The Hebrew Bible Manuscripts: A Millennium

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Contents

CHAPTER 1

The Dead Sea Scrolls' Paleo-Hebrew Script: Its Roots in Hebrew Scribal Tradition*

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1 Introduction: A Brief Survey of Previous Research

Among the Dead Sea scrolls, eighteen[1] fragmentary manuscripts are entirely written in Paleo-Hebrew.[2] In addition, the same script was used on many other scrolls written in the square script, whether to write divine names (the tetragram, El, or Elohim) or single letters in the margins, and it appears sporadically in the main body of a few cryptic texts as well. These different uses of Paleo-Hebrew at Qumran have attracted the interest of many researchers and yet the scholarly community has reached no consensus with regard either to the underlying motives of the scribes having recourse to this script, or to their identity. Already in 1961, in his seminal article on the development of Jewish scripts, Cross mentioned the main questions that are still discussed today in an extensive endnote:

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1 Depending on how one counts. In view of the similarity in the form of the attested letters, we regard Vaticanus 57241 as belonging to 11Q22, as suggested by Émile Puech, "Note additionnelle sur le fragment en paléo-hébreu," *RevQ* 19 (2000): 451 and Eibert J.C. Tigchelaar, "The Material Variance of the Dead Sea Scrolls: On Texts and Artefacts," *HTS Theological Studies* 72, no. 4 (2016): 1–6, https://doi.org/10.4102/hts.v72i4.3281, accessed March 17, 2017. See also now Antony Perrot and Emile Puech, "Cryptic C 4Q363a as a Manuscript Written in palaeo-Hebrew: 4Qpalaeo–Hebrew363a," *RevQ*, forthcoming.

2 The pertinence of the term "Paleo-Hebrew" (or "Palaeo-Hebrew") is sometimes, and not without reason, disputed: after all, it is the script used from the ninth century on in Judah and Israel, and it could legitimately be called the "Hebrew" script. Some scholars prefer "Neo-Hebrew" (Yitzhak Magen, Haggai Misgav, and Levana Tsfania, *Mount Gerizim Excavations*, vol. 1, *The Aramaic, Hebrew and Samaritan Inscriptions* [Jerusalem: IAA, 2004]) but the script is so patently the continuation of that used during the royal period that "Neo" seems superfluous. "Old Hebrew" would probably be preferable. Nevertheless, "Paleo-Hebrew," as a noun

> The Palaeo-Hebrew script of Qumran is properly described as an archaistic survival from the book hand of Israelite times. It shows little development in the interval between the epigraphs of the seventh-fifth centuries BC and manuscripts of the Maccabaean or Hasmonaean date. Evidently the script was taken up anew in the era of nationalistic revival of the second century BC, to judge from its use as a monumental script by the Hasmonaeans on their coinage, as well as its resurgence as a Biblical hand … Moreover, in the second century BC, Palaeo-Hebrew forms, dormant for some four centuries, begin afresh to evolve at a fairly steady pace. This new development is reflected in the series of MSS at Qumran, as well as in the coinage of the First and Second Jewish Revolts, and in the earliest Samaritan epigraphs. On the other hand, the earliest exemplars of the Palaeo-Hebrew hand at Qumran exhibit a remarkable fidelity of form and stance, when compared with archaic scripts, and were penned with fluid grace and speed. One can best explain these characteristics of the Qumran Palaeo-Hebrew hand by assuming that though relatively static, the old script was preserved alive in some narrow circle, presumably by a coterie of erudite scribes, as a Biblical book hand.[3]

In this qualified statement we may highlight four important points: (1) the Paleo-Hebrew script remained in use during the Persian and Hellenistic periods, albeit (2) in a limited circle of "erudite scribes," and (3) for the purpose of copying biblical scrolls;[4] in addition, (4) it hardly evolved between the sixth and second centuries BCE. While the first statement is accepted by many authors,[5]

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and an adjective, is so well established in the scholarly idiom that we prefer to use it, were it only for the convenience of the reader.

3 Frank M. Cross, "The Development of the Jewish Scripts," in *The Bible and the Ancient Near East: Essays in Honor of William Foxwell Albright*, ed. George Ernest Wright (New York: Doubleday, 1961), 189n4.

4 The expression "biblical books" is anachronistic for the period before the time where a "Bible" existed so in this article it is used as a shorthand for "books which ultimately came to be regarded as biblical."

5 Richard S. Hanson, "Paleo-Hebrew Scripts of the Hasmonean Age," *BASOR* 175 (1964): 42; Mark D. McLean, "The Use and Development of Palaeo-Hebrew in the Hellenistic and Roman Periods" (PhD diss., Harvard University, 1982), 226, 228; Joseph Naveh, *Early History of the Alphabet: An Introduction to West Semitic Epigraphy and Palaeography* (Jerusalem, Leiden: Magnes Press, Brill, 1982), 78, 112–22; André Lemaire, "Les inscriptions palestiniennes d'époque perse: Un bilan provisoire," *Transeuphratène* 1 (1989): 96n39; Raymond L. Edge, "The Use of Palaeo-Hebrew in the Dead Sea Scrolls" (PhD diss., The University of Texas at Austin, 1995), 338; Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*, 31; Gordon J. Hamilton, "Paleo-Hebrew Texts and Scripts of the Persian Period," in *"An Eye for Form": Epigraphic Essays in Honor of Frank Moore Cross*, ed. Jo A. Hackett and Walter E. Aufrecht (Winona Lake: Eisenbrauns, 2014), 286.

it is rejected by some numismatists.[6] With regard to the second point, while Cross was content to speak of "erudite scribes," several authors have suggested that it was the Sadducees who maintained the Paleo-Hebrew tradition,[7] a hypothesis which is highly disputed.[8] The third point, i.e. the notion that Paleo-Hebrew was used mainly for copying biblical scrolls, has led to new debates because this script also served to pen divine names in scrolls written in the square script or in Greek. An often repeated explanation is that Paleo-Hebrew was regarded as a sacred script, but some scholars think, on the contrary, that it was used to ensure that the scrolls were not sacred and thus avoid purity matters in manipulating them (Zissu and Abadi[9]). Finally, the fourth statement noted above is a matter of discussion too: Hanson[10] and McLean[11] have pointed out significant development in some letterforms between the sixth and second centuries BCE, but Schniedewind speaks of the "death of written Hebrew in the Persian period" and concurs with Cross: "The Aramaic script underwent enormous development from the seventh through the second century BC, while the Hebrew script saw very little development … The Hebrew script seems … almost frozen in time."[12] In sum, there does not seem to be any aspect of the use of the Paleo-Hebrew script at Qumran that is not debated in one way or another.

The script itself has only been the object of a few detailed paleographical studies. More than sixty years ago Hanson wrote an article where he compared it to the Paleo-Hebrew script on Hasmonean coins.[13] A few years later Purvis[14] tried to understand the origins of the Samaritan script in the tradition of the history of Paleo-Hebrew. Birnbaum discussed the script of some scrolls in his

6 David Hendin, "Hasmonean Coin Chronologies: Two Notes," *Israel Numismatic Journal* 17 (2009–2010): 36.

7 Naveh, *Early History of the Alphabet*, 122; see also Edge, "The Use of Palaeo-Hebrew," 357–369; Emanuel Tov, *Scribal Practices and Approaches Reflected in the Texts Found in the Judean Desert* (Leiden: Brill, 2004), 248.

8 Tigchelaar, "The Material Variance," 3.

9 Boaz Zissu and Omri Abadi, "Paleo-Hebrew Script in Jerusalem and Judea from the Second Century BCE through the Second Century CE: A Reconsideration," *Journal for Semitics* 23, no. 2 (2014): 653–664.

10 Hanson, "Paleo-Hebrew Scripts."

11 McLean, "The Use and Development of Palaeo-Hebrew."

12 William M. Schniedewind, "Aramaic, the Death of Written Hebrew, and Language Shift in the Persian Period," in *Margins of Writing, Origins of Culture*, ed. Seth L. Sanders, Oriental Institute Seminars 2 (Chicago: The Oriental Institute, 2006), 140.

13 Hanson, "Paleo-Hebrew Scripts," 21–24. See also his unpublished doctoral dissertation, *A Palaeographical Study of Hebrew Inscriptions of the Persian and Hellenistic Period* (Harvard: Harvard University, 1963).

14 James D. Purvis, *The Samaritan Pentateuch and the Origin of the Samaritan Sect* (Cambridge: Harvard University Press, 1968).

book *The Hebrew Scripts* where he maintained a dating to the fifth century of 1Q3 that he had already proposed not long after the discovery of this scroll, and he suggested the same dating for 4Q22.[15] Such a dating no longer seems possible after McLean's doctoral dissertation (1982), a meticulous analysis of the Paleo-Hebrew script of the Dead Sea scrolls. It remains to this day the authoritative work on the subject although it has never been published; most scholars simply refer to it and accept his dating of the scrolls without much discussion, as is done in several volumes of the series DJD. The single more recent detailed paleographical study is a chapter in the *editio princeps* of 4QpaleoLev[16] where Hanson examines the script of this scroll as well as of 11QpaleoLev. Yet another dissertation has been devoted to the Paleo-Hebrew at Qumran[17] but it is essentially an attempt at correlating the results of the paleographical studies of Hanson and McLean to a reconstitution of the history of the Qumran community, although it has important possible implications for the chronology of the scrolls.[18]

For all their qualities, the main studies by Hanson and McLean are inevitably dated in some respects. First, more scrolls (however fragmentary) written in Paleo-Hebrew have been discovered in the last decades, as well as more inscriptions in the same script from the Persian to the Roman periods, which enlarges the basis of the paleographical study. Notably, while the main landmark used by Hanson and McLean was the Hasmonean coins, recent years have seen the publication of the *editio princeps* of Mount Gerizim fragments of stone inscriptions dated to the Hellenistic period,[19] as well as of a corpus of Yehud stamp impressions, including some in Paleo-Hebrew from the second century.[20] However, to the best of our knowledge, no detailed paleographical analysis of the Gerizim Paleo-Hebrew inscriptions has yet been published. Moreover, knowledge of Paleo-Hebrew during the Persian period has widened, as shown by a very

15 Salomo A. Birnbaum, *The Hebrew Scripts* (Leiden: Brill, 1971), cols. 64–70.

16 David N. Freedman and Kenneth A. Mathews, *The Paleo-Hebrew Leviticus Scroll* (*11QPaleoLev*) (Winona Lake: Eisenbrauns, 1985).

17 Edge, "The Use of Palaeo-Hebrew."

18 Long after our own paper was written and accepted for publication, Michael Langlois published an article on the same subject ("Dead Sea Scrolls Paleography and the Samaritan Pentateuch," in *The Samaritan Pentateuch and the Dead Sea Scrolls*, ed. Michael Langlois [Peeters: Leuven, 2019], 255–285). We decided that it was best to keep our own study as it was, since it may be interesting for our fellow scholars to read independent argumentations.

19 Magen, Misgav, and Tsfania, *Mount Gerizim*.

20 Oded Lipschits and David S. Vanderhooft, *The Yehud Stamp Impressions: A Corpus of Inscribed Impressions from the Persian and Hellenistic Periods in Judah* (Winona Lake: Eisenbrauns, 2011).

helpful article by Hamilton[21]—and yet his comparison with Qumran script is limited to 11QpaleoLev. Furthermore, the chronology of the coins has been refined in recent numismatic studies (see the history of research in Hendin[22] and new chronologies in Gitler and Lorber[23]). In addition, we now have high-definition digital images that facilitate the task of the epigrapher.

Against this background, the present article represents a modest attempt to rekindle and possibly contribute to renewing a little the study of the Paleo-Hebrew script of the Dead Sea scrolls in the digital era, with an emphasis on the wider context of the use of this script during the Second Temple period as attested in other epigraphical sources. Of course, in comparative studies, perhaps more than in any other fields, methodology is of the essence. Our first step will consist in reviewing the Paleo-Hebrew inscriptions dating from the Persian to the Roman periods in order to collect two kinds of information. On the one hand, we will gather indications regarding the use of the Paleo-Hebrew script in the post-exilic period: in particular, does the documentation contain hints of a continuous scribal tradition? On the other hand, we will examine the paleography of the inscriptions. By using securely dated texts as anchors, we will point out typological developments empirically attested during the Second Temple period. In his dissertation McLean indicated what he regarded as paleographical evolutions only *ad hoc* as he went through the discussions of letterforms on various scrolls. More importantly, he often did not justify them, only asserting in passing that some features were late. In this article we would like to proceed differently by gathering from the outset a list of tendencies which are well-attested outside the scrolls. Beginning with inscriptions seems the most prudent course of action since only one Paleo-Hebrew scroll (4Q22 and its patch) has been radiocarbon-dated, and thus virtually all the dating of the Dead Sea manuscripts entirely written in Paleo-Hebrew rests on paleography, whereas, by contrast, we have a variety of inscriptions dated on archaeological and historical grounds (for instance, many coins mention the contemporary ruler). Then, in the next section of this article, we will study the script of the Dead Sea scrolls. Our aims are to describe this script in its various realizations, identify the main forms used by the scribes, and the trends attested in the scrolls, all this against the background of what we will have

21 Hamilton, "Paleo-Hebrew Texts."

22 David Hendin, "Current Viewpoints on Ancient Jewish Coinage: A Bibliographic Essay," *CBR* 11 (2013): 246–301.

23 Haim Gitler and Catharine Lorber, "A New Chronology for the Ptolemaic Coins of Judah," *American Journal of Numismatics* 18 (2006): 1–41; Haim Gitler and Catharine Lorber, "A New Chronology for the Yehizqiyah Coins of Judah," *Swiss Numismatic Review* 87 (2008): 61–82.

learned from inscriptions. In the limited space of this article, we do not aim at a detailed revision of the dating of the manuscripts suggested by McLean (or Hanson). Nevertheless, we will try to assess the broad lines of the relative chronology he suggested; as for the absolute chronology, our modest contribution may rather be to raise some methodological doubts as to the feasibility of attributing precise dates to the scrolls written in Paleo-Hebrew, although we will also, very tentatively, make a few suggestions. Having studied the different kinds of documents of the Second Temple period written in this script, we will finally be able, in the last step of our study, to address the vexing problem of the uses and users of this script.

2 The Paleo-Hebrew Inscriptions from the Persian to the Roman Period

In the course of our discussion of inscriptions dating from the late sixth century BCE to the second century CE we will be particularly attentive to changes in the letterforms compared to the script attested in the eighth to early sixth centuries BCE, whether in the "monumental" script,[24] the seals script,[25] or the cursive script.[26] Extensive paleographical charts, in a chronological order, have been established by Renz,[27] although they need to be used critically. Particularly important for our study are the latest inscriptions in the Neo-Babylonian period. The ink writing c. 600 BCE is well represented on ostraca found at Lachish and Tel Arad[28] as well as Ḥorvat ʿUza.[29] With regard to incisions, we have the Ketef Ḥinnom amulets inscribed on silver and dated to

24 For a synthesis see David S. Vanderhooft, "Iron Age Moabite, Hebrew, and Edomite Monumental Scripts," in *"An Eye for Form": Epigraphic Essays in Honor of Frank Moore Cross*, ed. Jo A. Hackett and Walter E. Aufrecht (Winona Lake: Eisenbrauns, 2014), 107–126.

25 Larry G. Herr, "Hebrew, Moabite, and Edomite Seal Scripts," in *"An Eye for Form": Epigraphic Essays in Honor of Frank Moore Cross*, ed. Jo A. Hackett and Walter E. Aufrecht (Winona Lake: Eisenbrauns, 2014), 187–201.

26 Christopher Rollston, "Northwest Semitic Cursive Scripts of Iron II," in *"An Eye for Form": Epigraphic Essays in Honor of Frank Moore Cross*, ed. Jo A. Hackett and Walter E. Aufrecht (Winona Lake: Eisenbrauns, 2014), 202–234.

27 Johannes Renz and Wolfgang Röllig, *Handbuch der althebraïschen Epigraphik*, vol. 3, *Texte und Tafeln* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1995).

28 For the script see Rollston, "Northwest Semitic Cursive Scripts."

29 Itzhaq Beit-Arieh, "Epigraphic Finds," in *Ḥorvat ʿUza and Ḥorvat Radum: Two Fortresses in the Biblical Negev*, ed. Itzhaq Beit-Arieh, Monograph Series of the Institute of Archaeology 25 (Tel Aviv: Tel Aviv University, 2007), 122–187.

the end of the seventh century,[30] and a few letters on the edge of two al-Yahudu clay tablets written in 568 BCE[31] and 550 BCE.[32]

Unfortunately we do not have any Paleo-Hebrew ink writing from the Persian to Roman periods besides the Dead Sea scrolls. Although isolated occurrences of *ʾalef* used as section markers in Aramaic papyri of Aḥiqar dated to the fifth century BCE are sometimes regarded as Paleo-Hebrew letters,[33] they are more likely Aramaic. As a result, although we can compare the script of the Dead Sea scrolls to that of the early sixth-century ink ostraca, our only information concerning the development of letterforms in the following centuries comes from other media. Previous studies make abundant use of coins (among other documents) to date the scrolls, sometimes assuming that the formal script used by engravers was the same as the script used by contemporary scribes copying biblical scrolls.[34] From a methodological point of view such a direct comparison proves risky[35] since the ductus obviously depends on the medium and type of writing, and the formal script tended to be more conservative and evolved more slowly than the cursive. Nevertheless, with all due caution, we can draw useful lessons from the study of the available inscriptions, even for ink writing, because it would be going too far to assume that the different scripts evolved independently. This is all the more clear since, as we shall see, the script used on bullae, coins, and stone inscriptions often shows some cursive features (or the influence of the cursive). Therefore, letterforms observed on incised or engraved inscriptions may reflect, or be influenced by, letterforms existing in ink-writing documents. We will thus identify typological developments in this section on the proviso that we keep in mind the two following points. First, changes in the letterforms that may easily be explained by

30 Gabriel Barkay et al., "The Amulets from Ketef Ḥinnom: A New Edition and Evaluation," *BASOR* 334 (2004): 41–71.

31 This is a Schøyen tablet with the words LṢDQY and HW BN HS. André Lemaire, *Levantine Epigraphy and History in the Achaemenid Period (539–332 BCE)* (Oxford: The British Academy, Oxford University Press, 2015), 44.

32 This is a tablet bearing the name ŠLMYH. Laurie E. Pearce and Cornelia Wunsch, *Documents of Judean Exiles and West Semites in Babylonia in the Collection of David Sofer* (Bethesda: CDL Press, 2014), nº 10.

33 Tov, *Scribal Practices and Approaches*, 185.

34 Hanson, "Paleo-Hebrew Scripts;" id., "Palaeography," in *The Paleo-Hebrew Leviticus Scroll (11QPaleoLev)*, by David N. Freedman and Kenneth A. Mathews (Winona Lake: Eisenbrauns, 1985), 15–23; McLean, "The Use and Development of Palaeo-Hebrew;" Hamilton, "Paleo-Hebrew Texts."

35 See the recent caveat by Michael C.A. MacDonald, "On the Uses of Writing in Ancient Arabia and the Role of Palaeography in Studying Them," *Arabian Epigraphic Notes* 1 (2015): 18–22.

the constraints due to the medium, e.g. the difficulty of engraving minute letters on coins or seals, or even by the personal idiosyncrasies of an individual scribe, should be left aside. Second, the script used on seals is generally conservative as the sigillography of the royal period amply demonstrates; the same may be assumed for coins and official documents; as a result, any dating based on such comparison must be very cautious.

For the time being, what can be done is to deal separately, at least in the first stage, with the different kinds of inscriptions: seals and bullae, stamp impressions, coins, texts incised or engraved on stone.

2.1 *Sigillography*

First, we have several bullae and a seal dated to the Persian and Hellenistic periods. We shall list them with a few paleographical comments. In doing so, we are reluctant to deal with the tiniest peculiarity in the letterforms attested on such inscriptions in order to describe precisely typological developments; rather, we prefer to adopt a "minimalist" approach here because the difficulty of engraving minute letters on such a medium may explain many features. Here is the list:

– Seal of YHWYŠMʿ BT ŠWŠŠR'ṢR (*WSS* 1071).[36] The name of the owner is in Paleo-Hebrew but the patronym is in Aramaic, and according to Hamilton it is probably because the owner lived in Yehud while her father was an exile, hence a probable date in the late sixth century. However, some scholars contemplate a dating earlier in the sixth century[37] and, as already noted, the Paleo-Hebrew script was still in use in Babylonia in the middle of the sixth century BCE. The script of the name of the owner is very similar to the script of the Iron Age seals, except for the stance of *he*: the flags are virtually horizontal and the downstroke is vertical.
– Seal of ʿNNYHW BN ŠMʿYH.[38] The legend comprises forms that find parallels in older and younger forms in the royal-period seal script and the dating is uncertain. According to Hamilton the "medium-sized heads" of the *nun* "stand typologically intermediate between the smaller ones from writings in Judah before the Exile or during the sixth century BCE, and the *nuns* with

36 See Nahman Avigad and Benjamin Sass, *Corpus of West Semitic Stamp Seals* (Jerusalem: Israel Academy of Sciences and Humanities, Israel Exploration Society, Institute of Archaeology, Hebrew University, 1997).

37 Hamilton, "Paleo-Hebrew Texts," 255–257.

38 Martin Peilstöcker and Benjamin Sass, "A Hebrew Seal from Jaffa and the Hebrew Script in the Post-First Temple Period," *ʾAtiqot* 42 (2001): 200, fig. 1; Hamilton, "Paleo-Hebrew Texts," 257–260.

much larger heads" on later inscriptions.[39] However, the evaluation of the proportions of the components of the *nun* seems to us a little exaggerated here.

– Wadi Daliyeh bullae WD 22 and 23.[40] WD 23 contains only a few letters and is badly preserved. WD 22 dates from 358–38 BCE according to Hamilton (since it was found attached to a Wadi Daliyeh Aramaic papyrus),[41] but from c. 400 according to Puech[42] because he reads DLYHW for the name of the owner and identifies it to Dalayah mentioned in Neh. 2:10. In light of an excellent photograph recently published,[43] however, it seems that what Puech regards as parts of *dalet* and *lamed* could instead be deteriorations of the surface of the bulla. From a paleographical point of view Hamilton notes several parallels to letterforms in the Persian period but, in point of fact, most of them already have parallels in the Iron Age seal scripts,[44] the exceptions being *waw* with curved strokes and *resh* leaning to the right.
– Seal of ḤNN BN ŠKWY, from Tel Michal, dated to the fourth century in view of the archaeological context (*WSS* 162).[45] Apart from a few letters with parallels in the royal period, two points are noteworthy. First, here again the *waw* looks like a cross formed by curved strokes; Hamilton rightly compares it to the *waw* on WD 22 and reconstitutes the line of development of this kind of *waw*.[46] Second, the head of the *nun* is large in view of the overall proportion of this letter, which looks compacted.

39 Hamilton, "Paleo-Hebrew Texts," 258.

40 Mary J.W. Leith, *Wadi Daliyeh I. The Wadi Daliyeh Seal Impressions*, DJD 24 (Oxford: Clarendon Press, 1997), 184–187, plate XIV; Jan Dušek, *Aramaic and Hebrew Inscriptions from Mt. Gerizim and Samaria between Antiochus III and Antiochus VI Epiphanes*, CHANE 54 (Leiden: Brill, 2012), 49–52, plate XV; Hamilton, "Paleo-Hebrew Texts," 268–270.

41 Hamilton, "Paleo-Hebrew Texts."

42 Émile Puech, "Recension de Hackett, J.A., and W.E. Aufrecht (eds.), *'An Eye for Form': Epigraphic Essays in Honor of Frank Moore Cross*, Winona Lake, Eisenbrauns, 2014," *RB* 16 (2016): 128n1.

43 Shira Gurwin, Yuval Goren, and Oded Lipschits, "Structural, Technical and Petrographic Analysis of Bullae from the Samaria Papyri," *Journal of the Institute of Archaeology of Tel Aviv University* 42 (2015): 89–102, https://doi.org/10.1179/0334435515Z.00000000045, accessed March 17, 2017.

44 For instance, the *ḥet* still has extensions of the vertical strokes above and below the horizontal ones. Also, the photograph mentioned above shows that the *ṭet* has two internal bars and not one as Hamilton thinks. See the chart in Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.

45 Hamilton, "Paleo-Hebrew Texts," 266–268.

46 Hamilton, "Paleo-Hebrew Texts," 266, 278, fig. 4.

– Two bullae of Alexander Janneus (CIIP 701 and 702), thus securely dated to the early first century BCE.[47] Their script exhibits a mix of old forms, already attested in the Iron Age (*dalet*, *yod*, *mem*, *nun*, *shin*), and more evolved forms (*gimel*, *resh*, *taw*). Most striking is an archaizing *kaf* on CIIP 702, with a three-pronged head, which gives the impression that the script on this medium was deliberately imitating ancient forms. On the other hand, *gimel* (on CIIP 701) leans toward the left and its left stroke is much longer than the other one, which is exactly the opposite to what was the rule in the Iron Age.[48] Note that *resh* leans to the right, as in WD 22, and the intersection of the two strokes constituting *taw* is very low.

Overall, the script of these inscriptions seems rather conservative and exhibits only a few changes compared to the script of seals dated to the seventh-sixth centuries, although they do show a development. It is as if the engravers attempted to maintain an ancient tradition (cf. especially the archaic *kaf* on CIIP 702) but could not help introducing what were presumably contemporary tendencies (cf. notably the shape of *gimel*, *waw*, and *nun*, perhaps the stance of *he* and *resh*), which constitute new forms compared to the script of the sixth century. This might hint at the existence of a continuous Paleo-Hebrew scribal tradition during the Persian and Hellenistic periods.

2.2 *Yehud and Jerusalem Stamp Impressions*

In their corpus of Yehud stamp impressions Lipschits and Vanderhooft identify 17 types of inscriptions scattered from the second half of the sixth century to the second century.[49] Although types 1 to 15 are in Aramaic, they bear a three-bar H typical of Paleo-Hebrew on subtype 13b, dated to the middle of the fourth century on stratigraphic grounds.[50] By contrast, types 16 and 17 are entirely written in Paleo-Hebrew. That said, type 16 bears only a sign, a sort of *he* with only two parallel strokes, the superior one being longer, and there is a rightward expansion at the top. This sign has been analyzed as a "*yod-he* ligature."[51] Since it does

47 For CIIP see Hannah M. Cotton et al., *Corpus Inscriptionum Iudaeae/Palaestinae*, vol. 1, part 1, *Jerusalem: 1–704* (Berlin: De Gruyter, 2010); Hannah M. Cotton et al., *Corpus Inscriptionum Iudaeae/Palaestinae*, vol. 1, part 2, *Jerusalem: 705–1120* (Berlin: De Gruyter, 2012).

48 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.

49 Lipschits and Vanderhooft, *The Yehud Stamp Impressions*.

50 Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 261–262. The influence of the Paleo-Hebrew may also explain the presence of three bars on the *he* of subtypes 13d and 13f., although the overall shape is very unusual; in any case, there is no stratigraphical information for these subtypes (Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 262–265).

51 Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 593–656.

not directly correspond to a unique letter, it would be imprudent to use it in paleographical discussions. More to the point, type 17 bears the legend YHD Ṭ.[52]

In addition, stamp impressions bearing the legend YRŠLM have been found in the city of David[53] and the Jewish Quarter;[54] they were not included in Lipschits and Vanderhooft's corpus. They bear a five-pointed star and Paleo-Hebrew letters between the branches of the star. The Yehud stamp impressions type 16 and 17, as well as the Jerusalem stamp impressions, have been dated on archaeological grounds to the second half of the second century.[55]

In sum, these various discoveries provide us with information concerning, on the one hand, a form of the letter *he* in the fourth century, and forms of the letters *dalet*, *he*, *ṭet*, *yod*, *lamed*, *mem*, *resh*, *shin* in the second half of the second century.

– *Dalet* has a triangular head; the tail has approximately the same length as the right side of the head. This is comparable to forms encountered on Iron Age monumental inscriptions, but clearly different from the cursive form of the seventh-sixth centuries which comprises a rightward extension.[56]
– *He* in the fourth century has three parallel strokes, the upper horizontal one being longer than the two others. In the second century *he* is sometimes very similar to the previous form (e.g. subtype 17i); however, in most cases the three bars are of the same length (types 17b, 17c, 17e, 17g, 17h), and in one type there is an upward expansion at the top of the downstroke (type 17a). Similar features already occur on seals of the eighth-sixth centuries.[57]

52 Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 657–757.

53 Donald T. Ariel and Yair Shoham, "Locally Stamped Handles and Associated Body Fragments of the Persian and Hellenistic Periods," in *Excavations at the City of David 1978–1985, Directed by Yigal Shiloh*, ed. Donald T. Ariel, vol. 6, *Inscriptions*, Qedem 41 (Jerusalem: Hebrew University, Institute of Archaeology, 2000), 161–162.

54 Ronny Reich, "Local Seal Impressions of the Hellenistic Period," in *Jewish Quarter Excavations in the Old City of Jerusalem Conducted by Nahman Avigad, 1969–1982*, ed. Hillel Geva, vol. 2, *The Finds from Areas A, W and X-2* (Jerusalem: Israel Exploration Society, Hebrew University of Jerusalem, 2003), 256–262; Hillel Geva, "A Chronological Reevaluation of Yehud Stamp Impressions in Palaeo-Hebrew Script, Based on Finds from Excavations in the Jewish Quarter of the Old City of Jerusalem," *Tel Aviv* 34 (2007): 100.

55 Geva, "A Chronological Reevaluation," 94–98; Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 594–595.

56 Rollston, "Northwest Semitic Cursive Scripts," 211.

57 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.

– *Ṭet* is a circle with only one internal bar. It is clearly different from the most attested form in the Iron Age where there is a cross inside the circle (X), but there are antecedents on some Arad ostraca and on a seal (*wss* 172).[58]
– *Yod* has the same global shape as in the monumental script of the Iron Age,[59] on seals of the eighth-sixth centuries[60] and in some cursive forms which do not have any rightward breakthrough of the lower parallel stroke.[61]
– *Lamed* is a "check" with two strokes of approximately the same length, clearly different from the different scripts of the Iron Age. The *lamed* is quite angular on some seals of the late monarchic period but the two strokes are of different lengths.[62]
– *Mem* exists in three forms:[63] the head is either a) a "double check" or a "zigzag," or b) three-pronged, in which case sometimes c) the three parallel strokes break through it. In any case, the shaft strongly curves below the head. Forms a) and c) are attested in monumental script,[64] a) also exists in cursive,[65] while b) appears on seals.[66]
– *Resh* on the Jerusalem star stamps is similar to *dalet* on the Yehud stamp impressions: its downstroke is clearly shorter than during the royal period.
– *Shin* is a "zigzag" form with five strokes, whereas it has only four in the Iron Age scripts.

In sum, compared to the script of the eighth-sixth centuries, the script of these impressions exhibits new features for three letters: *lamed*, *resh*, *shin*. In addition, M is very interesting insofar as it imitates three different forms which may reflect a variety of contemporary forms.

2.3 *Coins*

Coins bearing Paleo-Hebrew legends have been produced at several times from the middle of the fourth century BCE to the first half of the second century CE.[67]

58 Hamilton, "Paleo-Hebrew Texts," 268.
59 Vanderhooft, "Iron Age Moabite," 108.
60 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.
61 Rollston, "Northwest Semitic Cursive Scripts," 217–218.
62 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.
63 See especially the drawings in Lipschits and Vanderhooft, *The Yehud Stamp Impressions*, 61, fig. 6.
64 Vanderhooft, "Iron Age Moabite," 108.
65 Rollston, "Northwest Semitic Cursive Scripts," 220.
66 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.
67 Ya'akov Meshorer, *A Treasury of Jewish Coins* (New York: Amphora Books; Jerusalem: Y. Ben-Zvi, 2001); for catalogs see www.menorahcoinproject.com, accessed March 17, 2017; for a history of research see Hendin, "Current Viewpoints on Ancient Jewish Coinage."

First, the Yehud coins that were minted c. 400–260 BCE[68] have legends written in Paleo-Hebrew:[69] YHD, sometimes YHDH. In addition, a coin bearing the legend YWḤNN HKWHN is dated by several scholars to the middle of the fourth century[70] or to the next two decades, at the very end of the Persian period.[71] The famous YḤZQYH HPḤH coins are generally dated to the end of the Persian Period; however, according to Gitler and Lorber, a date during the Macedonian period should be preferred because they conform to the Attic weight standard.[72] Previously, the same ruler struck coins where his name YḤZQYH was not followed by a title.[73]

Among the coins minted in Samaria c. 375–332 BCE[74] the situation is different: they all bear Aramaic legends with two exceptions in Paleo-Hebrew. One has the name BDYH entirely written in Paleo-Hebrew,[75] another one has the first two letters in Aramaic and the last two, i.e. the theonym, in Paleo-Hebrew.[76]

Overall, on the coins of the fourth century, several letterforms are similar to forms well attested during the late Iron Age (*zayn*, *yod*, *kaf*, *nun*, *pe*, *qof*) but a few others are more developed:

– *Dalet*: the rightward extension at the top of the downstroke has disappeared.
– *He* is drawn with three parallel strokes like during the Iron Age, but the extension of the downstroke below the inferior flag is sometimes small to vestigial; on YHD coins there are sometimes only two parallel strokes.

68 Hendin, "Current Viewpoints on Ancient Jewish Coinage," 254.

69 There are only two exceptions, written in Aramaic (Haim Gitler, "The Earliest Coin of Judah," *Israel Numismatic Research* 6 [2011]: 29n19). We do not discuss the Greek legends that appear in addition to the Paleo-Hebrew legends.

70 Dan Barag, "Some Notes on a Silver Coin of Johanan the High Priest," *BA* 48 (1985): 166–168; followed by Hamilton, "Paleo-Hebrew Texts," 271–273.

71 John W. Betlyon, "The Provincial Government of Persian Period Judea and the Yehud Coins," *JBL* 105 (1986): 642.

72 Gitler and Lorber, "A New Chronology for the Ptolemaic Coins of Judah," 6, 8; Gitler and Lorber, "A New Chronology for the Yehizqiyah Coins of Judah." The possibility that YḤZQYH kept this title even after the end of the Persian period had already been noted by Ingo Kottsieper, "'And They Did Not Care to Speak Yehudit,'" in *Judah and the Judeans in the Fourth Century*, ed. Oded Lipschits et al. (Winona Lake: Eisenbrauns, 2007), 107.

73 Gitler and Lorber, "A New Chronology for the Yehizqiyah Coins of Judah," 69–70.

74 Yaʿakov Meshorer and Shraga Qedar, *The Coinage of Samaria in the Fourth Century BCE* (Jerusalem: Numismatic Fine Arts International, 1991); Yaʿakov Meshorer and Shraga Qedar, *Samarian Coinage*, Numismatic Studies and Researches 9 (Jerusalem: Israel Numismatic Society, 1999).

75 Meshorer and Qedar, *Samarian Coinage*, 84, coin nº 7.

76 Meshorer and Qedar, *Samarian Coinage*, 85, coin nº 10; Betlyon, "Northwest Semitic Scripts on Coins," 357–359; Hamilton, "Paleo-Hebrew Texts," 265.

– *Ḥet*: the extensions of the vertical strokes above and below the horizontal ones are sometimes vestigial to absent.

The coinage of the Hasmonean rulers is very abundant, from John Hyrcanus I (135–104 BCE)—now regarded by scholars as the first to have introduced Jewish coins[77]—to Mattathias Antigonus (40–37 BCE). Finally, coins were struck during the first[78] as well as the second[79] Jewish revolts. Although coins have been one of the main landmarks used by Hanson[80] and McLean[81] to anchor the Paleo-Hebrew script of the Dead Sea scrolls in an absolute chronology, caution is needed. As already noted, the medium and way of writing are different; the difficulty of engraving minute letters may explain many peculiarities on the coin scripts. More importantly still, while Hanson tried to trace typological developments from the earliest to the latest Hasmonean coins[82] and McLean tried to distinguish between several engravers,[83] the very possibility of doing this kind of paleographical work has been challenged by important numismatists. Thus, Betlyon notes that "like other coin series, the scripts [of Yehud and Hasmonean coins] are not amenable to precise paleographic dating and analysis."[84] Meshorer considers that the variety of script styles on the Hasmonean coins does not stem from a typological development during the Hasmonean period but from the different written sources used by the various engravers.[85] Hendin concurs and notes that

> In summary, then, it is impossible to undertake a meaningful study of the development of proto-Hebrew script used on the coins of the Maccabees or the Jewish Wars, because it was an alphabet no longer in normal use …

77 Ya'akov Meshorer, *Coins of the Holy Land: The Abraham and Marian Sofaer Collection at the American Numismatic Society and the Israel Museum*, vol. 1 (New York: The American Numismatic Society, 2013), 237.

78 Leo Kadman, *The Coins of the Jewish War of 66–73*, Corpus Nummorum Palaestinensium 3 (Tel Aviv: Schocken, 1960); Ya'akov Meshorer, *Jewish Coins of the Second Temple Period* (Tel Aviv: Am Hassefer and Massada, 1967); Robert Deutsch, "The Coinage of the Great Jewish Revolt: Script, Language and Inscriptions," in *Judaea and Rome in Coins, 65 BCE–135 CE*, ed. David M. Jacobson and Nikos Kokkinos (London: Institute of Jewish Studies, Spink, 2012), 113–122.

79 Leo Mildenberg, *The Coinage of the Bar Kochba War*, Typos 6 (Aarau: Verlag Sauerländer, 1984).

80 Hanson, "Paleo-Hebrew Scripts."

81 McLean, "The Use and Development of Palaeo-Hebrew."

82 Hanson, "Paleo-Hebrew Scripts," 27–33.

83 McLean, "The Use and Development of Palaeo-Hebrew," 108–94.

84 Betlyon, "Northwest Semitic Scripts on Coins," 356.

85 Ya'akov Meshorer, *Ancient Jewish Coinage*, vol. 2, *Herod the Great through Bar Cochba* (New York: Amphora Books, 1982), 49.

> Instead of evolving as would a living alphabet, script forms resulted from the way various master engravers and their assistants or apprentices cut these scripts into the coin dies. Other than a few instances where we can suggest that the same engraver worked during transitions between rulers …, there is little to be learned about the chronology of the coins from the style of the paleo-Hebrew scripts.[86]

This conclusion, however, is predicated on the unproven notion that the Paleo-Hebrew script was not a continuous scribal tradition in the two centuries BCE and CE. Moreover, Meshorer himself notes that the coins of Mattathias Antigonus are different from the previous scripts and exhibit new features.[87] Furthermore, we shall see that the coins of the Jewish revolts bear a few new letterforms. It remains true, however, that discerning typological developments inside the set of the Hasmonean coins prior to Mattathias Antigonus is a difficult task, all the more since the attribution of the coins to a precise reign is sometimes controversial, notably because several rulers bore the same name, such as Aristobulus I and II.[88] It is telling that Hanson, who is one of the scholars who have tried to trace developments throughout the Hasmonean period,[89] noted that "strangely enough, in the many examples of the coins of Alexander Jannaeus available to us we see the return to some of the forms on the coins of John Hyrcanus I which were abandoned on the coins of Judas Aristobulus."[90] Therefore, for our present purposes, the most prudent course of action consists in treating them as one group, except in the case of Mattathias Antigonus. Another important aspect to note for paleographical discussions is the fact that the legends on the coins of the revolts are written in a circle, so it is difficult to draw conclusions from them with regard to the stance of the letters.

A close examination of paleographical charts[91] and photographs of coins[92] leads to the remarks below. Of course, a detailed study is beyond the scope of

86 Hendin, "Current Viewpoints on Ancient Jewish Coinage," 268. See already Hendin, "Hasmonean Coin Chronologies," 36.

87 Ya'akov Meshorer, *Ancient Jewish Coinage*, vol. 1, *Persian Period through Hasmoneans* (New York: Amphora Books, 1982), 90–91.

88 For the case of the coins mentioning YNTN see David Hendin and Ilan Shachar, "The Identity of YNTN on Hasmonean Overstruck Coins and the Chronology of the Alexander Jannaeus Types," *Israel Numismatic Research* 3 (2008): 87–94.

89 Hanson, "Paleo-Hebrew Scripts"; id., "Toward a Chronology of the Hasmonean Coins," *BASOR* 216 (1974): 21–24.

90 Hanson, "Paleo-Hebrew Scripts," 31.

91 Meshorer, *Ancient Jewish Coinage*, 1, *Persian Period through Hasmoneans*: 91, 162–175; Hanson, "Paleo-Hebrew Scripts," 27, 30–32; Purvis, *The Samaritan Pentateuch*, plates II–V; Mildenberg, *The Coinage of the Bar Kochba War*, 357.

92 E.g. Kadman, *The Coins of the Jewish War*; Meshorer, *A Treasury of Jewish Coins*; Meshorer,

this article but, for our purposes, all that is needed is a summary of the main evolutions in the letterforms. Our comments concern the Hasmonean forms prior to Mattathias Antigonus, and we add remarks on later coins when they attest the continuation of a significant feature or important new changes.

– *ʾalef* appears predominantly with two parallel crossbars rather than a check ("bull's-eye form"). Although this form is already attested on the Siloam tunnel inscription, it is not so frequent in Iron Age cursive inscriptions and Rollston notes that "this feature … cannot be considered a distinct feature of Old Hebrew."[93] Besides the cursive, this form is attested on the Ketef Hinnom amulets,[94] dated c. 600 BCE, and on Hebrew seals, especially in the seventh-sixth centuries.[95] What seems new here is the high frequency of the form with two parallel crossbars, also well attested on coins from the two revolts. In addition, the extension of the downstroke below the inferior crossbar tends to disappear during the first revolt,[96] albeit not during the second. The form with a check still appears as late as the time of Bar Kochba, although the locus of the junction of the two bars is now at the right of the shaft.
– *Bet* exists in its traditional form, although sometimes there is no foot, but this may be a temporary simplification since it reappears on coins under Mattathias Antigonus and during the two revolts. On the coins of the two revolts there is sometimes a rightward extension at the top right.
– *Gimel:* one still encounters the old form with two unequal strokes but there is also a tendency to have two strokes of approximately the same length and they are sometimes perpendicular; this becomes the normal form on Mattathias Antigonus and Bar Kochba coins.
– *Dalet*: the tail is sometimes vestigial. In some cases, the head is open at the top which may be due to the influence of the Aramaic script or to the difficulty of engraving coins.
– *He* exists in two forms: either there are three parallel bars ("flags"), which is the normal form in the Iron Age, or the two inferior bars meet and create a

Coins of the Holy Land; Meshorer, *Ancient Jewish Coinage*, vol. 1; Josef Chaim Kaufman, *Unrecorded Hasmonean Coins from the J. Ch. Kaufman Collection*, Numismatic Studies and Researches 8 (Jerusalem: The Israel Numismatic Society, 1995); Josef Chaim Kaufman, *Unrecorded Hasmonean Coins from the J. Ch. Kaufman Collection, Part 2*, Numismatic Studies and Researches 10 (Jerusalem: The Israel Numismatic Society, 2004).

93 Rollston, "Northwest Semitic Cursive Scripts," 208.

94 Barkay et al., "The Amulets from Ketef Ḥinnom," 48.

95 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189, fig. 1.

96 E.g. Kadman, *The Coins of the Jewish War*, plate IV, nº 33–40, 42.

triangle. There are precedents for the latter form in the sixth century on seals (*WSS* 11, 206, 211)[97] and on the Ketef Hinnom amulets,[98] but it is predominant here. On the other hand, the traditional form is preferred on coins from the first revolt, except that the extension of the downstroke below the lowest flag is vestigial[99] to nonexistent.[100] The second revolt resumes the use of the traditional form with three parallel flags.

– *Waw*: the head is drawn with a sort of *hamza*, or like in a *nun*, or sometimes with only two horizontal strokes. On Mattathias Antigonus coins *waw* sometimes looks like a mirrored Latin K. The *hamza* form still appears on first-revolt coins. On Bar Kochba coins a new form appears (alongside old ones) where three bars converge.
– *Zayn* is only attested on the second-revolt coins where it is a sort of square box with a tick at the bottom right; it seems to be an artificial imitation of the old cursive form used during the royal period.
– *Ḥet*: the tendency already noted for Yehud coins reappears: there is no expansion of the verticals above or below the horizontals. In addition, the middle stroke is sometimes vertical, sometimes horizontal. The same is true of the Mattathias Antigonus coins and the two-revolts coins.
– *Yod* is often traced as in the sixth-century scripts with two parallel flags and a distinct foot, but on Hasmonean coins it is often simplified: sometimes it is drawn as a Latin Z, at other times the foot constitutes the direct continuation of the inferior parallel bar, and the vertical stroke does not extend below. On coins struck under Mattathias Antigonus and during the two revolts the more traditional shape is the normal form.
– *Kaf* exists in several forms depending on whether the head is three-pronged or made by a horizontal stroke to the left of the shaft, sometimes with an upward or downward stroke at its end, sometimes not (in which case the letter looks like an Iron Age *pe*). On Mattathias Antigonus coins the latter form is still present: *kaf* has a leftward short stroke at its top, angling at various degrees. On Bar Kochba coins *kaf* has the same form as a *pe* from the Iron Age, sometimes with two rightward ticks. The three-pronged form is well-attested in the various scripts of the Iron Age,[101] but the other forms are new.

97 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 190.
98 Barkay et al., "The Amulets from Ketef Ḥinnom," 51, fig. 12, cols. 1–2.
99 E.g. Kadman, *The Coins of the Jewish War*, plate 1, nº 6.
100 Kadman, *The Coins of the Jewish War*, plate 1, nº 4, 7.
101 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189; Rollston, "Northwest Semitic Cursive Scripts," 218–219; Vanderhooft, "Iron Age Moabite," 108.

- *Lamed* is often angular, a tendency already present in the various late Iron Age scripts.
- *Mem* exists in several forms depending on whether the head is a) a double check, or b) a horizontal stroke with three perpendicular bars above it, or c) sometimes is reduced to an undulated horizontal stroke but this simplification is probably due to the execution on this medium. On Mattathias Antigonus coins the head is sometimes only a curved leftward stroke. On the first-revolt coins forms a) and b) are used; on the second-revolt coins form b) is preferred. We have already encountered both in Jerusalem stamp impressions.
- *Nun* sometimes has a right shoulder.
- *Samekh* is not attested.
- *ʿayin* is only attested on Bar Kochba coins where it retains the traditional oval form.
- *Pe* is not attested.
- *Ṣade* is attested only on the first revolt coins where it imitates the "staircase" form used especially on seventh-sixth-century seals.
- *Qof* is attested only on first-revolt coins where its head is drawn like a Latin S with a loop at the right of the shaft; this is a form well attested in the cursive script of the seventh-sixth centuries.
- *Resh*: the most notable feature is the fact that the leg is of approximately the same length as the right side of the head and thus reduced compared to what was the norm until the sixth century.
- *Shin* exists in two forms: a double check or three converging strokes.
- *Taw*: there is a clear tendency to draw two strokes of the same length so the letter becomes a Latin X which is the normal form on the two-revolts coins.

Since many Hasmonean coins are inscribed with several consecutive horizontal lines it is possible to add a general comment on the stance of the letters: there is a clear tendency to draw vertical (rather than oblique) strokes, whether for the downstroke (e.g. *bet*, *he*, *resh*) or for parallel strokes (*ḥet*). In other words, many letters have an upright stance on these coins. In addition, and strikingly, the top flag of the *he* tends to be horizontal.

Now several remarks are in order. First, calling the script of the Hasmonean coins an "archaizing script reminiscent of the earlier Yehud coins," with parallels in the seventh-sixth centuries BCE for some letters,[102] only tells half the story. Indeed, as Hanson noted, already on the coins of Hyrcan I the letters *bet*, *he*, *waw*, *yod*, and *kaf* "have developed well beyond those of the early sixth

102 Betlyon, "Northwest Semitic Scripts on Coins," 356–357.

century BC."[103] This may need a little qualification since the form of *Bet* may be due to the medium and there exist precedents for the newly attested forms of H, but the main conclusion remains valid. Even if we accepted Meshorer and Hendin's view that the variety of letterforms only comes from various models used by the engravers, we would have to conclude that these models date not from the sixth century but from the fifth to the third centuries and that some evolution had occurred since the sixth century. It seems to us that we are in a similar situation as with Phoenician coins: there are both an archaizing tendency and some contemporary influences.[104] Secondly, Betlyon notes that the script of the first-revolt coins is "purposefully archaizing, recalling forms from periods when Jerusalem had been relatively independent, as far back as the sixth and fifth centuries BCE,"[105] but here again this is not the whole picture. In many respects the engravers of the first revolt took up forms used during the Hasmonean period which were already more developed than the sixth-century script. Thirdly, Betlyon is right in stating that the Bar Kochba script is similar to that of the first revolt[106] and that the letterforms are "archaizing in form, reminiscent of much earlier periods, purposefully using old, even obsolescent forms."[107] In some cases (e.g. *ʾalef*, *he*, and *zayn*), the engravers went back to even more archaic forms than during the first revolt. In some others they took on the form used during the first revolt (e.g. *gimel*, *kaf*). But one should add that in the case of *waw*, while engravers sometimes imitated an old form attested in the sixth-century cursive, they also used a hitherto unseen form. It is as if they made many efforts to use an archaic script but could not help using recent forms and even a new form for a letter. In sum, the Bar Kochba script is overall artificial and, as such, does not reflect authentic typological developments of the early second century CE, but it may also subtly betray the influence of a contemporary or recent scribal tradition. If so, the overall artificial nature of this script should not be construed as proof that the Paleo-Hebrew was no longer in use in the early second century CE.

103 Hanson, "Paleo-Hebrew Scripts," 30.
104 Betlyon, "Northwest Semitic Scripts on Coins," 355.
105 Betlyon, "Northwest Semitic Scripts on Coins," 357.
106 Betlyon, "Northwest Semitic Scripts on Coins," 357n13.
107 Betlyon, "Northwest Semitic Scripts on Coins," 357.

2.4 *Texts Incised or Engraved on Stone*

Documents incised or engraved on stone are far less attested and include:

- an inscribed spindle whorl found in the Beth Shean valley bearing the letters GNT;[108]
- a sherd found at Gezer bearing two fragmentary personal names;[109]
- a fragment of a building inscription found at the south of the southern wall of the Temple Mount, bearing three entire letters and remnants of a few others, dated to the first century BCE (CIIP 13);
- seven stone fragments found at Mount Gerizim and isolated letters in other stone fragments otherwise written in Aramaic;[110]
- ossuaries dated to the first century BCE or CE (CIIP 62 with the name ʾLYŠʿ; CIIP 207 with the name ʾLYʿRZ),[111] as well as a stone plate in a tomb from the first century BCE (CIIP 138), although no photograph of the latter seems available;
- some Paleo-Hebrew letters appearing in square Hebrew and in Greek texts at Masada, or used as mason's marks, and some tags.[112]

In this list the first two items are extensively discussed by Hamilton,[113] but whether the letters on the spindle whorl are in Paleo-Hebrew is doubtful and the authenticity of the object is uncertain. In any case, the dating of these inscriptions rests almost entirely on paleography. The same is true of the third item. So we prefer to leave them aside to avoid any circular reasoning. As for the ossuaries, CIIP 207 is written so casually, like a graffiti hastily scratched, that we may doubt if the letterforms are representative of the script at that time and, in our view, it would be misleading to take them into account. On CIIP 62 *ʾalef* has two parallel crossbars; *yod* has virtually no extension of the vertical stroke below the inferior parallel bar; *lamed* is drawn as a big *samekh*; *ʿayin* is an oval; *shin* is a double check.

108 Nehemia Tsori, "A Spindle Whorl with Hebrew Inscriptions," *IEJ* 9 (1959): 191–192; Hamilton, "Paleo-Hebrew Texts," 260–261.

109 Robert Alexander Stewart Macalister, *The Excavation of Gezer 1902–1905 and 1907–1909*, vol. 2 (London: Published for the Committee of the Palestine Exploration Fund by John Murray, 1912), 225–225, fig. 374; Nahman Avigad, "Epigraphical Gleanings from Gezer," *PEQ* 82 (1950): 43–49; Hamilton, "Paleo-Hebrew Texts," 261–262.

110 Magen, Misgav, and Tsfania, *Mount Gerizim*.

111 In CIIP nº 242 is also mentioned as possibly written in Paleo-Hebrew, but it is far from clear.

112 Shemaryahu Talmon, "Hebrew Fragments from Masada," in *Masada VI: Yigael Yadin Excavations 1963–1965 Final Reports*, ed. Yigael Yadin (Jerusalem: Israel Exploration Society, Hebrew University of Jerusalem, 1999), 6–7.

113 Hamilton, "Paleo-Hebrew Texts," 260–262.

The most important information comes from the excavations on Mount Gerizim which have uncovered seven Paleo-Hebrew texts carved on stone, unfortunately not *in situ*. The editors date them to the third-second century,[114] while Dušek suggests a date in the first half of the second century, albeit without excluding the second half of the third century.[115] He very prudently notes that the dating of these documents remains uncertain. Indeed, there are only three indications that may help in dating these texts. First, they postdate the construction of the temple in the fifth century and they predate its destruction by John Hyrcanus in 111–110 BCE, hence a dating in the fifth-second centuries. Secondly, according to Dušek "the preserved characters fit the paleo-Hebrew script of the manuscripts of Qumran which were dated by McLean to the period between the second half of the third century and the first half/three quarters of the first century BCE."[116] Thirdly, Dušek notes that the Paleo-Hebrew texts may date from the same time as the Aramaic inscriptions from the same site, which are more numerous and, taken together, contain more information. According to the *editio princeps* most of the Aramaic texts date from the third-second centuries, with perhaps some from the fifth-fourth centuries. Based on a detailed paleographical analysis, Dušek has narrowed the time span and concluded that most of them were carved during the first half of the second century.

The second line of reasoning cannot be pursued here since we are shedding light on the scrolls thanks to the inscriptions rather than the other way around (this is preferable because there are many inscriptions with secured datings and only one scroll dated thanks to C14). As for the third argument, i.e. the notion that the Paleo-Hebrew texts and the Aramaic ones are roughly contemporaries, it is difficult to assess its validity. On the one hand, it seems reasonable enough especially in view of the fact that the same kind of ruling lines used for the Paleo-Hebrew texts were also used for some Aramaic texts, with sometimes approximately the same distance between these lines.[117] On the other hand, it remains only a hypothesis. Therefore, for our present purposes, a date in the fifth-second centuries is warranted, while a date around the first half of the second century is plausible but far from certain.

Before examining more closely the paleography of these inscriptions, several general features are worth noting. First, the engraver used ruling lines in

114 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*: 31–32.

115 Dušek, *Aramaic and Hebrew Inscriptions*, 54–59.

116 Dušek, *Aramaic and Hebrew Inscriptions*, 54.

117 6.2 cm on Aramaic inscriptions nº 211 and 218; 6.3 to 6.4 cm on Paleo-Hebrew inscriptions nº 382–385 and 387, see Dušek, *Aramaic and Hebrew Inscriptions*, 44, 54.

five cases (inscriptions nº 382–385 and nº 387). Dušek suggests they might have belonged to the same inscription for three reasons: the distance between the ruling lines (whether horizontal or vertical) is almost the same in each fragment; the fragments come from the same locus; their script is similar.[118] This hypothesis is attractive but there are also significant differences in the shape of several letters. Dušek mentions that there are differences in the case of the *yod* and *nun*, and indeed we note that:

– *yod* has a vertical expansion at its top in nº 384 but not nº 382;
– *nun* has a head with two (vertical) strokes in nº 384 but only one stroke in nº 382; in addition, its shaft is prolonged by a horizontal foot in nº 384 and 385 only.

We add three other instances of differences:

– *he* has a rightward expansion of the top horizontal stroke in nº 382 but not 383;
– *waw*: the vertical downstroke is pierced by an oblique stroke in nº 385 but not 383;
– *mem* has a leftward expansion of the head in nº 385 but not 382.

While variations in shape in a single inscription do occur in epigraphy, this accumulation (five cases) seems significant. It is conceivable that different stones were prepared by a stonemason using the same instrument to determine the distance between the ruling lines, but that different engravers subsequently carved the letters. Indeed, regarding the Aramaic texts, Dušek notes that, in some cases at least, the scribe used a stone prepared by somebody else.[119] It is also possible that only two (for instance) of the five fragments discussed above belonged to the same inscription. The main point is that these fragments may attest to the presence of several contemporary hands and this may point to a "living" scribal tradition rather than a fossilized or archaizing use of Paleo-Hebrew.

Further hints that Paleo-Hebrew may have been used more widely perhaps come from the existence of a "mixed script" on inscriptions nº 152, 153, 154, 191, 197, 198, 201, and 389. The most interesting is the last in this list, a dedicatory text mainly written in cursive Aramaic script, but containing two to three letters that are Paleo-Hebrew. Only the first two preserved lines contain significant information:

1′.]BN PYNḤS K[
2′. ʾ]ḤYHN KHNY[ʾ

118 Jan Dušek, "Ruling of Inscriptions in Hellenistic Samaria," *MAARAV* 14, no. 2 (2007): 62; Dušek, *Aramaic and Hebrew Inscriptions*, 54–55.

119 Dušek, *Aramaic and Hebrew Inscriptions*, 50.

In line 1 the last two letters (*samekh* and *kaf*) are written in Paleo-Hebrew. In line 2 the end of the first word may be a scribal error: instead of writing an Aramaic *waw* (hence ʾḤYHW, "his brother"), the scribe wrote a Paleo-Hebrew *nun*.[120] According to the editors this document, a "standard dedicatory inscription," shows that Paleo-Hebrew "was also used for nonpriestly inscriptions."[121] However, it seems that Paleo-Hebrew was not deliberately used here: rather, what we see may be an interference of scribal habits in a script when carving a text in another script. What is unfortunately difficult to determine is whether this is due to a frequent use of Paleo-Hebrew on other supports, or whether this is just the influence of the use of Paleo-Hebrew on other stones by an engraver who was not a trained scribe.

Whatever the case, the most important contribution of the Gerizim inscription lies in its paleography. Although useful charts of letterforms are provided both in the *editio princeps* and in Dušek's book, no detailed paleographical analysis has been offered yet. In the limited space of this article we will content ourselves with making some concise remarks:

– *ʾalef*: in the "mixed script" inscriptions, and perhaps in two entirely Paleo-Hebrew texts as noted by Dušek,[122] appears the concurrent form where the head contains two parallel strokes perpendicular to the vertical shaft, the lower stroke being shorter. The stance varies: in nº 191 the letter leans slightly to the right, while in nº 198 it leans to the left.
– *Bet* is an old form with a rounded head, a vertical stance, and a foot.
– *Gimel* (attested in nº 384) retains the old form where the vertical stroke is twice as long as the horizontal one (or perhaps more: the stone is broken).
– *Dalet* (attested in nº 384) has a long leg and a substantial rightward extension of the head, as in the seventh and sixth century BC ostraca.[123]
– *He* is formed with three parallel strokes, it sometimes has an upper rightward extension (nº 382, 384, 385) but not always (nº 388, 383). It is very similar to ostraca from the seventh and sixth century BC ostraca.
– *Waw* has, most of the time, an oblique stroke crossing its vertical downstroke (nº 385, 386, 388), with one exception (nº 383); it is not very different from

120 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*: 259.
121 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*: 259.
122 Dušek, *Aramaic and Hebrew Inscriptions*, 37.
123 Rollston, "Northwest Semitic Cursive Scripts," 211.

the *waw* of the seventh and sixth century BC cursive script, except that the stance of the downstroke is near the vertical.
– *Ḥet* lacks vertical expansions, as on the coins.
– *Ṭet* is a circle with a cross inside, the normal form in the Iron Age.
– *Yod* is a very classical form attested in the Iron Age, although it has a vertical expansion at its top in nº 384 (but not in nº 382).
– *Kaf* has a head with an upward stroke at two thirds of the length of the horizontal stroke (nº 382, 387); its leg is curved to the left to the extent that it has a foot. The migration of what was originally the middle stroke in a three-pronged head already occurs in the cursive of the seventh-sixth centuries.[124] What is interesting is that this form is virtually not attested on seals and stone inscriptions during the Iron Age. In nº 388 it is very badly preserved; the drawings in the *editio princeps*[125] and in Dušek's paleographical chart show no such foot,[126] and the vertical stroke of the left of the head occurs at the end of the horizontal stroke; the overall shape resembles a *nun*. However, in view of the state of preservation of the stone, we cannot be sure of the exact form of this instance.
– *Lamed* is very angular. A special form occurs in nº 386 where the main stroke is altogether vertical and the horizontal one has a tick at its end.
– *Mem* has a leftward expansion of the head in nº 385 but not 382.
– *Nun* has a head with two (vertical) strokes in nº 384 but only one stroke in nº 382; in addition, its shaft is prolonged by a horizontal foot in nº 384 and 385 only.
– *Samekh* is made up of a vertical downstroke and a sort of zigzag in nº 384, whereas in nº 389 it perfectly reproduces the form attested in the Iron Age cursive with three horizontal strokes connected on the right and a tick to the right of the lowest one.
– *Resh* has a rounded head and a long shaft, a form well attested in Iron Age monumental script, but its stance is virtually vertical (especially in nº 382).
– *Shin* exists in two forms: a double check (nº 388) or a horizontal stroke with three perpendicular ones (nº 384, 385). The former shape was the common one until the sixth century, with a tendency of the locus of the junction of the two internal strokes to descend.[127] The latter form seems to constitute

124 Rollston, "Northwest Semitic Cursive Scripts," 219.
125 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*:258.
126 Dušek, *Aramaic and Hebrew Inscriptions*, 53, fig. 15.
127 Rollston, "Northwest Semitic Cursive Scripts," 228.

the logical outcome of this evolution. It represents a striking development compared to the script of the sixth century as well as to the inscriptions of the following centuries analyzed above.
– *Taw* has the form of a Latin x like in some inscriptions in monumental script from the Iron Age.

Overall, most of the letterforms have parallels in inscriptions from the eighth-sixth centuries, but there are a few striking differences (*ḥet*, *shin*) and one notes a tendency for the downstroke of some letters to be nearly (*waw*) or altogether (*resh*) vertical. The Paleo-Hebrew script of Mount Gerizim is more developed than the scripts attested until the sixth century, but less than the script of the Hasmonean coins, with the notable exception of *shin*. Unfortunately, this does not help in narrowing the range of the dating provided by archaeology (fifth-second centuries). In addition, different forms are attested for the same letter in several cases (especially *he*, *waw*; *lamed*, *nun*, *samekh*; *shin*). The difference sometimes lies in the presence of a tick (*he*, *lamed*, *nun*) that probably points to the presence of a different hand rather than different "ideal forms" of letters. But in other cases (*waw*, *shin*) the differences may betray the existence of a variety of forms in contemporary or recent scribal tradition. Also noteworthy is the fact that the form of *kaf* has only antecedents in the cursive of the Iron Age, and that the tick in one occurrence of *lamed* seems to be a cursive feature.

2.5 *Conclusion*

The survey above has allowed us to glean several pieces of information concerning the *use* of the Paleo-Hebrew script: variety of forms, cursive features, etc. However, we will postpone a full discussion of this subject to the last section of the article when we will be in possession of all the relevant data.

Regarding paleography, at this juncture, it seems convenient to list the most notable evolutions we have encountered:
– *ʾalef*: the form with two parallel crossbars already existed in the sixth century but was predominant at the latest from the second century (in the inscriptions we have), although it does not eliminate the form with a check. Since we lack attestations of this letter in the fourth and third centuries, we cannot know exactly when the form with parallel crossbars became predominant. In addition, the extensions of the downstroke above and below the intersection with the bars tend to diminish, sometimes dramatically.
– *Gimel*: the development of this letter, from the second century at the latest, seems to involve a counterclockwise rotation and the tendency to equalize the two strokes (or, exceptionally, to make the left one longer).
– *Dalet*: the rightward extension tends to disappear from the fourth century;

– *He*: the form with three parallel strokes is still very much present on fourth-century coins but the form with a triangle has become predominant in the second century;
– *Waw*: we have seen a special form (a cross with two curved strokes) on bullae from the fourth century;
– *Ḥet*: the vertical expansions are small to vestigial in the fourth century and virtually absent from the second century;
– *Ṭet* has only one internal bar on stamp impressions dating from the second century;
– *Nun* has a large head on at least one bulla from the fourth century BCE (this is not enough to posit a tendency but we shall pay attention to this feature in examining the Dead Sea scrolls, and we shall see a confirmation);
– *Resh*: the downstroke tends to diminish: on coins the leg is approximately of the same length as the right side of the head, while on stamp impressions *resh* resembles a *dalet*; the decreasing of the length of the downstroke of *resh* corresponds to a tendency already attested in the cursive of the eighth-sixth centuries.[128]
– *Shin* at Gerizim exists in two forms: a double check (nº 388) and a horizontal stroke with three perpendicular strokes (nº 384, 385).
– *Taw*: in one instance on a bulla from the first century the intersection is very low.

In addition, on some Hasmonean coins we have noted a tendency to draw letters (that contain a downstroke or a shaft) with an upright stance, and the same remark applies to some letters in the Gerizim fragments. In two bullae from (respectively) the fourth and first centuries BCE the letter *resh* leans to the right. According to McLean[129] the stance is an important feature in diachronic typology. Some evolutions in stance have been noted for the cursive script in Iron Age inscriptions by Rollston who has measured the angles of letters in inscriptions scattered over the eighth-sixth centuries.[130] Were the stance only to depend on individual scribes' personal tendencies, one would expect a random distribution of angles over time, but this is not true according to Rollston whose discussion is largely based on epigraphs securely dated by stratigraphy. Yet this feature seems difficult to use as a precise tool for typology and, although we will try to note the variations in this regard, we will content

128 Rollston, "Northwest Semitic Cursive Scripts," 227.
129 McLean, "The Use and Development of Palaeo-Hebrew" (it is an assumption repeatedly used in this work).
130 Rollston, "Northwest Semitic Cursive Scripts."

ourselves with regarding as a late feature only stances that are clearly new, e.g. an altogether vertical stance for *dalet* and *ḥet*.

Bearing all this in mind, we now turn to the study of the Paleo-Hebrew script(s) of the Dead Sea scrolls.

3 The Paleo-Hebrew Scripts in the Dead Sea Scrolls

The Paleo-Hebrew script appears in different situations in the ink documents of the Judean desert (see Annexes Tables 2.1 and 2.2):

a) as the script in which some manuscripts are entirely written;
b) for writing divine names (the tetragram, Adonai, El, Elohim, sometimes with a preposition and/or a suffix, in scrolls otherwise written in square script or in Greek);
c) as single letters in margins of scrolls written in square script;
d) as single letters embedded in cryptic texts;
e) on the reverse and observe of a papyrus found at Masada (Mas10 ^{r} and ^{v}).

In the limited space of this article we do not claim to provide exhaustive descriptions of any feature appearing in any occurrence of each letter. Rather, we focus on the identification of letterforms, of late features, and of trends in the development of the characters. Moreover, we focus on the scrolls written entirely in Paleo-Hebrew, with limited remarks on the other categories listed above. It should be particularly noted that the divine names are difficult to use for our purposes, as the cases of 1QpHab and 4Q57 show. The perplexing fact is that 1QpHab, radiocarbon-dated to the first century BCE,[131] exhibits what may be the most evolved forms for H, W, and Y among our entire documentation, while the script of 4Q57 (letters *ʾalef*, *bet*, *dalet*, *he*, *waw*, *yod*, *lamed*, *mem*, *nun*), dated to the first century CE in view of its paleography, is similar to the cursive of the sixth century BCE (see Annexes Table 1). In addition, some letterforms are obviously stylized (see especially 8Ḥev^{1} and 8Ḥev^{2}). It may be the case on 1QpHab as well. Besides, divine names in Paleo-Hebrew appear in Greek manuscripts in the third-sixth centuries CE[132] and it seems doubtful that the scribes concerned knew the Paleo-Hebrew script beyond the few letters

131 See e.g. recently Daniel Stökl Ben Ezra, "Further Reflections on Caves 1 And 11: A Response to Florentino García Martínez," in *Qumran Cave 1 Revisited: Texts from Cave 1 Texts Sixty Years after Their Discovery: Proceedings of the Sixth Meeting of the IOQS in Ljubljana*, ed. Daniel K. Falk et al., STDJ 91 (Leiden: Brill, 2010), 211–224.

132 Nicholas De Lange, *Japheth in the Tents of Shem*, Texts and Studies in Medieval and Early Modern Judaism 30 (Tübingen: Mohr Siebeck, 2015), 71–72.

involved. In sum, nothing guarantees that the script of the divine names really reflects a contemporary typology, although it may be occasionally the case.

3.1 *Letter-by-Letter Analysis*

We now turn to the analysis of each letter.[133] In addition to the developments that are attested on inscriptions of the Second Temple period, we might be able to identify new features on Dead Sea scrolls if and when we encounter forms that are not attested at all in the Iron Age alongside forms that were already present in that period; the former are probably late features. That said, in some cases the two forms coexist on the same scroll. Moreover, it is important to discuss the features separately because there is not a systematic correlation between them, as we shall see. Note that while several criteria used by McLean to detect late features are corroborated by our study above (e.g. the shortening of the downstroke of *resh* is a late feature, and a continuation of a tendency already attested in the Iron Age), others are less convincing in our view: the presence of a tick at the end of the downstroke of *waw*, *samekh*,[134] at the end of the foot of *yod*,[135] as well as the presence of a "cursive flourish" in the foot of *nun*,[136] or a "cursive flow and tick to the foot" of *yod*.[137] These features do not necessarily constitute typological developments: rather, they may betray the personal habits of a scribe or cursive tendencies, and this is confirmed by the fact that some of them almost never reappear in other scrolls.

– *ʾalef* exists in two main forms depending on whether the downstroke is crossed by a check (4Q45, 4Q101 on one occurrence) or by two parallel bars, the lower one being traced only to the right of the downstroke (1Q3[1], 1Q3[2], 1Q3[3], 2Q5, 4Q11, 4Q12, 4Q22, 4Q22[p], 4Q46, 4Q101, 4Q123, 4Q124, 6Q1, 11Q1, 11Q22, Mas1o[r]). Both forms can coexist (4Q101). Unfortunately, we do not know when the form with parallel crossbars became predominant (in the second century at the latest for the coins). But it is clearly predominant here. The length of the downstroke below the intersection with the lower horizontal stroke tends to diminish (1Q3[4], 4Q12, 4Q22, 4Q123, 4Q124, 11Q1 on some occurrences) and even to become non-existent (2Q5, 4Q22[p]), like in the Samaritan script. Similarly, the extension of the downstroke above the intersection with the upper horizontal stroke generally tends to be minimal;

133 See the paleographical charts in Annexes Table 2.1. More detailed charts are available on the companion website www.paleohebrewdss.com.

134 McLean, "The Use and Development of Palaeo-Hebrew," 52, 61.

135 McLean, "The Use and Development of Palaeo-Hebrew," 52.

136 McLean, "The Use and Development of Palaeo-Hebrew," 52.

137 McLean, "The Use and Development of Palaeo-Hebrew," 75.

it nearly disappears in 11Q1. As a result, the height of the letter shortens, a trend also true for other letters (see below concerning *waw* and *resh*). The stance comes close to the vertical on some scrolls (4Q11, 4Q22, 4Q22^{p}, 4Q45, 11Q1). It is important to note that there is no systematic correlation between the last two features (decreasing of the vertical extensions of the shaft, vertical stance): in 2Q5 the downstroke has no lower extension but its stance is oblique. Also, 4Q45 combines the old form with a check and a vertical stance. Some scrolls combine both features (4Q22, 4Q22^{p}, 11Q1) and are similar in this respect to the Hasmonean coins.

– *Bet*: The downstroke is oblique on some scrolls (2Q5, 4Q12, 4Q22^{p}, 4Q46, 4Q101, 4Q123, 6Q1, 6Q2), like during the Iron Age, but sometimes it comes close to being vertical (4Q22, 11Q22) or is altogether vertical (1Q3^{1}, 4Q11, 4Q45, 11Q1, Mas01^{r}, Mas01^{v}); it even leans to the left on 4Q124. On two scrolls a tick develops at the top right of the head (1Q3^{1}, 11Q22), as on the two-revolts coins: this seems to be a late feature.
– *Gimel*: while this letter sometimes retains the traditional proportions of the two strokes on some scrolls (4Q11, 4Q123),[138] on others the top one is just a little shorter than the other (2Q5, 4Q124, 11Q1, Mas10^{r}), and on still others both strokes have the same length (4Q22, 4Q101, 6Q2). Similarly, the stance that was normal in the Iron Age, with the vertical stroke leaning to the left, is still present (4Q101, Mas10^{r}) but in other cases the letter has a vertical stance (4Q22, 4Q45, 11Q22), while on 4Q123, 6Q2, and 11Q1 it has even come to lean to the right, although the scribes are not always consistent since on 4Q123 one also encounters a *gimel* with the main leg slightly leaning to the left. It is variable on 2Q5, but always close to the vertical. Overall, we recognize the same trends that we noticed on inscriptions from the second century BCE.
  It is noteworthy that the form attested on one scroll sometimes exhibits both an early and a late feature for the same letter, as in 4Q101 where the strokes have the same length but with the traditional stance.
  Forms that combine the late features, as on a bulla of Alexander Janneus and Hasmonean coins, are attested on 2Q5, 4Q22, 6Q2, and 11Q1. Note that a special form occurs on 6Q2: there are ticks at the end of both strokes, probably

138 McLean notes that the one clear occurrence of *gimel* on 4Q11 has "a vertical stance with the two nearly equal strokes forming an acute angle. This is a late feature," ("The Use and Development of Palaeo-Hebrew," 67). On close examination of infrared images there are two clearly visible occurrences of *gimel* (DJD 9, frag. 23, lines 6 and 8) and the left leg is clearly shorter in both cases. McLean's remark may be due to the fact that the ink of the lower part of the right leg has faded on the *gimel* in line 8 (the same can be said for most of this leg on the *gimel* in line 6), but the entire length is visible in our images for both occurrences. In line 6 the right leg is nearly vertical but in line 8 it is oblique.

ornamental serifs reminiscent of the practice of Samaritan scribes on much later Pentateuch scrolls.[139]

– *Dalet* often has a rightward expansion at the top right (1Q3[1], 2Q5, 4Q11, 4Q22, 4Q22[p], 4Q45, 4Q101, 4Q123, 4Q124, 11Q1, 11Q22), but not always (4Q46, Mas1o[r]). This is in marked contrast to the YHD and Hasmonean coins, but this expansion was present in the sixth-century cursive and on a Gerizim fragment. Either the expansion was present without interruption in a given scribal tradition (perhaps its absence on coins is a simplification peculiar to this medium), or it disappeared for some time (cf. coins, 4Q46 and Mas1o[r]) and was reintroduced later (cf. the Gerizim fragment and many scrolls).
The leg is longer than the right side of the head on a few scrolls (2Q5, 4Q46, 11Q22), but it has the same length or a little less on others (1Q3[1], 4Q11, 4Q22, 4Q45, 4Q101, 4Q123, 4Q124, 4Q125), and sometimes it is even vestigial (4Q22[p], 11Q1, Mas01[r]). The stance of the downstroke is oblique (1Q3[1], 2Q5, 4Q11, 11Q22), close to being vertical (4Q22, 4Q45, 4Q46, 4Q123) or is altogether vertical (4Q22[p] [although the stroke is arched], 4Q125, 11Q1). As a rule, the stance was oblique during the Iron Age. Forms most clearly combining the vestigial leg and the vertical stance appear on 4Q22[p] and 11Q1.
– *He*: among the three bars (or flags), the lower two are often parallel as in the traditional form (1Q3[1], 1Q3[2], 2Q5, 4Q11, 4Q12, 4Q22[p], Q123 in one occurrence, 6Q1, 6Q2, Mas1o[r], Mas1o[v]), but they tend to meet at their left end (4Q46, 4Q101, 4Q123, 4Q124), sometimes to the point of creating a triangle (4Q22, 4Q45, 4Q101, 4Q125), as on many Hasmonean coins. In 11Q1 the scribe has looped the two strokes and it is not even closed. The same loop occurs on a supralinear addition to 4Q22.[140]
As we have already noted on a bulla that probably dates from the late sixth century (*WSS* 1071) and on Hasmonean coins (unfortunately it is impossible to evaluate on YHD coins since they are not necessarily written in a straight line), the top flag tends to become horizontal rather than angling down to the left as in the traditional form. Yet, in this case, it is not always the same for the two other "parallel" bars. This happens on 1Q3[1], 1Q3[3], 4Q11, 4Q22, 4Q22[p], 4Q45, 4Q124, 4Q125, and 6Q2. Forms that combine the two late features, as on Hasmonean coins, appear on 4Q22 and 4Q125.
– *Waw*: The head is often drawn like a *hamza* (1Q3[1], 4Q11, 4Q22, 4Q22[p], 4Q45, 4Q46, 4Q124, 6Q2, 11Q1, 11Q22, Mas01[r]; perhaps 4Q12)[141] but sometimes the

139 Purvis, *The Samaritan Pentateuch*, plate VII.

140 See DJD 9:64–65.

141 At first glance *waw* on 4Q12 seems to exhibit the other form, with a tick perpendicular to the shaft and not connected to the head, but a close examination makes plausible the idea

bar piercing the downstroke is drawn independently of the head (not as its continuation), at some distance below it, and sometimes perpendicularly to the downstroke (2Q5, 4Q11, perhaps 4Q22p,[142] 4Q101, 4Q123, 6Q1, Mas10r). One wonders if it is this latter form that was stylized with two distinct horizontal strokes seen on some Hasmonean coins. Both forms seem to coexist on 4Q22p.

The stance is either oblique (1Q3[1], 2Q5, 4Q12, 4Q101, 6Q2) or virtually vertical, i.e. angling down to approximately 80 degrees with the horizontal (4Q11, 4Q22, 4Q45, 4Q46, 6Q1), although it is sometimes difficult to evaluate it. However, on some scrolls it is clearly vertical (4Q123, 4Q124, 11Q1, 11Q22), even sometimes leaning to the right (4Q22p, Mas10r). Generally speaking, a comparison with the Iron Age epigraphs shows that the downstroke has shortened, as its relative proportion compared to the head shows.

Forms close to that encountered on Hasmonean coins appear on 4Q22p, 4Q123, and Mas10r.

– *Zayn* exhibits the same global form on almost all the scrolls where it is attested, with two completely horizontal strokes and a tick at their right end (4Q22, 4Q22p, 4Q45, 4Q124, 11Q1), the exception being 4Q11 where the main strokes angle down a little to the left. As in the case of the top flag of H, the horizontal stance seems a novelty compared to the Iron Age forms.
– *Ḥet*: all the attested forms contain three parallel bars. Only two scrolls retain the traditional form where the extensions of the vertical bars above and below the horizontal ones are prominent (1Q3[1] and 6Q2). In most cases these extensions are vestigial (4Q11, 4Q22, 4Q22p, 4Q45, 4Q101, 4Q124, 6Q1, 11Q22). Ultimately, a form where these extensions do not exist anymore is attested (4Q12); in 11Q1 this is the most common form although one also encounters *one* occurrence with vestigial extensions. The absence of vertical extensions is a late feature encountered on coins from the fourth century and on Gerizim fragments.
– *Ṭet* is drawn as a circle open at the top with a variety of additional features inside: a) a cross (2Q5, 4Q5?, 4Q45, 4Q12?, 4Q124, 11Q1), b) one oblique bar (4Q123), or c) two converging strokes (4Q45), sometimes rounded and thus giving the letter the stylized form of a heart (4Q22). Forms a) and b) are attested in the Iron Age in monumental script,[143] seals script,[144]

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that it is in fact the continuation of the *hamza*: the rounded extension at the top right of the downstroke seems to indicate that the scribe continued the *hamza* by turning his pen.

142 See line 1 on 4Q22p; all the other occurrences have a *hamza*.

143 Vanderhooft, "Iron Age Moabite," 108.

144 Herr, "Hebrew, Moabite, and Edomite Seal Scripts," 189.

and cursive script;[145] form a) also occurs on Gerizim fragments, while b) appears on Yehud stamp impressions of the second century BCE. Only c) seems to be a new form and therefore 4Q22 and 4Q45 contain the latest feature for this letter.

– *Yod* often retains its traditional form with two parallel flags, and a foot parallel to them but written only to the right of the vertical stroke (e.g. 1Q3^2). In a few, very interesting cases (1Q3^1, 2Q5, 4Q11, 4Q12, 4Q22, 6Q2), though, one might count three parallel flags because the foot extends to the left (although in the case of 1Q3^1 it is uncertain whether the foot is the continuation of one of the flags). This is a feature that will reappear on the letter *yod* written in Samaritan script. At first glance, the same form seems to appear on some other scrolls (e.g. 4Q22^p), but in reality the small extension to the left is the continuation of the vertical stroke. Conversely, McLean did not include 4Q12 and 4Q22 here, considering that "the triple flag form is not a development of the hurried extension of the foot found in 4QpaleoGen [= 4Q12] or similar forms in 4QpaleoExod^n [= 4Q22]. The form found here [on 6Q2] is based on a fully developed ideal form available to the scribe."[146] This may be true but the distinction McLean makes here seems to rest on the difference of length between the first superior flags and what he calls a "hurried extension." However, nothing guarantees that the three flags should have the same length, and in fact the top flag is often longer than the one immediately below it. Thus, some hesitation is allowed here. Similarly, the flags in the letter H are not necessarily penned with the same length. So the line between a Y with a "hurried extension" of the foot and an "authentic" third flag is very difficult to draw and one should not exclude the possibility that the latter feature is a natural development of the former.

  Yet another aspect worth noting here is the stance: normally the flags are oblique but on some scrolls they are horizontal (4Q45, 11Q1).

– *Kaf*: the head of the letter always includes a short stroke departing from the shaft to the left. This stroke may be horizontal or oblique but what really distinguishes the extant forms is whether a second stroke at its end, parallel to the shaft, extends a) upward (1Q3^2, 4Q12), b) downward (4Q11, 11Q22, Mas01^v), or c) in both directions (4Q22, 4Q22^p, 4Q46, 11Q1). As we have seen, these forms appear on Hasmonean coins and they did not have exact precedents in the documentation. However, the upward stroke results from the migration to the left of a stroke that was originally upward, whereas the downward breakthrough is a novelty, most probably a secondary development. One may surmise that the diachronic development was a) > c) > b).

145 Rollston, "Northwest Semitic Cursive Scripts," 216.

146 McLean, "The Use and Development of Palaeo-Hebrew," 92.

On 1Q3[1] the stroke departing from the shaft is thick and enlarges to the left, showing extremely short upward and downward extensions. The scribe has obtained a similar effect on 6Q1 by using two partially superimposed strokes. Yet another form appears on 4Q124: there is an oblique crossbar piercing the shaft and angling down to the left.

– *Lamed* has a rounded hook on one scroll (4Q22[p]) but is angular in virtually all the others. During the Iron Age the tendency was to pass from the former to the latter form.[147] For the period under scrutiny, however, it seems difficult to suppose the same development since both forms had precedents in earlier times. Note that on 6Q15 (scroll with the divine name in Paleo-Hebrew), L is drawn with two strokes of the same length, like on Jerusalem stamp impressions.
– *Mem* exists in two main forms: the head is either a double check (1Q3[2], 2Q5, 4Q11, 4Q12, 4Q22[p], 4Q45, 4Q46, 4Q123, 4Q124, 6Q1, 6Q2, Vat) or a horizontal stroke with three perpendicular bars above it (1Q3[1]).[148] We have already seen that these forms already existed in the Iron Age and that they appear on Jerusalem stamp impressions in the second century BCE.
– *Nun* has, on most scrolls, a large head if we take into account the overall shape of the letter, and the shaft tends to curve and sometimes to rise on the left, so the form looks somewhat compacted (1Q3[1], 2Q5, 4Q11, 4Q22, 4Q22[p], 4Q45, 11Q22); occurrences where the shaft remains long and the overall form looks slender are rare (4Q46, 4Q123); on some scrolls the form seems intermediary (4Q101, 6Q1, 11Q1). The shortening of the shaft accompanied by an enlargement of the head does not seem to be attested in the Iron Age, but we noted its presence on a bulla dating from the fourth century; therefore, the scrolls confirm that it is a typological development and its absence may be significant.
– *Samekh* has the same shape as in the Iron Age cursive script,[149] i.e. a vertical downstroke with three parallel (horizontal) strokes towering over it, and a tick at the right of the lowest horizontal stroke, except that sometimes the downstroke proves strikingly short (2Q5, 4Q22, 4Q45, 4Q124, 11Q1) and this seems a new feature. We already encountered the traditional form, with a long shaft, in a Gerizim fragment written in mixed script (n° 389).
– *ʿayin* was "formed with two conjoined semicircular strokes" in Iron Age cursive[150] and it has an oval shape. In the scrolls it seems to be drawn in two

147 Rollston, "Northwest Semitic Cursive Scripts," 219.
148 In the case of Mas1o[r] it seems at first sight that the median bar breaks through the horizontal stroke, but there are ink traces that suggest it may be a double check.
149 Rollston, "Northwest Semitic Cursive Scripts," 223.
150 Rollston, "Northwest Semitic Cursive Scripts," 223.

slightly different ways. In two cases (4Q11, 4Q123) it is made up of two strokes: the top one is straight and the lower one is semicircular or at least arched. Most of the time, however, (1Q3[3], 2Q5, 4Q12, 4Q22, 4Q45, 4Q46, 4Q101, 4Q124, 6Q2, 11Q1, 11Q22) there are three strokes and the form looks like a rounded triangle. In some cases (4Q11, 4Q12, 6Q2) the form is very thin (the lower angle comes close to 180 degrees). McLean speaks of a "trend towards a shorter plumper form"[151] but it seems difficult to confirm that it is a diachronic typological development. A special case occurs on 4Q22[p] where ʿ resembles a flattened and oblique U.

– *Pe*: while the vertical stroke is long and straight on 4Q101, it is considerably shorter in most other scrolls and the shape of the letter tends to be compacted, with a rounded vertical stroke and sometimes a foot (2Q5, 4Q11, 4Q12, 4Q22, 4Q22[p]). It seems to reflect a late development. Unfortunately, this letter is rarely attested on Second Temple inscriptions.
– *Ṣade* is made of a vertical stroke and a "staircase" connected to it at its right, which is written with oblique strokes giving it the appearance of a zigzag, as in Iron Age cursive.[152] In two cases (1Q3[1], 4Q124) the vertical stroke and the last stroke to the right are parallel and of the same length.
– *Qof*: the head is made of two asymmetrical semicircular strokes, the left one being small and sometimes angular, the right one being generally bigger and sometimes not connected to the rest of the letter at its top end (4Q22, 4Q22[p], 4Q46, 4Q101, 6Q1) or even at both extremities (4Q45, 11Q1). The locus of the junction between the lower end of the right semicircular stroke and the shaft is very low on 4Q22 and 4Q101, at the very bottom of the shaft on 4Q11.
– *Resh*: two main features are to be noted here. First, a decreasing of the length of the shaft, which has been observed in the inscriptions and was already a tendency in the Iron Age cursive script. On the scrolls the downstroke is sometimes three times longer than the part of it that constitutes the right side of the head (4Q46), sometimes 2.5 times longer (4Q11, 4Q45, 4Q124, Maso1[r]) or slightly less (1Q3[2], 11Q22), but in most cases it is only approximately twice as long or even less (1Q3[1], 1Q3[3], 2Q5, 4Q12, 4Q22[p], 4Q101, 4Q123, 6Q2, 11Q1, Maso1[v]).

  The stance is either clearly oblique (1Q3[1], 2Q5, 4Q22, 4Q46, 4Q101, Maso1[r]), nearly vertical (4Q11, 4Q45, 4Q123, 4Q124, 11Q22), or clearly vertical (1Q3[2], 1Q3[3], 4Q12, 4Q45, 6Q2, Maso1[v]); in rare cases it even leans towards the right (4Q22[p], 11Q1). Finally, 4Q22 and 4Q22[p] bear an eccentric form where an oval towers over the shaft.

151 McLean, "The Use and Development of Palaeo-Hebrew," 76.
152 Rollston, "Northwest Semitic Cursive Scripts," 224–225.

– *Shin*: the traditional double check is still well attested (1Q3[1], 1Q3[2], 2Q5, 4Q11, 4Q123, 6Q1, 6Q2, 11Q1). In some cases the junction of the two internal strokes occurs very low (4Q22, 4Q101, 4Q124) and one encounters a form like a double U (4Q45); ultimately there is almost a horizontal base made up of two consecutive segments (4Q46). This is very close to the form that was rendered on stone on some fragments (nº 384, 385) from Mount Gerizim. All this is similar to the overall development of the letterform during the Iron Age: "the locus of the junction of the two internal strokes descends through time."[153] It is worth noting that what seems to be the most evolved form occurs on the oldest scroll according to McLean's chronology (4Q46).[154]
– *Taw* is of little use for the paleography of the Iron Age but Rollston has noted that the top-right stroke tends to come closer to the horizontal through time.[155] In the scrolls the top-right stroke is often quite oblique, angling down to around 45 degrees from the horizontal (1Q3[1], 2Q5, 4Q12, 4Q22, 4Q22[p], 4Q45, 4Q46, 4Q101, 4Q123, 4Q124, 6Q1, 11Q1, 11Q22, Mas01[r], Mas01[v]) but sometimes close to the horizontal (4Q11, 4Q22, 4Q22[p]). Does it reflect a typological development as in the Iron Age?

In some occurrences (1Q3[1], 4Q22[p], 11Q1, Mas01[r], Mas01[v]) there is what looks like a very short leftward tick at the top of the top-left stroke. According to a possible scenario put together by McLean,[156] this (accidental?) shading prefigures the shape of the Samaritan *taw* where there are two independent strokes on either side of the left-top stroke, instead of the top-right stroke.

Before moving to the next point, a general remark is in order: many letters exist in several forms, some of them not attested before. It seems that the script developed significantly during the timespan covered by the (Paleo-Hebrew) Dead Sea scrolls.

3.2 *Relative Chronology*

From the letter-by-letter analysis it is readily apparent that some scrolls accumulate late features (e.g. 4Q22), while some others contain only a few (e.g. 4Q46), and still others appear to be in an intermediate situation. Before going further in the discussion of the relative chronology, it may be useful to briefly summarize the method used in McLean's dissertation and its main results. This scholar successively and meticulously examined the script of individual scrolls,

153 Rollston, "Northwest Semitic Cursive Scripts," 228.
154 McLean, "The Use and Development of Palaeo-Hebrew," 59.
155 Rollston, "Northwest Semitic Cursive Scripts," 228–229.
156 McLean, "The Use and Development of Palaeo-Hebrew," 77–78.

generally moving, in his view, from the earliest scrolls to the latest ones. A comparison between the scripts of the scrolls provided a relative chronology; the inscriptions (above all, coins from various periods) served as landmarks in the absolute chronology. The following table contains his dating and a few more (indicated in parenthesis) suggested in DJD volumes for scrolls:

4Q46	250–200 BCE
4Q101	225–150 BCE
4Q12	150 BCE
6Q1, 1Q3^{2}, 1Q3^{3}, 4Q123	150–100 BCE
1Q3^{1}, 2Q5, 6Q2	150–75 BCE
4Q11, 4Q124, 4Q22, (4Q45), (11Q22)	100–25 BCE
(4Q125	200–50 BCE)
11Q1	1–50 CE

It is important to note that some of the timespans overlap; also, McLean wrote that the script of 4Q22 was the most developed in the group of scrolls dated to c. 100–25 BCE.

This dating was followed in DJD 9 and it is in light of this chronology that a few more scrolls were dated:

– 4Q45 was dated to c. 100–25 BCE on the grounds of its similarity, in paleographical terms, to 4Q22 (DJD 9:132);
– 4Q125 attests only a few letters; it was dated to c. 200–50 BCE because its script is similar to scrolls dated in this timespan by McLean (DJD 9:215);
– 11Q22 was dated to c. 100–25 BCE on the grounds of its similarity, in paleographical terms, to 4Q11 (DJD 23:415).

In our view, paleographical dating is rendered possible when the documents attest enough letters; we may (arbitrarily but prudently) draw the line at two thirds of the alphabet, leaving aside scrolls attesting fewer than 14 letters:[157] the remaining scrolls are 1Q3^{1}, 2Q5, 4Q11, 4Q12, 4Q22, 4Q22^{p}, 4Q45, 4Q46, 4Q101, 4Q123, 4Q124, 11Q1, and 11Q22. In order to assess McLean's chronology we have compared scrolls by pairs, following the same order as him (4Q101, then 4Q46, and so on). In the table below we indicate the pairs (A and B) concerned, the features that suggest that A is earlier than B (which we note as A > B), and the features that suggest that B is earlier than A (B > A). The penultimate column indicates our conclusion and the final one compares it to McLean's own conclusion.

157 We are not denying the very possibility of a paleographical dating for all these scrolls but, in the limited scope of this article, our aim is to assess the broad lines of McLean's chronology and we prefer to limit ourselves to the most certain data.

Compared scrolls (A and B)	Features in B suggesting A > B	Features in A suggesting B > A	Outcome	Comparison with McLean's relative chronology
4Q46 and 4Q101	*dalet* (shorter leg), *waw* (stroke piercing the shaft instead of *hamza*), *yod* (more compact), Q (lower junction of the right semi-circular stroke and downstroke), R (shorter downstroke)	*shin* (horizontal basis)	4Q46 > 4Q101	idem
4Q101 and 4Q12	*'alef* (shorter downstroke), *waw* (shorter downstroke), *ḥet* (no vertical extensions), *pe* (more compact shape), *resh* (shorter downstroke), *shin* (lower junction of bars)	*he* (triangle form rather than three-flag form, but the two forms coexist in 4Q101)	4Q101 > 4Q12	idem
4Q12 and 4Q123	*he* (triangle form rather than three-flag form, horizontal top flag), *waw* (crossbar form rather than *hamza* form), *yod* (flags closer to the horizontal)	*resh* (shorter downstroke), *shin* (lower junction of internal bars)	4Q12 = 4Q123	compatible
4Q123 and 1Q3[1]	*bet* (vertical stance), *dalet* (shorter leg), N (more compact shape), *resh* (shorter downstroke), *taw* (shading at the top of the top-left stroke)	*'alef* (inferior parallel bar is lower), *he* (triangle form rather than three-flag form, stance closer to the vertical), *waw* (crossbar form rather than *hamza* form), *yod* (flags closer to the horizontal)	uncertain	
4Q123 and 2Q5	*'alef* (virtually no lower extension of the downstroke), *gimel* (longer top stroke, vertical stance), *yod* (three flags), *resh* (shorter downstroke)	*he* (triangle form rather than three-flag form, stance closer to the vertical), *ṭet* (one internal bar rather than a cross)	4Q123 > 2Q5	idem
1Q3[1] and 2Q5	*'alef* (virtually no lower extension of the downstroke), *waw* (crossbar form rather than *hamza* form), *resh* (shorter downstroke)	*bet* (downstroke leaning to the right), *dalet* (shorter leg), *he* (stance closer to vertical), *taw* (shading at the top of the top-left stroke)	1Q3[1] = 2Q5	idem
2Q5 and 4Q11	*bet* (vertical stance), *he* (horizontal top flag)	*'alef* (virtually no lower extension of the downstroke), *waw* (crossbar clearly independent), *yod* (third flag more developed), *samekh* (shorter downstroke), *resh* (shorter downstroke)	4Q11 > 2Q5	compatible

(*cont.*)

Compared scrolls (A and B)	Features in B suggesting A > B	Features in A suggesting B > A	Outcome	Comparison with McLean's relative chronology
1Q3[1] and 4Q11	*he* (rightward extension is vestigial, horizontal top flag), *ḥet* (vertical extensions are vestigial)	*yod* (third flag more developed), *resh* (shorter downstroke), *shin* (lower junction of internal bars)	1Q3[1] > 4Q11	idem
4Q11 and 4Q22	*ʾalef* (inferior parallel bar is lower), *gimel* (longer top stroke, vertical stance), *dalet* (stance close to vertical), *he* (triangle form rather than three-flag form), *zayn* (horizontal stance), *ḥet* (vertical extensions are vestigial, vertical stance), *yod* (flags closer to the horizontal), *samekh* (shorter downstroke), *shin* (lower junction of internal bars)		4Q11 > 4Q22	idem
4Q22 and 11Q1	*dalet* (shorter leg), *he* (triangle penned as a loop and unfinished), *ḥet* (no vertical extension), *resh* (downstroke leaning to the right), *taw* (shading at the top of both strokes)	*ṭet* (internal cross), *nun* (longer shaft), *qof* (lower position of the right circular stroke), *shin* (lower junction of internal bars); these features are less impressive than those noted in the other scenario	4Q22 > 11Q1	idem

In the case of 1Q3[1], 2Q5, and 4Q11 the typological comparison leads to mixed results, which probably says a lot about the limits of the method. It may be due to the fact that the "timespans" of some features overlapped so that a scribe could still use comparatively early forms while another was using more developed forms. It is significant that McLean suggested overlapping ranges for these scrolls and we will be satisfied with ascribing them to the same horizon. Overall, this enquiry seems to confirm McLean's relative chronology in its broad lines (taking into account the overlaps between the timespans he suggested). More precisely, the following sequence obtains, from the less typologically evolved to the more developed (scrolls on the same line are typologically similar):

4Q46		1Q3[1]	4Q11	2Q5
4Q101		4Q22		
4Q12	4Q123	11Q1		

It is important to remember that this is a "typological sequence" which does not necessarily translate into a rigid chronology. For instance, the fact that the script of 4Q46 seems less developed than the script of 4Q101 may create a presumption that it was written several decades before (this is how McLean reasons), but in our view it is difficult to assess the temporal distance between such "consecutive" scrolls, all the more if one takes into account the possible contemporaneity of scribes writing in comparatively earlier and later scripts. Nevertheless, it seems certain that 11Q1 was written a significant amount of time after 4Q46, for example.

3.3 *Absolute Chronology?*

Moving from relative to absolute chronology necessitates landmarks. Unfortunately, only one scroll entirely written in Paleo-Hebrew has been radiocarbon-dated (4Q22), together with its patch 4Q22^{p}, and even then the resulting calibrated ranges do not enable us to assess the temporal distance between the writing of the scroll and its patch since ranges overlap; even the ranges obtained for the scroll itself are quite large:[158]

– 4Q22: 159 BCE–16 CE (1σ) or 207 BCE–89 CE (2σ);
– 4Q22^{p}: 98 BCE–13 CE (1σ) or 120 BCE–63 CE (2σ).

As a result, the main tool for dating is the inscriptional evidence. In fact, the point of departure of McLean's absolute chronology is as follows:

> Overall, the script of [4Q101] shows little development in either form or stance, except for the odd tick in the B, from the sixth century BCE formal scripts. Yet, the B, the slight rounded tick on the top stroke of the D, the tick on the end of the foot of the Y, the cursive flourish in the foot of the N, and the slight tick on the S indicate the passage of time. While it is always dangerous to make firm commitments upon the stance of forms of coins due to the engraver's constant struggle to use his limited space, the forms of the letters of our script [on 4Q101] show clear continuity with the fourth and third century BCE coins. An approximate date between 225 and 150 BCE seems appropriate, with an emphasis on the earlier end of the scale.[159]

According to the first argument, the script of the sixth century serves as a *terminus a quo* and, in fact, some time must have elapsed before the writing of

158 A.J. Timothy Jull et al., "Radiocarbon Dating of Scrolls and Linen Fragments from the Judean Desert," *Radiocarbon* 37 (1995): 14.

159 McLean, "The Use and Development of Palaeo-Hebrew," 52.

4Q101. However, the reasons given are, in our view, weak: the ticks and the cursive flourish mentioned in the quotation are not necessarily diachronic typological developments but ornamental features or idiosyncratic additions of a scribe. Nevertheless, the point stands since there are better reasons to think that the script of 4Q101 is more evolved than that of the sixth century, as the letter-by-letter analysis above shows. Yet, we need more indications and McLean finds them in the YHD coins. But, here again, there is a problem. The last YHD coins date from c. 260 BCE;[160] there is a gap until the time of John Hyrcanus I (135–104 BCE). McLean himself[161] followed Mildenberg's chronology that dates the last Ptolemaic coins to c. 283/2.[162] So McLean posits an interval of around 60 years between these coins and 4Q101 on the grounds that the script of this scroll is a little more evolved. Yet the coins of the fourth and third centuries cumulatively attest less than half the alphabet, and this quantity significantly decreases if we take into account the fact that the letters *zayn*, *kaf*, *pe*, and *qof* only appear on the Yehizqiyah coins which date from the very end of the Persian period and from the Macedonian period, while the letters *ḥet*, *kaf*, and *nun* also appear on a coin from c. 350 BCE bearing the legend YWḤNN HKWHN. In other words, from the end of the fourth century to c. 260 or c. 282 (depending on the chronology), only the letters *dalet*, *he*, and *yod* are attested. So one may ask whether it is possible to infer from this a *terminus a quo*. The situation is slightly better if we take the rule of Yehizqiyah as a landmark, perhaps c. 340–310, but even so, only nine letters are attested.

Even if we admit that this last horizon can serve as a *terminus a quo*, there remains a difficulty. How are we to use the coins to date scrolls? From the fact that 4Q101 exhibits a script a little more evolved than the YHD coins, McLean deduces that the scroll should be dated 60 years later. One may think that this represents a scribe's lifetime and that it is regarded as a reasonable time to see a script change, but later McLean finds that the script of 4Q46 is less evolved than that of 4Q101 and suggests a dating of c. 250–200 BCE which overlaps with the dating suggested for 4Q101 (225–150 BCE). We should simply admit that we do not know the pace of the evolution of the Paleo-Hebrew script at that time.[163]

160 Hendin, "Current Viewpoints on Ancient Jewish Coinage," 254.

161 McLean, "The Use and Development of Palaeo-Hebrew," 34.

162 Note also that Meshorer evaluates the gap in Jewish coins at 170 years (Meshorer, *Coins of the Holy Land*, 1:237), which implies a date similar to Mildenberg's for the last Ptolemaic coins using Paleo-Hebrew.

163 From a comparative perspective, we may note that, according to Betlyon, the letterforms

At the very least, it is more difficult to assess it for the Second Temple period than for the Iron Age. In the latter we see the development of a script during the first three centuries of its existence: Paleo-Hebrew with its distinctive features seems to emerge in the early ninth century.[164] In this period we can see forms evolve, new features replacing old ones, and alternative forms taking place alongside traditional ones. The Second Temple period differs in two respects. First, there already existed a variety of concurrent forms for some letters as a legacy of the previous centuries—which complicates the task of the paleographer. Second, Paleo-Hebrew was neither the sole script used, nor the most frequent one since Aramaic was seemingly predominant for some uses. Presumably this impacted the pace of the evolution of the Paleo-Hebrew script. Indeed, it is well known by paleographers that "in cursive writing, the quick execution modifies the basic model of the letters, generating new arrangements that slower scripts, whether or not they form a close and self-referential system, can select, implement and organize, creating new geographical, temporal and functional conjunctions."[165] In a word, it is the cursive script used for everyday quick writing that makes the script evolve. Since it is Aramaic that was used for this purpose, it seems probable that Paleo-Hebrew lacked the impulsion to have its script develop. A comparison with a Greek manuscript of the Hellenistic period may be helpful: "hands employed for books are slower and still marked by a sort of 'archaism' … documentary hands assume a more or less fast tendency."[166] Perhaps the same was true of biblical scrolls versus everyday writing in Palestine.

In the course of his discussion McLean has again recourse to coins several other times:

a) For 4Q46: "There does seem to be some relationship with the yhd coins," hence, together with the fact that the script is less evolved than in 4Q101, a dating c. 250–200 BCE.[167]

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on Phoenician coins show "a marked tendency toward archaic forms from as much as a century earlier in time" (Betlyon, "Northwest Semitic Scripts on Coins," 355).

164 See Matthieu Richelle, "Elusive Scrolls: Could Any Hebrew Literature Have Been Written Prior to the Eighth Century BCE?," *VT* 66, no. 4 (2016): 556–594. Of course, the Paleo-Hebrew derives from a previous form of the alphabet, whether Phoenician or "Early Canaanite."

165 Daniele Bianconi, "Palaeography I: Introduction," in *COMSt: An Introduction*, ed. Alessandro Bausi (Hamburg: COMSt, 2015), 269.

166 Daniele Bianconi, "Greek Palaeography," in *COMSt: An Introduction*, ed. Alessandro Bausi (Hamburg: COMSt, 2015), 297–298.

167 McLean, "The Use and Development of Palaeo-Hebrew," 57.

b) For 6Q1, 1Q3[2], 1Q3[3], and 4Q123: "they seem prior to the basic script which will predominate in the Hasmonaean coins," hence a *terminus ad quem* c. 100 BCE.[168]

c) For 4Q11, 4Q124, and 4Q22: They have a number of affinities with the script of the Hasmonaean coinage. And, like the coinage, though they are contemporary, they often reveal a different ideal form or interpretation of the ideal form; hence a dating during the period when the Hasmonean minted coins, c. 100–25 BCE.[169]

d) For 4Q11: "while a number of its features will appear in the First Jewish War coins, both the coins and manuscript materials make it clear that 11QpaleoLev is earlier than the period of the First Jewish War."[170]

We agree on the following conclusions (let us recall that we leave aside scrolls that attest less than two thirds of the alphabet):

– the script of 4Q123 exhibits a few letters that are less developed than on Hasmonean coins (*dalet* with a longer leg, *he* with a rightward extension, *resh* with a longer downstroke);
– most of the letterforms in 4Q11 and 4Q22 find parallels on Hasmonean coins, the possible exception (in our view) being the three-flag *yod* which does not seem attested in the latter—but the leftward extension in question is admittedly a tiny feature, not easily detectable on coins (indeed, McLean regards it as a "hurried extension");
– the script of 11Q1 is less developed than the script of the first revolt (see on these coins the virtual absence of the lower extension of the downstroke in *'alef* and *he*, the rightward expansion in *bet*).

This would lead to the following sequence (in terms of typology):

4Q46			
4Q101			
4Q12	4Q123		
1Q3[1]	4Q11	2Q5	Hasmonean coins
4Q22			Hasmonean coins
11Q1			
			First-revolt coins

As for McLean's absolute dating (see a) to d) above), it seems to presuppose that the coins evolved at the same time as the handwriting on the scrolls: a sim-

168 McLean, "The Use and Development of Palaeo-Hebrew," 66.
169 McLean, "The Use and Development of Palaeo-Hebrew," 66.
170 McLean, "The Use and Development of Palaeo-Hebrew," 85–86.

ilar typology would imply contemporaneity, a more advanced typology would necessarily imply a later dating. The same problem is even more evident in Hanson's latest discussion.[171] He is struck by the similarity in the shape of the letter *he* (among others) on 11Q1 and 4Q22 on the one hand, and on Hasmonean coins on the other. He writes: "either these two scripts are contemporary or the Qumran scripts are earlier than those of the coins, for it is precisely these scripts that explain the origin of the strange form of *he* [i.e. with a triangle] that is found in those coins!"[172] Then he notes the similarity in the shape of *bet* and infers the following statement: "this most surely links them to the same era." Finally:

> One conclusion seems certain: the scrolls and the coins belong to the same time period. If we had to determine which was first, the scrolls would have to be given the preference because in making a cursive form of a traditional *he* they produced the new form that was seen to be proper in the eye of the dye-cutters. As for the *kap* that appears on the coins as a form "preceding" the *kap* of the cursive scripts, it existed as a model in the minds of both. We suggest that the scrolls are a quarter century earlier than the main run of the coins.[173]

Here Hanson tacitly excludes the possibility that the form of H with a triangle had already existed for some time (impossible to evaluate in the present state of the documentation) and that the two kinds of documents (coins and the two scrolls under consideration) inherited it independently. In fact, Hanson assumes that the dye-cutters used 25-year-old scrolls as models, which is perplexing since we cannot estimate the timespan of the existence of a given letterform that would have served as a model. Moreover, this does not take into account the possible interest of dye-cutters in using an old script. And yet, this archaizing tendency is well-attested. In addition, even if we accepted Hanson's scenario, how are we to evaluate the temporal interval between the written sources used as a model and the coins? Actually the situation may be even more complicated if we are right in surmising that engravers tried to imitate an old script but could not help introducing contemporary or recent features.[174]

171 Hanson, "Palaeography," 15–23.

172 Hanson, "Palaeography," 21.

173 McLean, "The Use and Development of Palaeo-Hebrew," 21.

174 Another concern with dating previously suggested by some scholars is that they are influenced by debatable historical reconstructions. This may be the case with McLean concerning the scrolls that contain harbingers of the Samaritan script (1Q3, 2Q5, and 6Q2):

As for us, we may represent the data as follows:

4Q46			
4Q101			
4Q12	4Q123		
1Q3[1]	4Q11	2Q5	Hasmonean coins (first century BCE but possibly reflecting the script of an earlier time)
4Q22			Hasmonean coins
11Q1			
			First-revolt coins (70 CE but possibly reflecting the script of an earlier time)

Thus, we may distinguish three groups:

a) scrolls with a pre-Hasmonean typology (4Q46, 4Q101, 4Q12, 4Q123);
b) scrolls with a typology similar to that of the Hasmonean coins (1Q3[1], 4Q11, 2Q5, 4Q22);
c) a scroll typologically in between the Hasmonean coins and the first-revolt coins (11Q1).

In addition, a letter-by-letter comparison with the Gerizim fragments shows that their script has many affinities with that of group a). We have seen that these fragments date from ca. 500–110 BCE (on archaeological grounds), perhaps more precisely from around the first half of the second century BCE if they date from the same horizon as the Aramaic inscriptions of the same site, which

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"there is enough of a typological gap between these manuscripts and the first known Samaritan inscription, the First Emmaus inscription, to show that these scripts clearly predate the final schism between the Jews of Samaria and the 'normative' Jewish community, or perhaps more precisely, at least predate the political situation which allowed the leaders of Shechem to follow an independent course." ("The Use and Development of Palaeo-Hebrew," 90). As we shall see, today scholars date the First Emmaus inscription considerably later than they did when McLean wrote. The possible relationship between some scrolls and the Samaritans has of course played a role in Baillet's own discussions since he ascribed to the latter the so-called pre-Samaritan texts, including 4Q22, which he dated to c. 225–175 BCE; this hypothesis is hardly convincing (see the discussion in Dušek, *Aramaic and Hebrew Inscriptions*, 88–89 and Tigchelaar, "The Material Variance"). Interestingly, in her detailed study of this scroll, Sanderson was not able to decide between this dating and the other suggested by McLean, c. 100–25 BCE (Judith E. Sanderson, *An Exodus Scroll from Qumran: 4QPaleoExodM and the Samaritan Tradition*, HSS 30 [Atlanta: Scholars Press, 1986], 222), although the gap between them is quite impressive. As for Edge ("The Use of Palaeo-Hebrew," 357), he postulated a gap of 50 years between the scrolls entirely written in Paleo-Hebrew and those which only contain isolated letters or divine names in this script, in connection with his idiosyncratic reconstruction of the history of the Qumran community (we shall return to this matter below).

is plausible but far from certain. *If* we accept the latter date, it may imply a dating a little earlier than that for group a) since the script of the fragments may be conservative and less advanced than the contemporary cursive script. In the special case of 4Q22 we may have both a *terminus a quo* c. 209 BCE thanks to radiocarbon-dating, and a *terminus ad quem* thanks to coins, hence a possible date in the first half of the second century BCE.

In the end, if we had to suggest an absolute chronology, it would be the following:

Scrolls	Possible dating
4Q46 4Q101 4Q12, 4Q123	Some time before the first half of the second century BCE
1Q3[1], 4Q11, 2Q5, 4Q22	Some time before 130 BCE; perhaps first half of the second century BCE?
11Q1	Some time before 70 CE; perhaps second half of the first century BCE or first half of the first century CE?

But *we immediately insist on the fact that this remains very hypothetical*. In particular, it is very difficult to evaluate the age of the script used on the coins and the Gerizim fragments and thus what "some time" represents in the table above. It would be difficult to be more precise from a paleographical point of view only. That said, another kind of information may help. Longacre recently argued that Jewish scribes switched from rush brush to reed pen in the third century BCE; if this is correct, then, as he notes himself, "this makes it highly unlikely that the reed-written Palaeo-Hebrew scrolls from Qumran pre-date the third century."[175]

To close this section, we would like to indicate possible directions for further research on the paleography of the Paleo-Hebrew scrolls. First, what is important for the Second Temple period is not necessarily the mere existence of alternative forms; in some cases at least it is the possible predominance of one form. For instance, we have seen that the form of *he* with a triangle is not an innovation since it has precedents in the sixth century, but it was

175 Drew Longacre, "Comparative Hellenistic and Roman Manuscript Studies (CHRoMS): Script Interactions and Hebrew/Aramaic Writing Culture." *COMSt Bulletin* 7 (2021): 19n43.

only a marginal use at that time, as far as we know; by contrast, on Hasmonean coins it is the preponderant form. Insofar as the two forms continued to coexist (cf. 4Q123), its sole presence can hardly serve as a chronological indicator for a scroll which contains, say, fewer than four occurrences of the letter (4Q12, 4Q101, 4Q123, 4Q124, 4Q125, 6Q2), let alone one (4Q46; *pace* McLean).[176] This could work only if we were sure that the scribes were entirely consistent in their use of letterforms, having exclusively recourse to one form for the letter under scrutiny. There are counterexamples, however: we have already mentioned that the two forms of *he* coexist in 4Q123, and one may add the fact that on 11Q1 the letter *ḥet* only exists in the form where the traditional vertical extensions are absent, *except for one occurrence* where they are clearly present. When we only have one occurrence of a letter, or even a couple, on a given (fragmentary) scroll we may perhaps think that it is a random selection and that, in terms of probability, the odds are that it belongs to the most common form. But we cannot be sure and we cannot know if the scribe was consistent.

Note also that the triangle form of *he* appears on 4Q101 but not on scrolls that are later according to McLean (e.g. 4Q11, 4Q12). Manifestly, its sole presence on a scroll is no proof that this scroll is later than another one from which this form is absent. In sum, the form of *he* may be relevant only for scrolls which contain *enough* occurrences of this letter and exhibit a *consistent* form or a clearly higher frequency for a given form. This concerns 2Q5, 6Q1, 4Q11, 4Q22^{p} on the one hand (three flags), 4Q22 and 4Q45 on the other (triangle). Interestingly, the triangle appears on 4Q22 but not on its patch (4Q22^{p}) which is more recent. In sum, a direction for further research could be to provide statistical data regarding the number of occurrences of each letter in each scroll and the ratios of the diverse forms (in terms of their occurrences) in which it is extant. Such a task would be facilitated by automatic paleography (automatic recognition in particular).[177]

Another difficulty is that scholars compare documents as if they belonged to the same series. What if there existed several series, due to scribes evolving at

176 McLean, "The Use and Development of Palaeo-Hebrew," 54.

177 For an overview of possible contributions of new techniques, notably digital humanities, to furthering the research on the paleography of the Dead Sea Scrolls see Daniel Stökl Ben Ezra, "Interdisciplinary Perspectives from Material and Computer Sciences on the Dead Sea Scrolls and Beyond," *Manuscript Cultures* 7 (2014): 97–100. See, in particular, the sophisticated methods developed by scholars in the framework of the ERC projet "The hands that wrote the Bible" in Gröningen (principal investigator: Mladen Popović); that said, the corpus of Paleo-Hebrew Dead Sea scrolls is relatively limited and may not lend itself well to the application of these methods (Mladen Popović and Eibert Tigchelaar, personal communication).

different paces, or diverging in some respects? Indeed, this may be the case for a set of scrolls containing features that will later be fully developed in the Samaritan script, as McLean himself noted for 1Q3[1], 2Q5, and 6Q2: "these manuscripts have several features in common which have no clear antecedents or subsequent development in the Paleo-Hebrew material already discussed [which encompasses all the other scrolls available to McLean]. Second, many of the unique traits common to these three manuscripts are precisely those which find development into formal features of the Samaritan script."[178] Accordingly, this set of scrolls exemplifies a series that seems, not necessarily altogether independently from the other scrolls, to follow its own path, at least to a certain degree.[179]

In the end, we suggest that the absolute dating usually accepted by most scholars should be taken with a pinch of salt; moreover, we do not claim to be able to suggest precise dating and it is only with much caution that we have mentioned some possible dating. Further progress in this matter will probably have to wait from new tools in digital paleography, although two difficulties at least will probably remain for Paleo-Hebrew scrolls: first, we do not have many securely dated landmarks; second, some letterforms coexisted for some time and we do not know how long.

4 The Use of the Paleo-Hebrew Script during the Second Temple Period

It is time now to return to the matter of the use and users of the Paleo-Hebrew script.

4.1 *A Continuous Use?*

Was there a continuous scribal tradition in Paleo-Hebrew during the Persian to the Roman periods? In the above we have noted several hints at a positive answer and we may add a few more. To begin with, the distribution of the documents in time and space is noteworthy. The al-Yahudu tablets show that at least some of the exiles in Babylonia kept using the Paleo-Hebrew script as late as 550 BCE, and the bulla of YHWYŠMʿ BT ŠWŠŠR'ṢR may attest to its enduring use in the early Persian period. Indeed, the name of the owner is written in Paleo-Hebrew while the patronym is written in Aramaic, so the seal exhibits

178 McLean, "The Use and Development of Palaeo-Hebrew," 227.

179 We are not suggesting that these scrolls were copied by Samaritans.

a conscious effort on the part of a scribe to differentiate Hebrew and Aramaic traditions of handwriting and the knowledge to execute this differentiation. Whether it was the decision of the scribe or of yhwyšmʿ herself to use one tradition for her name and the other for her father's is not known. However, the differentiation serves to mark both discontinuity with her father's exilic experience and continuity with two parts of the culture of pre-exilic Judah—her Yahwistic name and the script in which it is written—for her personal seal in the era of restoration.[180]

In light of these traces of Paleo-Hebrew in the middle of the exilic period and just after it, it is plausible that the Exile did not cause an interruption in the tradition of Paleo-Hebrew, although it may well have made an end of some uses of it and restricted the number of people using it. Of course, these are only tiny traces and we would like to be able to substantiate this hypothesis with more documents.[181] Then we have inscriptions in Paleo-Hebrew dated to all the following centuries except perhaps the fifth century; some documents of the Persian period might date from that time but it is not certain.[182] All these scattered traces of Paleo-Hebrew during the Second Temple period look like dots that one may find tempting to connect and this would lead one to hypothesize a continuous use of this script.

There may be some support for this hypothesis in two possible clues of scribal conventions that may have been transmitted throughout the centuries. This might be the case, on the one hand, in the use of Paleo-Hebrew to write divine names since this practice, well attested at Qumran, seems to have some sort of precedent on a fourth-century seal of Bedaiah where the scribe intentionally switched from Aramaic to Paleo-Hebrew to write the divine name YH. Perhaps the same sort of concern played a role on the seal mentioned above where the Yahwistic personal name YHWYŠMʿ was written in Paleo-Hebrew in contrast to the patronym ŠWŠŠR'ṢR. A second echo spanning over centuries is the way some scribes wrote the letter *samekh*. In the cursive script of the royal period "the head of the Old Hebrew *samekh* was consistently initiated above the 'ceiling line.' "[183] This is still the case on several scrolls (e.g. 4Q11, 4Q101, 2Q5), albeit not on every one of them (4Q22). Moreover, Rollston has noted that in

180 Hamilton, "Paleo-Hebrew Texts," 255.

181 Perhaps the al-Yahudu tablets that are to be published will yield more words in Paleo-Hebrew.

182 Hamilton, "Paleo-Hebrew Texts," 260–261.

183 Christopher Rollston, "Scribal Education in Ancient Israel: The Old Hebrew Epigraphic Evidence," *BASOR* 344 (2006): 58.

some sequences S towers over the following letter, notably when it is a *pe* (e.g. in the word SPR).[184] That it was not a spontaneous reflex shared by all the scribes is shown by 4Q101 where the scribe did not respect this convention when writing the word SPR (frags. 1–2, l. 9). It is thus significant that in 2Q5 and 4Q11 the letter *samekh* consistently towers over the following letter. Could it be that this convention was passed down through generations from the Iron Age to the Hellenistic and Roman periods?

These are only modest hints, however, and we do not regard them as sufficient to exclude another possible interpretation of the traces of Paleo-Hebrew scattered throughout the Second Temple period: the use of Paleo-Hebrew script could have ceased before or during the fifth century and been reactivated at some periods for special uses with "nationalistic" purposes: mainly bullae and coins. If so, we could speak of the "artificial" use, at intervals, of an archaic script. However, several facts seem to invalidate this hypothesis and rather point to a continuous use of Paleo-Hebrew.

First, Paleo-Hebrew letters show up in text written in other scripts. This is the case for Aramaic stamp impressions in the fourth century, the "mixed script" of Samarian coins,[185] the "mixed script" of some Gerizim inscriptions, scrolls written in Jewish script (as marginal letters or for divine names) or in cryptic scripts (in the main text), and texts written in Jewish script and in Greek at Masada.[186] Except perhaps in the case of divine names on scrolls where these names may have been added by a second hand,[187] this suggests that some people writing in other scripts had a knowledge of Paleo-Hebrew to which they could have recourse besides their main script. Second, the Paleo-Hebrew script was used in everyday life at least in the first century CE, as shown by letters used as mason's marks at Masada.[188] Third, in several cases (on the Jerusalem stamp impressions, the Gerizim fragments, and the coins), we have seen that a variety of letterforms seemed to coexist.[189] As Hamilton writes, "if it had been only a single scribal group that had preserved Paleo-Hebrew or, if at some point this script had been revived as an intentionally archaizing script, then

184 Rollston, "Scribal Education," 59.

185 Betlyon, "Northwest Semitic Scripts on Coins," 357–359; Meshorer and Qedar, *Samarian Coinage*.

186 The fact that an Aramaic papyrus was sealed with a bulla in Paleo-Hebrew (WD 22) also suggests that both writing traditions existed side by side. Talmon, "Hebrew Fragments from Masada," 6–7.

187 See e. g. for 11Q5 Patrick W. Skehan, "The Divine Name at Qumran, in the Masada Scroll, and in the Septuagint," *BIOSCS* 13 (1980): 238–244.

188 Talmon, "Hebrew Fragments from Masada," 7.

189 As already noticed by McLean, "The Use and Development of Palaeo-Hebrew," 106.

one would have expected one basic form for each letter."[190] Fourth, the characters often bear features that are typical of a cursive script, as already noted by several scholars. For instance, "the general impression given by the script [of the Hebrew inscriptions from Mount Gerizim] is one of cursiveness,"[191] and indeed we have noted the presence of ticks on several letters that are unusual in monumental script but easily explained as cursive features. Betlyon notes the YHD coins exhibit "a cursive influence," in particular "the *he* and *dalet* show definite cursive tendencies."[192] Similarly, Hamilton writes that a coin inscribed with cursive letters "suggests that there may have been a whole cursive tradition of Paleo-Hebrew script on organic writing materials that have perished."[193] He thinks that, "to judge by later exemplars, the narrow forms, usual on coins, imitate letters written with pen and ink."[194]

Admittedly, these last two points could be countered by explaining them thanks to a hypothesis put forward by some numismatists: that the engravers used a variety of written sources as models when they tried to imitate the old script on their coins (or other inscriptions). Hence the variety of letterforms, as well as their cursive aspect if these models were on papyrus or parchment. Yet this scenario does not seem to be able to explain the whole picture. Indeed, as we have noted repeatedly, in the case of bullae dating from the fourth and first centuries, the Gerizim fragments, and the coins of different periods (Hasmonean and the two revolts), it is as if the scribes or engravers tried to use what seemed to them an archaic script but could not help introducing more recent, perhaps contemporary, features. New letterforms were used amidst old ones and even in the latter case the stance sometimes tends to be vertical, once again a late feature. We may draw an analogy with the evolution of the Hebrew language: scribes in the Second Temple period sometimes tried to imitate Classical Biblical Hebrew in their writings, using old expressions and turns of phrase, but at times they did not realize that the semantic content of the latter had changed in the meantime and could not help introducing features of the Late Biblical Hebrew that betray their own time.[195]

190 Hamilton, "Paleo-Hebrew Texts," 285.

191 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*: 32.

192 Betlyon, "Northwest Semitic Scripts on Coins," 356.

193 Hamilton, "Paleo-Hebrew Texts," 286.

194 Hamilton, "Paleo-Hebrew Texts," 264n31.

195 Jan Joosten, "The Evolution of Literary Hebrew in Biblical Times: The Evidence of Pseudo-Classicisms," in *Diachrony in Biblical Hebrew*, ed. Cynthia L. Miller-Naudé and Ziony Zevit (Winona Lake: Eisenbrauns, 2014), 281–292; Jan Joosten, "Pseudo-Classicisms in Late Biblical Hebrew," *ZAW* 128 (2016): 16–29. Therefore, Mathews' opinion, formulated in the fol-

Indeed, the script did evolve during the Second Temple period and we have observed new features as early as in the fourth century. Hanson was right in stating that the script of the coins was more developed than the sixth-century script.[196] This suggests that the script continued to be used in the meantime, notably in the fifth century. Generally speaking, we have noted the appearance of new letterforms on various inscriptions, including on the Bar Kochba coins.

A further hint that the Paleo-Hebrew was still developing in the Hellenistic and Roman periods comes from possible transitional forms or harbingers of the Samaritan script in documents from that time. Admittedly, at first sight, recent research seems to go in another direction. Pummer's recent and prudent statement that "[w]e do not know when the Samaritan script first developed"[197] contrasts with the view that has long prevailed among scholars that "the direct parentage of the Samaritan script was the Paleo-Hebrew of the Hasmonaean period,"[198] perhaps more precisely that "the ancestral Samaritan character branches off from the Paleo-Hebrew script in the course of the first century BC."[199] Proponents of the latter hypothesis were able to point out only one instance of Samaritan script from that period: an inscription written on the capital of a column at Emmaus, which they dated to the first century BCE or CE. It is now clear that it actually dates from the Byzantine period.[200] Since the earliest (securely-dated) epigraphs in Samaritan script date from the fourth century CE, and since a passage from the Babylonian Talmud (*b. Sanhedrin* 21b) suggests that the Samaritans were still using Paleo-Hebrew in the third century, Barag has recently defended the view that this script only appeared in the fourth century.[201] This relatively late date echoes McLean's opinion that the

lowing quotation, is not satisfactory: "The Paleo-Hebrew script of the scroll imitates the archaic or 'old Hebrew' script used during the seventh to sixth centuries BCE. Although the Aramaic, or 'square,' script was more widely used at the time that the Leviticus Scroll was written, a small conservative circle of Jewish scribes preserved the old characters in an attempt to mimic the Hebrew letters of the preexilic age (prior to 586 BCE)" (Kenneth Mathews, "The Paleo-Hebrew Leviticus Scroll from Qumran," *BA* 50, no. 1 [1987]: 49).

196 Hanson, "Paleo-Hebrew Scripts," 42.

197 Reinhard Pummer, *The Samaritans: A Profile* (Grand Rapids: Eerdmans, 2016), 214.

198 Purvis, *The Samaritan Pentateuch*, 50.

199 Frank M. Cross, "Aspects of Samaritan and Jewish History in Late Persian and Hellenistic Times," *HTR* 59 (1966): 209–210.

200 Magen, Misgav, and Tsfania, *Mount Gerizim*, 1, *The Aramaic, Hebrew and Samaritan Inscriptions*:35–36; Dan Barag, "Samaritan Writing and Writings," in *From Hellenism to Islam: Cultural and Linguistic Change in the Roman Near East*, ed. Hannah M. Cotton et al. (Cambridge: Cambridge University Press, 2009), 311–314.

201 Barag, "Samaritan Writing and Writings."

"pure" Samaritan script postdates the Bar Kochba revolt,[202] a view also defended by E. and H. Eshel.[203] But, however difficult it is to pinpoint a precise date for the appearance of a fully developed Samaritan script, the latter was probably preceded by a gradual development in letterforms.[204] Precisely, we know of possible harbingers of the Samaritan script:

– several Dead Sea scrolls exhibit letterforms that announce features of their Samaritan counterpart, as we have noted;
– a seal (Kh2088) discovered during the excavations at Khirbet Qumran bears a letter H conforming to the Samaritan form; it was found in the filling of locus 111 and a dating in the "période III," i.e. between 72 and 135 CE, has been mentioned as a possibility; "the object may have been lost after the abandon of this part of the buildings";[205]
– on a papyrus fragment found at Masada (Mas10^{r}) the letter H is drawn in a way that prefigures the form of the Samaritan inscriptions; it seems difficult to date it except for the *terminus ad quem* in 73 CE. Since the obverse mentions HRGRYZ[YM] ("Mount Gerizim"), some scholars even think it belonged to a Samaritan who sought refuge at Masada, while others believe that it is a Jewish text; in fact, the presence of this expression proves nothing.[206] In any case, the obverse and the reverse were clearly written by different hands.
– the Abba inscription (CIIP 55), found in a tomb in Jerusalem in 1971, comprises seven lines of a script of which several letters resemble Samaritan characters;[207] it seems to us to be transitional between the Paleo-Hebrew and the Samaritan scripts. In this text Abba, son of a priest, says that he was "born in Jerusalem and exiled in Babylon," and that he buried a certain Mattatai son of Yehud in the cave that he, Abba, bought by a deed. While a Samaritan origin has been considered, it is most probably a Jewish text[208]

202 McLean, "The Use and Development of Palaeo-Hebrew," 106.

203 Esther Eshel and Hanan Eshel, "Dating the Samaritan Pentateuch's Compilation in Light of the Qumran Biblical Scrolls," in *Emanuel: Studies in Hebrew Bible, Septuagint, and Dead Sea Scrolls in Honor of Emanuel Tov*, ed. Shalom M. Paul et al. (Leiden: Brill, 2003), 227.

204 Note that it is not certain to which stage of this development *b. Sanhedrin* 21b refers, so it seems difficult to draw a clear line between the third and fourth centuries as Barag does.

205 Lemaire, *Levantine Epigraphy*, 381. Two other PH inscriptions have been discovered at Khirbet Qumran, they date from the royal period: KhQ 1235 (LMLK stamp impressions); KhQ 1236 (a message?).

206 Pummer, *The Samaritans*, 53–54.

207 Joseph Naveh, "An Aramaic Tomb Inscription Written in Paleo-Hebrew Script," *IEJ* 23 (1973): 85–88; McLean, "The Use and Development of Palaeo-Hebrew," 103–106 seems to us to downplay this aspect.

208 Naveh, "An Aramaic Tomb Inscription"; Eliezer Shimshon Rosenthal, "The Giv'at Ha-Mitvar Inscription," *IEJ* 23 (1973): 72–81.

dating from the first century CE at the latest.[209] On the basis of the script, McLean dates it to the late Herodian period.[210] The CIIP corpus suggests a date in the second-first centuries BCE without justifying it. But, "in light of the cave's archaeological findings, the tomb can be unequivocally dated to the first century CE."[211]

The point is that the Paleo-Hebrew script was still in development at the end of the first millennium BCE and in the beginning of the first millennium CE, and that at least a branch of this script was evolving towards what would be later the Samaritan script. Also noteworthy is the fact that the Samaritan script of the inscriptions is characterized by its ornamental appearance which seems to imitate a cursive script. These remarks do not give us information regarding the fifth or fourth centuries BCE, of course, but it shows that we should be wary of conclusions based on *a silentio* argumentation: some scholars were tempted to regard the use of the Paleo-Hebrew script as artificial and sporadic at the turn of the era, but it was in fact still developing.

To sum up, although we are often dealing with indirect evidence or hints rather than incontrovertible proofs, clues are accumulating that an uninterrupted scribal tradition in Paleo-Hebrew existed from the sixth century BCE to the second century CE. In the present state of knowledge, it seems to us that the available evidence *slightly* tilts the balance in favor of this hypothesis; to put it another way, we regard it as the best *working hypothesis*. This is not to say, however, that each century during the Second Temple period saw a widespread use of this script.[212] Among the pieces of evidence noted above those concerning the Hellenistic and Roman periods are more numerous than those regarding the Persian period, and direct evidence of the use of Paleo-Hebrew in everyday life only appears relatively late.[213] In addition, the script apparently evolved at a faster pace at the time of the Dead Sea scrolls than during the Per-

209 Rosenthal, "The Giv'at Ha-Mitvar Inscription," 81.

210 McLean, "The Use and Development of Palaeo-Hebrew," 106.

211 Eshel and Eshel, "Dating the Samaritan Pentateuch's Compilation," 225.

212 Eshel and Eshel speak of a "widespread use of the Palaeo-Hebrew script among Jews during the Second Temple period" (Eshel and Eshel, "Dating the Samaritan Pentateuch's Compilation," 226–227).

213 According to Lemaire, in the Persian period, perhaps "the utilization of Palaeo-Hebrew script was restricted to some 'archaising' uses: seals, literature …" (Lemaire, "Les inscriptions palestiniennes," 96n39). In the fifth and fourth centuries BCE Aramaic was the language and script of daily life, whereas the Hebrew script was reserved for Hebrew texts of a religious and national nature. The same applies to the third and second centuries BCE (and perhaps to the first centuries BCE and CE as well). See Joseph Naveh, "Scripts and Inscriptions in Ancient Samaria," *IEJ* 48 (1998): 94.

sian period. While it would seem incorrect to state that the script was dormant or dead between the sixth and the fifth centuries, and resurrected in the fourth century, it is still plausible that its use remained restricted to limited circles in the beginning of the Persian period. These circles certainly included scribes copying biblical books and possibly writing new ones in the same script. But, in order to explore further this subject, we need first to address the motives behind the use of Paleo-Hebrew in the Dead Sea scrolls.

4.2 *The Use of Paleo-Hebrew for Biblical Books*

Edge lists nine theories that have been defended to explain the use of Paleo-Hebrew at Qumran.[214] Some of them do not need new scrutiny since they are not convincing at all,[215] but the most important theories demand more discussion.

Let us begin with the "nationalism theory." This explanation has often been given for the use of Paleo-Hebrew on coins and seals, and it would also be relevant for Yehud and Jerusalem stamp impressions as well. That said, it is convincing for coins minted under the Hasmoneans[216] and during the Jewish revolts,[217] but debatable for the earliest Jewish coins, namely the YHD coins with Paleo-Hebrew legends. The latter do not necessarily stem from a "nationalistic" claim to autonomy since some of them bear a picture of the Persian Great King[218] or the head of Ptolemaic rulers.[219] More to the point, it is far from clear

214 Edge, "The Use of Palaeo-Hebrew," 334–357.

215 This is the case, for instance, of the "display-script theory": the Paleo-Hebrew script would have been used "as a display script for ornamental purposes" after it fell from use. This hypothesis could find some support in the fact that the scrolls were copied on parchment (not papyrus) and very carefully (Tov, *Scribal Practices and Approaches*, 254–256), but these characteristics are not exclusively related to texts in Paleo-Hebrew, and the notion that some scrolls were used for "ornamental purposes" seems gratuitous. Moreover, we know that Paleo-Hebrew was used for mason's marks and lists of names so it is doubtful that it was necessarily regarded as ornamental.

216 David Hendin, "Numismatic Expressions of Hasmonean Sovereignty," *Israel Numismatic Journal* 16 (2007–2008): 76–91; Uriel Rappaport, "The Inscriptions on the Yehud and the Hasmonean Coins: Historical Perspectives," in *"See, I Will Bring a Scroll Recounting What Befell Me" (Ps 40.8): Epigraphy and Daily Life from the Bible to the Talmud*, ed. Esther Eshel and Yigal Levin (Göttingen: Vandenhoeck & Ruprecht, 2014), 143–158.

217 David Hendin, "Jewish Coinage of the Two Wars, Aims and Meaning," in *Judaea and Rome in Coins, 65 BCE–135 CE*, ed. David M. Jacobson and Nikos Kokkinos (London: Institute of Jewish Studies, Spink, 2012), 123–144.

218 Haim Gitler, "Identities of the Indigenous Coinages of Palestine under Achaemenid Rule: The Dissemination of the Image of the Great King," in *More than Men, Less than Gods: Studies on Royal Cult and Imperial Worship*, ed. Panagiotis P. Iossif et al. (Leuven: Peeters, 2011), 105–119; Hamilton, "Paleo-Hebrew Texts," 264–286.

219 Meshorer, *Coins of the Holy Land*, 1:241; by contrast, Schniedewind writes: "the use of

that the same motive could underlie the use of the same script for other kinds of documents, notably everyday texts and scrolls. Whereas coins spread over the country publicly display propaganda images (and it is important to remember that the script has an iconic aspect), the use of scrolls was restricted to a very limited range of people and did not necessarily come from the political authorities. Besides, this hypothesis does not explain the use of Paleo-Hebrew in texts not entirely written in this script, whether in letter margins, divine names, or sporadically in the main text.

However, Edge thinks that the "Qumran scribal use of the Paleo-Hebrew script as a single, conservative national script was different from its political use on coins by the Jerusalem authorities."[220] This is quite possible but difficult to prove. The notion of a "conservative script" is attractive at first sight and there may be some truth in this. It is sometimes backed by the idea that "the paleo-Hebrew texts found at Qumran came from the circles of the *Sadducees* who ascribed great importance to the authenticity of the ancient characters."[221] For instance, Siegel wrote that "the palaeo-Hebrew script was kept alive by the older, more conservative Priestly and Levitic families."[222] However, Tigchelaar is right in noting that the Sadducees theory, however attractive, "is a weak hypothesis because it is based on a minimum of certain data, and because it does not offer new explanations, for example for the non-Torah texts written in the ancient Hebrew script."[223] Indeed, besides the Pentateuch, the book of Job is attested in Paleo-Hebrew and 4Q123 shows that it was the same either for the book of Joshua[224] or for a non-biblical book,[225] not to speak of unidentified fragments.

Hebrew language and script on the Yehezqiah coins in the fourth century BC was the first expression of this new autonomy" ("Aramaic, the Death of Written Hebrew," 143).

220 Edge, "The Use of Palaeo-Hebrew," 359.

221 E.g. Tov, *Scribal Practices and Approaches*, 248; see also Emanuel Tov, "The Socio-Religious Background of the Paleo-Hebrew Biblical Texts Found at Qumran," in *Geschichte–Tradition–Reflexion: Festschrift für Martin Hengel zum 70. Geburtstag*, ed. P. Schäfer, H. Cancik, and H. Lichtenberger, vol. 1 (Tübingen: Mohr Siebeck, 1996), 353–374.

222 Jonathan P. Siegel, "The Employment of Palaeo-Hebrew Characters for the Divine Names at Qumran in the Light of Tannaitic Sources," *HUCA* 42 (1971): 171.

223 Tigchelaar, "The Material Variance." Note also Émile Puech's view that "rien ne s'oppose à l'idée que des scribes lévites esséniens aient copié ce genre de rouleau [i.e. in Paleo-Hebrew script]" (Émile Puech, "La paléographie des manuscrits de la mer Morte," in *The Caves of Qumran: Proceedings of the International Conference, Lugano 2014*, STDJ 118 [Leiden: Brill, 2016], 97n9).

224 McLean, "The Use and Development of Palaeo-Hebrew," 44; Edge, "The Use of Palaeo-Hebrew," 316.

225 Tov, *Scribal Practices and Approaches*, 247n304.

Another important hypothesis is the "sacred-script theory." It has been formulated by Tov as follows: "scribes belonging to the Qumran community ascribed a higher degree of sanctity to the use of paleo-Hebrew characters in general (that is, not only with regard to the writing of the divine names) than to the square script."[226] This view has been challenged by some scholars who believe, on the contrary, that during the Second Temple period "the Assyrian or square script was regarded as holy. Consequently, those who were scrupulous about observing the laws of ritual purity refrained from using the square script for mundane purposes and used the Paleo-Hebrew script instead."[227] In other words, the rabbinic precept that "[t]hey selected for Israel the Assyrian script and the Hebrew language, leaving the [Paleo-]Hebrew script and the Aramaic language for the commoners" (*b. Sanhedrin* 21b) already applied at the time of the Dead Sea scrolls. Actually, M.H. Segal and Birnbaum already defended a similar hypothesis a long time ago.[228] Zissu and Abadi also suggest that "at Qumran, contact with a Torah scroll immediately rendered a person impure" and that two strategies were used to allow people to study the scrolls without becoming impure or risking defiling the scroll: "The first was to write copies of the texts in which the divine name was written in the Paleo-Hebrew script, which had lesser sanctity … The second solution was to write the entire text in the Paleo-Hebrew script."[229] Of course, Zissu and Abadi run the risk of projecting back into the Second Temple period conceptions that are not attested before the Talmud.[230] The Paleo-Hebrew script seems to virtually disappear in Jewish documents after the second century CE, except perhaps for divine names in some manuscripts.[231] Some scholars think that it was abandoned because it was used by the Samaritans but, of course, this is just a conjecture. In the end we cannot be sure that the rabbinic view on Paleo-Hebrew was the same as the view of the scribes copying the Dead Sea scrolls in this script. In our view, both approaches are liable to the same objection: both scripts were

226 Tov, *Scribal Practices and Approaches*, 246.

227 Zissu and Abadi, "Paleo-Hebrew Script," 661.

228 Birnbaum, *The Hebrew Scripats*, cols. 63–64.

229 Zissu and Abadi, "Paleo-Hebrew Script," 660–661.

230 The same point is made by Tigchelaar, "The Material Variance."

231 De Lange thinks that some Greek manuscripts of the third-sixth centuries CE using Paleo-Hebrew letters for the tetragrammaton and, in one case, a double *yod* representing Kyrios are of Jewish origin, while noting the fact that this practice might have been used by Christians too (De Lange, *Japheth in the Tents of Shem*, 70–75). There is also a graffito on the wall of a cave with four Paleo-Hebrew letters that may date from the same period (CIIP 957), but this date seems to be suggested in view of the presence of Greek graffiti nearby and perhaps one should not exclude the fact that it was scrawled before them.

used for "profane" purposes in everyday life. Perhaps one may imagine that only some circles regarded a given script as sacred but it does not seem to be the most probable explanation.

All in all, the most sober approach may well be the "continuous theory": that the Dead Sea scrolls written in Paleo-Hebrew were vestiges of an uninterrupted scribal tradition. But this raises the question of the "ancestors" of these scrolls.

4.3 *The Biblical Scrolls*

According to Tov, the Dead Sea scrolls completely written in Paleo-Hebrew

> were written at a relatively late period, possibly but not necessarily as a natural continuation of the earlier tradition of writing in the "early" Hebrew script. They were concurrent with the use of the square script, as can be proved by a paleographical examination of the paleo-Hebrew script. Most scholars tacitly assume that with the revival of the paleo-Hebrew script in the Hasmonean period, texts were transformed from the square to the paleo-Hebrew script (thus Mathews, "The Background"), and this is probably correct, although it is not impossible that the practice of writing in the paleo-Hebrew script had never ceased in some circles.[232]

While possible, the scenario favored in this quotation presents weaknesses. First, it infers, from a supposed "revival" of Paleo-Hebrew that was grounded in *politics* (cf. its "nationalistic" use on coins and seals), a *religious* use of the same script, without justifying the causal process. From displaying iconic inscriptions on small objects that most people in the country will see daily to using the same script on scrolls that only few people could manipulate and read there is a step that needs to be explained. Obviously the outcomes were different and the same motive can hardly underlie both uses. Nor would it underlie the use of Paleo-Hebrew for writing divine names or letters embedded in cryptic texts. And the sole fact that this script was more widely used by scribes than before, if true, does not imply that a need was felt for the transformation mentioned in the quotation. Indeed, one cannot help noticing that the necessity for this change was not irresistible since it was not generalized: biblical scrolls were still copied in the Jewish script at the same time and later. Second, this theory seems to presuppose a hiatus between the use of Paleo-Hebrew for writing and copying biblical scrolls until, say, the early Persian period, and the same use for scrolls in the late Hellenistic and Roman period. Given what we have seen about the use of this script in general in the centuries preceding the Hasmonean

232 Tov, *Scribal Practices and Approaches*, 246–247.

period, our working hypothesis would rather point to a continuous use. In other words, the scrolls in Paleo-Hebrew dating from the Hellenistic period could well be copies of scrolls that were themselves written in this script. This seems to be a more "economic" hypothesis than supposing, for some books at least, that the text first existed in Paleo-Hebrew, then was copied in square script at some point, while later still one reverted to the Paleo-Hebrew to copy it.

Finally, a plausible scenario in our view posits not a partial replacement of the square script by Paleo-Hebrew for some scrolls, but a "gradual shift" from Paleo-Hebrew to the square script,[233] so that the biblical scrolls in Paleo-Hebrew we possess are vestiges rather than archaizing.[234] A plausible explanation for the replacement of Paleo-Hebrew by the square script has been suggested by Tigchelaar: "it enabled and perhaps also reflected the broader diffusion of scriptures in Hellenistic and Roman Judea."[235] The notion of a gradual shift related to the diffusion of the biblical books seems all the more commendable since the replacement of Paleo-Hebrew by the square script happened in several geographical areas. It is possible that some of the Septuagint translators used Hebrew *Vorlagen* written in Paleo-Hebrew characters: according to some scholars, some of the words they got mixed up can only be explained by the resemblance of certain letters in the Paleo-Hebrew script.[236] If so, books (including some from the Pentateuch) in this script were still used in Egypt and Palestine at the various times they were translated.

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233 Tigchelaar, "The Material Variance."

234 This gradual shift could have begun in the Persian period as Mimouni, for instance, thinks: "C'est seulement à la suite de la mission d'Esdras en 398 qu'on s'est mis à copier la torah, rédigée en hébreu, en utilisant l'écriture araméenne" (Simon C. Mimouni, *Le judaïsme ancien du IVe siècle avant notre ère au IIIe siècle de notre ère: des prètres aux rabbins* [Paris: Presses universitaires de France, 2012], 276). See also the nuanced view defended by Noam Mizrahi, "Script-Switching: Linguistic and Historical Aspects of the Shift from Hebrew to Aramaic Script in the Second Temple Period," *KUSATU* 22 (2017): 101–123, esp. 117: "The shift from Hebrew to the Jewish script may well have assumed full force in the Hellenistic period, but its roots are to be searched for already in the Persian period."

235 Tigchelaar, "The Material Variance." Mizrahi, "Script-Switching" suggests that the Aramaic script was regarded by Judeans scribes as a visual marker of authority and power, and, as such, ideal for literary works that contained divine words.

236 Shemaryahu Talmon, *Text and Canon in the Hebrew Bible: Collected Studies* (Winona Lake: Eisenbrauns, 2010), 125–170; Emanuel Tov, *The Text-Critical Use of the Septuagint in Biblical Research*, Jerusalem Biblical Studies 3 (Jerusalem: Simor, 1981), 209–210; Choon-Leong Seow, *Job 1–21. Interpretation and Commentary*, Illuminations (Grand Rapids: Eerdmans, 2013), 366, 406, 535, 685, 787, 824. In addition, according to Hila Dayfani, some variants between the Samaritan Pentateuch and the Masoretic Text of the Pentateuch are due to confusions between Paleo-Hebrew letters (Hila Dayfani, "The Relationship between Paleography and Textual Criticism: Textual Variants Due to Graphic Similarity between the Masoretic Text and the Samaritan Pentateuch as a Test Case," *Textus* 27 (2018): 3–21).

Annexes

TABLE 1.1 Paleographical chart of the Paleo-Hebrew Dead Sea Scrolls. Auto-contrast made with Adobe Photoshop.

	1Q3[1]	1Q3[2]	1Q3[3]	1Q3[4]	2Q5	4Q11	4Q12	4Q22	4Q22[p]	4Q45
ʾAlef										
Bet		*none*	*none*	*none*						
Gimel	*none*	*none*	*none*	*none*			*none*		*none*	
Dalet		*none*	*none*	*none*			*none*			
He		*none*		*none*						
Waw		*none*	*none*	*none*						
Zayn	*none*	*none*	*none*	*none*	*none*		*none*			
Ḥet		*none*	*none*	*none*	*none*					
Ṭeth	*none*	*none*	*none*	*none*					*none*	
Yod			*none*	*none*						
Kaf			*none*	*none*						
Lamed			*none*	*none*						
Mem			*none*	*none*						
Nun		*none*	*none*	*none*			*none*			
Samekh	*none*	*none*	*none*	*none*			*none*		*none*	
ʿAyin	*none*	*none*		*none*						
Pe	*none*	*none*	*none*	*none*						

4Q46	4Q101	4Q123	4Q124	4Q125	6Q1	6Q2	11Q1	11Q22	Vat	Mas10^{r}	Mas10^{v}
				*none*		*none*			*none*		*none*
				*none*					*none*		
none				*none*	*none*				*none*		*none*
					*none*	*none*			*none*		*none*
											
				none							*none*
none	*none*	*none*		*none*	*none*	*none*		*none*	*none*	*none*	*none*
none		*none*		*none*						*none*	*none*
none	*none*			*none*	*none*	*none*		*none*	*none*	*none*	*none*
				none							
	none	*none*		*none*		*none*			*none*	*none*	
		none		*none*		*none*			*none*		*none*
	none			*none*				*none*			
				none		*none*					*none*
none		*none*		*none*	*none*	*none*		*none*	*none*	*none*	*none*
				none	*none*				*none*	*none*	*none*
none		*none*		*none*	*none*	*none*			*none*	*none*	*none*

TABLE 1.1 (*cont.*)

	1Q3[1]	1Q3[2]	1Q3[3]	1Q3[4]	2Q5	4Q11	4Q12	4Q22	4Q22[p]	4Q45
Ṣadhe		*none*	*none*	*none*	*none*		*none*			
Qof	*none*	*none*	*none*	*none*	*none*		*none*			
Resh				*none*						
Shin			*none*	*none*					*none*	
Taw		*none*	*none*	*none*						
Dot				*none*						*none*

4Q46	4Q101	4Q123	4Q124	4Q125	6Q1	6Q2	11Q1	11Q22	Vat	Mas10^{r}	Mas10^{v}
none		*none*		*none*	*none*	*none*		*none*	*none*	*none*	*none*
		*none*		*none*		*none*			*none*	*none*	*none*
				*none*	*none*						
				*none*				*none*	*none*	*none*	*none*
				*none*		*none*					
			*none*	*none*					*none*		

TABLE 1.2 Paleographical chart of the Divine names in Paleo-Hebrew attested in the Dead Sea Scrolls written in 'square' script. Auto-contrast made with Adobe Photoshop.

	1QpHab	1Q14	1Q15	1Q35	4Q57	4Q161	4Q171	4Q173	4Q180
'Alef	*none*		*none*			*none*	*none*		
Bet	*none*	*none*	*none*	*none*		*none*	*none*	*none*	*none*
Dalet	*none*	*none*	*none*	*none*		*none*	*none*	*none*	*none*
He				*none*				*none*	*none*
Waw		*none*		*none*		*none*		*none*	*none*
Yod				*none*				*none*	*none*
Lamed	*none*		*none*			*none*	*none*		
Mem	*none*	*none*	*none*	*none*		*none*	*none*	*none*	*none*
Nun	*none*	*none*	*none*	*none*		*none*	*none*	*none*	*none*

4Q183	4Q186	4Q243	4Q267	4Q268	4Q406	6Q15	11Q2	11Q5	8Ḥev^{1}	8Ḥev^{2}
	*none*				*none*		*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
	*none*		*none*	*none*		*none*				
		*none*	*none*	*none*		*none*				
none	*none*	*none*	*none*	*none*		*none*				
	*none*				*none*		*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*		*none*	*none*	*none*	*none*	*none*
none	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*

TABLE 1.3 Paleographical chart of some Arad ostraca from the 6th century BCE

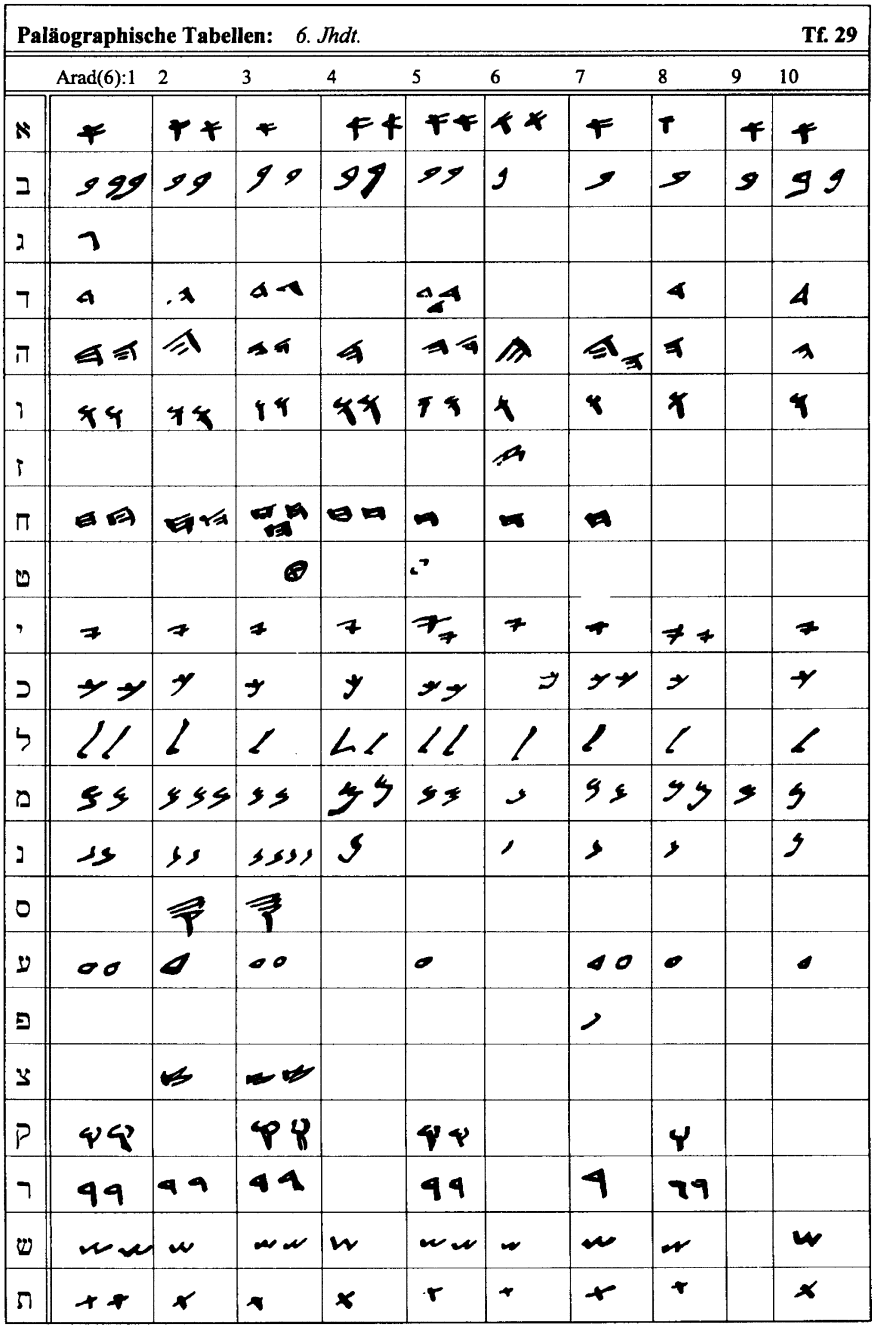
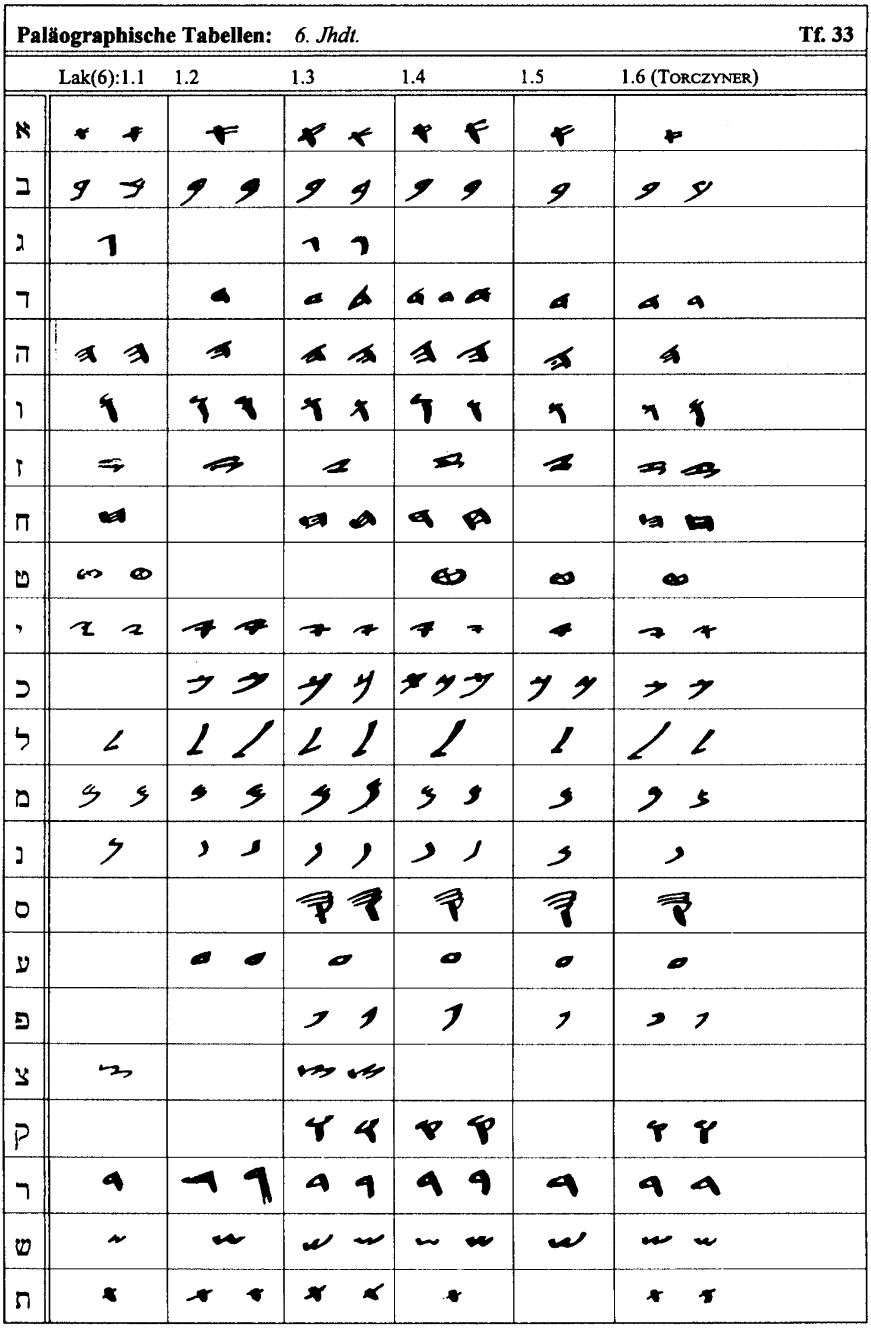


TABLE 1.3 Paleographical chart of some Arad ostraca from the 6th century BCE (*cont.*)



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