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Scribal Aspects of the Manufacturing and Writing of the Qumran Scrolls

Abstract: The Judaean Desert documents (often named ‘the Dead Sea Scrolls’) constitute the largest corpus of texts in non-lapidary scripts providing information about scribal habits in early Israel relating to biblical and non-biblical texts. They may be compared with other texts in Hebrew and Aramaic in non-lapidary scripts, especially the large corpora of Elephantine papyri and other Aramaic manuscripts from the 5th and 4th centuries BCE. These two groups of documents are highly significant as comparative material for the present analysis; among other things, evidence shows that the manuscripts from the Judaean Desert continued the writing tradition of the Aramaic documents from the 5th century BCE in several respects. For the purpose of this study, the following areas have been singled out from the many scribal aspects of manufacturing and preparing the Judaean Desert documents: the local production of written material in the Judaean Desert, special characteristics of the Qumran corpus, the reasons behind the scribal peculiarities of the Qumran corpus, internal differences between the Qumran caves, and chronological differences between the corpora.

1 Introduction

The Qumran scrolls from the Judaean Desert (often named the ‘Dead Sea scrolls’) constitute the largest corpus of texts in non-lapidary scripts providing information about scribal habits in early Israel relating to biblical and non-biblical texts. These practices may be compared with other texts in Hebrew and Aramaic in non-lapidary texts, both contemporary and earlier, especially the large corpora of Elephantine papyri and other Aramaic texts from the 5th and 4th centuries BCE. These two groups of texts are very significant as comparative material for the present analysis; among other things, evidence shows that the texts from the Judaean Desert continue the writing tradition of the Aramaic documents from the 5th century BCE in several respects.

The Egyptian Aramaic corpus is significant as it is extensive and derives from an early period. It also provides various relevant parallels. However, the corpus of scrolls from the Judaean Desert is much larger and its scribal habits were far more developed. As such, it constitutes the most important source of information on scribal habits for Hebrew and Aramaic texts from Israel prior...
to the early Middle Ages, from which time the first documents from the Cairo Genizah originate.

A comparison of these practices with scribal habits seen in Greek texts from the 7th century BCE onwards is mandatory and therefore often undertaken. Furthermore, the analysis often leads us to the writing practices of even older cultures such as those of ancient Egypt, Ugarit and Mesopotamia. Obviously, one needs to be careful with such comparisons since the texts produced in these areas were written in different languages and often on different materials. Equal care needs to be taken in making comparisons with rabbinic prescriptions since these were written later than the texts from the Judaean Desert and only pertain to the writing of scripture and sacred documents.

For the purpose of this study, I have singled out the following topics from the many scribal aspects of manufacturing and preparing the Qumran scrolls, and in each of them, I have advanced the discussion beyond my monograph on scribal practices: (1) writing materials, (2) sheets, (3) scrolls, (4) ink, (5) ruling and guide dots, and (6) conventions used at the beginning and end of scrolls. Many additional topics could have been chosen in the realm of writing practices, such as divisions between words, small sense units (stichs and verses) and larger sense units, the special layout of poetical units, scribal marks, correction procedures, scripts, special scribal characteristics reflected in certain types of texts, and various scribal traditions.

Our description of scribal practices reflected in the documents from the Judaean Desert is as complete as possible now that these texts have all been published in their entirety. Use is made of several helpful partial analyses and descriptions by others, although they are often based on a limited number of texts.

2 Writing materials

The texts from the Judaean Desert were mainly written on leather and papyrus, on individual sheets or in scrolls. There are no codices from this area; indeed,

1 Tov 2004.
2 The following monographs listed in chronological order are especially helpful: Kuhl 1952; Martin 1958 (this extremely detailed study is only based on the major texts from cave 1); Stegemann 1969; Siegel 1969; Siegel 1971a; Siegel 1971b; Oesch 1979; Oesch 1983; various contributions in Mikra; Steudel 1998; Crown 1983–1987; Lemaire 1992; Ashton 1999; Korpel/Oesch 2000; Kraft; Tigchelaar 2003; Alexander 2003.
codices only came into use after the period in which the Judaean Desert texts were written.³

The vast majority of documents from the Judaean Desert were written on leather and papyrus, the latter comprising some 14% of the Qumran texts, i.e. 131 of the 930 items discovered. In addition, a large number of ostraca were found, especially at Masada, but also at Murabbaʼat (Mur 72–87, 165–168), Nahal Ḥever (8Ḥev 5–6), Nahal Mishmar (1Mish 4–8), Khirbet Qumran (KhQ Ostraca 1–3) and Qumran cave 10 (10QOstracon). Only the Copper Scrolls from cave 3 were inscribed on that material; according to Lefkovits 2000, this was in order to solve ‘the problem of ritual impurity’. Two texts were inscribed on wooden tablets: 5/6Ḥev 54 (P.Yadin 54)⁴ and Mas 743 from 73 or 74 CE (Cotton / Geiger 1989, 90.⁵ On additional writing materials used in this and earlier periods, see Lemaire 1992).

The use of different materials at the various sites in the Judaean Desert reflects the differences in genre among the documents found at these locations. The great majority of the literary texts included in the corpora found at Qumran and Masada were written on leather, while papyrus was used for most of the documentary texts, such as letters and various administrative texts found at Nahal Ḥever, Nahal Ṣeʼelim, Wadi Murabbaʼat and the other sites. At the same time, in ancient Egypt and the Graeco-Roman world, papyrus was the preferred material for texts of any kind, and writing on various forms of leather was far less frequent.⁶

There is no direct evidence regarding the main writing material for long texts used in ancient Israel before the period attested by the Judaean Desert documents. Both leather and papyrus were in use in Egypt very early on, but it is not impossible that leather was preferred in ancient Israel because it was more readily available than papyrus, which had to be imported from far-away Egypt. Lansing Hicks therefore believes that leather was used for the writing of ancient biblical scrolls. One of his arguments’ is that a knife was used by Jehoiakim to cut the columns of Baruch’s scroll exactly at the sutures since the text mentions that Yehudi cut the scroll after every three or four columns (Jeremiah 36:23). On the other hand, according to Haran, a few allusions in scripture suggest that papyrus served as the main writing material during the First Temple period, even though

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⁴ See Haran 1996 for a detailed description of these slates or tablets, one of which contains one of the Bar Kochba letters.
⁵ On the use of wood as writing material in the ancient Near East, see Galling 1971.
⁶ Also see Gamble 1995, 45–46.
⁷ Hicks 1983, 61.
no biblical papyrus texts have been preserved from that era\textsuperscript{8} and the Qumran corpus contains very few biblical copies on papyrus.\textsuperscript{9}

\section*{2.1 Papyrus}

Although literary works from the Judaean Desert were mainly written on leather, many papyrus copies of these compositions are also known to us, albeit probably without any distinctive features at the content level. Papyrus was considered less durable than leather, and the papyri from the Judaean Desert made a less professional impression (lines were less straight and no neat column structure can be observed). On the other hand, it was easier for scribes to remove letters from an inscribed piece of papyrus than from leather. Certain scribes may therefore have preferred papyrus, but the availability of the writing material was likely to have determined the choice of either papyrus or leather; in the case of the biblical texts, additional factors must have played a role as well (see below). It may be the case that papyrus was the preferred medium for private copies of literary compositions,\textsuperscript{10} mainly involving non-biblical compositions at Qumran, especially sectarian works.\textsuperscript{11} On the other hand, Philip Alexander has surmised that the members of the Qumran community may have found it easier to obtain papyrus scrolls from external sources than to produce leather scrolls themselves during the early stages of their residence at Qumran.\textsuperscript{12}

\textsuperscript{8} Jer 51:63 mentions the binding of a stone to a scroll so that it would sink in the River Euphrates. According to Haran 1996, this scroll must have been made of papyrus since a leather scroll would have sunk even without a stone. In support of this assumption, Haran mentions the Egyptian influence on Canaan in this period, which would have included the use of papyrus, the low price of papyrus in contrast to leather, and the biblical use of the root \textit{מחה}, a verb signifying erasure of a written text with water. According to Haran, at the beginning of the Second Temple period, scribes started to use leather when the need was felt for the use of materials capable of containing longer texts. This need was not felt in Egypt, however, as papyrus was used for very long texts, too. See the discussion by Lemaire 1992 for further information.

\textsuperscript{9} Haran 1982.

\textsuperscript{10} Wise 1994, 125ff.

\textsuperscript{11} A similar suggestion was made by Khan 1990–91 for early papyrus copies of the Quran, described as ‘popular’ texts intended for private study.

\textsuperscript{12} Alexander 2003, 7.
2.2 Leather

The oldest known leather documents written in any language have been described by several scholars,\(^{13}\) referring among other things to an ancient Egyptian text written more than 2000 years BCE. As for the leather texts from the Judaean Desert, various technical examinations need to be carried out before the full picture is known; additional research is needed to determine from which animal skins the various texts from the Judaean Desert were prepared. In the meantime, partial evidence is available regarding calves, fine-wool sheep, medium-wool sheep, wild and domestic goats, gazelles and ibexes.\(^{14}\)

It stands to reason that the approximate length of the composition was calculated before the writing was commenced; with this information to hand, the required number of sheets could be ordered from a manufacturer or be prepared to fit the size of the composition. Subsequently, the individual sheets were ruled and inscribed and only stitched together afterwards. The fact that some ruled sheets were used as uninscribed handle sheets (i.e. protective sheets such as the final sheets of 11QT\(^2\) and 11QShirShabb) and that some uninscribed top margins were ruled (the second sheet of 1QpHab, for example) shows that the ruling was executed as part of a separate process from the writing. The numbering of a few sheets probably indicates that they were inscribed individually, to be joined together subsequently in a numerical sequence (however, the vast majority of the sheets were not numbered). On the other hand, some sheets must have been joined together before being inscribed.

A further indication of the separate preparation of the individual sheets is the different nature of the two surviving sheets of 1QpHab. The first sheet (cols I–VII) contained regular top margins 2.0–3.0 cm in height, while the top margins of the second sheet (VIII–XIII) measuring 1.6–2.0 cm contain one, two or three uninscribed ruled lines. Since ruled lines are visible in the top margin of the second sheet while all other sheets from Qumran compositions have unruled top margins, it is evident that the manufacturer of this scroll used an existing ruled sheet of larger specifications than needed for the second sheet of this scroll; when preparing the scroll, he cut the sheet to the size required for the present purpose, cutting off the unruled top margin of that sheet and using the ruled area as the top margin. A

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\(^{13}\) Driver 1954, 1; Diringer 1950, 35–49, 172–74; Millard 2000, 26.

\(^{14}\) Knowledge of which section of the animal a particular piece of skin comes from could improve the reconstruction at times. Elgvin 2004, 207, 211 uses this information as a basis for separating 4Q413 and 4Q413a.
similar procedure was followed for the first sheet of 4QDeut⁵, the height of which was cut to the size of the second sheet.

There is evidence of the existence of rolls of blank papyrus sheets at Elephantine.¹⁵ These rolls consisted of sheets that had been glued together, after which smaller pieces were then cut off.

The calculation of the number of sheets needed for copying a composition could never be precise, as evidenced by the ruled column often left uninscribed after the final inscribed column of a sheet.

3 Sheets

Documents were written either on single pieces of leather or on papyrus (a sheet or a scrap of leather) or on scrolls composed of several sheets. Short documents were written on single sheets and in rare cases on scraps of leather; letters and other documentary texts written on papyrus as well as 4QTest (4Q175) written on leather were inscribed on single sheets, for example.

The shape of some documents is irregular (neither rectangular nor square, with uneven borders); it is likely that they were inscribed on remnants left after large rectangular sheets had been cut from the hides for regular scrolls. Thus, the irregular shape of 4QExercitium Calami C (4Q341) made it necessary for the scribe to shorten the last few lines in accordance with the slanting bottom margin. Likewise, most tefillin (phylacteries) and mezuzot were written on small pieces of irregularly shaped leather, which were probably remnants of skin left after rectangular sheets had been cut out. Thus in tefillin 4QPhyl J, the unusual shape of the leather necessitated the writing of long lines at the beginning of the text and very short lines at the end.

Scrolls consisted of sheets of leather or papyrus prepared by one or more scroll manufacturers, not necessarily in the same way. In addition, the sheets could have been ruled by different people for one of several purposes. These dif-

¹⁵ Cf. the description of the Elephantine papyri in Porten-Yardeni 1999, vol. 3, xiii: ‘Fresh, rectangular papyrus sheets were not stored in a pile but were glued together along their length to make a scroll. In writing a document, the scribe detached from the scroll a piece of required size’. A similar remark with regard to papyrus production in Egypt was made by Emmel (1998, 35–43), who remarked that many of the single-sheet documents from Egypt include a seam, where two originally separate sheets had been overlapped and then glued together. In other examples from the classical world, individual papyrus sheets had stitches on both sides.
ferences account for the variations in the number of ruled lines on the individual sheets and in the practice of using guide dots (see section 6).

Sheets were ruled before being sewn together (Crown 2001, 76), and after being joined, the scribe or manufacturer must have made an effort to align the rulings on the different sheets in order to achieve a uniform appearance throughout the scroll; see most of the columns of 11QTa, for example. However, when the columns were positioned at slightly different heights in adjacent sheets, the lines in these sheets often were not continuous. This practice explains the differences in height between the columns in the adjacent sheets of several scrolls, as in 4Q374 3 i and ii (unequal writing level and different number of lines in the same composition).

Sheets were ruled with lines from beginning to end, often with the help of guide dots. These lines were not usually spaced evenly, resulting in the same pattern of spacing throughout the sheet.

It was convenient to inscribe sheets before they were stitched or glued together (see below), and sufficient space was left for the stitching as a rule. However, in some cases, the sheets of some scrolls must have been inscribed after being joined together when almost no space was left between the last few words and the stitching (4QXIIa II–III).

Longer scrolls were composed of sheets of leather sewn or, in the case of papyrus, glued together (see below). The stitching was usually executed in such a way that the two sheets butted up against one another (without any overlap) and that they were joined by threads inserted through holes. The holes left by these stitches as well as the threads used for stitching are visible in many fragments.

Some sheets were not stitched to the top and bottom edges of the leather, but somewhat below the top or above the bottom edges of the following columns; see 4QcryptA Words of the Maskil to All Sons of Dawn (4Q298) and 11QTa. This practice resembles the later rabbinic instruction for texts of scripture:

An area should be left unstitched at the top and at the bottom of the sheets so that the scroll does not get torn in use (Soferim 2.18; cf. b. Megilla 19b and y. Megilla 1.71d).

On the other hand, in most preserved scrolls, the stitching extended to the top and/or bottom edges of the leather, for example 1QIsa2 I (bottom), III–IV, XV–XVI, XIX–XX (all: top and bottom), etc.

Only one document is known in which three tiny fragments of leather (each only containing four lines) were stitched together one above the other (rather than adjacent to each other horizontally), namely 4QIncantation (4Q444; DJD XXIX, pl. XXVI).
Papyrus sheets (kollemata, sg. κόλλημα) were glued together with an adhesive.\textsuperscript{16} According to rabbinic prescriptions, scroll sheets are to be joined with sinews of the same ritually clean cattle or wild animals from which the scroll itself was prepared. Cf. *b. Menahot* 31b (‘only with sinews, but not with thread’) and *Soferim* 1.1 (see further *y. Megilla* 1.71d):

It is also an oral prescription delivered to Moses at Sinai that scrolls shall be written on the skins of ritually clean cattle or ritually clean wild animals, and be sewn together with their sinews.

The evidence suggests that most of the stitching material used in the scrolls from Qumran does indeed consist of sinews. However, further investigation should be able to determine which threads were made of animal sinews and which of flax, in the latter case contrary to rabbinic custom. Poole and Reed claimed that the stitching material which they examined was of vegetable origin and most probably derived from flax.\textsuperscript{17} Which scrolls were specifically examined for this purpose is not known, however.

4 Scrolls

Documents with more than one column were contained in scrolls (rolls) composed of sheets of leather or papyrus.\textsuperscript{18} Each scroll from the Judaean Desert contained but a single unit (composition, document),\textsuperscript{19} although some exceptions are recognised when different but possibly related compositions in the same scroll may have been written by one and the same scribe or by two others, e.g. 4QApocryphal Psalm and Prayer (4Q448); the different components in this scroll (cols I and II–III) are not necessarily related to one another.

\textsuperscript{16} Lewis 1974, 12–13, 38–41, 47–49.
\textsuperscript{17} Poole/Reed 1962, 22.
\textsuperscript{18} Very little is known about papyrus scrolls deposited in the Judaean Desert as no complete scrolls have been preserved. Egyptian papyrus scrolls were strengthened with a reinforcement strip at the beginning and/or end.
\textsuperscript{19} Conversely, each ancient text was once written in a single scroll (although longer documents would have been written in more than one scroll). This applies to the individual books of the Bible, even to the books of the Minor Prophets, which were combined into a single unit (scroll) at a later stage; see Haran 1984. In a later period, however, when larger scrolls were in use, several units were combined into one scroll (the Minor Prophets, the Tora, Former Prophets).
Scrolls of all sizes could be unrolled easily (לָלַג, e.g. m. Yoma 7.1; m. Soṭa 7.7; πτύσσω Luke 4:17) and rolled back to the beginning again (ἀναπτύσσω Luke 4:20) upon completion of the reading, thus ensuring that the first sheet of the scroll or its uninscribed handle sheet remained the outer layer. By the same token, when a reader had reached the middle section of a scroll or any sheet thereafter, upon completing the reading it was easier for the reader to roll the scroll up to the end so that he/she could roll it back again upon reopening the scroll.

Scrolls were usually rolled up tightly in order to aid preservation and economise on space. Due to the tightness of the rolling, a segment of the scroll sometimes left a mirror imprint on the back of the previous layer, which occasionally extended onto the front of that layer as well, as in 11QTa, plate 58 (11QTa col. LIII with a mirror imprint on the back of col. LIV).

Leather scrolls were closed or fastened in different ways:

1. Many scrolls were fastened by tying thongs (inserted in reinforcing tabs) or by strings around them. The thong was connected to a reinforcing tab attached to the scroll itself (only at the beginning of it) in such a way that the thong was tied either straight or diagonally around the scroll (as in 4QDα [4Q266]). In only two cases have scrolls with attached reinforcement tabs been preserved, namely 4QApocryphal Psalm and Prayer (4Q448) and 4QDα (4Q266; see DJD VI, plates IVa–IVb and DJD XVIII, plates I and XIV). Many detached reinforcing tabs made of coarse leather differing from the prepared leather of the inscribed scrolls were found in the Qumran caves. In cave 8, archaeologists discovered sixty-eight reinforcing tabs of this kind, usually of coarse leather, along with the remains of five manuscripts. This cave probably housed a leather workshop or depository unless it originally contained an equal number of scrolls and reinforcing tabs and many of the former subsequently disintegrated. Although only two thongs have been found attached to scrolls, there is still much evidence of their use due to the imprint of thongs or strings on the leather itself, which created a horizontal fold in the middle of most columns of 1QpHab, 1QS, 1QSa, 1QSb, 1QIσα, 4QTest (4Q175) and 4QcryptA Words of the Maskil (4Q298).

20 However, according to Snyder 2000, 281, Luke refers to a codex as πτύχες, which is the basic word for ‘writing tables’.
21 In the latter case, the one preserved specimen of this type has uninscribed areas of 3.5–4.3 cm preceding the first column and 9.0 cm following the final column, both folded for further strengthening before the thong was tied around the scroll (DJD VI, pl. IV; DJD XVIII, pls. I, XIV).
2. Scrolls could also be tied by single strings or thongs not connected to a reinforcement tab; some of these strings could have been passed through holes in the leather of the scroll or a cover sheet. According to Broshi–Yardeni, DJD XIX, 77, the tiny fragment 4QList of False Prophets ar (4Q339) was folded and held together by a string passed through holes still visible on the fragment.

3. Several scrolls were protected by linen wrappings.23 Remnants of wrappings detached from the scrolls were found in caves 1 and 11.24 One section of a scroll was found in cave 1 still enclosed in its wrapper with the leather stuck to a shard from a broken jar (DJD I, pl. I, 8–10). The linen fragments of wrappings from cave 1 are both non-dyed and dyed, in the latter case sometimes with rectangular patterns.

4. In a combination of the aforementioned systems, some scrolls were both enclosed in linen wrappings and tied with a leather thong.

Little is known about the storage of scrolls at Qumran with certainty, but several details may be inferred from archaeological remains. Caves 1 and 3 at Qumran contained large numbers of cylindrical jars, several of which were probably used for storing scrolls (for an early parallel, see Jeremiah 32:14), while a smaller number of such jars were found in other caves and in Khirbet Qumran.25 These jars may have been sealed with pieces of linen, as suggested by G.M. Crowfoot, but they were also closed with lids such as those that have been found.26 Although it is not known which scrolls were stored in the jars, those found in cave 1 that had remained in a relatively good state of preservation, namely 1QIsa, 1QM, 1QpHab, 1QS, 1QapGen ar and 1QH a, were probably stored in this manner. According to Pfann 2002, 169, n. 23, damage patterns on some of the scrolls show which scrolls were stored in jars. The scrolls in cave 4 were probably stored on wooden shelves attached to the walls, for which there is some archaeological evidence.27

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23 For a general description of such wrappings without detailed proof relating to archaeological evidence, see Bélis 1997, 32.
24 For the former, see Sukenik 1954, illustrations 2 and 3; for the latter, see DJD XXIII, 431.
26 Crowfoot, DJD I, 19, 24.
27 Scholars mention holes in the walls of cave 4a, but to the best of my knowledge, no detailed archaeological evidence of this has been presented yet. I am grateful to H. Eshel, who mentioned cave C north of the aqueduct as a parallel. In that cave, which he excavated together with M. Broshi, such holes indicated the presence of shelves in a closet-like structure (personal communication, June 2003).
5 Ink

To date, insufficient research has been conducted regarding the ink used in the documents from the Judaean Desert, which were almost exclusively written in black ink, while red ink was also used in a few texts. Scholars suggested and partly identified the existence of two types of black ink in Antiquity, but the pattern of their distribution in the scrolls is unknown:

- carbon ink, based on lampblack or soot
- iron-gall ink.

The fact that different types of black ink were used is clear from the differing states of its preservation. While the iron-containing ink has been preserved very well in most cases, on some scrolls it has corroded and eaten through the leather, often creating the impression of a photographic negative.

Red ink was used in four compositions, apparently mainly for new units:

- 2QPs: the first two lines of Psalm 103.
- 4QNum: the first line(s) or verse(s) of new sections.
- 4QD (4Q270) 3 i 19: the heading of a new section.
- 4Q481d, a composition of undetermined nature (named ‘4QFragments with Red Ink’ by E. Larson, DJD XXII): unclear circumstances.

Two inkwells were found by R. de Vaux in locus 30 of Qumran, the so-called scriptorium, one made of ceramic material and one of bronze.

6 Ruling, guide dots/strokes

Almost all Qumran and Masada texts written on leather had ruled horizontal lines in accordance with the practice followed in most literary texts written on leather in Semitic languages and in Greek. Early parallels of different types allow us to assume that the earliest biblical scrolls must have been ruled as well.

Ruling in earlier times is evidenced by cuneiform clay tablets, lapidary inscriptions and in some papyrus and leather documents written in various Semitic languages.

28 On the types of ink used in Antiquity and the Middle Ages, see Diringer 1982, 544–53; on ancient ink, see Ashton 1999, ch. 3.
29 For a general introduction, see Leroy 1976 and Turner 1968, 4–5.
31 Ashton 1999, ch. 6. The ruling of the Deir ‘Allah inscription from the 8th century BCE was described by Millard 1978, 24.
In contrast, Judaean Desert texts written on papyrus were not ruled. *Tefillin* were not ruled either; see those from the Judaean Desert and the rabbinic prescriptions in b. *Menahot* 32b; b. *Megilla* 18b. A few Qumran texts were not ruled either: 4QJer\(^c\), 4QCant\(^b\).

Most scribes writing on any material needed some form of graphical guide for their writing. This was provided by horizontal ruling (scoring) for the individual lines and vertical ruling for the beginning and/or end of the columns. The ruling was sometimes applied with the aid of guide dots/strokes or with a grid-like device (see 4QpsEzek\(^c\) [4Q385b] and 11QT\(^b\)), while in other instances no aid was used at all.

The technique of ruling prescribed by Talmudic sources for sacred scrolls is named שֶׁרֶטֶתוּט (shirṭuṭ; b. *Shabbat* 75b; b. *Megilla* 18b). In Palestinian texts, it is referred to as מסרֵגלִין בַּקָּנָה, 'one rules with a reed' (y. *Megilla* 1.71d; *Soferim* 1.1).

The first step in preparing scrolls for writing was that of ruling (scoring), which enabled scribes to write in straight lines. So-called blind or dry-point ruling was usually performed with a pointed instrument (no such instruments have been preserved, however). This was probably a bone, which made a sharp crease in the leather, allowing the latter to be split in two easily and even broken off if desired (e.g. 1QapGen ar XXI–XXII; 1Qlsa\(^a\) XXXVIII, XLVII; 11QT\(^a\) [11Q19] XVIII, XXII). It is unclear why some sheets in the mentioned scrolls are split more than others; differences in material, ways of preparing the skin or the physical force used to produce these rulings possibly account for such variations.

A few manuscripts were ruled with diluted ink, such as 4QS\(^b\) 4QDb,c,d,e,f. In the few Qumran documents that were not ruled at all, the distance between the lines is irregular and the writing is not straight. The most frequently used system of vertical ruling was employed at both the beginning (right-hand side) and end (left-hand side) of the column. The vertical margin line at the end of a column and the vertical line to the right of the following column indicate the structure of the columns and the intercolumnar margin. Usually the vertical lines are more or less perpendicular to the horizontal lines, creating a rectangular shape. In rare cases, the left line was redrawn. In texts written in the paleo-Hebrew script where words could be split between two lines, scribes were more consistent in not exceeding the left margin.

In a few cases, *double vertical ruling* was employed to the right of the column, especially at the beginning of the first column of a sheet. Ruling of this kind was performed with two dry lines spaced a few millimetres apart, while the writing started after the second vertical line. The technique may have been used for purposes of neatness.

The ruling may have been executed by the scribes themselves, but it is more likely it was applied by the scroll-makers, often with the aid of guide dots or
strokes (see below). They seem to have had no precise knowledge of the text to be inscribed, which is indicated by discrepancies between the inscribed text and the ruled lines. The writing in all the scrolls from the Judaean Desert was executed in such a way that the letters hung down from the lines.

In fifty-six or fifty-seven Qumran texts written on leather in the square and paleo-Hebrew scripts, single guide dots (‘points jalons’) or sometimes strokes were indicated with the purpose of guiding the drawing of dry lines. These dots or strokes were indicated in the space between the right edge of the sheet and the beginning of the first column, as in 4QDeut, or between the left edge of the final column in a sheet and the end of the sheet, as in 4QTα? (4Q365a), usually at a distance of 0.5–1.0 cm from the edge of the sheet. In a few instances, they appear at a considerable distance from the edge of the sheet: 4QUnid. Frags. C, c [4Q468c; 3.0 cm], MasSir V (2.5 cm), 2QpaleoLev (1.5 cm), 4QRPe (4Q367; 1.5 cm).

The guide dots/strokes were intended to guide the drawing of dry lines and were therefore inserted by those who manufactured the scrolls rather than the scribes themselves. Just as scribes often wrote beyond the left vertical line, they also wrote very close to these dots, on and even beyond them (e.g. 4QGen-Exod 19 ii; 4QIsa 11 ii). As a result, the amount of space between the dots/strokes and the left-hand edge of the writing differs from scroll to scroll and, indeed, within a scroll; it even varies between the lines in individual columns. In contrast, within a manuscript, dots indicated to the right of the column always appear at the same distance from the right-hand edge.

The employment of guide dots/strokes reveals some details regarding the preparation of sheets, although not their provenance. The use of guide dots/strokes is limited to a minority of scrolls from Qumran and Masada (MasSir only). Notably, none of the large Qumran scrolls had any guide dots or strokes in them. In the case of Qumran, a special pattern is noticeable. Among the documents containing guide dots/strokes, the majority of non-biblical texts – that is, nineteen of the twenty-six identified texts written in Hebrew – reflect the characteristics of the Qumran scribal practice. A connection between this system of preparing scrolls and the Qumran scribal practice is therefore likely, at least during a certain period. At the same time, another forty-three texts written according to the Qumran scribal practice do not seem to have any guide dots or strokes in them at all. This shows that scribes writing in what we call the Qumran scribal practice either used skins prepared elsewhere using a different convention or they themselves employed differing manufacturing procedures over the course of several generations.
7 Conventions followed at the beginning and end of a scroll

The partially preserved beginnings and/or ends of some eighty scrolls from the Judaean Desert provide us with valuable information on the content of these scrolls and the conventions employed at the beginning and end of them. In some cases, the extremities of these scrolls are recognisable because of conventions practised by scroll-makers and scribes (uninscribed areas, handle sheets, etc.), while in other cases, segments of the first or last columns have been preserved without such external features. At the same time, in the absence of any data regarding external features or content, it is sometimes unclear whether a specific column represents the beginning or end of a scroll.

Fifty-one biblical and non-biblical scrolls as well as two unidentified fragments among the Judaean Desert texts have been preserved with partially preserved beginnings. Titles have been preserved in the first words in the running text in fifteen non-biblical texts. In most of the other non-biblical texts (thirteen in all), the first few words have been lost. Since the opening words are titles in the vast majority of cases, it may be surmised that scrolls usually began with a title of some kind. Another twenty-eight texts preserve sections near the beginning of the book, indicating that at one point the beginning, rather than the end, had a better chance of survival.

The ends of twenty-nine scrolls from Qumran (i.e. 3.1% of all the scrolls) and two from Masada have been preserved. Out of all these surviving texts, the ends of seven biblical texts from Qumran (3.5% of all the biblical texts) and two from other sites have been preserved. In addition, according to E. Schuller, DJD XI, 121, the uninscribed fragment 32 of 4QNon-Canonical Psalms B (4Q381) may have been part of the final uninscribed sheet. Other texts preserve sections near the end of the book: 1QpaleoLev, 1QpaleoNum, 1QDeut\textsuperscript{b}, 2QRuth\textsuperscript{a}, 4QpaleoGen-Exod\textsuperscript{b}, 4QNum\textsuperscript{b}, 4QDeut\textsuperscript{c}, 4QpaleoDeut\textsuperscript{c}, 4QSam\textsuperscript{a} (2 Samuel), 5QLam\textsuperscript{b}, 6QpapKgs and MurNum.

Protective sheets were often attached at the two extremities of the scrolls in order to prevent the handling of inscribed areas by users and to protect the scroll. Not all scrolls with preserved beginnings or ends are mentioned below, since the area adjacent to the first or last letters in the column has not been preserved in several scrolls. Currently, lack of evidence does not allow us to state which system was used the most frequently.
7.1 Conventions followed at the beginning of a scroll

1. **Uninscribed area to the right of the first inscribed column.** At the beginning of the first sheet, the scribe often left an area uninscribed (in 4QGenb, for example); this was always larger than the intercolumnar margin (usually 1.0–1.5 cm) and sometimes as extensive as a whole column. This particular custom was practised in Egyptian papyrus scrolls in which the blank area at the beginning of the scroll was often strengthened by a protective strip consisting of one or two layers. The blank area at the beginning of the scroll was generally unruled, although in nine instances the surface was ruled up to the right-hand edge. In scholarly literature, an uninscribed area of this kind is often called *page de garde* (e.g. J. T. Milik, DJD III, 171 regarding 5QKgs), but it is probably best to reserve that term for a separate sheet. This system was imitated in the Copper Scroll (3Q15), in which the first column was preceded by a handling area 6.0 cm in size.
   a) *Large, unruled margin*
   b) *Ruled margin*

2. **Initial handle sheet.** A separate, uninscribed handle sheet (protective sheet, *page de garde*) was often stitched before the first inscribed sheet; it is unclear whether a handle sheet was also attached to the last inscribed sheet in such cases. This was not the case in 1QIsaa, while such evidence is extant at both extremities in 1QS and 1QSa. Remnants of an *attached* initial handle sheet have only been preserved in 4QBarkhi Nafshi (4Q435); in all the other instances, the evidence is indirect, indicated by stitch holes at the right-hand edge of the leather of the first inscribed sheet.
   – Similar initial sheets from the tradition of making ancient Greek and Latin manuscripts were known as a *protocollon* (πρώτοκολλόν), which is the initial glued sheet of a scroll, both inscribed and uninscribed:
     – 1QIsaa: an initial margin of 1.3 cm preceded by a handle sheet (indicated by stitch holes). The handle sheet was apparently seen by Metropolitan Samuel when it was still connected to the scroll. Fragments of this protective sheet are preserved in the Schøyen collection in Oslo, Norway (DJD XXXII).

3. **Uninscribed area preceded by a handle sheet.** In a combination of both systems, the first inscribed column was – probably rarely – preceded by a large, uninscribed area as well as by a handle sheet. The texts in this category are also mentioned in group *I*.

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32 Černy 1952, 19.
1. **1QS**: initial (ruled) margin of 2.8–3.0 cm preceded by a handle sheet (stitch holes). A section of this protective sheet with the title on the verso has been preserved (1Q28).

2. **1QSa**: initial margin of 2.1 cm preceded by a handle sheet (stitch holes).

4. **No indication**. In one case, the beginning of a scroll was not indicated by any external system whatsoever.

### 7.2 Conventions followed at the end of a scroll

The final column was usually ruled beyond the last inscribed line as far as the end of the column, as in 1QpHab, 1QIsa, 4QText with a Citation of Jubilees (4Q228), 4QC\textit{Cal} Doc/Mish B (4Q321), 11QtgJob and 11QPs. Beyond the last inscribed column, the end of the scroll was indicated in one of the following ways:

1. **Uninscribed area**. The final column was often followed by an uninscribed area (with no handle sheet attached), which was either unruled or ruled, often as much as the width of a complete column; see 1QpHab, 4QMMT\textsuperscript{1} (4Q399 [probably]), 11QpaleoLev, 11QPs\textsuperscript{a} and 11QtgJob. The unstitched vertical edge of a scroll has often been preserved, but in other cases such evidence is lacking. A handle sheet may have been attached in such cases, but no scrolls with a large, uninscribed area at the end have been preserved together with an attached handle sheet. The fact that a scribe left such a large ruled area blank indicates that the precise surface area needed for writing could not be calculated when the scroll was being prepared.

2. **Final handle sheet**. A separate (ruled or unruled) uninscribed handle sheet (ἐσχατοκόλλιον) was often stitched in place after the last inscribed sheet, especially in the sectarian texts from cave 11 (note that cave 4 preserved twenty times more texts than cave 11). In several instances, the handle sheet is still attached:

- **1QS**: final margin of 0.0–1.0 cm (unruled) followed by a handle sheet, minute parts of which have been preserved.
- **1QSa**: minute final margin (unruled) followed by a handle sheet, of which an area of 0.7 cm has been preserved.

- The high frequency of texts from cave 11 in this group is striking. With the exception of 11QpaleoLev\textsuperscript{a}, all the Qumran texts preserving a final handle sheet are sectarian and were copied according to the Qumran scribal practice. The preservation of a large number of scroll ends reveals favourable storage conditions in cave 11, while the preponderance of handle sheets among the cave 11 scrolls reflects a specific type of preparation of the scrolls (sectarian scrolls in this case). The existence of such separate uninscribed end-sheets
is paralleled by sheets at the beginning of scrolls, although only in the case of 1QS and 1QSa has actual evidence of such handle sheets been preserved at both ends. All the examples of final handle sheets pertain to leather scrolls, and not to papyri.

3. **No indication at all.** Probably, very few manuscripts had no external system whatsoever for indicating the end of the scroll. One such case is 1QIsa\(^a\), in which the unstitched vertical edge following the last column is inscribed almost up to the end of the sheet, rendering it necessary for users of this scroll to hold it by the inscribed areas. This resulted in the ends of lines 1–10 of the last column having to be re-inked.

Summarising the data for biblical scrolls, evidence of initial handle sheets being used has been preserved for two copies of the Tora (4QGen\(^1\), 4QGen\(^2\)) and one of Isaiah (1QIsa\(^b\)), and there is indirect evidence of a final handle sheet being included in 11QpaleoLev\(^a\) and MasDeut as well. This evidence is in agreement with *Sof.* 1.8, according to which such protective sheets should be attached to both sides of the Tora scrolls and only at the beginning of the scrolls of the Prophets (note that 1QIsa\(^a\) did not have such a handle sheet at its end). In twelve other biblical scrolls, evidence of handle sheets once existing is either negative or absent.

In a few cases, it is unclear why the beginnings and ends were not indicated in any special way, while two different procedures were followed in other instances. These different approaches probably reflected the preferences of manufacturers and/or ‘librarians’ and were probably unrelated to the contents of scrolls. Various systems were used in manuscripts of the same work due to the fact that scrolls were manufactured by different people at different times. Thus 4QBarkhi Nafshi\(^a\) (4Q435) was preceded by a handle sheet, while 4QBarkhi Nafshi\(^b\) (4Q434) was not. In the case of the latter, there was almost no uninscribed area for handling the scroll when it was being unrolled or read.

The only evidence of the existence of *wooden bars* or *rollers* (עָמּוֹדִים, ‘amudim) for handling the scrolls pertains to 11QapocrPs (11Q11, ascribed to 50–70 CE) and the recently unrolled En-Gedi scroll of Leviticus (1\(^{st}\) or 2\(^{nd}\) century CE). These scrolls were rolled around a single bar (the main evidence of the use of single and double wooden bars for synagogue scrolls comes from a later period). See, *inter alia*, m. *Yadayim* 3.4; b. *Bava Batra* 14a; y. *Megilla* 1.71d; *Soferim* 2.5, all of which refer to a single bar attached to the end of a non-Tora scroll and two bars for the Tora scrolls, each attached to one of the extremities (y. *Megilla* 1.71d). Bars of this kind (wooden or bone sticks) are also known from the classical world, where they were named ὀμφαλοί, or *umbilici*. In the synagogue, ‘*amudim* became an integral part of sacred scrolls.
Abbreviations


m  Mishna

b  Babylonian Talmud

Q  Qumran (1Q, 2Q etc. refer to the caves where manuscripts were found)

y  Jerusalem Talmud

References


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