An Exhaustive Study of the Environment
of the Daggesh in Biblical Hebrew

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In recent discussions of the phonetic values of the vowel signs in Biblical Hebrew, it was suggested that the signs, such as the daggesh and shewa, should be regarded as having only one value. This proposal was based on the assumption that initially a symbol should be regarded as having only one value unless indicated otherwise. However, it was pointed out that the Masoretes apparently intended that their symbols have different values based upon position. For example, the single dot has various values based upon position:

(1) below a letter: the vowel i.
(2) above and left of a letter: the vowel ò.
(3) above waw: the long vowel ô.
(4) within waw: the long vowel û.
(5) above the right corner of s to denote shin.
(6) above the left corner of s to denote sin.
(7) above the center of a letter: the accent rebia.[1]
(8) higher above a letter: niqqud.[2]
(9) within a letter: daggesh.
(10) within final He: mappiq.

The same is true for several other Masoretic signs.[3]

Traditionally daggesh and shewa have been regarded as having different values based on environment. But environment really is just a more complex form of position. If these signs can be shown to have distinctive environmental positions, then it follows that they also may have different values based upon those environmental positions. This study concentrates on the environments of the daggesh.[4] It demonstrates statistically that daggesh has at least two distinctive environments: (1) a unique environment for the bgdkpt letters, and (2) an environment for all other letters. So daggesh possibly has two different values as tradition maintains.

For this study, I wrote a computer program to isolate the environments of the

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[1] In printed editions, rebia is a distinctively different dot, but not so in manuscripts.

[3] In the accents, silluq and metheg have the same sign but different positions; mahpak, yethib, and ole have the same sign but different positions; so also for pashta and azla, and so forth.

daggesh. The program examines every instance of daggesh in the Hebrew Bible[5] and determines its environment by examining the eight characters preceding it, and the three characters following it. It evaluates vowels, shewas, consonants, accents, and spaces to determine in which environment the given daggesh occurs. The logic of the program is quite tight, so as not to let subtle variations slip by unnoticed. It records (by count) which environment the daggesh is in, and it flags and records any anomalous instances. The program assumes that the traditional view is correct, and the resultant statistics demonstrate that this assumption is true. It is not likely that any other definition of the environment would fit the data as well. The first section of this report describes the environments of daggesh.

As a supplement to this study, the program also isolates the environment of the bgdkpt letters without daggesh. This provided positive validity for the unique environment for the bgdkpt letters. The second section of this report describes that environment.

The Environment of Daggesh

This section describes the environments of the daggesh as used in Biblical Hebrew. The environments are as follows:[6]
    (1) \#B.. or cv/cv#B..
    (2) cvc:B.. or cvacv:B..
    (3) cvL..
    (4) #L..

Environment 1
    In this environment B is an initial bgdkpt letter at the beginning of a verse, or preceded by a word with a disjunctive accent, or preceded by a word ending with a vowel and having a conjunctive accent not on the last syllable. This corresponds with what is traditionally known as initial daggesh lene. It is the most common environment for B. There were 47,705 instances in this environment with only 85 exceptions: 36 instances where daggesh lene follows a word with a final vowel with a conjunctive accent; these are listed later, and 49 instances where daggesh lene followed the divine name YHWH with a conjunctive accent; these are listed later. This may provide an interesting study. The other instances flagged by the computer turned out to be in conformity with the environment. Thus daggesh lene is 99.82% consistent in this environment.

Environment 2
    In this environment B is a medial (but not final) bgdkpt letter preceded by silent shewa, that is, a shewa preceded by a vowel usually without Metheg.[7] The second

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[5] The text used was the Westminster text as transliterated into the character set for the LaserHEBREW (r) for WINDOWS(tm) produced by Linguist's Software, Inc.

[7] This part of the study assumes the validity of silent shewa. The supplemental study of the bgdkpt letters

alternative accommodates quiescent Aleph. This corresponds with what is traditionally known as medial daggesh lene. There were 14,842 instances of medial daggesh lene following silent shewa. The computer flagged 12 instances where this environment failed. In most cases, the failure was due to the presence of a hateph vowel rather than the expected full vowel before the shewa. Most of these are found to be full vowels in other editions. The variants are listed later. Thus daggesh lene is 99.92% consistent in this environment.

If it may be assumed that environments one and two are essentially the same, then in both environments the bgdkpt letter lacks a vowel sound immediately before it. This supports the traditional view that in this environment the shewa is indeed silent.

Environment 3
In this environment L is a medial (but not final) letter preceded by a consonant with a vowel. Traditionally the daggesh in this environment is known as daggesh forte, and this use of the daggesh is regarded as a syllable closer. This is the almost exclusive environment of L. There were 68,400 instances of daggesh forte in this environment. The computer flagged 25 variations from this environment which are listed later. Thus daggesh forte is 99.96% consistent in this environment.

Environment 4
In this environment L is an initial letter following a closely related word, never at the beginning of a verse. Traditionally the daggesh in this environment is known as daggesh conjunctive. This daggesh is used rather infrequently and occurs only in special constructions described in GKC art. 20. These include all words following the interrogative particle מָה, and a few monosyllables closely linked to the preceding word, such as זֶה, זֹאת, and נָא. The computer counted 1,041 occurrences, but did not catalog the various constructions. The computer flagged 13 instances of daggesh conjunctive with a bgdkpt letter. These are listed later, but are not errors; they should be included in the overall count. It is likely that this environment may be regarded as essentially the same as environment three, that is, the consonant is preceded by a closely linked vowel. However, the program did not determine that there was a closely linked vowel in every case.

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without daggesh supports the assumption that shewa has two values. The program accepted as silent the shewa in the words שְׁתַּיִם, שְׁתֵּים, and שְׁתֵּי (the words for "two").

Daggesh in Aleph, Resh, and He

Contrary to convention, daggesh occurs in medial He once, in Aleph three times, and in Resh 17 times--9 times as daggesh forte, and 8 times as daggesh conjunctive. These instances are listed later.

Conclusion

If one accepts the existence of a silent shewa, the following conclusion can be drawn: When taken into account with the evidence from the spirantized bgdkpt letters, the evidence for the daggesh indicates that there are three distinct environments in which it functions: (1) the environment of the BGDKPT letters, either initially or medially, where it occurs when these letters have no vowel preceding them and it does not occur otherwise; (2) the environment of any letter (except the laryngeals) where it occurs when a full vowel precedes; and (3) the environment of any letter (except the laryngeals) where it occurs in an initial letter following a closely related word in special conditions. However, it is possible that the third environment is a special case of the second.

These environments correspond with the traditional classification of the daggesh: (1) daggesh lene; (2) daggesh forte; and (3) daggesh conjunctive. It is concluded that the statistics confirm and validate the traditional classification of the daggesh.

Summary of the Data for Daggesh
Totals

Gen:	#B =	2878	cvc:B =	835	cvL =	5067	#L =	101	errs =	12	Tot = 8881
Exod:	#B =	2345	cvc:B =	887	cvL =	4008	#L =	66	errs =	16	Tot = 7306
Lev:	#B =	1722	cvc:B =	546	cvL =	2826	#L =	44	errs =	5	Tot = 5138
Num:	#B =	2605	cvc:B =	837	cvL =	3572	#L =	66	errs =	3	Tot = 7080
Deut:	#B =	2213	cvc:B =	755	cvL =	2735	#L =	44	errs =	18	Tot = 5747
Josh:	#B =	1437	cvc:B =	495	cvL =	2311	#L =	15	errs =	42	Tot = 4258
Judg:	#B =	1426	cvc:B =	455	cvL =	2705	#L =	47	errs =	18	Tot = 4633
Ruth:	#B =	170	cvc:B =	74	cvL =	395	#L =	6	errs =	5	Tot = 645
1Sam:	#B =	1958	cvc:B =	681	cvL =	3450	#L =	69	errs =	84	Tot = 6158
2Sam:	#B =	1713	cvc:B =	441	cvL =	2964	#L =	61	errs =	95	Tot = 5179
1Kings:	#B =	1942	cvc:B =	555	cvL =	3352	#L =	44	errs =	29	Tot = 5893
2Kings:	#B =	1758	cvc:B =	414	cvL =	3336	#L =	40	errs =	35	Tot = 5548
1Chr:	#B =	1642	cvc:B =	444	cvL =	2157	#L =	26	errs =	30	Tot = 4269
2Chr:	#B =	1965	cvc:B =	460	cvL =	3429	#L =	16	errs =	35	Tot = 5870
Ezra:	#B =	712	cvc:B =	209	cvL =	794	#L =	8	errs =	32	Tot = 1723
Neh:	#B =	747	cvc:B =	227	cvL =	1332	#L =	10	errs =	11	Tot = 2316
Esther:	#B =	466	cvc:B =	244	cvL =	887	#L =	15	errs =	16	Tot = 1612
Job:	#B =	1346	cvc:B =	468	cvL =	1767	#L =	46	errs =	41	Tot = 3627
Psalms:	#B =	3466	cvc:B =	1151	cvL =	3593	#L =	104	errs =	101	Tot = 8314
Prov:	#B =	1379	cvc:B =	311	cvL =	1115	#L =	27	errs =	60	Tot = 2832
Eccl:	#B =	508	cvc:B =	105	cvL =	566	#L =	2	errs =	9	Tot = 1181
Song:	#B =	250	cvc:B =	75	cvL =	324	#L =	3	errs =	9	Tot = 652
Isaiah:	#B =	2793	cvc:B =	881	cvL =	3226	#L =	43	errs =	36	Tot = 6943
Jer:	#B =	3539	cvc:B =	992	cvL =	4224	#L =	53	errs =	85	Tot = 8808
Lam:	#B =	319	cvc:B =	73	cvL =	298	#L =	4	errs =	11	Tot = 694
Ezek:	#B =	3106	cvc:B =	1010	cvL =	3934	#L =	32	errs =	85	Tot = 8082
Dan:	#B =	991	cvc:B =	486	cvL =	1213	#L =	3	errs =	53	Tot = 2693
Hos:	#B =	417	cvc:B =	136	cvL =	426	#L =	13	errs =	2	Tot = 992
Joel:	#B =	158	cvc:B =	43	cvL =	173	#L =	3	errs =	0	Tot = 377
Amos:	#B =	319	cvc:B =	123	cvL =	365	#L =	6	errs =	0	Tot = 813
Obad:	#B =	61	cvc:B =	11	cvL =	41	#L =	2	errs =	0	Tot = 115
Jonah:	#B =	60	cvc:B =	38	cvL =	199	#L =	9	errs =	0	Tot = 306
Micah:	#B =	239	cvc:B =	56	cvL =	264	#L =	3	errs =	6	Tot = 562
Nahum:	#B =	103	cvc:B =	26	cvL =	122	#L =	0	errs =	2	Tot = 251
Hab:	#B =	119	cvc:B =	39	cvL =	139	#L =	3	errs =	5	Tot = 300
Zeph:	#B =	149	cvc:B =	52	cvL =	129	#L =	0	errs =	5	Tot = 330
Hag:	#B =	91	cvc:B =	28	cvL =	143	#L =	0	errs =	0	Tot = 262
Zach:	#B =	470	cvc:B =	126	cvL =	669	#L =	5	errs =	8	Tot = 1270
Mal:	#B =	123	cvc:B =	53	cvL =	150	#L =	2	errs =	1	Tot = 328
Totals:		47,705		14,842		68,400		1,041		1005	131,988

Note: The errors are not included in the final totals. They include all the instances where the computer flagged an apparent anomaly, some of which turned out to be consistent with the environment.

List of Errors for Daggesh

Instances Where a Vowel Appears Before Initial Daggesh Lene

I. Instances of daggesh lene following a word with a final vowel marked with matres lexiones He or Aleph, the final syllable of which has a conjunctive accent:

Exod 14.4--	בְּפַרְעֹ֣ה	Exod 14.17--	בְּפַרְעֹ֣ה
Exod 15.1--	גָּאֹ֣ה	Exod 15.21--	גָּאֹ֣ה
Lev 5.2--	בְּנִבְלַ֣ת	Josh 17.2--	בֶּן־יֵ֣סֶף
1Sam 25.36--	בְּבֵיתֹ֣ו	2Sam 18.25--	בְּ פִ֣יו
1Kings 10.3--	דְּבָ֣ר	1Kings 12.16--	בְּבֶן־יִשַׁ֣י
1Kings 12.33--	בְּבֵית־אֵ֣ל	1Kings 18.44--	כְּכַף־אִ֣ישׁ
1Chr 7.23--	בְּבֵיתֹֽו׃	2Chr 10.16--	בְּבֶן־יִשַׁ֣י
2Chr 25.19--	בְּבֵיתֶ֣ךָ	2Chr 34.17--	בְּבֵית־יְהוָה
Neh 11.24--	בֶּן־מְשֵׁיזַבְאֵ֣ל	Job 21.21--	בְּבֵיתֹ֣ו
Job 39.15-- .	תְּד֣וּשֶׁהָ	Psalms 10.7--	פִּ֣יהוּ
Psalms 10.13--	תִּדְרֹֽשׁ׃		

Psalms 34.2-- בְּ פִ֑י [this one follows Holem with conjunctive accent]

Psalms 35.17--	תֹּ֣ר אֶה	Song 8.11--	בְּפֶרְיֹ֣ו
Isaiah 10.9--	כְּכַרְכְּמִ֣שׁ	Jer 3.25--	בְּבָשְׁתֵּ֣נוּ
Jer 32.6--	דְּבַר־יְהוָה	Ezek 4.14--	בְּ פִ֣י
Ezek 25.8--	כְּכָל־הַגֹּו יִ֣ם	Dan 2.31--	דִּ֣ כֵן
Dan 3.2--	דִּתְבָרַיָּ֣א	Dan 3.5--	פְּסַנְתֵּרִ֣ין
Dan 5.11--	כְּחָכְמַת־אֱלָ֣ הִין		
Micah 6.12--	בְּפִיהֶֽם׃	Zeph 3.13--	בְּפִיהֶ֣ם
Mal 2.6--	בְּפִ֣יהוּ		

Total = 36 instances.

II. Instances where initial daggesh lene occurs after YHWH with a conjunctive accent:

Num 10.29--	דִּבֶּר־טֹ֣וב	Deut 3.26--	בִּ֣י
Josh 10.30--	גַּם־אֹותָ֣הּ	Josh 11.8--	בְּיַד־יִשְׂרָאֵ֣ל
1Sam 11.13--	תְּשׁוּעָ֣ה	1Sam 12.5--	בָּכֶ֣ם
1Sam 17.46--	בְּיָדִ֣י	2Sam 24.15--	דֶּבֶ֣ר
1Kings 17.24--	בְּ פִ֣יךָ	2Kings 5.1--	תְּשׁוּעָ֣ה
2Kings 17.25--	בָּהֶ֣ם	Psalms 2.11--	בִּ֣יר אֶה
Psalms 7.18--	כְּצִדְקֹ֣ו	Psalms 12.8--	תִּשְׁמְרֵ֣ם
Psalms 18.21--	כְּצִדְ קִ֣י	Psalms 19.8--	תְּמִימָ֔ה
Psalms 19.9--	בָּרָ֔ה	Psalms 26.1--	בְּטַחְתִּ֥י

Psalms 29.4--	בַּכֹּחַ	Psalms 31.7--	בָּטַחְתִּי׃
Psalms 33.2--	בְּכִנּוֹר	Psalms 34.2--	בְּכָל־עֵת
Psalms 35.5--	דּוֹחֶה׃	Psalms 37.5--	דְּרְ כֶּךָ
Psalms 54.8--	כִּי־	Psalms 88.10--	בְּכָל־
Psalms 98.5--	בְּכִנּוֹר	Psalms 100.2--	בְּשִׂמְחָה
Psalms 104.31--	בְּמַעֲשָׂיו׃	Psalms 104.33--	בְּחַ יָּי
Psalms 106.1--	כִּי־טוֹב	Psalms 106.40--	בְּעַמּוֹ
Psalms 107.1--	כִּי־טוֹב	Psalms 109.15--	תָּ מִיד
Psalms 118.1--	כִּי־טוֹב	Psalms 118.29--	כִּי־טוֹב
Psalms 127.3--	בָּ נִים	Psalms 132.13--	בְּצִיּוֹן
Psalms 136.1--	כִּי־טוֹב	Psalms 143.11--	תְּחַ יֵּנִי
Psalms 146.2--	בְּחַ יָּי	Psalms 147.7--	בְּתוֹ דָה
Psalms 149.4--	בְּעַמּוֹ	Prov 24.21--	בְּ נִי
Isaiah 5.25--	בְּעַמּוֹ	Lam 1.20--	כִּי־צַר־לִי
Ezek 24.14--	דִּבַּרְתִּי	Hos 5.7--	בָּגָדוּ
Micah 1.2--	בָּכֶם		

Total = 49 instances.

III. Instances where daggesh lene follows a word accented with Ole-WeYored, a disjunctive accent, where the computer flagged it as an error, but which is actually correct. The computer was not able to clearly identify Ole-WeYored.

Job 14.14--	כָּל־יְ מֵי	Psalms 9.17--	בְּפֹעַל
Psalms 30.6--	בָּעֶרֶב	Psalms 31.11--	כָּ שַׁל
Psalms 44.4--	כִּי־יְ מִינְךָ	Psalms 56.5--	בֵּאל הִים
Psalms 78.8--	דּוֹר	Psalms 85.9--	כִּי
Psalms 97.7--	כָּל־אֱל הִים׃	[this one follows defective Rebia Mugrash]
Psalms 101.7--	דֹּ בֵר	Psalms 135.6--	בַּשָּׁמַיִם
Prov 1.21--	בְּפִתְחֵי		

Total = 12 instances.

Instances Where Medial Daggesh Lene Has an Anomalous Environment

Exod 30.8--	הָעֶרְ בַּיִם	Lev 25.46--	וְהִתְנַחַלְתֶּם
Num 9.3--	הָעֶרְ בַּיִם	Judg 11.35--	הָ יִית בְּעֹכְרָי
2Sam 3.27--	לְדַ בֶּר	1Chr 11.44--	הָעֲשְׁתָּרָ תִי
Job 7.21--	וְשִׁחַרְ תַּנִי	Prov 30.6--	אַל־תּוֹסְףְ
Jer 22.24--	אֶתְּקֶנְךָ׃		
Ezra 4.12--	וּבָאִשְׁתָּא [OK but strange quiescent Aleph]		

Psalms 92.3--   חַסְדֶּךָ [OK but with strange Metheg]
Zach 8.14--   זָמַמְתִּי [OK but the accent is misplaced]
Total = 12 instances.

Instances where Daggesh Forte appears anomalous

Gen 4.18--	וּמְחִיָּיאֵל	Gen 27.29--	וְיִשְׁתַּחֲוּוּ
Gen 49.8--	יִשְׁתַּחֲוּוּ	Exod 4.31--	וַיִּשְׁתַּחֲוּוּ׃
Exod 12.27--	וַיִּשְׁתַּחֲוּוּ	Exod 33.10--	וְהִשְׁתַּחֲווּ
Lev 26.34--	הָשַּׁמָּה	Num 25.2--	וַיִּשְׁתַּחֲוּוּ
Deut 29.25--	וַיִּשְׁתַּחֲווּ		

Ruth 3.9--   מִי־אָתְּ [daggesh OK but lacks shewa with Taw]

1Sam 17.31--	וַיַּגִּדוּ	1Chr 11.28--	הַעֲנָתוֹתִי׃
1Chr 12.3--	הָעֲנְּתֹתִי׃	Psalms 22.30--	וַיִּשְׁתַּחֲוּוּ
Psalms 119.69--	אֶצֹּר	Song 2.9--	מִן־הֶחַ לֹּנוֹת
Song 5.2--	קְוֻצּוֹתַי	Isaiah 46.6--	יִשְׁתַּחֲוּוּ׃
Isaiah 49.7--	וְיִשְׁתַּחֲווּ	Jer 3.17--	וְנִקְּווּ
Jer 29.27--	הָעֲנַּתְּ תָּ	Jer 50.11--	כְּאַבִּרִים׃
Ezek 18.29--	יִתָּכֵנּוּ	Ezek 40.25--	כְּהַחַ לֹּנוֹת
Dan 2.10--	לְכָל־חַרְטֻּמַּ		

Total = 25 instances.

Errors Related to Daggesh Conjunctive

The following are instances where daggesh conjunctive occurs in a BGDKPT letter which the computer flagged as errors, but which are actually correct.

Josh 7.9--	וּמַה־תַּעֲשֶׂה	Judg 18.14--	מַה־תַּעֲשׂוּ׃
1Sam 25.17--	מַה־תַּעֲשִׂי	1Sam 28.14--	מַה־תָּאֳרוֹ
Job 9.12--	מַה־תַּעֲשֶׂה׃	Prov 31.2--	וּמַה־בַּר־בִּטְנִי
Eccl 8.4--	וּמַה־תַּעֲשֶׂה׃	Song 7.1--	מַה־תֶּחֱזוּ
Isaiah 10.3--	וּמַה־תַּעֲשׂוּ	Isaiah 45.9--	מַה־תַּעֲשֶׂה
Jer 4.30--	מַה־תַּעֲשִׂי	Jer 5.31--	וּמַה־תַּעֲשׂוּ
Hos 9.5--	מַה־תַּעֲשׂוּ		

Total = 13 instances.

List of the Uses of Daggesh in He, Aleph, and Resh

Daggesh in medial He
Gen 34.28--   וְאֶת־חֲמֹרֵי הֶם

Daggesh in Aleph
Gen 43.26-- וַיָּבֹאוּ   Lev 23.17-- תָּבִאוּ
Ezra 8.18-- וַיָּבִיאוּ

Daggesh forte in Resh
1Sam 1.6-- הַרְעִמָהּ   1Sam 10.24-- הַרְּאִיתֶם
1Sam 17.25-- הַרְּאִיתֶם   2Kings 6.32-- הַרְּאִיתֶם
Prov 3.8-- לְשָׁרֶּךָ   Prov 14.10-- מָרַּת
Song 5.2-- שֶׁרֹּאשִׁי   Ezek 16.4-- לְאָכְרַּת
Ezek 16.4-- שָׁרֵּךְ

Daggesh conjunctive in Resh
2Chr 26.10-- מִקְנֶה־רַּב   Ezra 9.6-- רֹּאשׁ
Job 39.9-- רִּים   Psalms 52.5-- רָּע
Prov 11.21-- רָּע   Prov 15.1-- מַעֲנֶה־רַּךְ
Jer 39.12-- רָּע   Hab 3.13-- רֹּאשׁ

The Environment of Spirantized BGDKPT Letters

This section describes the environment of the spirantized bgdkpt letters in Biblical Hebrew. The environments are as follows:[8]
    (1) vb..   or vab..   or vsb..
    (2) /v#b..   or v-b..
    (3) #c:b..   or cvmc:b..   or cvc:c:b..   or cvL:b..
    (4) cvc:b..

Environment 1
    In this environment b is a medial or final bgdkpt letter preceded by any vowel including the hateph vowels (vb..). Quiescent Aleph does not alter the presence of the preceding vowel (vab..), nor does Quiescent Sin (vsb..). This in the most common environment for b. It occurs 108,799 times. The computer flagged 22 variations from this environment which are listed later. Thus this environment is 99.98% consistent. The computer flagged a number of additional instances which turned out to be consistent upon examination.

Environment 2

In this environment b is an initial bgdkpt letter of a word following a word ending in a vowel. The preceding word is joined by means of maqqeph (v-b..) or by a conjunctive accent (/v#b..). If we assume that environments one and two are essentially the same phonetically, then this demonstrates that maqqeph means "written space but no phonetic break." It also demonstrated that the conjunctive accent indicates the same thing. The only difference is that the conjunctive accent provides its word with a prominent stress. This environment occurs less frequently, having 9,138 instances in the Bible. The computer flagged two variations which are listed later. Thus this environment is 99.98% consistent. The computer flagged other instances which turned out to be consistent upon examination.

Environment 3

In this environment b is a medial or final bgdkpt letter preceded by the shewa traditionally understood as vocal shewa. This vocal shewa is identified as

(1) the shewa with an initial letter (#c:b..);

(2) the shewa of a syllable following a syllable whose vowel is marked with metheg or equivalent (cvmc:b..);[9]

(3) the shewa of a syllable following a syllable closed with shewa (cvc:c:b..);

(4) or the shewa with a letter marked with daggesh (cvL:b..).

This is the environment in which the traditional view understands that a preceding erstwhile vowel experienced reduction. This is next most common environment of b with 17,917 instances recorded. There were no apparent variations from this environment. If we assume that environment three is essentially the same as one and two, then we have evidence that this shewa has retained sufficient phonetic value to spirantize b.

Environment 4

In this environment b is a medial or final bgdkpt letter preceded by a syllable apparently closed by shewa (i.e., the traditional silent shewa). This environment is the apparent anomaly, and is the least common, occurring only 1,506 times. This represents only 1.09% of the total occurrences of b. This environment occurs in one of several circumstances:

(1) the shewa is with a Yod that should have a daggesh according to standard inflectional patterns,[10] but has experienced the following historic changes: cvYvb.. > cvY:b.. > cvy:b..

(2) the shewa closes a syllable as a result of the resolution of two vocal shewas according to the pattern: cvcvb.. > c:c:b.. > cvc:b...; in this historic development, b did not become B, as might be expected. The spirantized bgdkpt is explained traditionally as the memory of the erstwhile state in which a vowel (or at least a vocal shewa) preceded.

(3) the Kaph of the 2mpl pronoun suffix spirantizes regularly after shewa that would seem to be silent.

(4) the remaining anomalies are the result of textual variants, where BHS lacks a

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[9] On rare occasions a few of the conjunctive accents stand where a metheg is expected. This circumstance is recognized when such conjunctive accent stands early in the word before the regularly expected accent.

metheg with the preceding vowel, whereas other editions do have metheg.

The data for these environments are contained in the following table, and the errors are contained in the subsequent list.[11] The errors are due primarily to two causes:

(1) orthographic anomalies involving the kethib and qere, where the kethib has extra matres lexiones or the like.

(2) places where the Westminster text lists both the kethib and qere marked by *. Such instances produced discontinuities for the computer program, causing it to flag and print them. Usually the spiritantization is according to the normal environmental convention.

Conclusion

If one admits the existence of the vocal shewa, then the spirantized bgdkpt letters have only one environment, an immediately preceding vowel sound. The fourth environment need not be an exception, because it can be explained by historic phonetic phenomena whose roots are in a preceding erstwhile vowel.

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[11] The list provides the reference and the Hebrew word in which each error occurs. The Hebrew words are given in the character set used for the LaserHEBREW(r) for WINDOWS(tm) produced by Linguist's Software, Inc. (1993 edition).

Summary of Data for Spirantized BGDKPT Letters
Totals

Gen:	/v#b =	446	cvb =	7099	cvmc:b =	950	cvc:b =	69	errs =	3	tot =	8564
Exod:	/v#b =	391	cvb =	6027	cvmc:b =	835	cvc:b =	83	errs =	9	tot =	7336
Lev:	/v#b =	387	cvb =	4444	cvmc:b =	597	cvc:b =	92	errs =	0	tot =	5520
Num:	/v#b =	401	cvb =	5799	cvmc:b =	781	cvc:b =	117	errs =	4	tot =	7098
Deut:	/v#b =	473	cvb =	5072	cvmc:b =	771	cvc:b =	49	errs =	8	tot =	6365
Josh:	/v#b =	225	cvb =	3628	cvmc:b =	619	cvc:b =	70	errs =	5	tot =	4542
Judg:	/v#b =	274	cvb =	3250	cvmc:b =	526	cvc:b =	39	errs =	7	tot =	4089
Ruth:	/v#b =	50	cvb =	443	cvmc:b =	55	cvc:b =	4	errs =	1	tot =	552
1Sam:	/v#b =	404	cvb =	4441	cvmc:b =	656	cvc:b =	41	errs =	17	tot =	5542
2Sam:	/v#b =	295	cvb =	4126	cvmc:b =	542	cvc:b =	39	errs =	10	tot =	5002
1Kings:	/v#b =	303	cvb =	4744	cvmc:b =	755	cvc:b =	43	errs =	14	tot =	5845
2Kings:	/v#b =	258	cvb =	3960	cvmc:b =	707	cvc:b =	43	errs =	18	tot =	49768
1Chr:	/v#b =	335	cvb =	4352	cvmc:b =	609	cvc:b =	71	errs =	10	tot =	5367
2Chr:	/v#b =	286	cvb =	5106	cvmc:b =	839	cvc:b =	82	errs =	4	tot =	6313
Ezra:	v#b =	186	cvb =	1303	cvmc:b =	307	cvc:b =	27	errs =	2	tot =	1823
Neh:	/v#b =	174	cvb =	1915	cvmc:b =	335	cvc:b =	34	errs =	3	tot =	2458
Esther:	/v#b =	41	cvb =	1155	cvmc:b =	239	cvc:b =	30	errs =	0	tot =	1465
Job:	/v#b =	370	cvb =	2732	cvmc:b =	470	cvc:b =	25	errs =	8	tot =	3597
Psalms:	/v#b =	791	cvb =	6677	cvmc:b =	1319	cvc:b =	110	errs =	10	tot =	8897
Prov:	/v#b =	297	cvb =	2630	cvmc:b =	486	cvc:b =	32	errs =	15	tot =	3445
Eccl:	/v#b =	67	cvb =	1023	cvmc:b =	145	cvc:b =	6	errs =	2	tot =	1241
Song:	/v#b =	44	cvb =	509	cvmc:b =	81	cvc:b =	7	errs =	0	tot =	641
Isaiah:	/v#b =	591	cvb =	5596	cvmc:b =	1023	cvc:b =	70	errs =	14	tot =	7280
Jer:	/v#b =	704	cvb =	7724	cvmc:b =	1424	cvc:b =	84	errs =	31	tot =	9936
Lam:	/v#b =	60	cvb =	542	cvmc:b =	90	cvc:b =	5	errs =	3	tot =	697
Ezek:	/v#b =	594	cvb =	7539	cvmc:b =	1195	cvc:b =	105	errs =	43	tot =	9433
Dan:	/v#b =	260	cvb =	2071	cvmc:b =	634	cvc:b =	79	errs =	27	tot =	3044
Hos:	/v#b =	80	cvb =	819	cvmc:b =	141	cvc:b =	6	errs =	5	tot =	1046
Joel:	/v#b =	26	cvb =	342	cvmc:b =	55	cvc:b =	8	errs =	0	tot =	431
Amos:	/v#b =	56	cvb =	732	cvmc:b =	100	cvc:b =	6	errs =	1	tot =	894
Obad:	/v#b =	13	cvb =	98	cvmc:b =	16	cvc:b =	1	errs =	0	tot =	128
Jonah:	/v#b =	14	cvb =	169	cvmc:b =	31	cvc:b =	0	errs =	0	tot =	214
Micah:	/v#b =	49	cvb =	499	cvmc:b =	87	cvc:b =	5	errs =	2	tot =	640
Nahum:	/v#b =	24	cvb =	200	cvmc:b =	37	cvc:b =	1	errs =	2	tot =	262
Hab:	/v#b =	28	cvb =	196	cvmc:b =	41	cvc:b =	1	errs =	0	tot =	266
Zeph:	/v#b =	24	cvb =	246	cvmc:b =	38	cvc:b =	3	errs =	1	tot =	311
Hag:	/v#b =	8	cvb =	199	cvmc:b =	59	cvc:b =	3	errs =	0	tot =	269
Zach:	/v#b =	77	cvb =	1060	cvmc:b =	241	cvc:b =	11	errs =	0	tot =	1389
Mal:	/v#b =	32	cvb =	332	cvmc:b =	81	cvc:b =	5	errs =	0	tot =	450
Totals		9,138		108,799		17,917		1,506		279		137,360

Note: The errors are not included in the totals. They include all the instances the computer flagged, regardless of whether they turned out to be actual variations or not.

List of Errors for Spirantized BGDKPT Letters

I. Instances of variation with an initial bgdkpt letter:

Deut 8.20--	תֹּאבֵדוּן	Deut 33.26--	בְּעֶזְרֶךָ
Judg 11.34--	בְתֻפִּים	1Sam 1.23--	עַד־גָּמְלָהּ
1Sam 23.15--	דָוִד	2Sam 19.33--	בְשִׁיבָתוֹ
1Kings 3.6--	דָּוִד	1Kings 8.38--	תִהְיֶה
2Kings 4.7--	בָּנַיְכִי תִחְיִי	1Chr 10.9--	בְּאֶרֶץ־פְּלִשְׁתִּים
1Chr 29.16--	כֹּל	2Chr 28.9--	בְּזַעַף
Psalms 22.26--	תְהִלָּתִי	Psalms 143.11--	תּוֹצִיא
Prov 1.17--	כָּל־בַּעַל	Prov 13.19--	תֶעֱרַב
Eccl 2.1--	בְּשִׂמְחָה	Isaiah 34.11--	קָ‍ר־תֹהוּ
Isaiah 43.19--	תֵדְעוּהָ	Ezek 11.9--	בָּכֶם
1Chr 28.21--	בְכָל־מְלָאכָה	Ezek 24.17--	פְּאֵרְךָ

Total = 22 instances

II. Instance of variation of a medial bgdkpt letter.

2Sam 11.1--	הַמַּלְאכִים	Amos 9.4--	אֹיְבֵיהֶם

Total = 2 instance

Errors Marked as QERE or KETHIB
for Spirantized BGDKPT Letters

      The computer flagged numerous instances involving words marked as Qere or Kethib in the Westminster text. The marker (*) interupted the logic of the program, causing it to list apparent variations. These nearly always turn out to be consistent with the expected environment. I weeded out those that were correct according to the recorded word(s). Those listed below have not been checked.

Gen 25.23--	גּוֹיִם***	Gen 30.11--	גָּד ***
Exod 16.7--	*תַלֹּונוּ**	Exod 16.7--	תַלִּינוּ***
Exod 22.26--	כְסוּת וֹ***	Exod 22.26--	כְסוּתֹה**
Num 16.11--	תַלִּינוּ***	Num 16.11--	תַלֹּונוּ**
Num 32.7--	תְנִיאוּן***	Num 32.7--	תְנוּאוּן**
Josh 3.16--	בָאָדָם***	Josh 16.3--	הֹצְאֹתֹו**
Josh 16.3--	הֹצְאֹתָיו***	Judg 13.17--	דְבָרְיךָ**
1Sam 10.7--	תִבְאֶנָה***	1Sam 19.18--	בְנוִית***
1Sam 19.19--	בְנוִית***	1Sam 25.3--	כָלִבִּי: ***

2Sam 8.3--	בְּנִהַר--**כך	2Sam 18.13--	***בְּנַפְשׁוֹ
2Sam 18.18--	***בְּחַיָּו	1Kings 16.34--	***וּבִ**שְׂגוּב****
1Kings 22.13--	**דְּבָרֶיךָ	2Kings 7.12--	****בַּ***שָׂדֶ ה
2Kings 23.10--	**בְּנֵי־הִנֹּם	1Chr 7.31--	**בִּרְזוֹת
Job 9.30--	****בְּמֵי־שֶׁלֶג	Job 9.30--	**בְּמוֹ
Job 37.12--	****בְּתַחְבּוּלֹתָיו	Job 40.17--	**פַּחֲדוֹ
Psalms 10.5--	**דַּרְכּוֹ	Prov 27.24--	***דּוֹר
Prov 31.18--	***בַּלַּיְל	Isaiah 23.13--	**בְּחִינָיו
Jer 3.5--	**דִּבַּרְתִּי	Jer 3.19--	**תָּשׁוּבוּ
Jer 41.17--	**כְּמוֹהֶם	Jer 48.7--	**כְּמִישׁ
Jer 50.11--	**תַעֲלֹזִי	Jer 50.11--	**תִּשְׂמְחִי
Jer 50.11--	**תָּפוּשִׁי	Jer 52.11--	***בְּבֵית־***בֵּית־הַפְּקֻדֹּת
Lam 6--	**מִן־**בַּת	Lam 19--	***בַּלַּיְלָה
Lam 19--	**בַּלֵּיל	Ezek 14.4--	***בָא
Ezek 23.14--	**כַשְׂדִּים	Ezek 23.36--	תוֹעֲבוֹתֵיהֶן:
Ezek 27.20--	בְּבִגְדֵי־חֹפֶשׁ	Ezek 27.24--	בְּמִכְלָלִים
Ezek 29.7--	***בְּכַפְּךָ	Ezek 31.5--	**פֹּארֹתוֹ
Ezek 35.9--	**תֵישַׁבְנָה	Ezek 36.14--	**תְכַשְּׁלִי־עוֹד
Ezek 48.18--	**תְּבוּאָתֹה	Dan 2.10--	***כַשְׂדָּ**יָּא
Dan 2.38--	**דָּאְרִין	Dan 2.39--	***תְּלִיתָאָה
Dan 2.39--	**תְּלִיתָיָא	Dan 2.43--	**דִּי
Dan 3.28--	**גֶּשְׁמֵיהוֹן	Dan 5.30--	**כַשְׂדָּ**יָּא
Hos 9.16--	**בְּלִי־***בַּל־	Nahum 2.6--	***בַּהֲלִכוֹתָם

Instances Where Words Marked With the Sign for QERE or KETHIB Caused the Program to Flag the Word With Daggesh

I weeded out those that are clearly OK from the reported word(s). The others have not been checked, but are very likely OK.

Gen 30.11--	***בָא	Gen 30.11--	***בְּגָד
Gen 43.28--	****וַיִּ***שְׁתַּחֲוּוּ:	Exod 22.4--	***בְּעִירֹ
Exod 39.33--	***בְּרִיחָיו	Exod 39.33--	**בְּרִיחוֹ
Deut 33.2--	***דָּת	Josh 4.18--	****כַּ***עֲלוֹת
Josh 4.18--	***בַּעֲלוֹת	Josh 6.5--	***בְּשָׁמְעֲכֶם
Josh 6.5--	****כְּ***שָׁמְעֲכֶם	Josh 6.9--	**תָּקְעוּ
Josh 6.9--	***תָּקֹעַ	Josh 8.11--	***בֵּינָיו
Josh 8.11--	**בֵּינוֹ	Josh 8.16--	****בָּ***עַי
Josh 8.16--	***בָּעִיר	Josh 18.19--	***תֹצְאוֹת

Josh 18.19--	**הֹצְאוֹתָיו	Josh 22.7--	בְּ**** עֵבֶר****
Josh 24.15--	בְּעֵבֶר***	Judg 4.11--	בְּצַעֲנִים***
Judg 4.11--	בְּ****צַעֲנַנִּים	Judg 16.25--	כְּ****טוֹב
Judg 16.25--	כִּי**	Judg 19.25--	כַּ****עֲלוֹת
Judg 19.25--	בַּעֲלוֹת***	Judg 20.13--	בְּנֵי***
Ruth 3.14--	בְּ**** טֶרֶם	Ruth 3.14--	בְּטֶרוֹם***
1Sam 5.6--	בְּ**** טְחֹרִים	1Sam 5.6--	בָּעֳפָלִים***
1Sam 5.12--	בָּעֳפָלִים***	1Sam 5.12--	בַּ**** טְחֹרֵי
1Sam 8.3--	בִּ**** דְרָכָיו	1Sam 8.3--	בְּדַרְכּוֹ***
1Sam 11.6--	בְּשָׁמְעוֹ***	1Sam 11.6--	כְּ**** שָׁמְעוֹ
1Sam 11.9--	כְּ**** חֹם	1Sam 11.9--	בְּחֹם***
1Sam 18.7--	בְּ****אַלְפָו	1Sam 18.7--	בָּאֲלָפֹו***
1Sam 19.18--	בְּנָוִית***	1Sam 19.18--	בְּ****נָיוֹת:
1Sam 19.19--	בְּנָוִית***	1Sam 19.19--	בְּ****נָיוֹת
1Sam 19.22--	בְּ****נָיוֹת	1Sam 19.22--	בְּנָוִית***
1Sam 19.23--	בְּ****נָיוֹת	1Sam 19.23--	בְּנָוִית***
1Sam 21.12--	בְּ****אַלְפָו	1Sam 21.12--	בָּאֲלָפֹו***
1Sam 21.12--	בְּ****רִבְבֹתָיו:	1Sam 21.12--	בְּרִבְבֹתוֹ***
1Sam 22.18--	דֹּו אֵג***	1Sam 22.18--	דֹּויֵג***
1Sam 22.22--	דֹּו אֵג***	1Sam 22.22--	דֹּויֵג**
1Sam 29.5--	בְּרִבְבֹתוֹ***	1Sam 29.5--	בְּ****רִבְבֹתָיו:
2Sam 1.11--	בִּ**** בְגָדָיו	2Sam 1.11--	בִּבְגָדֹו***
2Sam 1.16--	דָּמֶךָ***	2Sam 1.16--	דָּמֶיךָ**
2Sam 2.23--	תַּחְתָּיו***	2Sam 2.23--	תַּחְתֹּו**
2Sam 3.12--	תַּחְתֹּו**	2Sam 3.12--	תַּחְתָּיו***
2Sam 5.24--	כְּ****שָׁמְעֲךָ	2Sam 5.24--	בְּשָׁמְעֲךָ***
2Sam 8.3--	פְּרָת:***	2Sam 10.9--	בְּיִשְׂרָאֵל***
2Sam 12.9--	בְּ****עֵינָי	2Sam 12.9--	בְּעֵינֹו***
2Sam 12.31--	בַּ****מַּלְבֵּן	2Sam 12.31--	בַּמַּלְכֵּן***
2Sam 15.28--	בְּ****עַרְבֹות	2Sam 15.28--	בְּעַבְרֹות***
2Sam 16.8--	תַּחְתָּיו***	2Sam 16.8--	תַּחְתֹּו**
2Sam 16.10--	כִּי***	2Sam 16.10--	כֹּה***
2Sam 16.10--	כִּי**	2Sam 16.12--	בְּ****עֵינָי
2Sam 16.12--	בְּעֹונִי***	2Sam 17.12--	בְּ**** אַחַד
2Sam 17.12--	בְּאַחַת***	2Sam 19.19--	בְּ****עֵינָיו
2Sam 19.19--	בְּעֵינֵוֹ***	2Sam 21.9--	בְּ****תְחִלַּת
2Sam 21.12--	תְּלוּם**	2Sam 21.12--	פְּלִשְׁתִּים***
2Sam 21.12--	תְּלָאוּם***	2Sam 22.33--	דַּרְכּוֹ**
2Sam 22.33--	דַּרְכִּי:***	2Sam 23.9--	גֻבְּרִים**
2Sam 24.22--	בְּ****עֵינָיו	2Sam 24.22--	בְּעֵינֹו***

Reference	Hebrew	Reference	Hebrew
1Kings 6.21--	גְּ***רְתּוֹקוֹת****	1Kings 6.21--	בְּרַתִּיקוֹת***
1Kings 8.26--	דִּבְרֶיךָ**	1Kings 8.26--	דְּבָרֹד***
1Kings 17.14--	תִּתֵּן***תִּתְיָה וָה**	1Kings 18.42--	בִּרְכָּיו:***
1Kings 18.42--	בֵּרְכוּ**	2Kings 4.7--	בְּנֵיכִי**
2Kings 4.34--	עַל-**כַּפּוֹ	2Kings 5.9--	בְּ***סוּסִיו****
2Kings 5.9--	בְּסוּסוֹ***	2Kings 6.25--	דִּבְיוֹנִים***
2Kings 7.15--	בְּ***חָפְזָם****	2Kings 7.15--	בְּהֵחָפְזָם***
2Kings 12.10--	בַּיָּמִין***	2Kings 19.23--	בְּ***רֹב****
2Kings 19.23--	בְּרֶכֶב***	2Kings 19.37--	בָּנָיו***
2Kings 22.5--	בֵּית***	2Kings 22.5--	בַּבַּיִת***
2Kings 23.33--	בִּמְלֹךְ***	1Chr 6.11--	בְּנֵי**
1Chr 6.11--	בְּנוֹ**	1Chr 9.33--	פְּטוּרִים***
1Chr 9.33--	פְּטִירִים**	1Chr 14.10--	פְּלִשְׁתִּים***
1Chr 14.10--	פְּלִשְׁתִּים**	1Chr 22.7--	בְּנִי***
1Chr 22.7--	בְּנוֹ**	2Chr 4.11--	חִירָם**
2Chr 11.18--	בֶּן**	2Chr 11.18--	בַּתִּ-יְרִימוֹת***
2Chr 24.25--	בְּ***מַחֲלוּ יִם****	2Chr 24.25--	בְּמַחֲלִיִּים***
2Chr 31.12--	כּוֹנַנְיָהוּ**	2Chr 31.12--	כְּנַנְיָהוּ***
2Chr 31.13--	כְּנַנְיָהוּ***	2Chr 31.13--	כּוֹנַנְיָהוּ**
2Chr 34.6--	בְּ***חַרְבֹתֵיהֶם****	2Chr 34.6--	בָּתֵּיהֶם**
2Chr 34.6--	בָּחַר**	2Chr 34.22--	הַקֹּהָת***
2Chr 34.22--	בֶּן-**תּוֹקְהַת	2Chr 36.17--	כַּשְׂדִּים***
2Chr 36.17--	כַּשְׂדִּים**	Ezra 4.7--	כְּנָוֹתָיו***
Ezra 4.7--	כְּנָוֹתוֹ**	Ezra 4.9--	דְּהָיֵא***
Ezra 4.9--	דְּהוּא**	Ezra 5.12--	כַּסְדִּ**א**ה***
Ezra 5.12--	כַּסְדָּ**יָא	Ezra 7.25--	דָּאֵנִין***
Ezra 7.25--	דָּאֵנִין**	Ezra 10.12--	כְּדִבְרֶיךָ***
Ezra 10.35--	כְּלוּהוּ***	Ezra 10.35--	כְּלֹהִי**
Neh 2.13--	פְּרוּצִים***	Neh 4.7--	בַּשְּׂחָחִיִּים***
Esther 3.4--	כְּ***אָמְרָם****	Esther 3.4--	בְּאָמְרָם***
Esther 4.7--	בַּיְּהוּדִיִּם***	Esther 8.7--	בַּיְּהוּדִים***
Job 9.13--	תַּחְתָּיו***	Job 9.13--	תַּחְתּוֹ**
Job 15.15--	בִּקְדֹשׁוֹ***	Job 15.31--	בְּשָׁוְא***
Job 26.14--	דְּרָכָיו***	Job 26.14--	דַּרְכּוֹ**
Job 26.14--	גְּבוּרוֹתָיו***	Job 26.14--	גְּבוּרָתוֹ**
Job 30.22--	תּוּשִׁיָּה:***	Job 30.22--	תֻּשְׁוֶה***
Job 37.12--	בְּתַחְבּוּלֹתוֹ***	Job 37.12--	בְּ***תַחְבּוּלֹתָיו****
Job 38.41--	כִּי-**יְלָדָו	Job 39.26--	כְּנָפוֹ**
Job 39.26--	כְּנָפָיו***	Psalms 10.10--	כָּאִים:***
Psalms 24.6--	דֹּרְשָׁיו***	Psalms 24.6--	דֹּרְשׁוֹ**

Psalms 71.20--	***תַּחַ יֵינִי	Psalms 71.20--	**תְּחַיֵּינוּ
Psalms 79.10--	****בַּ**גּוֹ יָם	Psalms 79.10--	***בַּגּיִם
Psalms 89.18--	**תָּרִים	Psalms 89.18--	***תָּרוּם
Psalms 102.24--	***כֹּחִי	Psalms 102.24--	**כֹּחוֹ
Psalms 139.6--	***פְּלִיאָה	Psalms 139.6--	**פְּלִאיָה
Psalms 147.19--	***דְּבָרָיו	Psalms 147.19--	**דְּבַר
Prov 6.16--	***תּוֹעֵבַת	Prov 6.16--	**תּוֹעֵבוֹת
Prov 19.19--	**גּרָל-***גְּדָל-חֵמָה	Prov 20.20--	***בָּאִישׁוֹן
Prov 20.20--	****בַּ**אֱשׁוּן	Prov 20.30--	***תַּמְרוּק
Prov 20.30--	**תַּמְרִיק	Prov 21.29--	***דְּרְכּוֹ
Prov 21.29--	**דְּרָכָיו	Prov 23.24--	***גִּיל
Prov 23.24--	**גּוֹל	Prov 23.26--	***תְּשֻׁרֶנָה:
Prov 23.26--	**תִּרְצֶנָה	Prov 23.31--	***בְּכִיס
Prov 23.31--	****בַּ**כּוֹס	Prov 26.24--	***בְּשִׂפְתוֹ
Eccl 10.3--	****כְּ**שֶׁ****סָכָל	Eccl 10.3--	***כְּשֶׁ*הַסָּכָל
Eccl 10.20--	***כְּנָפַיִם	Song 4.9--	***בְּאֶחָד
Song 4.9--	****בַּ**אַחַת	Isaiah 10.32--	**בֵּית-***בַּת-צִיּוֹן
Isaiah 13.16--	**תְּשָׁגַלְנָה	Isaiah 23.12--	***כִּתִּיִּם
Isaiah 23.12--	**כִּתִּיִּם	Isaiah 25.10--	***בְּמוֹ
Isaiah 25.10--	***בְּמֵי	saiah 26.20--	**דְּלָתֶיךָ
Isaiah 26.20--	***דְּלָתֶךָ	Isaiah 58.14--	***בְּמָתִי
Jer 3.19--	**תִּקְרְאוּ-***תִּקְרְאִי-לִי		
Jer 4.5--	***תִּקְעוּ	Jer 4.5--	***וּתְקְעוּ
Jer 6.7--	***בִּיר	Jer 6.7--	**בֶּוֹר
Jer 6.29--	***תָּם	Jer 8.6--	****בַּ**מְרוּצָתָם
Jer 8.6--	***בְּמֵרֻצוֹתָם	Jer 15.9--	**בָּאָה
Jer 15.9--	***בָּא	Jer 17.10--	***כְּדַרְכּוֹ
Jer 23.18--	***דְּבָרוֹ	Jer 23.18--	**דְּבָרִי
Jer 28.1--	***בִּשְׁנַת	Jer 31.38--	***בָּאִים
Jer 32.1--	****בַּ**שָׁנָ ה	Jer 32.1--	***בִּשְׁנַת
Jer 40.3--	****הַ**דְּבֶר	Jer 40.3--	**דְּבֶר
Jer 41.17--	***כִּמְהָם	Jer 49.25--	***תְּהֵלָת
Jer 49.25--	**תְּהִלָּה	Jer 51.34--	***בְּלָעֲנִי
Jer 51.34--	**בְּלָעֻנוּ	Lam 3--	***כִּיעֵנִים
Lam 3--	**כִּי	Lam 12--	***כָּל
Ezek 9.11--	****כְּ**כָל	Ezek 14.14--	***דְּנִיֵּאל
Ezek 14.14--	**דְּנִיֵּאל	Ezek 14.20--	***דְּנִיֵּאל
Ezek 14.20--	**דְּנִיֵּאל		
Ezek 21.28--	****כְּ**קָסֶם-***כִּקְסוּם שָׁוְא		
Ezek 24.2--	**כָּתוֹב-***כְּתָב-לָ ה	Ezek 27.6--	***כִּתִּיִּם:

Ezek 27.6--	כִּתִּים**	Ezek 30.16--	תָּחוּל***
Ezek 30.16--	תָּחִיל**	Ezek 36.13--	גּוֹיֵךְ**
Ezek 36.13--	גּוֹיֵךְ***	Ezek 40.6--	בְּ**מַעֲלוֹתָיו****
Ezek 40.6--	בְּמַעֲלוֹתוֹ***	Ezek 40.36--	תָּאָיו***
Ezek 40.36--	תָּאוֹ**	Ezek 44.5--	תּוֹרֹת תָּיו***
Ezek 44.5--	תּוֹרֹתוֹ**	Ezek 46.19--	בֵּירְכֹתָם***
Ezek 47.11--	בֵּשָׂא תָיו***	Ezek 47.11--	בְּצֹאתוֹ**
Ezek 48.15--	בְּתוֹכֹה***	Ezek 48.21--	בְּתוֹכֹה***
Dan 3.21--	פַּטִּישֵׁיהוֹן***	Dan 3.21--	פַּטִּישֵׁיהוֹן**
Dan 4.4--	כַּשְׂדָּ**יֵא**	Dan 5.7--	כַּשְׂדָּ**יֵא**
Dan 5.16--	תִּכּוּל***	Dan 5.16--	תּוּכַל**
Dan 6.29--	פָּרְסָ**יֵא**	Dan 7.7--	בְּ**רַגְלַהּ****
Dan 7.7--	בְּרַגְלַהּ***	Dan 7.8--	בֵּינֵיהֵן***
Dan 7.8--	בֵּינֵיהוֹן**	Dan 9.18--	פְּקַחָה**
Nahum 2.6--	בְּ**הֲלִיכָתָם****	Hab 3.14--	פְּרָזָיו***
Hab 3.14--	פְּרָזוֹ**	Zeph 2.9--	גּוֹי יִי***
Zeph 2.9--	גּוֹי**	Zach 14.2--	תִּשָּׁכַבְנָה***
Zach 14.2--	תִּשָּׁגַלְנָה**		