocalization system[[38]](#footnote-38) that does not represent the actual pronunciation among these circles.

Thus, the distinction in pronunciation of DF and DL has some reflections in Babylonian and Palestinian traditions but not in Tiberian sources. Accordingly, it stands to reason that this distinction, common in all late-medieval and current Jewish reading traditions of the Bible, was preserved in non-Tiberian traditions only.

3. The use of the *rafe* sign

According to our understanding of the function of the *dagesh* in the Tiberian tradition, we can propose an explanation that solves another problem: the necessity of the opposite symbol, the *rafe* sign. Marked with a horizontal line above the letter, it is usually used in the Tiberian vocalization to signal the fricative pronunciation of the letters בגדכפ”ת,[[39]](#footnote-39) namely, wherever they do not have a *dagesh*. In later versions of biblical texts that use the Tiberian vocalization signs, however—including all printed editions to this day—the *rafe* sign is not deemed necessary because the absence of a *dagesh* in בגדכפ”ת signifies the fricative realization of these letters unequivocally. This raises the question: why the Masoretes find it necessary to use the *rafe* mark for this purpose?

The fact that the *dagesh* was always pronounced with gemination may provide us with an answer. For each non-בגדכפ”ת letter that may receive a *dagesh*, there were only two modes of pronunciation: geminated when marked with a *dagesh* and non-geminated when there is no *dagesh*, with no change in the quality of the consonant. Had there been no additional symbol, one would expect the בגדכפ”ת letters to follow the same principle, allowing only two possible modes: geminated or non-geminated, with the same sound pronounced in both. In other words, since *mem*, for example, always represents a labial nasal voiced consonant while the presence or absence of a *dagesh* determines only whether it is geminated or not, a simple analogy would apply the same principle to בגדכפ”ת, with *bet*, for example, maintaining the same contrast: geminated with a *dagesh* and non-geminated otherwise, without any change in its quality. Therefore, the *Rafe* symbol was needed to mark the change in quality, namely, that the consonant in question should be pronounced as a fricative. Even though there was no middle ground (geminated fricative or non-geminated plosive) in pronouncing the בגדכפ”ת consonants, the non-geminated consonant always pronounced as fricative, it was still felt necessary to indicate the fricative pronunciation in order to mark the deviation from the regular contrast of geminated and non-geminated consonants with no change in quality. It was only in later traditions, which adopted the Tiberian vocalization while maintaining a twofold function for the *dagesh* in בגדכפ”ת, that the *rafe* mark became superfluous: With the *dagesh* also marking a non-geminated plosive consonant, the presence or absence of the *dagesh* no longer represented the binary contrast of geminated and non-geminated; it now represented the distinction between non-geminated plosive and non-geminated fricative בגדכפ”ת consonants. In this situation, with בגדכפ”ת deviating anyway from the simple contrast of geminated vs. non-germinated as in all other consonants that may take a *dagesh*, the absence of a *dagesh* sufficed to signal the fricative pronunciation of בגדכפ”ת.[[40]](#footnote-40)

4. DF and DL in the writings of early Hebrew grammarians

In contrast to the Tiberian-related sources, the distinction between DF and DL was known to early Hebrew grammarians. Yet neither clear definitions nor consistent terminology regarding this topic are found in the initial developmental stages of Hebrew grammar in the Middle Ages. Instead, one finds only initial, partial and blurry treatments of this topic in some early works.

In Saadya Gaon’s grammar, there are only a few incidental examples (in the text that survived from this work) that imply a distinction between DF and DL. In the fourth chapter, in which he deals with strengthening and softening consonants (*a-tashdid wa-al-ʾarkha*), he discusses the *dagesh* that is used to differentiate between verbal patterns. His examples include יְכַבֵּד vs. יִכְבַּד, יְרַפֶּה vs. יִרְפֶּה, יְדַבֵּר vs. יַדְבֵּר [[41]](#footnote-41), with the letter with the *dagesh* in the first word of each pair considered “strengthened” and the parallel letter in the second word deemed “soft.” Since all *dageshim* in second words are DL, these comparisons clearly demonstrate Saadya Gaon’s familiarity with some distinction between DF and DL and his perception of DF as “softer” than DL. In another context, however, Saadya Gaon regards as *mushaddad—*strengthened by a *dagesh—*what today we consider DL (the *dagesh* in initial בגדכפ”תwhen the preceding word ends with a closed syllable).[[42]](#footnote-42) The lack of consistency in Saadya Gaon's terminology, although typical of this work,[[43]](#footnote-43) demonstrates the vagueness of this topic in his linguistic consciousness.

A more explicit but still very partial description is presented by Menaḥem ben Saruq in his *Maḥberet*.[[44]](#footnote-44) He recognizes the uniqueness of בגדכפ”ת, which may take a *dagesh* at the beginning of a word, but does not mention other circumstances under which these letters take a DL. This *dagesh*, he maintains, has only a euphonic function, in contrast to other types of *dageshim*, which may indicate the meaning of the word. For both types of *dageshim* he uses only the term *dagesh*, making no distinction in terminology between the types.[[45]](#footnote-45)

R. Yehudah Ḥayyuj’s description of this topic somewhat more inclusive but still quite blurry. In his *Kitāb al-ʾAfʿāl ḏawāt al-Ḥurūf al-Layn* he presents, for the first time in a grammatical work,[[46]](#footnote-46) a terminological distinction between the two types of *dageshim*: *ṯaqīl* (“heavy”) for DF and *khafīf* (“light”) for DL. This terminology, however, is ambiguous because in the same paragraph he uses the term *ṯaqīl* for DL when it is contrasted with בגדכפ”ת without *dagesh*, which in this context he calls *khafīf.*[[47]](#footnote-47) Therefore, he calls DL “heavy” when contrasted with *rafe*, and “light” when contrasted with DF.[[48]](#footnote-48) Terminology aside, his description is a bit more advanced than Menaḥem’s as it includes *dageshim* at the beginnings of words (e.g., בְּרֵאשִׁית) as well as in their middle (e.g., יִרְבֶּה). Yet it does not attain a high level of clarity as it provides only examples of each type of DL and neither rules nor grammatical explanation.

These initial descriptions are the results of the first attempts to recognize and define the distinction between DF and DL. As the Masorah lacked any reference to this matter, these grammarians were provided with no background or basic definitions on the topic and therefore had to take their first steps on their own. In contrast, with regard to the *shva*, which was widely treated in masoretico-grammatical literature, one already finds much clearer and more elaborated descriptions in Saadya Gaon’s[[49]](#footnote-49) and Ḥayyuj’s[[50]](#footnote-50) grammars.

It took a few more generations to attain a fairly high level of clarity and inclusivity in describing the *dageshim.* This was accomplished by Joseph Kimḥi (~1111–1170),[[51]](#footnote-51) who also coined the terms *dagesh qal* and *dagesh ḥazaq*,[[52]](#footnote-52) the standard Hebrew terms for DL and DF to this day.

5. Conclusion

From a historical point of view, there is no doubt that two distinct phonological entities were marked with the *dagesh* in the Tiberian vocalization:[[53]](#footnote-53) DL, intended to mark the plosive pronunciation of בגדכפ”ת, may appear only at the beginning of a syllable after a pause or a close [closed?] syllable, whereas DF denotes gemination, and appears after vowels. The available data from the Tiberian and Tiberian-related sources, however, suggests that both DL and DF were pronounced with gemination in the Tiberian reading tradition.

The existence of such a pronunciation of DL is proven by Karaite Arabic transcriptions of biblical texts, in which DL is occasionally represented by the Arabic gemination sign, the *shadda*. If we assume that this was the pronunciation of DL in the Tiberian tradition, a few basic facts can be easily explained: the use of one sign and one term for two entities as distinct as DF and DL, the utter lack of discussion of the differences between the two types, the absence of differentiation between them in descriptions of the function of the *dagesh* in masoretico-grammatical texts, the use of the “separating” *dagesh* under very similar conditions as DL and pronounced as DF, and the necessity of the *rafe* sign to mark the difference in quality between geminated and non-geminated בגדכפ”ת consonants.

The uniform pronunciation of all *dageshim* probably evolved in Palestine shortly before or during the very early stages of the emergence of the Tiberian Masoretic school. It was motivated by the aspiration to achieve the most accurate recitation of the holy texts with maximal distinctions between reading variants such as plosive vs. fricative pronunciations of בגדכפ”ת. These efforts were probably reinforced by contact with parallel efforts in some Islamic communities in reading the Qurʾān.[[54]](#footnote-54) This trend was strong enough to yield an artificial pronunciation that included gemination at the beginnings of words, contrary the nature of both Hebrew and the Masoretes’ native vernacular, Arabic, which do not allow the gemination of initial consonants.

It is only in non-Tiberian traditions—texts using the Babylonian or Palestinian vocalization—that a clear distinction between DF and DL is found. This does not necessarily mean that a uniform pronunciation existed only in the Tiberian tradition. It does mean, however, that all later reading traditions all over the Jewish world, which differentiate between DL and DF, as well as all grammatical descriptions with regard to DL and its distinction from DF, are based on a form of reading that was preserved in non-Tiberian traditions only.

As is well known, despite the full reception of the Tiberian vocalization throughout the Jewish world, none of the existing living traditions from the late Middle Ages onward preserves the reading tradition originally represented by the Tiberian vocalization, with many of its unique oral features sinking into oblivion.[[55]](#footnote-55) As it turns out, the uniform pronunciation of DF and DL is one of these features.

Appendix: *Dagesh ṯaqīl* and *Dagesh khafīf* in a Masorah Genizah fragment published by Allony and Yeivin

In a Genizah fragment that is estimated by its editors to contain a reminiscence of a tenth-century Tiberian masoretico-grammatical text, a short paragraph referencing two different types of *dageshim* appears:

תקול פי אל דגש שי את'קל מן שי, כקולך פי אלת'קיל ושים עליה כרים – הד'א אלכף אלדגש ת'קיל. ותקול פי אלדגש אלכ'פיף מי כמוכה אלת'אני.

You will say on the *dagesh* something heavier than something else, as you say with regard to the heavy וְשִׁים עָלֶיהָ כָּרִים (Ez. 4:2)— this *kaf* is the heavy *dagesh*. And you will say with regard to the light *dagesh* מִי כָּמֹכָה (Ex. 15:11)— the second [occurrence in this verse].

The examples cited in this paragraph do not represent the common circumstances under which DF and DL occur. Furthermore, it is completely uncertain that the *dagesh* in the second example may be attributed to DL because it follows an open syllable with a conjunctive accent. Nevertheless, Allony and Yeivin proposed hesitantly,[[56]](#footnote-56) and Khan took for granted,[[57]](#footnote-57) that the distinction introduced here between “heavy” *dagesh* and “light” *dagesh* corresponds to the distinction between DF and DL. If this assumption is true, it is the first explicit reference to this distinction and it proves that a Tiberian-related Masoretic source is already familiar with it. Is this so? Although a certain understanding is not possible in such a short and vague text, I would like to propose another interpretation that would probably better fit the context at hand.

One noteworthy fact in this context is that the notion of “heaviness” and “lightness” in *dageshim* recurs in *Hidāyat al-Kāri*, in which a three-tier scale of strengths of *dageshim* is presented, described as מנאזל פי אלתקל ואלכפה—“grades with regard to heaviness and lightness.” Since all the examples provided in that source for all three grades are of DL, Khan concludes that this classification refers to different degrees of phonetic realization with muscular pressure—a typology that does not correspond to our standard distinction between DF and DL.[[58]](#footnote-58) In view of several striking similarities between the *Hidāya* and the text in this fragment, presented below, it seems reasonable to assume that the notions of “heaviness” and “lightness” in the Genizah fragment are also used in this sense.

One point of similarity between these sources is the rule regarding one of the exceptions to what is known as כלל אוי"ה, i.e., the fricative pronunciation of an initial בגדכפ”ת following a word that ends with one of the letters אויה (when not sounded). The rule in question deals with initial clusters of two identical or similar letters—בב, ככ or בפ—in which the first letter carries a *dagesh* even though it follows a word with final אויה letter and even though there is no pausal accent between the words (e.g., וַתִּתְפְּשֵׂהוּ בְּבִגְדוֹ [Gen. 39:12], הֲלֹא כְּכַרְכְּמִישׁ [Isa. 10:9], וְאִכָּבְדָה בְּפַרְעֹה [Ex. 14:4]). There are several versions of this rule in medieval works, but the Masorah fragment presents the same version as in the *Hidāya*, which is unique to the *Hidāya* and its related sources,[[59]](#footnote-59) and gives almost the same examples.[[60]](#footnote-60)

Another point of similarity is the explanation of the כלל אוי"ה. Both sources propose that the reason for the “soft” pronunciation of בגדכפ”ת in these circumstances is the influence of the “soft” character of the preceding unpronouncedאוי"ה .[[61]](#footnote-61) This proposal is in no way a common or standard explanation; it may have been an innovation of the *Hidāya* or the Masorah fragment that was adopted by the other.

Apart from these two points, several additional similarities appear in the wording of grammatical rules and the choice of examples in the two sources.[[62]](#footnote-62)

In my opinion, this comparison suggests that the Genizah fragment and the *Hidāya* are related sources. Thus, one would do well to interpret vague terms in one source in accordance with their use in the other. Accordingly, in dealing with [Yes?] the uncertainty surrounding the nature of the examples cited in the fragment, it stands to reason that the meaning of the terms “heavy *dagesh*” and “light *dagesh*” in the Genizah fragment approximates their meaning in the *Hidāya*, in which they do not correspond to DF and DL.

1. Cf. Ferdinand De Saussure, *Course in General Linguistics*, ed. Charles Bally and Albert Sechehaye, trans. Wade Baskin (Lomdon: Peter Owen, 1974), 27-28,39; Florian Coulmas, *The Writing Systems of the World* (Oxford: Basil Blackwell, 1991), 45-46. [↑](#footnote-ref-1)
2. De Saussure, *General Linguistics*, 27-32; Coulmas, *Writing Systems*, 229-30; Henry Rogers, *Writing Systems: A Linguistic Approach* (Malden, MA: Blackwell, 2005), 13-14. [↑](#footnote-ref-2)
3. See, for example, W. Randall Gar, "Interpreting Orthography," in *The Hebrew Bible and its Interpreters*, ed. William H. Propp, Baruch Halpern, and David N. Freddman (Winona Lake, Indiana: Eisenbrauns, 1990), 65; Paul Joüon, *A Grammar of Biblical Hebrew*, translated and revised by Takamitsu Muraoka (Roma: Editrice Pontificio Instituto biblio, 1996), 43-44. [↑](#footnote-ref-3)
4. The nature [מה תפקידה של מילה זו כאן?] *deḥiq*, which is marked with the same sign as the *dagesh* and occurs under certain conditions at the beginning of the word, is the topic of debates among researchers. See N. X below. [↑](#footnote-ref-4)
5. Another use of a dot inside the letter, the *mappiq*, is not included in this discussion because it has a specific role—marking the consonantal pronunciation of *he* (or, in a few rare cases, *aleph*), which never takes a *dagesh—*and thus is not liable to be confused with the *dagesh*. [↑](#footnote-ref-5)
6. Hans Bauer and Pontus Leander, Historische Grammatik der hebräischen Sprache des Alten Testamentes (Halle: Niemeyer, 1922), 168 n. 3; Zeev Ben-Ḥayyim, "Ha-Shva ha-Meraḥef ve-ha-Hakhpalah be-ʿIvrit," Lešonenu 11 (1941): 83, 86-89. See also See Joüon and Muraoka, Biblical Hebrew, 51-52. [↑](#footnote-ref-6)
7. In other words, the quiescent pronunciation and the mobile pronunciation(s) of the shva, according to this approach, are all allophones of the phonemic concept of vowel-zero. See Shmuel Bolozky, "The Role of Casual Speech in Evaluating Naturalness of Phonologicl Processes: the Phonetic Reality of the Schwa in Israeli Hebrew", SKASE: Journal of Theoretical Linguistics 2 (2005): 1-2; Geoffrey Khan, "Tiberian Reading Tradition," in ed. Geoffrey Khan et al., Encyclopedia of Hebrew Language and Linguistics, vol. 3 (Leiden and Boston; Brill, 2013), 774. [↑](#footnote-ref-7)
8. Hanoch Yalon (ed.), R. Shlomo Almoli: Halikhot Shva (Jerusalem: Mosad Harav Kook, 1945), 97-98. A similar stance was presented also by Nisan Berggrin, "Klal He shel R. Eliyyahu Baḥur: Pereq be-Toldot ha-Diqduq ha-ʿIvri," Lešonenu 16 (1949): 170. [↑](#footnote-ref-8)
9. Aron Dotan, "Shmotav shel ha-Shva be-Reshito shel ha-Diqduq ha-ʿIvri," Lešonenu 19 (1954): 13-15; idem, "Masorah", Encyclopedia Judaica, 2nd ed., vol. 13 (Jerusalem: Thomson Gale and Keter Publishing House), 633-34. [↑](#footnote-ref-9)
10. Geoffrey Khan, "The Syllabic Nature of Tiberian Hebrew Vocalization," in Semitic Studies in Honor of Wolf Lesau on Occasion of his Eighty-Fifth Birthday, ed. Alan s. Kaye, (Wiesbaden: O. Harrassowitz, 1991), 861. It seems that Khan presented a different approach here than the one he presented in his later publication cited above. [↑](#footnote-ref-10)
11. See Shelomo Morag, The Vocalization Systems of Arabic, Hebrew, and Aramaic: Their Phonetic and Phonemic Principles, 2nd ed. (Dortrecht: Mouton & co.'s-Gravenhage, 1972), 69-70. [↑](#footnote-ref-11)
12. Paul Kahle, *Masoreten des Ostens* (Leipzig: J. C. Hinrich'sche Buchhandlung, 1913), 167. Khale expressed his assumption with regard to the Babylonian vocalization and Yellin (David Yellin*, Diqduq ha-Lašon ha-ʿIvrit* [Jerusalem: Rubin Mass, 1942], 113-114) adopted it with regard to the Tiberian vocalization. [↑](#footnote-ref-12)
13. Morag, *Vocalization Systems*, 26-27. [↑](#footnote-ref-13)
14. Naphtali Herz Tur-Sinai, "Mivta ha-ʾotiyot bgdkpt ha-Dgushot ve-ha-Refuyot bi-Lshonenu," in *Ha-Lashon ve-ha-Sefer: Kerekh ha-Lashon* (Jerusalen: Bialik Institute, 1954), 171-172. [↑](#footnote-ref-14)
15. Khan, "Reading Tradition," 771. A similar approach was already expressed by Heinrich Ewald, *Ausfürliches Lehrbuch der Hebräischen Sprache der Alten Bundes* (Leipzig: Mann'sche Verlag-Buchhandlung, 1855), 155. [↑](#footnote-ref-15)
16. Bauer and Leander, *Historische Grammatik*, 117. A similar view had been expressed even earlier by H. Oort (cited in *Gesenius' Hebrew Grammar*, edited by Emil Kautzsch, translated and revised by Arthur E. Cowley, Oxford 1910, §12, n. 1). [↑](#footnote-ref-16)
17. Cf., for example, Gumpertz's discussion in Y. F. Gumpertz, *Mivṭaʾe Sefatenu: Studies in Historical Phonetics of the Hebrew Language* (Jerusalem: Mosad Harav Kook, 1953), 246-47 (Heb.); Joüon and Muraoka, *Biblical Hebrew*, 56-57; Viktor Golinets, "Dageš," in ed. Geoffrey Khan et al., *Encyclopedia of Hebrew Language and Linguistics*, vol. 1 (Leiden and Boston: Brill, 2013), 649-650*.* This is also the view reflected in the aforementioned explanations of Morag and Khan, as well as in other publications by Khan (cited below). [↑](#footnote-ref-17)
18. G. Khan, "The Pronunciation of *Dageš* in the Tiberian Tradition of Biblical Hebrew," *Language Studies* 17-18: *Aharon Maman Festschrift* (2017): 349-53 (Heb.); idem, "How was the *Dageš* in Biblical Hebrew בָּתִּים Pronounced and Why is It There?," *Journal of Semitic Studies* LXIII (2018): 325-32; idem, "Remarks on the Pronunciation of Dageš in the Tiberian Reading Tradition of the Hebrew Bible," in *Semitic, Biblical and Jewsih Studies in Honorof Richard C. Steiner*, ed. Aaron J. Koller et al. (Jerusalem: Bialik Institute and New York: Michael Scharf Yeshiva University Press, 2020), \*256-\*60,\*266-\*69; idem, *The Tiberian Pronunciation Tradition of Biblical Hebrew*, vol. 1 (Cambridge: OpenBook Publishers, 2020), 547-51. [↑](#footnote-ref-18)
19. Khan, "The Medieval Karaite Transcriptions of Hebrew into Arabic Script," *Israel Oriental Studies* 12 (1992): 162-67; idem, "The Orthography of Karaite Hebrew Bible Manuscripts in Arabic Transcription", *Journal of Semitic Studies* XXXVIII (1993): 49-70. [↑](#footnote-ref-19)
20. Khan, "Pronunciation of *Dageš*," 352-57; idem, ",בָּתִּים" 329-36; idem, "Remarks," \*260-\*67; idem, *Tiberian Pronunciation*, 551-60. For another interpretation of the approach reflected in *Hidāya,* cf. Ilan Eldar, *The Study of the Art of Correct Reading as Reflected in the Medieval Treatise Hidāyat al-Kāri (=Guidance of the Reader)* (Jerusalem: the Academy of the Hebrew Language, 1994), 76-77 (Heb.). For several distinctions in the function of DF and DL introduced in *Hidāya,* see idem, 72-73. [↑](#footnote-ref-20)
21. Khan, "Pronunciation of Dageš," 357-58; idem, "Remarks," \*267-\*68; idem, *Tiberian Pronunciation*, 560-62. [↑](#footnote-ref-21)
22. Idem, *Tiberian Pronunciation*, 562. This assumption, however, is based on a distinction in terminology in one treatise published by Allony and Yeivin (Neḥemya Allony and Israel Yeivin, "Four Fragments from Four *Muṣawwitāt* (Vowels) Works," *Lešonenu* 48-49 (1985), 101) of dubious correspondence to the common distinction between DF and DL (see idem, 98; see also appendix to this paper). [↑](#footnote-ref-22)
23. For details and references, see Israel Yeivin, "משמעות סימן הדגש בניקוד הטברני 'המורחב'", *Hebrew Language Studies Presented to* *Professor* *Zeev Ben-Ḥayyim*, ed. Moshe Bar-Asher et al. (Jerusalen: Magnes Press, 1983), 294-99 (Heb.). [↑](#footnote-ref-23)
24. For example: יַעְקֹּב(Jer. 9:3), וַיֹּאמֶר לֹּא(Num. 22:30). See idem, 302-304. [↑](#footnote-ref-24)
25. Idem, 304-307. [↑](#footnote-ref-25)
26. Idem, 307. [↑](#footnote-ref-26)
27. Kurt Levy, *Zur Masoretischen Grammatik: Texte und Untersuchungen* (Stuttgart: W. Kohlhammer, 1936), 11. [↑](#footnote-ref-27)
28. Yeivin, "סימן הדגש", 305. [↑](#footnote-ref-28)
29. Aron Dotan, *The Diqduqé Haṭṭěʿamim of Ahǎron ben Moše ben Ašer: With A Critical Edition of the Original Text from New Manuscripts*, vol. 1, (Jerusalem: The Academy for Hebrew Language, 1967), 31 (Heb.); Shelomo Morag, "Mimushe ha-Shva be-Ḥibure ha-Diqduq," in *Studies on Medieval Hebrew Linguisrtic Thought: A Reader*, ed. Ilan Eldar and Shelomo Morag (Jerusalem: Academon Press, 1985), 330-35; Ilan Eldar, *Hebrew Language Studies in the Middle Ages* (Jerusalem: Magnes, 2016), 277-78 (Heb.). [↑](#footnote-ref-29)
30. A famous example of the lack of differentiation is the so-called כלל אוי"ה, the Masoretic rule that determines when a word beginning with one of the letters בגדכפ”ת after a preceding word concluding with one of the letters אויה has a *dagesh*, viz., when it is realized as plosive and when it is realized as a fricative consonant. This rule includes cases that we regard as DL, such as a word beginning with בגדכפ”ת letter after a pausal accent and the initial *dagesh* known as *deḥiq*, which according to Khan was pronounced with gemination (see Khan, *Tiberian Pronunciation*, 446-447; for another approach see, for example, Tur-Sinai, *Ha-Lashon*, 173; Joshua Blau, *The Phonology and Morphology of Biblical Hebrew* [Jerusalem: The Academy of the Hebrew Language, 2010], 123-24 [Heb.]). Khan (*Tiberian Pronunciation*, 560) points this out in regard to this rule as presented in *Hidāyat al-Kāri,* but the same may be deduced from citations of this rule in other masoretico-grammatical works (see Gumpertz, *Mivṭa'e Sefatenu*, 214-22; Aron Dotan, *Thesaurus of Quntrese-Masora: Hidden Language Treasures of Old*, [Jerusalem: The Academy of the Hebrew Language, 2020], 355-403 (Heb.) . [↑](#footnote-ref-30)
31. See Dotan, "ha-Shva," 23-24; Morag, "ha-Shva," 330-31,335. [↑](#footnote-ref-31)
32. One dubious exception, in a fragment published by Allony and Yeivin, is mentioned above and discussed in the appendix to this paper. Even if one postulates that the distinction between the terms used in this text reflects the distinction between DF and DL, however, this is a unique exception. [↑](#footnote-ref-32)
33. Dotan, "Masorah," 632. [↑](#footnote-ref-33)
34. Israel Yeivin, *The Hebrew Language Tradition as Reflected in the Babylonian Vocalization*, vol. 1 (Jerusalem: The Academy of the Hebrew Language, 1985), 336 (Heb.). [↑](#footnote-ref-34)
35. Shelomo Morag, "Nikud", in *Encyclopeadia Biblica*, vol. 5, ed. B. Mazar et al. (Jerusalem: Bialik Institute, 1968), 851 (Heb.). [↑](#footnote-ref-35)
36. On the possibility that the Babylonian vocalization originated in the Tiberian vocalization, see Joshua Blau, "The Origins of the Babylonian Vocalization," *Lešonenu* 72 (2010): 201-202 (Heb.). [↑](#footnote-ref-36)
37. A. Murtonen, "Materials for a Non-Masoretic Hebrew Grammar" (PhD diss., University of Helsinki, 1958), 33; See also texts 8 and 11 in Revell’s description (Ernst John Revell, *Hebrew Texts with Palestinian Vocalization* [Toronto: University of Toronto Press, 1970], 12 ff.); Joseph Yahalom, Palestinian Vocalized Piyyuṭ Manuscripts in the Camnridge Genizah Collections (Cambridge: Cambridge University Press, 1997), 32,39. [↑](#footnote-ref-37)
38. See Dotan, "Masorah," 626; Ilan Eldar, "Vocalization Systems and Pronunciation Traditions of Hebrew," in *Studies in Vocalization Systems and Reading Tradition in Hebrew* (Jerusalem: Magnes Press, 2018,), 118,122-24 (Heb.). For another approach, see Joshua Blau and Joseph Yahalom, "The Typology of Palestinian Vocalization Systems Preserved in Manuscripts from the Last Quarter of the First Millenium," *Language Studies* 18-19 (2017): 101 (Heb.). [↑](#footnote-ref-38)
39. On other uses of this sign, see Morag, "Nikud," 853-54; Dotan, "Masorah," 635; Israel Yeivin, *The Biblical Masorah* (Jerusalem: The Academy of Hebrew Language, 2003), 239-41 (Heb.); Khan, *Tiberian Pronunciation*, 571-74. [↑](#footnote-ref-39)
40. This explanation is not meant to provide a comprehensive solution to the full scope of this problem; further study is needed with regard to other uses of this symbol and its parallels in Babylonian and Palestinian vocalization. [↑](#footnote-ref-40)
41. Aron Dotan (ed. And trans.), *The Dawn of Hebrew Linguistics: The Book of Elegance of the Language of the Hebrews by Saadia Gaon* (Jerusalem: Magnes Press, 1997), 208,401-402. One may find a partial citation accompanied with English translation in Khan, “Remarks,” \*253-\*54. [↑](#footnote-ref-41)
42. Idem, 410. [↑](#footnote-ref-42)
43. Idem, 156. [↑](#footnote-ref-43)
44. Angel Sáenz-Badillos (ed.), *Ménaḥem ben Saruq Maḥberet: Edición Crítica e Introducción* (Granada: Universidad de Granada, 1986), \*5. [↑](#footnote-ref-44)
45. David Yellin, *Toldot Hitpatḥut ha-Diqduq ha-ʿIvri ʿim Mishqele ha-Shemot ba-Lashon ha-ʿIvrit* (Jerusalem: Kohelet, 1945), 51-52; Hananel Mirsky, *The Linguistic Theory of Menaḥem ben Saruq* (Jerusalem: Yad Izhak Ben-Zvi, 2018), 80-81 (Heb.). [↑](#footnote-ref-45)
46. This assumes, as I do, that the Genizah fragment published by Allony and Yeivin does not introduce such a distinction. See the appendix to this paper. [↑](#footnote-ref-46)
47. Daniel Sivan and Ali Wated (eds), *Three Treatises on Hebrew Grammar by R. Judah Ḥayyuj: a New Critical Edition of the Arabic Text with a Modern Hebrew Translation* (Beer-Sheva: Ben-Gurion University Press, 2012), 18-21. One may find a partial citation accompanied with English translation in Khan, “Remarks,” pp. \*254-\*55. This ambiguity was resolved by Moshe ibn Giqatilla in his medieval Hebrew translation of Ḥayyuj’s works, in which he terms DF *kaved meʾod*, “very heavy” or *kaved she-ba-kevedim*, “the heaviest among the heavy [elements,]” and DL as *ha-qal she-ba-kaved*, “the light [element] among the heavy [elements].” See R. Jehuda Hayug, *Two Treatises on Verbs Containing Feeable and Double Letters: Translated into Hebrew from Original Arabic by R. Moses Gikatilia*, ed. John W. Nutt (London: Asher, 1870), 8-9. [↑](#footnote-ref-47)
48. Roger Kaplan, "A Critical Study of the Philological Methods of Yehuda Ben David (Hayyuj)" (PhD diss., New York University, 1992), 180-81; Ali Wated, *Mishnato ha-Leshonit shel R"Y Ḥayyuj mibaʿad le-Munaḥav bi-Mekoram ha-ʿAravi u-v-Targuman ha-ʿIvri* (Haifa: Ha-Wadi, 1994) 33. [↑](#footnote-ref-48)
49. See Dotan, *Elegance*, 230-35. [↑](#footnote-ref-49)
50. Sivan and Wated, *Ḥayyuj*, 6-11. [↑](#footnote-ref-50)
51. W. Bacher (ed.), Sepher Sikkaron: *Grammatik der hebräischen Sprache von R. Joseph Kimchi* (Berlin: M'kize Nirdamim, 1888), 9; William Chomsky, *Ha-Lashon ha-ʿIvrit be-Darkhe Hitpatḥutah* (Jerusalem: Rubin Mass, 1977), 176-77 (Heb.); idem, "Dagesh and Rafe in the Tiberian Tradition," *The Jewish Quarterly Review* 63 (1973): 357. Cf. Khan, "Pronunciation of Dageš," 349; idem, "Remarks", \*255. [↑](#footnote-ref-51)
52. These terms were probably inspired by the terminology of Samuel ben Meir (Rashbam, ~1080-~1159), an older contemporary of Kimḥi. In his Hebrew grammar, Rashbam refers to DF as a *dagesh* that creates *mishqal ḥazaq*, a “strong pattern,” i.e., a morphological pattern that includes an integral *dagesh*, and terms DL the *dagesh haqal*, denoting a *dagesh* that occurs in *mishqal qal*, i.e., a morphological pattern that does not include an integral *dagesh* (as in the verb יִשׁבּוֹר, which does not carry a *dagesh* in all of its conjugations). See Ronela Merdler, Dayyaqut Merabbenu Shmuel [ben Meir (Rashbam)] (Jerusalem: Mandel Institute for Jewish Studies, 1999), 18; idem, Rabbi Samuel ben Meir (Rashbam) and Hebrew Grammar (PhD diss., The Hebrew University of Jerusalem, 2004), 100,111. [↑](#footnote-ref-52)
53. Khan, "Pronunciation of Dageš," 349; idem, "Remarks", \*255. [↑](#footnote-ref-53)
54. Khan, "Pronunciation of Dageš," 357; idem, "Remarks", \*267. [↑](#footnote-ref-54)
55. Khan, "Reading Tradition", 770; idem, *Tiberian Pronunciation*, 105-15, esp. 112. [↑](#footnote-ref-55)
56. "Four Fragments," 96,98. [↑](#footnote-ref-56)
57. Khan, *Tiberian Pronunciation*, 562. [↑](#footnote-ref-57)
58. Khan, "Pronunciation of Dageš," 352-54; idem, "Remarks," \*260-\*63. Cf. Eldar*, Correct Reading*, 76-77. [↑](#footnote-ref-58)
59. See Y. Wormser, *Hebrew Grammar in Ashkenaz in Eraly-Modern Times: The Linguistic Theory of Rabbi Zalman Hena (Hanau)* (Jerusalem: Bialik Institute, 2021), 128 (Heb.). [↑](#footnote-ref-59)
60. Cf. Allony and Yeivin, "Four Fragments," 100-101; Eldar, *Correct Reading*, 117-18. [↑](#footnote-ref-60)
61. Cf. Allony and Yeivin, "Four Fragments,", 97,104-105; Eldar, *Correct Reading*, 108. [↑](#footnote-ref-61)
62. Cf. Allony and Yeivin, "Four Fragments," 99-100; Eldar, *Correct Reading*, 115-17. [↑](#footnote-ref-62)