

An Early Leviticus Scroll from En-Gedi: Preliminary Publication

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with an Appendix by Ada Yardeni

The synagogue at En-Gedi was excavated in the 1970's by a team led by the archaeologists Prof. Dan Barag and Prof. Ehud Netzer of the Institute of Archaeology of the Hebrew University and Dr. Yosef Porath of the Israel Antiquities Authority (IAA). Among the material finds uncovered in the debris of the ארון הקודש (ark) were charred lumps of (a) scroll(s). Due to the poor physical condition of these chunks of charred material it is impossible to unroll them. They are therefore illegible to the human eye, and their content was unknown. Recently, Pnina Shor and Yosef Porath took the initiative to try to analyze the contents of the scroll with new imaging and scanning techniques that the IAA is using for the Dead Sea Scrolls. Shor arranged for the three-dimensional micro-CT scanning of the scroll by David Merkel of Merkel Technologies Ltd., and for the collaboration with Brent Seales of the Department of Computer Science at the University of Kentucky.¹

At a press conference in the summer of 2015, the IAA announced that Seales and his research team had succeeded in generating readable images of sections from this scroll, using digital imaging software that they developed, which they applied to the high-resolution, cross-sectional scans of the scroll provided by Merkel.² The micro-CT scans allow for the differentiation between the surface of the scroll and the ink, despite its current charred state.

¹ The authors thank David Merkel of Merkel Technologies Ltd. who donated the volumetric scan to the Israel Antiquities Authority.

² http://www.antiquities.org.il/article_eng.aspx?sec_id=25&subj_id=240&id=41

These scans were then digitally combined in order to reconstruct and trace the concentric layers of the rolled scroll (see fig. 1).

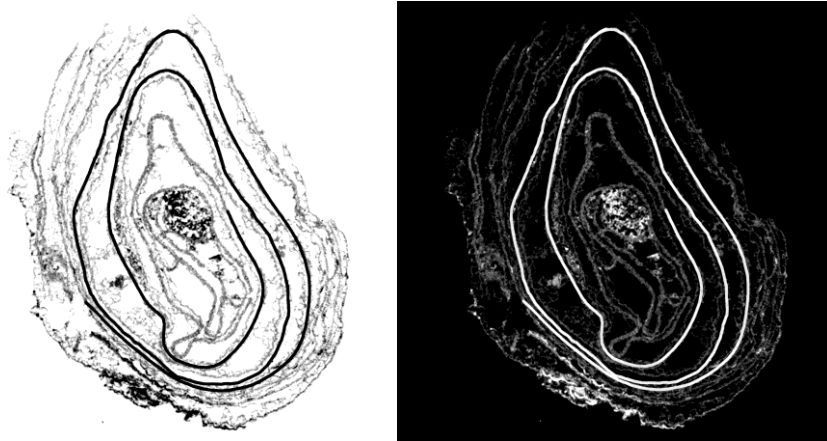


Figure 1. Digital scan of the concentric layers of the rolled scroll

Once the physical contours of these layers were determined, they segmented the scroll into smaller sections, generally between the turns in the scroll, in order to reconstruct the text found in each of those segmented sections. Using this process, Seales and his research team were able to virtually “unwrap” the scroll and generate a readable text, even though the physical object itself remains in its blackened, burned state.³ We now have high resolution, computer-generated images of two columns of the scroll, containing text from the first two chapters of Leviticus that are as readable as undamaged scrolls.

The present paper describes the technical aspects of the scroll, presents a preliminary transcription, and discusses the significance of this scroll in the textual history of Leviticus in particular, and the Masoretic text of the Bible (or at least the Pentateuch) in general. According to Carbon 14 dating, the scroll was copied between the 3rd and 4th century CE (firm assessment), or

³ For an extensive description of the technological aspects of this virtual unwrapping, see W. Brent Seales, C. Seth Parker, Michael Segal, Emanuel Tov, Prina Shor, Yosef Porath, “From Damage to Discovery via Virtual Unwrapping: Reading the Scroll from En-Gedi,” *Science Advances* 2, e1601247 (2016).

in the 2nd century CE (less likely),⁴ not long after the biblical Dead Sea Scrolls. On the other hand, paleographical analysis of the scroll by Dr. Ada Yardeni (see the appendix) suggests an earlier date, in the second half of the 1st century CE or, at the latest, the beginning of the 2nd century CE, contemporaneous with the latest of the Qumran scrolls and several of the scrolls found in other sites in the Judean Desert. We take note of the discrepancies between these two examinations which should lead to caution in any conclusion, but such discrepancies are not unparalleled. In any event, the scroll provides important evidence for the state of the biblical text, either at the end of the period covered by the manuscript finds in the Judean Desert, or in the next centuries for which we have no evidence of the text of the Bible. The C-14 and paleographical dates of the scroll as quoted above fall within the archeological evidence concerning the settlement of En-Gedi.⁵ The En-Gedi synagogue is generally dated from the late 3rd/early 4th centuries to ca. 600 CE.⁶ This indicates that the Leviticus scroll could have been in use for a very long period which would not be unusual in a synagogue environment. We do not have firm evidence from Qumran for parallel situations, but some scrolls found there would likewise have been in use for two or three centuries or even more.⁷ By the same token, elsewhere in the Greco-Roman world

⁴ The En-Gedi scroll was radiocarbon dated using the Accelerator Mass Spectrometry technique by Dr. Elisabetta Boaretto at the Weizmann Institute D-REAMS Radiocarbon Laboratory. The test results indicate a probability of 68.2% that the scroll dates between 235–340 CE, and a probability of 88.9% that it dates between 210–390 CE. They allow for a 6.5% probability that the scroll dates to the 2nd century CE.

⁵ Y. Hirschfeld, *En-Gedi Excavations II: A Final Report (1996–2002)* (Jerusalem: Institute of Archaeology, Hebrew University of Jerusalem, 2007).

⁶ Y. Porath et al., *The Synagogue of Roman-Byzantine En-Gedi* (forthcoming).

⁷ Observation by Segal and Tov: the point of departure for this calculation is the assumption that the occupation of the Qumran caves coincides with that of the site that was inhabited between ~ 100 BCE and 68 CE as suggested by J. Magness, *The Archeology of Qumran and the Dead Sea Scrolls* (Grand Rapids: Eerdmans, 2002), 65. The earliest biblical scrolls found in the caves, dating to 250 and 225 BCE, would therefore have been in use at least 150 years, but they could also have been used as long as 300 years. On the other hand, some scrolls could have been discarded after

between the 2nd century BCE and the 3rd century CE, books were in use anywhere between 150 and 500 years, with an average of 200 to 300 years.⁸ These parallels provide welcome support for the early dating of the Leviticus scroll.

Returning to the image of the layers of the rolled scroll, the Kentucky team chose to first develop the images of the layers marked in the image above, which consist of three segments (figure 1). Since the contents of these three segments are now readable, containing the first two chapters of Leviticus, we can determine the direction in which the scroll was rolled. As we will see, the two outer segments contain the text of Lev 1–2, with Lev 1 wrapped inside Lev 2, while the innermost segment that has been analyzed is a large blank area. We can therefore conclude that the scroll was rolled from its beginning, and the outer layers contained subsequent passages.

Furthermore, figure 1 shows that there are not many additional layers rolled inside the scroll. This implies that the exposed sections are close to the beginning of the scroll (since the scroll was rolled from its beginning). On the other hand, the few wraps that remain beyond these segments do not inform us of the original length of the scroll; because the scroll was burned, it is not clear how many of the original outer layers were destroyed. We therefore cannot determine the original length of the scroll (using the term “length” here relatively, since the process of burning changed the dimensions of the scroll).

Turning now to the developed images of the scroll, the flattened image that the Kentucky team generated consists of a large initial margin and two columns.

some time (placed in a *genizah* of some sort at Qumran) in which case they would have been used more than 150, but less than 300 years.

⁸ Thus G. W. Houston, “Papyrological Evidence for Book Collections and Libraries in the Roman Empire,” in *Ancient Literacies: The Culture of Reading in Greece and Rome* (ed. W. A. Johnson and H. N. Parker; Oxford/New York: Oxford University Press, 2009), 233–267 (248–251). See also C. A. Evans, “How Long Were Late Antique Books in Use? Possible Implications for New Testament Textual Criticism,” *BBR* 25 (2015): 23–37.



Figure 2: Image of the virtually unwrapped areas of the scroll

The two columns have been preserved on one sheet of a leather scroll, and no stitches between this sheet and either the next or a previous one are visible in this image. Starting with the right end of the image, one notices a very large blank area, before the inscribed area begins, consisting of a surface measuring more than one column. Although images of the inner layers have not yet been generated by the University of Kentucky team, a preliminary examination of the data generated in the scans of these innermost segments reveals no written characters on the surface area. Therefore, the uninscribed area prior to the text in column I is slightly larger than the current image suggests.

A few comments about this large empty area of the parchment follow:

(1) In light of the conclusion above regarding the direction in which the scroll was rolled, and the proximity of col. I to the beginning of the scroll, there is no doubt that this column represents the beginning of the scroll. When we were first invited to work on the scroll, it was suggested that this was a Torah scroll, which contained all the books of the Pentateuch. However, the evidence we now have indicates that this is a scroll of Leviticus, or at least a scroll that began with Leviticus and contained two or three Pentateuchal

books.⁹ Thus, like the Judean Desert scrolls mentioned in n. 9, the En-Gedi scroll was not a complete Torah scroll, but rather contained one, two, or three books.

(2) The presence of a large blank area at the beginning of a parchment scroll is a scribal practice found in a number of scrolls in the Judean Desert. Its preservation can be attributed to the scroll having been rolled with the end on the outside. As Tov has posited, scrolls rolled on the outside suggest that they were in use, in which a reader passed the halfway mark, and therefore it was most efficient to roll it to the end.¹⁰ The beginnings of fifty-one scrolls from the Qumran caves and two from other Judean Desert sites have been preserved, and allow for fruitful comparison.¹¹ The area left before the text was always larger than the width of an intercolumnar margin, and was sometimes as wide as an entire column. This scribal practice is found earlier in Egyptian papyrus scrolls in which the blank area at the beginning of the scroll was often strengthened by a protective strip of one or two layers.¹² See the example of 4QGen^b, which contains such an area at the beginning of the scroll.¹³ This initial blank area at the beginning of the scroll was generally unruled, although Tov has noted nine instances in which the surface was ruled up to the right edge.¹⁴ See, e.g. 4QXII^d (4Q79), which has a large initial ruled margin, with no additional stitched page or handle sheet (frequently referred to as a *page de garde*). Other scrolls have both an initial unruled area and a separate handle sheet. However, since we do not yet have access

⁹ Several scrolls containing multiple Pentateuchal books have been preserved at Qumran and elsewhere: 4QGen-Exod^a (4Q1); 4QpaleoGen-Exod^l (4Q11); 4QExod-Lev^f (4Q17); 4QLev-Num^a (4Q23); Mur1 containing fragments of Genesis, Exodus and Numbers probably also constituted one scroll, containing all of the Pentateuch.

¹⁰ E. Tov, *Scribal Practices and Approaches Reflected in the Texts Found in the Judean Desert* (STDJ 54; Leiden/Boston: Brill, 2004), 109.

¹¹ Tov, *ibid.*

¹² See J. Černý, *Paper and Books in Ancient Egypt* (Inaugural Lecture 29 May 1947; London, 1952 [Chicago: Ares, 1977]), 19.

¹³ Tov, *Scribal Practices*, plate 18.

¹⁴ Tov, *ibid.*, 114 (Table 24).

to the images of the inner layers prior to the current image, we do not yet know if there is evidence for a separate, stitched handle sheet.

The image of the scroll shows traces of horizontal lining from ruling in 7–8 lines, as well as vertical ruling of the left margin (in the image itself the line is in fact not vertical, but the irregularity is due to the photographic “flattening” of the rolled scroll; in its original form the lines would have been truly vertical or horizontal). Some of these lines now appear as cracks in the image, but we suggest that these were originally ruling lines that developed into cracks, perhaps as the result of the burning process. The heat from the fire caused these fissures, which opened up along the lines originally incised in the parchment with a sharp instrument.

The concentration of material in the center of the scroll, as can be seen in figure 1, leads us to believe that the last sheet of the scroll may have been attached to a wooden bar (*amud*). The only early parallel for this practice is the wooden bar attached to the last sheet of 11Q11, dated to 50–70 CE.¹⁵

The Text in Columns I-II

Remains of two columns of writing of the scroll have been made visible tomographically, together with an intercolumnar blank space. The text is easily legible, allowing for the identification of the text as Leviticus 1–2. According to our calculations, the two columns originally contained 35 lines each, of which 18 lines have been preserved and another 17 need to be reconstructed at the bottoms of the columns. Columns of this general length are evidenced among the Dead Sea Scrolls. Almost the complete width of the column in col. I is preserved in lines 6–8 with some lacunae holes in the middle. Col. I has 31–35 letter spaces, while col. II has slightly more, 34–37. Spaces between the words were indicated, but are sometimes minimal, e.g. I, 5 קרבנו מן; I, 8 אה בן; I, 14 בני אהרן; I, 15 הפדר על; I, 16 המזבח וקר]בו. The En-Gedi Hebrew text is unvocalized and there are no intervals between verses.

¹⁵ This date is similar to the paleographical assessment of the En-Gedi scroll by Ada Yardeni. For later parallels for the use of wooden bars in Torah scrolls, see Tov, *Scribal Practices*, 117.

As noted above, since the scroll was burned, it is impossible to determine its original measurements. Figure 2 records its present size, after the fire, but the original scroll was probably larger by an unknown degree. This unknown factor impacts the measuring of the size of the fragment, of the columns and of the letters (see the Appendix). Presently the published segment is 16.8 cm long and 7.8 cm high. Based upon these measurements, the reconstructed height of the columns would be 18–19 cm. (15.6 cm. for the inscribed text and the remainder for the top and bottom margins). These dimensions are 20% less than 1QIsa^b whose 35 lines measure 23 cm. This difference can perhaps be attributed to the shrinkage due to the fire. However, the columns of other scrolls of a comparable size are taller.¹⁶

Because of the clarity of the script in the images,¹⁷ we are able to present here a transcription of the text:

Column I: Leviticus 1:1–9

1	וַיִּקְרָא אֶל מֹשֶׁה וַיֹּאמֶר יְהוָה אֵלַי מֵאֵלֶיךָ הַלֵּל
2	מוֹעֵד לֵאמֹר דָּבַר אֶל בְּנֵי יִשְׂרָאֵל וְאָמַרְתָּ
3	אֵלֶיךָ אֱלֹהֵי אָדָם כִּי יִקְרִיב מִכֶּם קֶרְבָּן לַיהוָה [מִן]
4	הַבְּהֵמָה מִן הַבֶּקֶר [וּ] מִן הַצֹּאן תִּקְרִיבוּ אֹתָם
5	קֶרְבָּנִים אֵם עֹלָה קֶרְבָּנו מִן הַבֶּקֶר זָכָר
6	תָּמִים יִקְרִיבוּ אֵל פֶּתַח אֹהֶל מוֹעֵד יִקְרִיב
7	אֹתוֹ לְרִצְנוֹ לִפְנֵי יְהוָה וְסָמַךְ יָדוֹ עַל רֹאשׁ
8	הָעֹלָה וְנִרְצָה לוֹ לְכַפֵּר [עֲלִיוֹ] וְשָׁחַט אֶת בֶּן
9	הַבֶּקֶר לִפְנֵי יְהוָה וְהִקְרִיבוּ בְנֵי אֹהֶל
10	[הַכֹּהֲנִים אֶת הַדָּם וְזָרְקוּ אֶת הַדָּם] עַל הַמִּזְבֵּחַ
11	[סִבִּי] בְּאֶשׁ פֶּתַח אֹהֶל מוֹעֵד וְהִפְשִׁיט אֶת
12	[הָעֹלָה] וְנָתַתָּ [חַ] אֶתָּה לַנֶּתֶח [יָהּ] וְנָתַנוּ בְנֵי אֹהֶל
13	[הַכֹּהֵן] אֵשׁ עַל הַמִּזְבֵּחַ וְעָרְכוּ עֲצִים עַל [הָאֵשׁ]
14	[וְעָרְכוּ] בְנֵי אֹהֶל הַכֹּהֵן אֶת הַנֶּתֶח [אֵם אֶת

¹⁶ In Qumran, scrolls with a length of 35 lines per column are usually some 30 cm high: 1QapGen ar (34 lines, 31 cm), 4QIsa^a (35 lines, 31 cm). See Tov, *Scribal Practices*, 88.

¹⁷ See also figure 3 below, a drawing of the En-Gedi scroll prepared by A. Yardeni.

[הראש] זאת הפדר על [העצים אשר על] האש	15
[אשר] על המזבח ווקר ⁹ בו וכרעיו ירחץ במים	16
[והקטיר ה] כהן את [הכל המזבחה עלה אשה]	17
remains of letters	18

Column II: Leviticus 2:1-11

remains of letters	1
[ונת] עליה [לבנה ² והביאה אל בני אהרן הכהנים]	2
וקמץ משם [מלא קמצו מסלתה ומשמנה על] כל	3
לבנתה והקט[י]ר הכהן א[ת אזכרת] ה המז[בחה]	4
אשה ריח ניחח ליהוה ³ והננו [תרת מן המנחה]	5
לאהרן ולבניו קדש קדשים מאש[י] הו[ה] vac ⁴ וכי	6
תקרב קרב[ן] מנחה [מאפה תנור סלת חלות מצת	7
בלולת בשמ[ן] ורקיקי [מצות משחים בשמן vac ⁵ ואם	8
מנחה על] המחבת [קרבנד סלת בלולה בשמן	9
מצה תה[יה] פתות ⁶ אתה פתים ויצקת עליה	10
שמן מנ[חה] הוא ו ⁷ אם מנחת [מר] חשת קרבנד	11
סלת ב[שמן תעשה] ה ⁸ הבאת את המ[נ]חה אש[ר]	12
יעשה [מאלה ליהוה וה] קריבה אל הכהן	13
והגיש[ה] אל המזבח ו ⁹ הרים הכהן מן המנחה	14
את אזכ[רתה] והקטיר המז[בחה] אשה ריח	15
ניחח ליה[וה] ו ¹⁰ והנותרת מן [המנחה לאהרן	16
ולבניו ק[דש קדשים מאש] ¹¹ יהוה כל המנחה	17
אשר [תקריבו ליהוה לא תע]ש חמץ כי כ[ל שאר]	18

Notes on Readings

While the letters are very readable, the software applied to the tomography created some additional shapes (even “ghost letters”),¹⁸ a distortion in proportions, a stretching of some areas, and a slight wave effect of the written

¹⁸ For example, under מועד in I, 6; above the first word of II, 14 (אש?).

lines. The same wave effect created the impression that some letters appear as positioned under the line, while in reality they were positioned at the same height as the other letters. In addition, the internal proportions of the letters are often not natural because of this process.

For remarks on paleography, see the Appendix.

Col. I

I, 4 $\text{ט}^{\circ}\text{ז}$. These letters are slanted to the left at the end of the line.

Col. II

II, 7 $\text{ק}^{\circ}\text{ר}^{\circ}\text{ב}^{\circ}\text{ן}$. The shape of the *qoph* in the line is unusual. On the other hand, under this letter another letter appears that resembles the *qoph* more closely. Possibly the software process created these distortions.

II, 12 $\text{א}^{\circ}\text{ב}^{\circ}\text{א}^{\circ}$ [ו]. There is an extra line between the *aleph* and the *tav*, which could present a *vav* as in והביא(ו)ת , but this line is probably a photographic “ghost” form of the *tav*.

As noted above, 18 lines out of 35 are preserved in each column. Column I preserves the text of Lev 1:1-9, while column II that of Lev 2:1-11. Throughout the entire two columns, the text preserved of Leviticus 1-2 matches the consonantal text of the medieval MT of Leviticus precisely, and we did not find a single variant vis-à-vis MT (choosing Codex Leningrad B 19^A as our point of comparison). While these sections of Leviticus do not exhibit a great variety between the extant textual witnesses in general, they do contain sufficient differences which allow us to demonstrate the scroll’s closer affiliation to Codex L of MT than to other textual witnesses. We identify the following categories of variants in other sources (EG = En-Gedi):

Orthographic Variants

2:2 לבנתה EG (II, 4) = MT^L] SP לבנתה

2:4 מצת EG (II, 7) = MT^L] SP מצות

- 2:4 בלולת EG (II, 8) = MT^L] SP בללות
 2:9 ניהח EG (II, 16) = MT^L SP] 4QLev^b ניהוח

*Linguistic Variants*¹⁹

- 1:2 קרבנכם EG (I, 5) = MT^L] SP קרבניכם (LXX Pesh also translate a plural form)
 1:4 וסמך את ידו EG (I, 7) = MT^L] SP וסמך ידו
 1:8 ואת (הראש) EG (I, 14) = MT^L] SP ואת = LXX Pesh
 1:9 את (הכל) EG (I, 17) = MT^L] SP >
 2:7 מנחה EG (II, 11) = MT^L] SP מנחה

Content Differences

- 1:6 [והפשיט] EG (I, 11) = MT^L Pesh] SP והפשיטו = LXX
 2:2 משם EG (II, 3) = MT^L Pesh] SP ממנה = LXX
 2:8 [והביא] EG (II, 12) = MT^L SP = Pesh] 4QLev^b והביא = LXX

Based on the evidence of these two columns, the En-Gedi Scroll can be characterized as strictly proto-Masoretic. However, we will have to wait for the virtual reconstruction of the subsequent columns before we can make a definitive statement on the matter.

This agreement may probably be extended to the *parshiyot*, or paragraph divisions. The Leningrad Codex preserves divisions of פרשיות סתומות (closed divisions) before the following verses: 2:4, 5, 7, matched by the En-Gedi scroll in 2:4 and 2:5, while such a division may be reconstructed in the lacuna in 2:7. Similarly, 4QLev^b preserves a *vacat* before 2:4.

The En-Gedi Scroll in Its Chronological and Textual Context

We now turn to an assessment of this scroll within its chronological and textual context. The following table provides a chronological summary of the

¹⁹ Differences from the editions of LXX and Peshitta are only recorded when in agreement with one of the Hebrew textual witnesses.

textual evidence for the book of Leviticus in the Dead Sea Scrolls, from earliest to latest:²⁰

<i>Scroll</i>	<i>Paleographical Dating</i>
4QExod-Levf (4Q17)	250 BCE
6QpaleoLev (6Q2)	250–150 BCE
4QLevb (4Q24)	150–125 BCE
4QLev-Num ^a (4Q23)	150–100 BCE
2QpaleoLev (2Q5)	100–1 BCE
4QpapLXXLevb (4Q120)	100–1 BCE
MasLev ^a (Mas1a)	25–1 BCE
MasLevb (Mas1b)	~10 BCE–~10 CE
11QpaleoLev ^a (11Q1)	1–50 CE
11QLevb (11Q2)	50 CE
ArugLev	75–100 CE

As mentioned above, the scroll has been dated paleographically to the second half of the 1st century CE and with C-14 dating to the 3rd–4th century CE.²¹ The latter dating falls in between the textual evidence from the Judean Desert (3rd century BCE–135 CE) and that of the biblical fragments from the Cairo Geniza (starting with the 9th century CE). Direct evidence for the text of the Hebrew Bible in the interim period is almost non-existent. A few manuscripts from this period have come to light in recent years:²²

²⁰ The information presented in this table is culled from the summary of B. Webster in E. Tov, ed., *The Texts from the Judaean Desert: Indices and an Introduction to the Discoveries in the Judaean Desert Series* (DJD XXXIX; Oxford: Clarendon, 2002), 351–446; S. Talmon, “Hebrew Fragments from Masada,” in *Masada VI, The Yigael Yadin Excavations 1963–1965: Final Reports* (eds. S. Talmon and Y. Yadin; Jerusalem: Israel Exploration Society, 1999), 1–149, at 37, 40; H. Eshel, Y. Baruchi, and R. Porat, “Fragments of a Leviticus Scroll (ArugLev) Found in the Judean Desert in 2004,” *DSD* 13 (2006): 55–60.

²¹ Or less likely, to the 2nd century CE.

²² The following list draws upon the data provided by A. Lange, “1.2 Ancient Hebrew-Aramaic Texts,” in *Textual History of the Bible: The Hebrew Bible*, vol. 1A: *Overview Articles* (ed. A. Lange and E. Tov; Leiden: Brill, 2016), 112–65 (121–22).

- (1) The Ashkar-London scroll, dated to the 7th–8th century, and covering Exod 9:18–13:2; 13:19–16:1.²³
- (2) Two Geniza fragments, T-S NS 3.21 (a large fragment) and T-S NS 4.3 (a small fragment), together preserve sections of Genesis (Gen 4:14–17; 5:10–18; 5:32–6:7; 13:10; 14:9–22; 15:5–21; 16:5–17:2; 17:9–20). This manuscript is characterized by a slightly unusual script and minor deviations from MT (one consonantal difference and differences in division of *parshiyot*). Based upon this, Colette Sirat dated the fragments to the 5th–6th century. However, Ada Yardeni has suggested more conservatively that the fragments can be dated paleographically to the 8th–9th century.²⁴
- (3) Papyrus 10598 (Berlin Staatliche Museen): Exod 3:13–16, 18–22; 4:1–9. Dated 8th–9th CE.

Sirat has identified a number of other fragmentary manuscripts that can potentially be assigned to this period, although there is often a wide range of suggested dates for the text in question:

- (a) Papyrus Antinoopolis 47–48 (Oxford, Ashmolean Museum): A scroll with parts of 1 Kgs 22:12–18, 28–33; 2 Kgs 21:8–9. Dated 3rd–8th century CE.
- (b) Papyrus Antinoopolis 49–50 (Oxford, Ashmolean Museum): A scroll with parts of Job 1:19–2:4; 20:24–21:14. Dated 3rd–8th century CE.
- (c) Ms Heb. d. 89 (P) i (Oxford, Bodleian Library), has been dated tentatively to the 2nd–3rd century CE, but it consists of only one fragment containing parts of Exod 2:23–25.

²³ The two large fragments that make up this manuscript were identified as belonging to the same scroll and subsequently analyzed by E. Engel and M. Mishor, “An Ancient Scroll of the Book of Exodus: The Reunion of Two Separate Fragments,” *Israel Museum Studies in Archeology* 7 (2015): 1–38. As these two authors noted, not only does this scroll match the consonantal text of MT (using a reconstructed text of the Aleppo Codex as the point of comparison), but it also follows many of the *halakhot* for copying Torah scrolls.

²⁴ For further analysis and bibliography see: <http://www.lib.cam.ac.uk/Taylor-Schechter/fotm/november-2010/index.html>

All of these manuscripts can be characterized as proto-MT texts, and the En-Gedi Leviticus scroll essentially fits right into this picture. As a result, its clear affinity with MT essentially confirms the model(s) of textual development that had already been developed by scholars before its discovery. During the last centuries of the Second Temple period, we can identify textual variety among the various manuscripts of biblical books, as attested in the Qumran scrolls. Among this variety, a significant group of texts can be characterized as proto-MT, based upon their similarities with the consonantal text of the medieval MT. At the same time, most of these texts are not *identical* to the medieval manuscripts. Some, however, and particularly all of the manuscripts discovered at sites other than Qumran (including Masada, Wadi Murabba'at, Nahal Hever) are closer to MT and are sometimes even identical to its consonantal base. Following the destruction of the Temple and of Qumran by 70 CE, all Hebrew biblical manuscripts of which we know reflect the proto-MT text, and the earlier situation of textual variety and fluidity no longer obtains. While scholars differ as to how to explain the background of a monolithic text, the data all corroborate this reconstructed textual history, which emphasizes the exclusive dominance of the proto-MT text from 70 CE onwards.

The En-Gedi scroll's significance lies in its confirmation of this textual history. Although it does not contribute any new readings (in the two columns that have been revealed to date), it serves as a valuable witness for the state of the biblical text in an era for which we have a paucity of direct evidence.

Appendix: Palaeographic Description

Ada Yardeni

Because of the very poor condition of this scroll, its image is distorted and does not reflect its precise appearance; therefore, the measurements given below are approximate and the drawings are conjectural. The copyist left a wide margin, which partly survived, at the beginning of the scroll to protect the text. Its maximal width that survived is about 56 mm (with reference to all measurements listed here, the shrinkage factor of the leather due to the fire needs to be taken into consideration [see above]). At the top of the scroll, the remains of an upper margin measuring about 8 mm seem to survive. The two columns are separated by a space of about 8 mm. The two columns differ in their width, the width of the first being about 45 mm and that of the second about 55 mm. The letters are suspended on ruled lines, remains of which can be detected on the right margin. The average spacing from the top of one line to the top of the following line is 4 mm. The maximal height of the letters is about 2 mm (the average height of the letter *het* is about 1.5 mm). The “mast” of *lamed* usually reaches the bottom of the letters above it. It seems that the letters were written with a reed-pen, the nib of which was cut almost straight and in certain letters (mainly *bet*, *dalet*, *he*, *het*, *kaph*, *mem*, *sameh*, *qoph*, *resh* and *taw*, all of which have horizontal “roofs” and some have horizontal base-strokes) the horizontal strokes seem to be thicker than the vertical strokes. In that our scroll differs from the other fragments to which it has been compared.

Because of their tiny size, the letters do not allow a sound examination of their forms, and the enlarged photo of the text that has been provided to me blurred the contours of the letters. However, the enlarged image enabled the tracing of the structure of each letter (see figures 3–5) and its comparison to other manuscripts written in “Jewish” book-hand. Since the manuscript is not dated and was discovered in a context of a synagogue of the 6th century CE, this is the latest reasonable date conjectured for its production. However, a comparison with certain earlier manuscripts from the Judean Desert shows

many affinities in the structure of the letters and indicates a date in about the second half of the 1st century CE for our manuscript. This date should be compared with the Carbon 14 dating quoted above.

The following manuscripts have been compared to the Leviticus scroll:

- (1) A fragment of a Psalms scroll (5/6HevPsalms = 5/6Hev 1b, col. VII) found in a cave in Nahal Hever, possibly dating to the second half of the 1st century or the early 2nd century CE (see figures 6-7).²⁵
- (2) Three different fragments of 11QT^a, seemingly by the scribe Yadin called "scribe B" (vol. 1, p. [16]), tentatively dated to the 1st century CE (see figures 8-13).²⁶

Following is a summary of the relation between the letters of EG and the above mentioned fragments:

Aleph—There is a general resemblance between all fragments in the structure of *aleph*, except that in EG and in 5/6Hev 1b the left stroke of the letter extends to the left and does not reach the imaginary common base line, whereas in 11QT^a the left stroke of *aleph* mostly descends more vertically.

Bet—There is a general resemblance between all fragments in the structure of *bet*, which differs from medial *kaph* in that it is shorter and broader. Both *bet* and *kaph* have serifs at the left end of their "roof." However, in our scroll the base stroke of *bet* clearly extends to the right beyond its meeting point with the down-stroke, indicating a somewhat more developed phase than the other fragments.

Gimel—There is a clear resemblance between the structure of *gimel* in our scroll and that appearing in 11QT^a (e.g. frag. 1 [plate 10*]; see figure 8). In

²⁵ Published by Y. Yadin, "Expedition D," *IEJ* 11 (1961): 36-52 (40) + pl. 20D; republished with other fragments from the same scroll by P. Flint, "1b. 5/6HevPsalms," in *Miscellaneous Texts from the Judaean Desert* (ed. J. Charlesworth et al., in consultation with J. VanderKam and M. Brady; DJD XXXVIII; Oxford: Clarendon, 2000), 141-166 + plates XXV-XXVII.

²⁶ The photos appear in the Hebrew version of Y. Yadin, *The Temple Scroll* (Jerusalem: The Israel Exploration Society, The Institute of Archaeology of the Hebrew University of Jerusalem, The Shrine of the Book, 1977), vol. 3, Supplementary Plates, Plates 1*, 9* and 10*.

both, the down-stroke bends at about its center to the right whereas the left stroke extends leftwards and curves down, creating a very large opening between the legs. A highly similar large opening between the legs of *gimel* appears in 5/6Hev 1b, but the top of its down-stroke curves backwards and the left stroke starts lower at the down-stroke and extends in a slight slant to the left.

Dalet – There is a resemblance between all the fragments in the structure of *dalet* which differs from *resh* in its shoulder, the top of its down-stroke somewhat curving backwards. Both *dalet* and *resh* are relatively short and both have a serif at the left end of their “roof.”

He – In the fragments of 11QT^a, the “roof” of *he* is mostly fat (seemingly made with two strokes), a feature typical of the Herodian period. In these fragments, as well as in 5/6Hev 1b, the top of the right down-stroke of *he* (and also *dalet* and *het*) curves backwards and the left down-stroke descends vertically from the “roof.” In our scroll, it seems that the left down-stroke is drawn separately from the “roof.” However, this is not entirely clear in the photo and it is possible that there is no gap between the “roof” and the left down-stroke. (The same also concerns the left down-stroke of final *mem* which looks as if it does not begin at the “roof”). If indeed this observation is correct, it might indicate a somewhat later phase of development than the other fragments.

Vav – There is a slight distinction between *vav* and *yod* in all the fragments concerning their size. However, they are all similar in their structure, made with a to-and-fro movement or as two separate strokes, in which case the original upper stroke became a short “hook” slanting down or extending horizontally to the left.

Zayin – A short, separate stroke drawn to the right from the top of *zayin* as well as from the top of *nun* marks an early phase of the development of the group of seven letters ג ז ט ו ע ש (*gimel, zayin, tet, nun, 'ayin, sade, šin*),²⁷ and is

²⁷ See A. Yardeni, *Understanding the Alphabet of the Dead Sea Scrolls* (Jerusalem: Carta, 2015), 30–31.

thus a sign-post for the dating of manuscripts in the “Jewish” book-hand (see *nun*, below).

Het – In all fragments *het* is relatively short and mostly differs from *he* in that its “roof” is made like a bar between the two down-strokes and, unlike *he*, it never continues to the left beyond its meeting point with the left down-stroke. However, its right down-stroke curves backward at its top, a feature occasionally also appearing in *he*.

Tet – The form of *tet* in our scroll seems to be slightly more developed than that appearing in 11QT^a in that its right stroke is curved rather than bent.

Yod – See *vav*.

Kaph – In all the fragments, medial *kaph*, unlike *bet*, is a narrow letter, made in one continuous movement from the upper serif to the left end of its base-stroke. The final form of *kaph* is made like *dalet* with a long down-stroke.

Lamed – In all the fragments, *lamed* has a very short and small “body,” made like an acute angle open to the left, and a long, vertical “mast” reaching in most cases to the bottom of the line above it. Its form is typical of the “Jewish” book-hand appearing in scrolls of the Judean Desert.

Mem – In all the fragments, the left diagonal stroke of medial *mem* slants down moderately to the left without reaching the imaginary base line, leaving a large gap between its end and the relatively short base-stroke. The final *mem* is long and narrow but in our scroll it seems to differ from the other fragments in that there seems to be a gap between the “roof” and the left down-stroke. If this is correct, it may indicate a later phase of development than the other fragments (see *he* above).

Nun – In all the fragments and in most occurrences of *nun* in our scroll, a separate short stroke appears at the top and to the right of the down-stroke of medial and final *nun*. Similar to *zayin*, this is an early phase of the development of the ornamental additions of the group of seven letters נטעשזך (see above, *zayin* and n. 27). In a few cases in our scroll, a more developed form seems to appear in which a short “roof” appears at the top of medial *nun*. However, the final form resembles the final *nun* in the other fragments except 11QT^a, frag. 1 (see figure 8), in which the final *nun* has an earlier form.

Sameh—The *sameh* in our scroll seems to differ from that in the other fragments mainly in that its left down-stroke seems to descend from the “roof” rather than from above the roof and ends below its meeting point with the short base-stroke.

`Ayin—In all the fragments, *`ayin* has a long diagonal, or almost horizontal base-stroke with a fat top that mostly bends up to the left. The left, short stroke descends almost vertically towards the center of the diagonal and at its top there appears a short stroke in various directions, which, as in *zayin* and *nun*, is in an early phase of development towards becoming the ornamental addition of the group of seven letters פגזזטנעש (see n. 27).

Pe—In all the fragments, medial *pe* is a narrow letter with no “roof” but a sharp top. Its left, short stroke mostly curves back at its bottom, creating its typical “nose.”

Ṣade—Very typical to the “Jewish” book-hand of the Dead Sea Scrolls is the long medial *ṣade* with the short base-stroke appearing in our scroll and in 11QT^a. The down-stroke in the final form of *ṣade* in our scroll seems to slant down to the right.

Qoph—In our scroll as well as in the other fragments, *qoph* is relatively short. It is unclear if its left down-stroke touches its “roof” (see above, *he* and final *mem*).

Resh—See *dalet*.

Ṣin—A quite similar form of *ṣin* appears in all the fragments: its left down-stroke is almost vertical; its right stroke resembles the diagonal of *`ayin*, but is shorter; and its middle stroke resembles the right stroke of *aleph* and of *ṣade*, slanting down moderately towards the middle of the left down-stroke. The short stroke at the top of its left stroke resembles that of the left stroke of *ṣade*; in both it is less emphasized than in *zayin* and *nun* (see above), but is fundamentally made in the same way.

Tav—In all the fragments, *tav* is relatively short. Whereas in the other fragments the left down-stroke always begins above the “roof,” in our scroll it often begins at the “roof.” Its right down-stroke is occasionally shorter than its left one (see also one of the *tavs* in 5/6Hev 1b in figure 6).

Summing up this comparative analysis, the script of the Leviticus scroll from En-Gedi has many affinities with the above mentioned fragments. The few differences may perhaps indicate a somewhat later phase of development, but definitely belonging to the style of the "Jewish" book-hand attested in the scrolls of the Judean Desert. It seems therefore that we may safely date this scroll to about the second half of the 1st century and at latest, the beginning of the 2nd century CE.

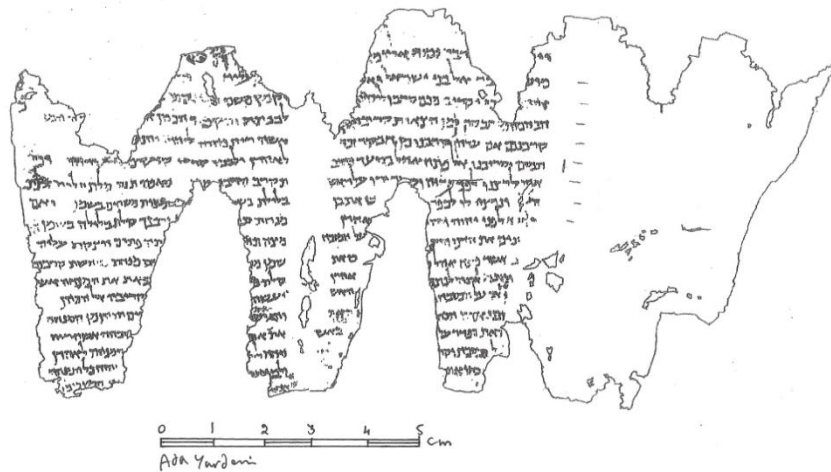


Figure 3. En-Gedi Scroll. Drawing by Ada Yardeni

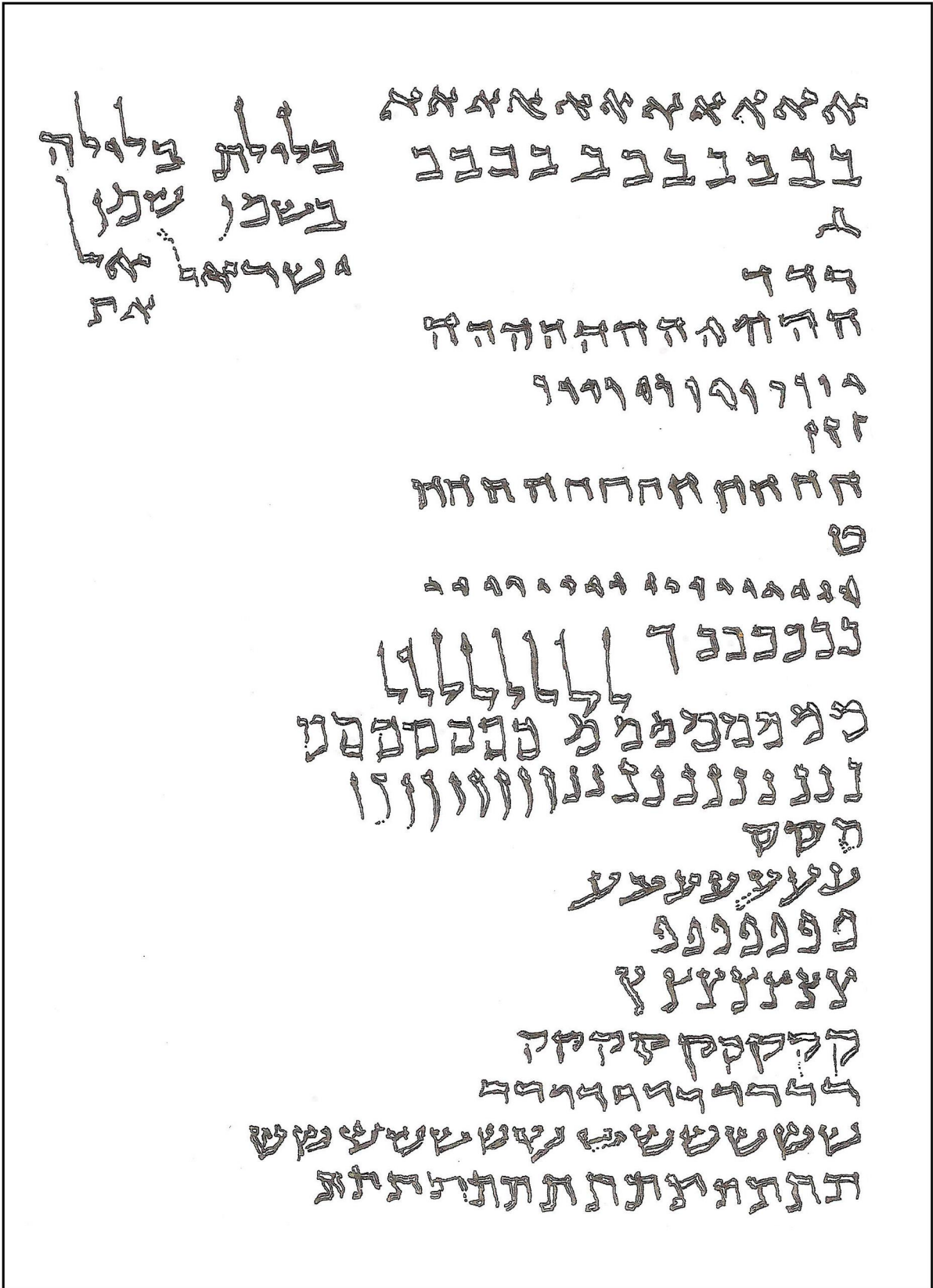


Figure 4. En-Gedi Scroll. Alphabet

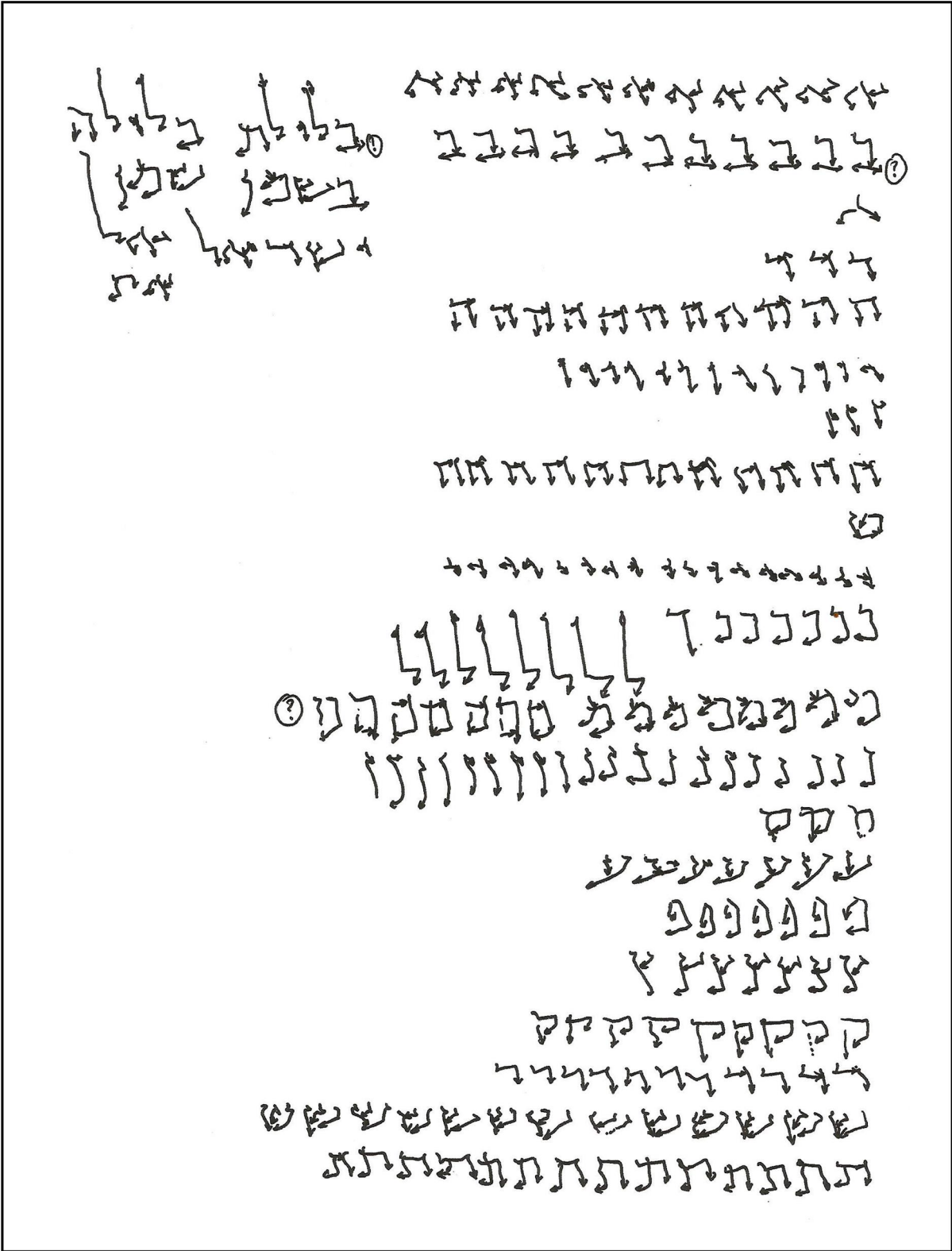


Figure 5. En-Gedi Scroll. Ductus

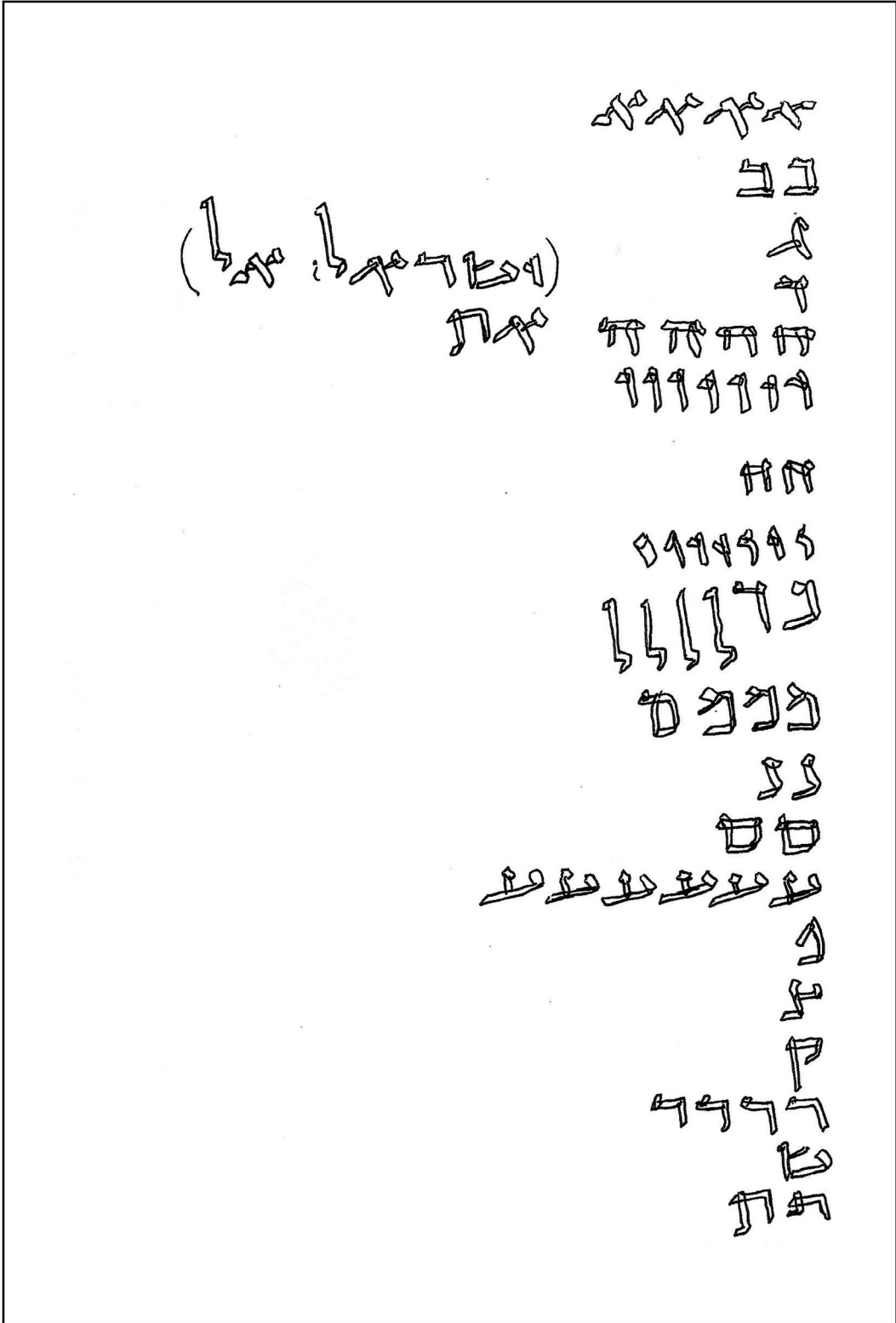


Figure 6. 5/6HevPsalms = 5/6Hev 1b, col. VII. Alphabet

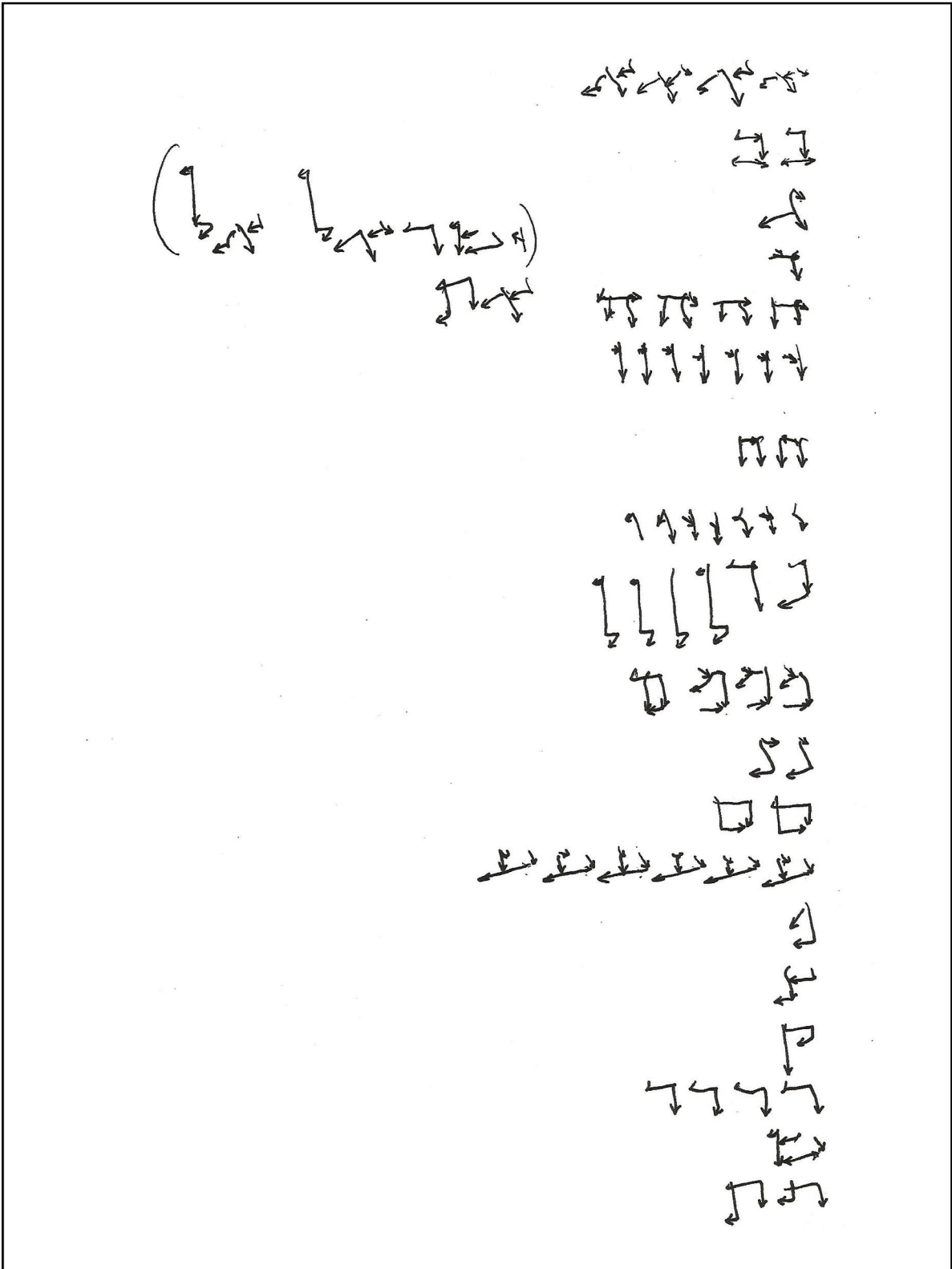


Figure 7. 5/6HevPsalms = 5/6Hev 1b, col. VII. Ductus

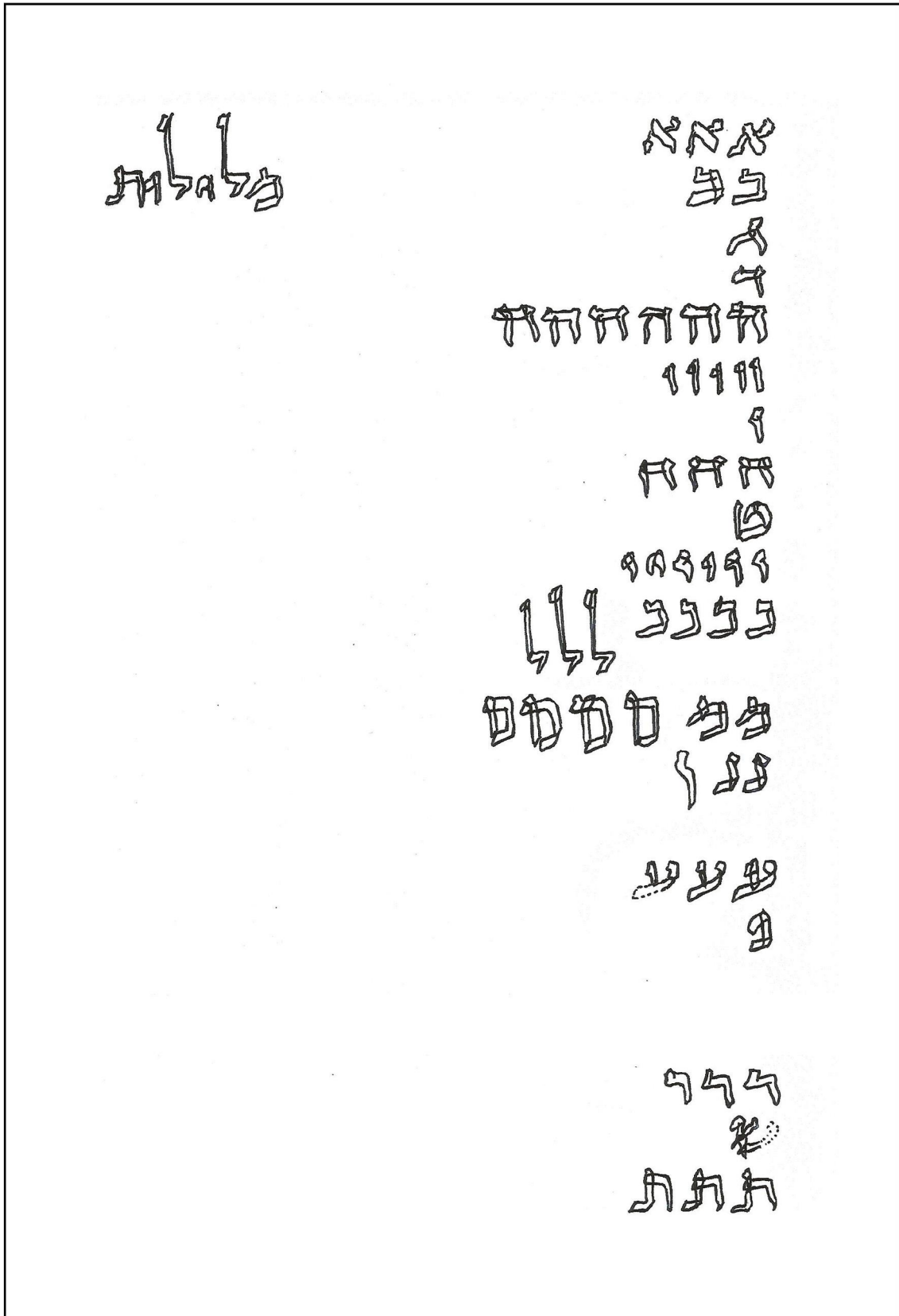


Figure 8. 11QTemple^a, fragment 1 = Plate 10*, col. XIX. Alphabet

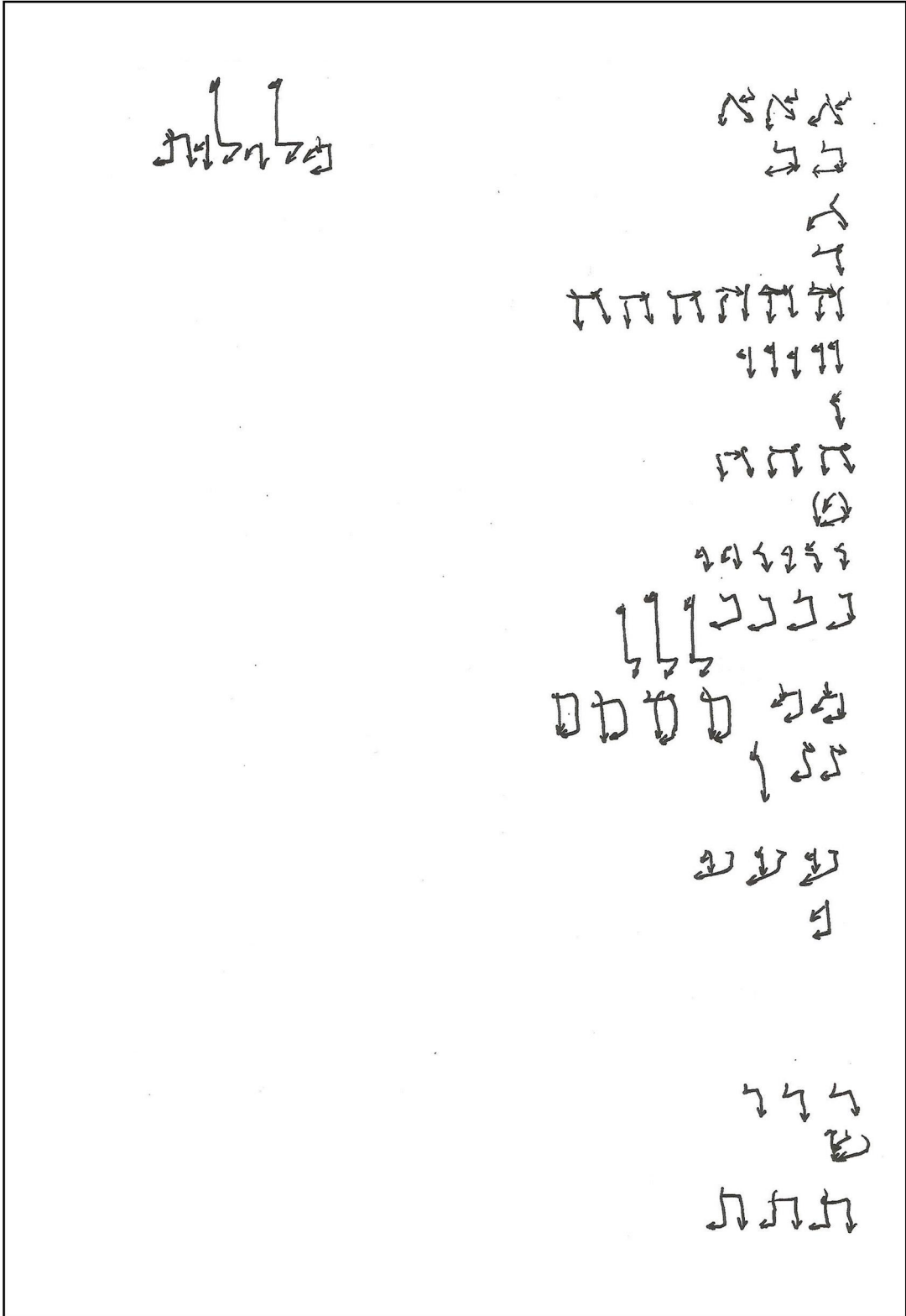


Figure 9. 11QTemple^a, fragment 1 = Plate 10*, col. XIX. Ductus

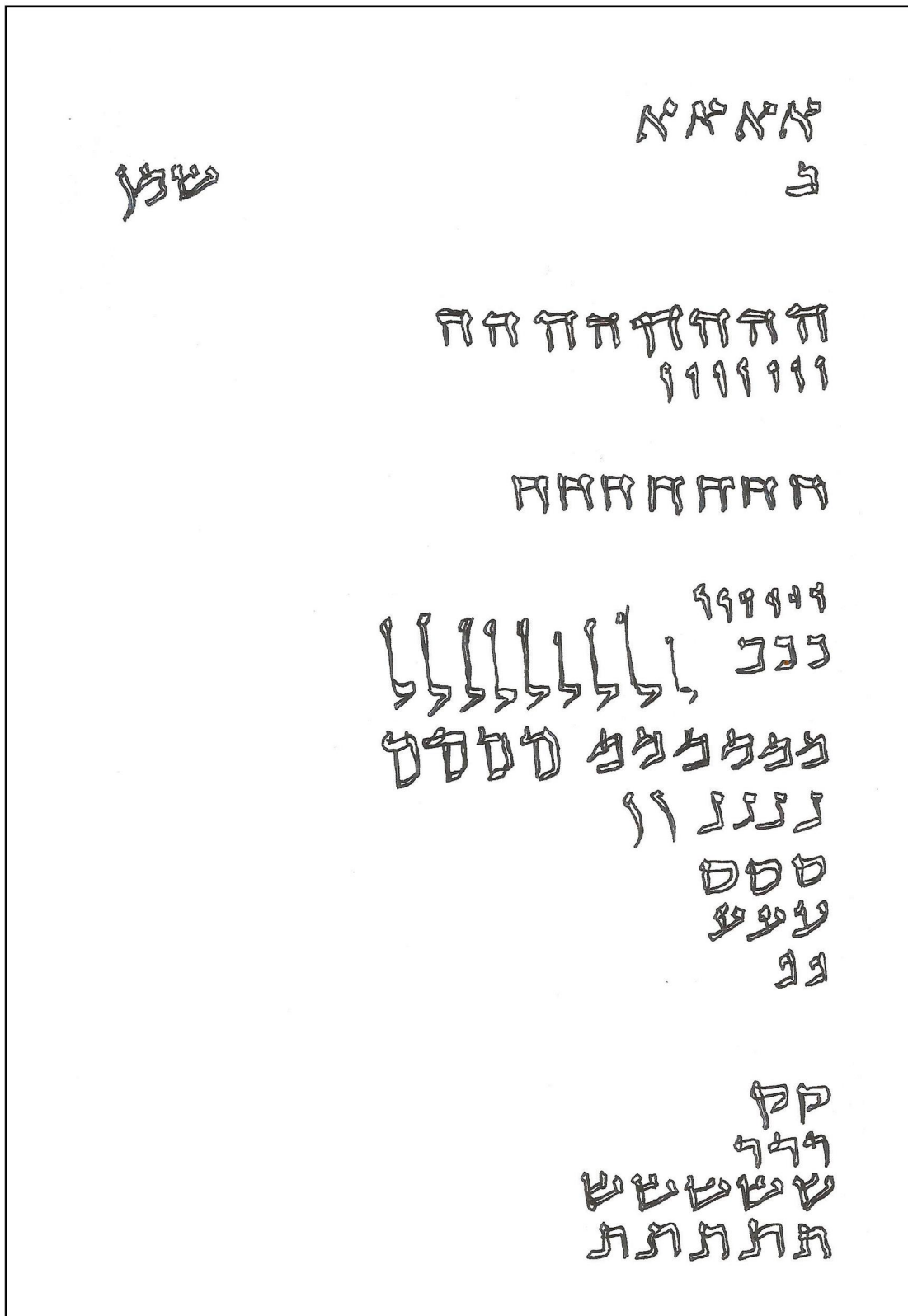


Figure 10. 11QTemple^a, fragment 2 = Plate 9*, col. XV. Alphabet

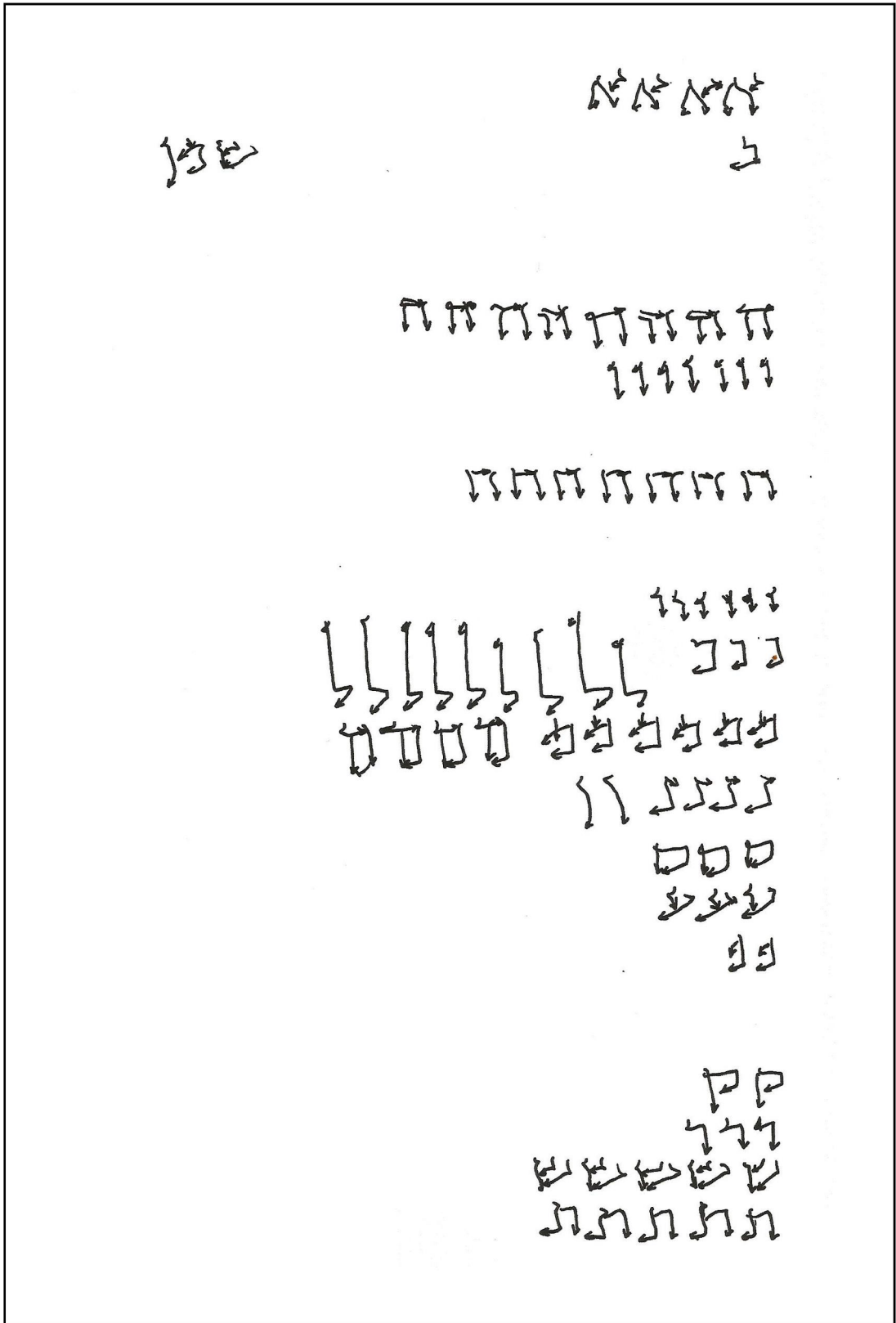


Figure 11. 11QTemple^a, fragment 2 = Plate 9*, col. XV. Ductus

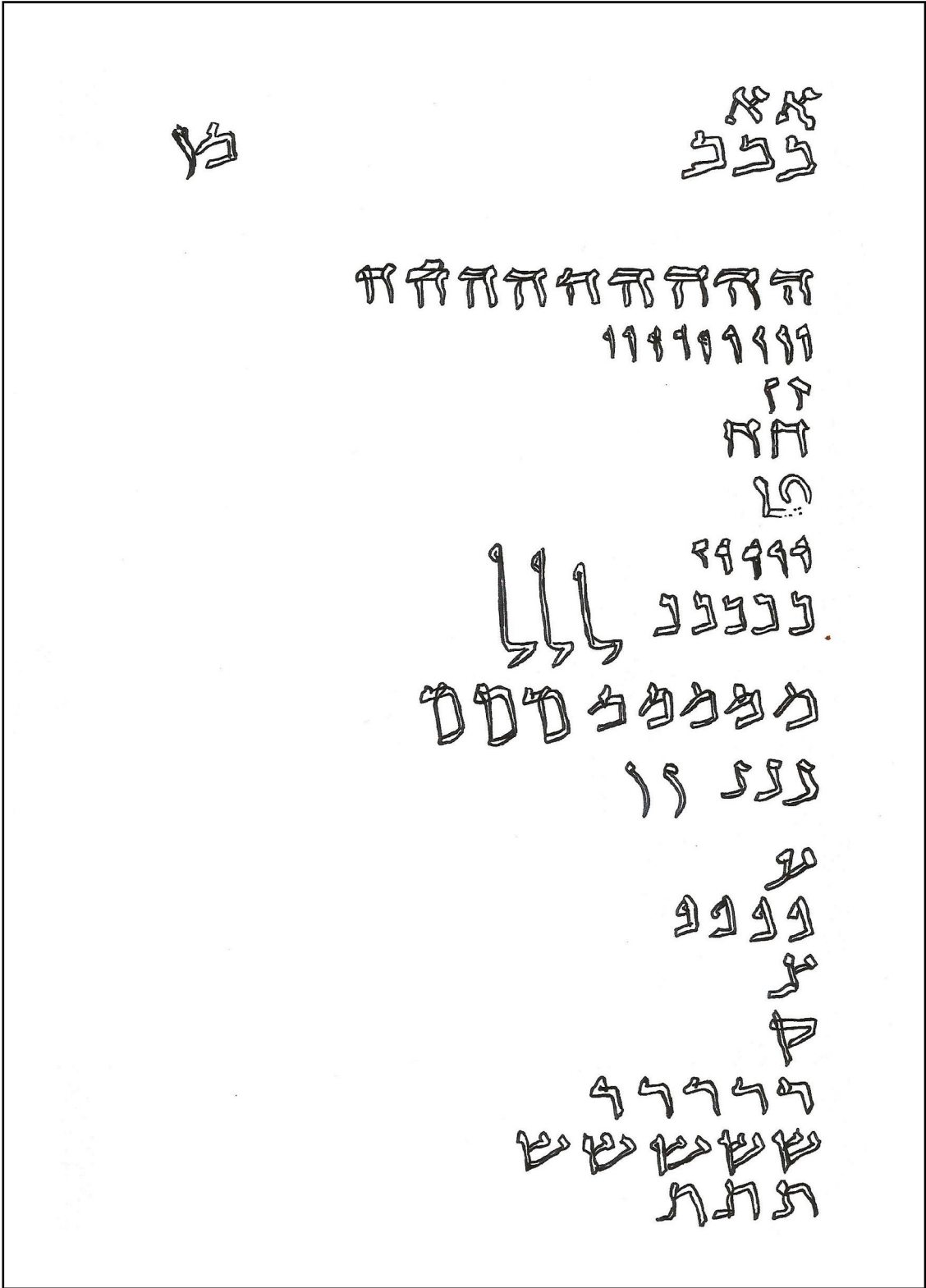


Figure 12. 11QTemple^a, fragment 3 = Plate 1*, col. VII. Alphabet

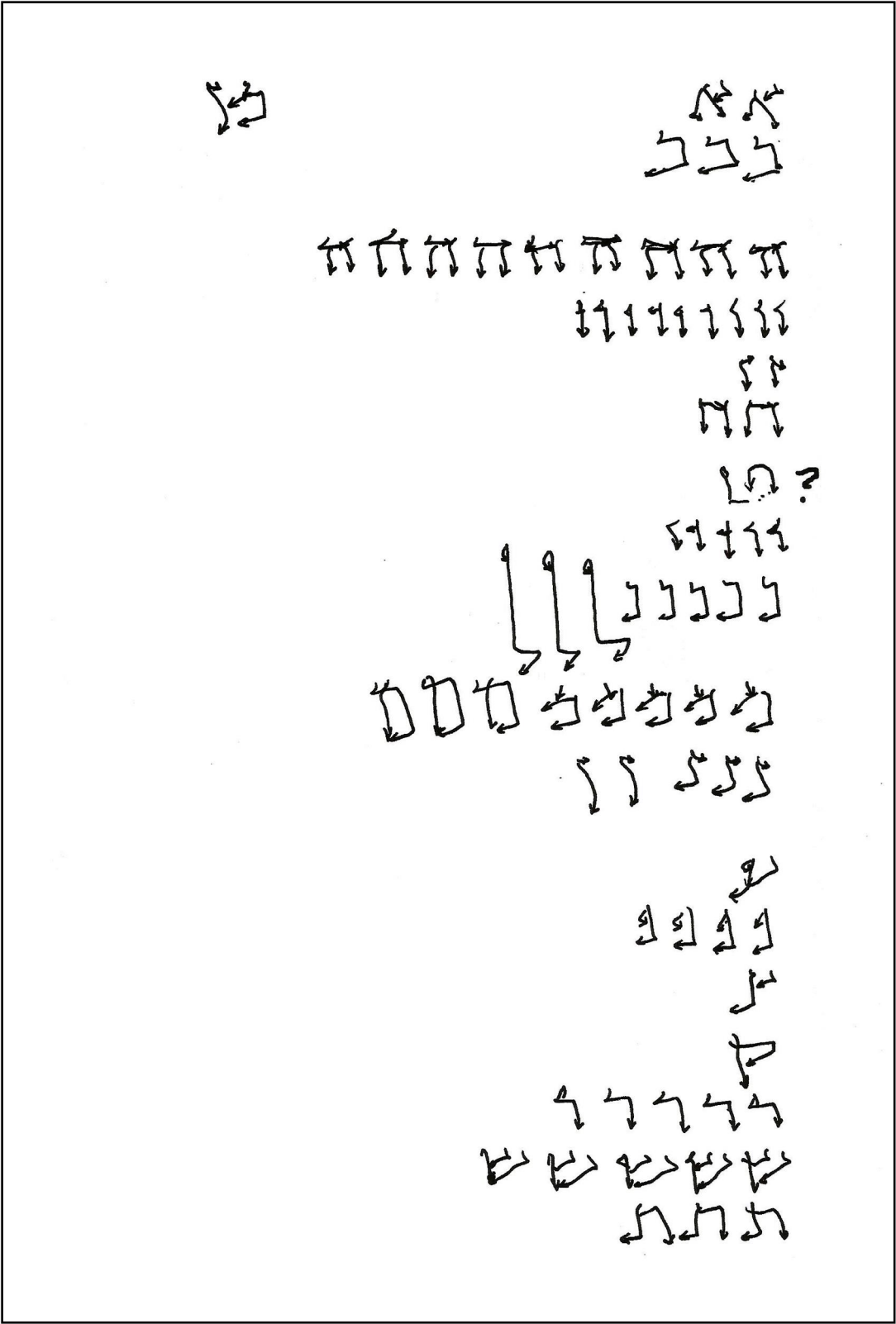


Figure 13. 11QTemple^a, fragment 3 = Plate 1*, col. VII. Alphabet