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HEBREW CODICOLOGY

Historical and Comparative Typology of Medieval Hebrew Codices based on the Documentation of the Extant Dated Manuscripts until 1540 using a Quantitative Approach

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מתוך גישה כמותית המיוסדת על תיעוד כתבי-היד בציוני תאריך עד שנת 1540

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The diffusion of the codex and its late adoption by the Jews

A codex is composed of quires comprising a number of folded bifolia, which, after being sewn and bound, allow easy leafing through the book. The diffusion of codex production in the regions around the Mediterranean basin and the gradual supplanting of the old scroll form were a product of both material and cultural factors. As a receptacle of texts the codex is more capacious, durable and convenient for using, carrying about and storing as compared to the scroll. There is no doubt that the technological transition from scroll to codex left a revolutionary impact on the cultural history of these regions. Christians adopted the codex as early as the first centuries of the Common Era for the dissemination of their holy scriptures; after 300 C.E. the codex became increasingly the main book-form used for Greek, Latin, and Coptic Christian texts. Gradually, the book-form of classical non-Christian, so-called pagan literature, took in its turn the shape of the codex, until the scroll's eventual disappearance in the sixth century C.E., when it no longer served as a vehicle for literary texts.[4] The Jews, on the other hand, adopted the codex much later, not before the Muslim period and the beginning of the Geonic literary activity, and presumably no earlier than the eighth century. This is attested to by the contextual uses of the word *sefer* (ספר) in talmudic and midrashic literature as well as by the survival of books in Hebrew scripts, by literary testimonies and by the terms used for a codex in Hebrew sources.

Already Rashi (Shelomo ben Yitsḥaq, ca.1040-1105) had observed, in relation to the talmudic sources, that ספרים שהיו בימי חכמים כולן בגיליון כספר תורה שלנו ('The books in the times of the Sages were all in the form of scrolls, like our Tora scroll').[5] An obscure

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[4] See Turner, *Early Codex*; Roberts & Skeat, *Birth of the Codex*, p. 75; I.M. Resnick, 'The Codex in Early Jewish and Christian Communities', *The Journal of Religious History*, 17 (1972–1973), pp. 1–17; M. McCormick, 'The Birth of the Codex and the Apostolic Life-Style', *Scriptorium*, 39 (1985), pp. 150–158; J. van Haelst, 'Les origines du codex', in *Les débuts du codex – Actes de la journée d'étude organisée à Paris les 3 et 4 juillet 1985*, ed. A. Blanchard (Bibliologia 9), Turnhout 1989, pp. 13–35. For a summary of the earlier literature, see C.C. Crown, 'Codex and Roll in the NT', *Harvard Theological Review*, 34 (1941), pp. 219–250. The transition from the scroll form to the codex more or less overlapped the transition from papyrus to parchment as writing material; however, the finds detailed by Turner show that the two transitions were not interdependent processes. Roberts & Skeat contend that the possibility that the papyrus codex and the parchment codex developed concurrently should not be discounted, and that in any case, the transition from papyrus to parchment was unrelated to the transition from the scroll to the codex (ibid., pp. 5-19).

[5] Rashi on the Babylonian Talmud, *Megilla*, 19a, lemma הכתובה בין הכתובים. First cited by Blau, Althebräischen Buchwesen, p. 40, note 5. In A. Ahrend, *Rashi's Commentary on Tractate Megilla: A Critical Edition (based on the Pesaro printing of 1518)*, Jerusalem 2008 (in Hebrew), pp. 206, a parenthetical

and puzzling gap of some eight hundred years lies between the abundant finds of Hebrew books dating from the late antiquity (namely the Dead Sea Scrolls and the fragments from the Qumran caves and the Judaean Desert dating from the Hellenistic and early Roman period) and the earliest explicitly dated surviving Hebrew codices. There is hardly any extant evidence of the Hebrew book from that period, apart from a few dozen surviving Hebrew fragments in book-hand.[6] Some of these remnants, most of which were inscribed on papyrus during the Byzantine period and discovered in archaeological excavations in Egypt together with Greek papyri, are documentary in nature and only a few are literary texts. Many of them are in Judaeo-Arabic,[7] and should therefore be dated to the end of the gap period, and perhaps even beyond it. Among the existing papyrus fragments that contained literary texts, none can be proven to have derived from a codex.[8] Moreover, the late adoption of the codex form by Jews is conveyed by the late appearance of a term designating this book-form in Hebrew sources. In extant post-talmudic texts, it seems that such a term had appeared in the ancient treatise *Halakhot Pesuqot*, attributed to Yehudai Gaon, who served in his old-age as head of the *yeshiva* in the Babylonian town of Sura during the years 757-761. In

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phrase was erroneously inserted כולן בגיליון כספר התורה שלנו (היו עשויין) ספרים שהיו בימי החכמים (The editor remarks, 'as in a number of witnesses and the 'Or Zarua') (Ahrend edition, p. 149, and see the textual versions cited there). In Rashi's commentary on *Eruvin* 97b, on the words היה כל ספרים העשויים בימי הראשונים עשויין בגיליון <מסורת הש"ס: צ"ל בגלילה> כספר תורה שלנו :קורא בספר ('all the books made in the times of the Rishonim [=early Sages] were in the form of scrolls, like our Tora scroll'). See also Rashi's commentary elsewhere: *Bava Metzi'a* 29b; *Bava Batra* 11a; *Gittin* 60a, and elsewhere. (Cf. the words of R. Yitsḥaq ben Shemuel – the elder Rabbi Yitsḥaq – mentioned in a citation of his responsum in the *Vitry Maḥzor*, by a disciple of Rashi: אבל חומשים כעין שלנו לא היו כלל בימי חכמים. (but ḥumashim [=Pentateuch codices] like ours did not exist in the time of the Sages) [*Vitry Mahzor*, ed., A. Goldschmidt, vol. 1, Jerusalem, 2004, p. 137]. Conversely, in his commentary on a baraita in Shabbat 115b, Rashi interpreted the term טומוס של ברכות (*tomus shel berakhot*) [see discussion below, on the rotulus, n. 30], as a codex; see section a (a) in the appendix to chapter 4 below. Of course the designation ספרים in Rashi's commentary always refers to biblical books.

[6] All of the papyri and a few of the parchment fragments which were inscribed during this gap – between the latest Judaean Desert scrolls and the earliest codices – were anthologized in one annotated corpus: Sirat, *Papyrus*. An addition to this corpus is a papyrus of a fifth century ketubba: C. Sirat, P. Cauderlier, M. Dukan & M.A. Friedman, *La Ketouba de Cologne*: *Un contrat de mariage juif à Antinoopolis* (Abhandlungen der rheinisch-westfälischen Akademie der Wissenschaften, Papyrologica Coloniensia 12), Opladen 1986, pp. 72ff.

[7] These papyri have been given a complete critical edition: J. Blau & S. Hopkins, 'Judaeo-Arabic Papyri Collected, Edited, Translated and Analyzed', *Jerusalem Studies in Arabic and Islam*, 9 (1987), pp. 87–160 [= J. Blau, *Studies in Middle Arabic and its Judaeo-Arabic Variety*, Jerusalem 1988, pp. 401–474].

[8] The one exception is a papyrus codex of liturgical poetry (*piyyutim*) consisting of one multiple-bifolium quire which contained at least 24 bifolia (48 folios), in the manner of non-Hebrew codices during the first few hundred years of the codex's use. However, this codex is not an early one, and is likely to have been produced in the eighth century; therefore it cannot disprove the assumption concerning the late adoption of the codex by the Jews. See Sirat, *Papyrus*, pp. 69-82, and plate XVIII.

the extant version of this text – most probably composed or written down by the disciples of the blind Yehudai Gaon and under his supervision[9] – the relevant passage mentioning the codex form is missing, but both the later Hebrew translation and adaptation of *Halakhot Pesuqot*, entitled *Hilkhot Re'u* and the treatise *Halakhot Gedolot* mention the term מצחף (*mitsḥaf* or *mutsḥaf*),[10] a loanword from Arabic.[11] This Arabic word was adopted as a proper Hebrew word and was used to designate a book in the form of a codex in ancient colophons and ownership notes in the tenth and early eleventh centuryin the Middle East.[12] Eventually it was also used in book-lists. Yet another term for codex – דפתר (*daftar*) – used in ancient colophons and ownership notes in the Orient,[13] was borrowed from the Arabic of the early Muslim period.[14] Another term designating a codex in Hebrew sources is a Hebrew neologism – *maḥzor*. This term too appears in a number of colophons from the tenth century and the first half of the eleventh century and perhaps even earlier, and, like other terms, it did not last.[15]

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[9] See N. Danzig, *Introduction to Halakhot Pesuqot with a Supplement to Halakhot Pesuqot*, New York-Jerusalem, 1993 (in Hebrew), pp. 26-31. See Y. Brody's review, 'Meḥqar sifrut ha-halakha mi-tequfat ha-Ge'onim', *Tarbiz*, 64 (1994), pp. 139-152 (in Hebrew), in which he claims that the treatise attributed to Yehudai Gaon was authored outside of Babylonia, and does not at all represent his teachings (ibid., pp. 142-147).

[10] See in detail Glatzer, 'Aleppo', pp. 260-261. Glatzer argues that indeed, the term מצחף (*mitsḥaf*) appears in one of Yehudai Gaon's abbreviated responsa concerning the same topic but that the word had been corrupted as מציעה; however, this speculation can be doubted. Danzig remarks that the term *mitsḥaf,* which does not appear in the original *Halakhot Pesuqot*, was introduced in the Hebrew translation, entitled *Hilkhot Re'u*, in accordance with its appearance in the later book *Halakhot Gedolot*. Cf. Danzig, 'Ruling', p. 338, note 152.

[11] Etymologically, the term *musḥaf* in Arabic was derived from the term *saḥifa* in the Qur'an, where it means 'scroll' (just as terms that designated a scroll in Greek and Latin were used to designate a codex after the transformation of the book form). See the article by Ory (below, n. 32), p. 88. See also J. Sadan, 'On "Torah" in the Middle Ages', *Jerusalem Studies in Jewish Thought*, 2 (1983), p. 408, note 15 (in Hebrew).

[12] The term first appears in the colophon of the earliest non-fragmented dated codex which date is ascertained, MS St. Petersburg Евр. I B 3, Latter Prophets with Babylonian vocalisation, inscribed in 916 (see *Codices hebraicis*, Part I, ms. 3). In the modern era, M.Z. Segal proposed that the term *mitsḥaf* be used 'especially for an exemplar of a handwritten book – a codex', *Lešonenu,* 1 (1928-1929), p. 321 (in Hebrew).

[13] The term first appears in a colophon dedicated to the owner in a manuscript containing what seemed to be the earliest date found in any Hebrew codex: a manuscript of Prophets inscribed allegedly by Moshe ben 'Asher, the Tiberian Masorete, in 894/5 (see *Codices hebraicis*, Part I, ms. 1). In a book-list from the Qayrawan mosque (copied in 1294, but based on a copy inscribed no later than 907 or 908), the terms *daftar* or *sifr* refer exclusively to books that are not Qur'ans, and it would seem that the term *sifr* was used to designate a bound book, while *daftar* normally designated an unbound book. See A. Gacek, 'The Ancient Sijill of Qayrawan', *MELA Note*s, 46 (Winter 1989), pp. 26–29.

[14] This term originated from Greek, where it was used to designate a certain type of parchment, and it is used in this sense in talmudic literature (διφθέρα, דיפתרא). See Lieberman, *Hellenism*, pp. 205-208. See also *Encyclopaedia of Islam*[2], s.v. 'Daftar' by B. Lewis, vol. 2, Leiden–London 1965, cols. 77–81.

[15] The term was explicitly used in the sense of a codex for the first time in 924 (see *Codices hebraicis*, Part I, Manuscrit 4). It also appears in the colophon of the Prophets manuscript copied, allegedly, by Moshe ben Asher in 894/5. For the term, see Glatzer, 'Aleppo', p. 261-263.

Roberts and Skeat contend that the Jews, who wrote their scriptures on scrolls according to the dictates of Jewish law, were unlikely to replace them with codices. The Christians, on the other hand, did not refrain from adopting the revolutionary codex technology in order to propagate their holy writs. It may be that the desire to differentiate themselves from the Jews (and from pagans of that era), who persisted in writing their scriptures on scrolls, was another reason for Christians to adopt the codex form, apart from its evident practical advantages.[16] One may presume that the diffusion of the codex among Christians elicited a counter-response from the Jews, who must have been reluctant to adopt this book-form because of its associations with Christianity, and that they therefore adhered to the ancient form of the scroll for several more centuries in order to differentiate themselves from the Christians.[17]

It is no wonder, then, that thus far no Hebrew codices have been encountered from the centuries which elapsed between the latest scrolls found in the Judaean Desert and the earliest Hebrew codices. The earliest explicitly dated Hebrew codices which dates can be ascertained originated from as late as the beginning of the tenth century.[18] However, the analysis of the script and the identification of other markers of antiquity permit us

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[16] Roberts & Skeat, *Birth of the Codex,* p. 60. Katz had already suggested that the use of the codex instead of scrolls by the early Christians was motivated by a desire to visibly distinguish Christianity from Judaism. See P. Katz, 'The Early Christians' Use of Codices instead of Rolls', *JTS*, 46 (1945), pp. 63–65. Saul Lieberman argued that by adopting the codex the early Christians were imitating the Jews, as he believed that the transition from scroll to codex originated in a Jewish custom. His argument relies on the mention in the talmudic and midrashic literature of the second half of the second century of another container of written texts other than the scroll, called פנקס (pinqas). See Lieberman, *Hellenism*, pp. 203-208. This loanword from Greek (πίυαζ) was used to designate a device made of joined wooden plates, used for writing lists and accounts and known from archaeological finds and paintings of the Greco-Roman world. Even if we surmise that the *pinax*, which can be viewed as a sort of proto-codex, was in use by Palestinian Jews before it came to be used in the Roman world, the פנקס mentioned in the talmudic and midrashic literature was in no way the forerunner of the codex but rather a variation of the scroll. As Menahem Haran correctly concluded from several descriptions of the פנקס mentioned in the Talmud and Midrash for metaphorical purposes, this was not the Roman pinax, which plates were attached to one common axis and which might have been a precursor of the codex, but rather a concertina-like device used earlier among the Greeks. A pinax of that kind was made of concatenated slats, each attached at its end to the top of the next one by an axis. In this manner each slat was fastened to two axes, one at its top and the other at its bottom. See M. Haran, 'Codex, Pinax and Writing Slat', in *Studies in Memory of Abraham Wasserstein*, vol. 1, ed. H.H. Cotton, J.J. Price & D.J. Wasserstein, [special issue, *Scripta Classica Israelica*, 15 (1996), pp. 212–222]. The use of this kind of pinax is also evidenced in visual representations of Babylonian, Aramaic, and Egyptian scribes in antiquity, and similarly by other finds. See C. Sirat, 'Le codex de bois', in *Les débuts du codex* (above, n. 4), pp. 37–40.

[17] I have not been able to find out whether the representations of the Four Evangelists holding a codex in their hands as against those of the Old Testament prophets (including Moses) holding scrolls, as seen, for example, in the mosaics of San Vitale basilica in Ravenna, Italy, are typical of Christian iconography of the Byzantine era and later, and whether they preserve and reflect this dichotomous book culture.

[18] For the intricacy of establishing the authenticity of the date of the most ancient colophon – a manuscript of Prophets, which according to its colophon was copied in Tiberias in 894/5, see below, section 4, and in detail in *Codices hebraicis*, Part I, Manuscrit 1.

to conclude that among the tens of thousands of Geniza fragments found in Fusṭāṭ (ancient Cairo) - especially from the Palestinian community's Ben Ezra synagogue – a small number of book fragments deriving from earlier periods were also preserved.[19] At any rate, the earliest surviving manuscripts, mostly originating from the Middle East, already demonstrate a mature and elaborate craftsmanship, a sophisticated and coherent technical tradition, as well as regular and transparent production practices, and thus attest to a long-established and continuous tradition of book-making and design predating the earliest extant codices.[20]

This said, one nevertheless wonders why there have hardly been any finds of Hebrew scroll fragments from the time elapsed between the Judaean Desert scrolls and the earliest remains of codices, that had not been produced before the ninth century or possibly slightly earlier. Thousands of Latin manuscripts survived from the same period,[21] as have many tens of thousands of Greek papyri, most of which were discovered in Egypt. No doubt, the lack of manuscript remains of post-biblical literature, designated 'oral literature', can be explained by assuming that until the Arab conquest, or until the beginning of the Geonic period, Hebrew literary creations were for the most part transmitted orally, at least till they had reached their final editing and perhaps even later. This oral transmission was used for the texts of the Mishna*, Tosefta*, the Talmuds, *Midreshei Halakha*, the earliest *midrashim,* and perhaps other texts as

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[19] Such as fragments of the Babylonian Talmud, the Mishna*, Midrash, Bereshit Raba*, and Yanai's liturgical poems (*piyyutim*) in palimpsests (ניר מחוק in the talmudic phrase, see e.g. Mishna, *Avot* 4:20, and elsewhere), inscribed on folios from Christian manuscripts which had originally been written in Palestinian Christian Aramaic, in Greek, or in Syriac. See M. Sokoloff & J. Yahalom, 'Christian Palimpsests from the Cairo Geniza', *Revue d'histoire des textes*, 8 (1978), pp. 109–32; *The Christian Palestinian Aramaic Old Testament and Apocrypha Version from the Early Period*, ed. C. Müller-Kessler & M. Sokoloff, Groningen 1997. It is possible that a number of Geniza fragments vocalised in the Babylonian or the Palestinian manner – vocalisations which beginnings predate the Tiberian system – originate in codices inscribed before the 10th century, such as some of the seventy fragments appended as a facsimile in Kahle's article, P. Kahle, 'Die hebräischen Bibelhandschriften aus Babylonien', *Zeitschrift für die alttestamentliche Wissenschaft*, 46 (1928), pp. 113–137 (printed also as a separate publication, Giessen 1928). See also the following anthologies of reproductions: *A collection of* Mishna*ic Geniza Fragments with Babylonian Vocalisation*, ed. Y. Yeivin, Jerusalem 1974 (in Hebrew); *Qit'ei Geniza shel ha-Mishna, Talmud, u-Midrash menuqqadim be-niqqud Erets-Yisrael*, ed. N. Allony, Jerusalem 1973 (in Hebrew).

[20] See the Hebrew introduction to *Codices hebraicis*, Part I, p. 15.

[21] See the multivolume corpus compiled by Lowe, *CLA*, containing almost 2000 Latin manuscripts or manuscript fragments written before 800. According to the catalogue prepared by Bernhard Bischoff during his lifetime, more than seven thousand Latin manuscripts produced during the 9th century alone on the European continent - save the Iberian peninsula (and the British Isles) – have survived. See his catalogue, which is being published piecemeal: B. Bischoff, *Katalog der festländischen Handschriften des neunten Jahrhunderts [mit Ausnahme der wisigotischen]*, vols. 1–2, Wiesbaden 1998–2004, and see B. Ebersperger, 'Bernhard Bischoff's Catalogue of Ninth-Century Continental Manuscripts', *Gazette du livre médiéval*, 34 (1999), p. 44.

well - such as the earliest stratum of the mystical *Heikhalot* literature, as well as treatises from the Apocrypha and apocalyptic literature – which might have been composed originally in Hebrew. This view is nowadays one of the cornerstones of talmudic literature research, and it is confirmed by the explicit testimony of the Geonim that although the talmudic text had already been put into writing, its oral transmission was carried on during their own lifetime. This view is similarly confirmed by the textual evidence derived from the talmudic literature itself, whether through its literary patterns or through its textual criticism.[22] The notion that תורה שבעל-פה ("Oral Law"), even when committed to writing for archival purposes, ought to be disseminated to the public through recitation (assuming perhaps, as did the Greeks, that oral transmission and repetitive recitation would reduce potential corruptions of the text caused by the copying mechanism)[23] may be regarded as another possible reason for avoiding the codex form. The continued use of the scroll, which made searching very cumbersome, seems to have conformed to a reality in which putting a text into writing was either prohibited or strictly limited to a small number of copies, so as to monitor the text and preserve it. The adoption of the codex by the Jews could take place only after the attitude towards text dissemination had changed, and after the shift from oral to visual transmission.[24]

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[22] Yaakov Sussmann recently discussed this basis for understanding the transmission of talmudic literature, summarizing and analysing the various views presented in the broad research literature in a comprehensive article, see Y. Sussmann, '"Torah she-be-'al-pe" peshuta ke-mashma'a: koḥo shel qotso shel yod', in *Mehqerei Talmud: Talmudic Studies Dedicated to the Memory of Professor Ephraim E. Urbach*, eds. Y. Sussmann & D. Rosenthal (*Talmudic Studies* 3), Jerusalem 2005, pp. 209-384 (in Hebrew). Sussmann was able to furnish many new evidences to validate the view, already put forward by Löw And Blau (even by Rashi!), that the oral law had not been in writing during the times of the talmudic Sages, and almost all reference to books referred in fact to the holy scriptures, i.e., the books of the Hebrew Bible (which*, of* course, were written on scrolls). Sussman concludes that the gradual transition from oral to written literature occurred during in the period between the times of the Mishna and Talmud and the Geonic period (between the fifth and eighth centuries), about which we have very little knowledge. 'It is safe to assume that in those times of duress for the Jews, a time of political and cultural upheavals, when the existence of the Tora of the Jews was in real danger, there arose a need to guarantee the preservation of the oral law, so that it would not be forgotten. Slowly, and having no other choice, the rabbinic scholars permitted themselves to put into writing all that had been carefully preserved in a long chain of transmission' (trans. I.G) (ibid., p. 324).

[23] It is not unlikely that the reasoning behind the preference for oral transmission was similar to that put forward in the famous critique of the invention of writing that Socrates attributed to the King of Egypt (Plato, Phaedrus, 274–275). According to this story, learning how to write would lead to forgetfulness, for by relying on writing people would stop using their memories; they would not retrieve their knowledge from within, but through the mediation of external signs. For references to literature discussing this story, see M.T. Clanchy, *From Memory to Written Record: England 1088–1307*, Cambridge, Mass. 1979, p. 233.

[24] Stern discusses the effects of this transition on the shaping of the Masora in biblical codices, and on the development of biblical interpretation, in D. Stern, 'The First Jewish Books and the Early History of Jewish Reading', *JQR*, 98 (2008), pp. 196–202.

Our hypothesis, based on the earliest codices that were found, that the use of the codex emerged not before the eighth century, is consistent with literary testimonies from the Geonic period about eighth-century copies of the Mishna and Talmud, and explicitly from the late eighth and early ninth centuries.[25] And yet, the well-grounded assumption that Hebrew literature was transmitted mostly in oral form cannot explain the near absolute absence of remains of Tora scrolls, which, no doubt, were inscribed and consumed on a large scale. This absence indicates that the remarkable paucity of remains of Hebrew handwritten texts during this long, obscure period should not be attributed to oral transmission alone. It may be that particular circumstances – both material and political - which had not been the lot of users of Greek, Coptic, and Latin texts, led to the loss of Hebrew books remains. Indeed, the one surviving text to date of a literary scroll that predates the eighth century – portions of the Yom Kippur liturgy and *piyyutim* – survived due to its re-use in Latin manuscripts in Europe. At first, this liturgical scroll was cut into folios for the purpose of inscribing a Latin text over the Hebrew text (a palimpsest) at the Bobbio

A rotulus
MS Oxford vertical MS a3 ,33

[25] See Sussmann, '"Torah she-be-'al-pe" peshuta ke-mashma'a' (above, n. 22), pp. 297-298, 325-327, 330 (note 32). David Rosenthal has noted the most ancient indirect evidences for the existence of manuscripts of oral law, which may point to the existence of written reproductions of the Talmud in the eighth century. According to his analysis of the text in the Babylonian Talmud, *Avoda Zara*, 9a, he suggests that one may conclude that a written Talmud existed already in 688. See D. Rosenthal, *Mishna Avoda Zara – Mahadura biqortit u-mavo*', Jerusalem 1981, [Introductory volume], pp. 96-106 (in Hebrew). For our purposes it is impossible to deduce whether these evidences point to the existence of codices or of scrolls. However, Sussmann (op. cit. p. 330, note 32) emphasises once more Maimonides' words in *Mishne Tora* (*Hilkhot Malve ve-Love* 15:2) mentioning תלמוד ישן כתוב על הגוילים כמו שהיו כותבים קודם לזמן הזה בקרוב חמש מאות שנה ('an old Talmud inscribed on scrolls such as they used to write before our time, some five hundred years ago'). Maimonides' estimate may not have been far from the genuine production of that Talmud, which had been still inscribed on scrolls (גוילים). See also the responsum by Rav Sherira Gaon, from 988, on 'books of Tractate *Nidda* written more than two hundred years ago', *Newly Discovered Responsa*, ed. S. Emmanuel, Jerusalem 1995, p. 159, section 118 (in Hebrew); S. Emmanuel, 'A Responsum of Samuel Eli Gaon of Baghdad to the Talmudic Scholars of France', *Tarbiz*, 66 (1996), p. 96, note. 11 (in Hebrew).

Abbey in northern Italy in the early eighth century. Subsequently, these same folios were cut and inserted as protective flyleaves into a later Latin codex.[26]

The rotulus

A rather large number of scroll fragments containing literary, liturgical, midrashic, and exegetical texts were uncovered in the Fusṭāṭ Geniza. Only a few were traditional horizontal scrolls, of the kind of the Munich palimpsest, indicating that the scroll did not disappear entirely once the Jewish copyists adopted the codex book-form.[27] Most of these remains were found to be fragments of scrolls rolled and unfurled vertically and inscribed in one long and continuous vertical column.[28]

Scrolls of this kind were well known already in Antiquity and, as evidenced by Pharaonic, Ptolemaic, Hellenistic, and Roman papyri in Egypt, were used exclusively for documentary purposes, as they were to a large extent later, in the early Middle Ages.[29] This type of scroll is mentioned in the *Mishna*, in the *Tosefta*, and in both Babylonian and Palestinian Talmuds, and was designated by a special Hebrew term that well described it – תכריך: (*takhrikh*, rotulus) תכריך של שטרות (*takhrikh shel shetarot*, rotulus of deeds), or תכריך של ברכות (*takhrikh shel berakhot,* rotulus of benedictions, indicating a scroll containing literary materials). The Babylonian Talmud, *Bava Metsi'a* 20b explains the nature of the תכריך של שטרות mentioned in the Mishna*, Bava Metsi'a* 1:8 שלשטרות – הרי זה יחזיר): תנו רבנן כמה (מצא בחפיסה או בדלסקמא תכריך שלשטרות או אגֶדה תכריך של שטרות שלשה כרוכין זה בזה וכמה היא אגודה שלשטרות שלשה קשורין זה בזה שמעת מינה קשר סימן תני ר' חייא שלשה

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[26] M. Beit-Arié, 'The Munich Palimpsest: A Hebrew Scroll Written before the Eighth Century', *Kirjath Sepher*, 43 (1967-68) (in Hebrew).

[27] The most impressive horizontal scroll in terms of size, state of preservation, and script is a fragment, MS Cambridge Misc. 25.53.17, which contains the Babylonian Talmud *Ḥulin*, 101a-105a. See S. Friedman, 'An Ancient Scroll Fragment (B. Ḥulin 101a–105a) and the Rediscovery of the Babylonian Branch of Tannaitic Hebrew', *JQR*, 86 (1995), pp. 20–46.

[28] See Beit-Arié, 'Palimpsest', (above, n. 26), p. 417, n. 29; M. Bregman, 'An Early Fragment of Avot De-Rabbi Natan from a Scroll', *Tarbiz*, 52 (1983) (in Hebrew), pp. 201-222, esp. p. 203, n. 3. Two Byzantine vertical scrolls containing an unknown commentary on the books of Ezekiel and Minor Prophets, interspersed with Greek words and phrases in Hebrew transliteration have been published and studied: MS Jerusalem Heb. 4º 577.7/1 and MSS Cambridge 32.1, K27.46, F2(1).211, T–S C2.87 (the fragments of the long scroll), K27.47, T–S K25.288 (the fragments of the short scroll). The text in both scrolls is continuous and inscribed on both sides of the parchment by the same hand. For the plates, see N.R.M. De Lange, *Greek Jewish Texts from the Cairo Genizah* (Texte und Studien zum antiken Judentum 51), Tübingen 1966, pp. 402–449; for the physical description of the scrolls, see ibid., pp. 165, 294.

[29] See E.G. Turner, *The Terms Recto and Verso: The Anatomy of the Papyrus Roll - Actes du XVe Congrès International de Papyrologie*, Bruxelles–Louvain 1977, eds. J. Bingen & G. Nachtergael, vol. 1 (Papyrologica Bruxellensia 16), Brussels 1978, pp. 26–53.

כרוכין זה בזה אי הכי הינו תכריך תכריך כל חד וחד בריש חבריה אגודה דרמו אהדדי וכריכי According to the cited baraita of Rabbi Ḥiyya a rotulus of deeds contains documents that are glued to one another top to bottom, then rolled in the manner of a scroll, whereas an *aguda* contains several deeds stacked one on top of the other, then rolled.[30] The remains of later Hebrew books in the form of vertical scrolls, called in Latin sources *transversa charta* and in recent times named *rotulus,* plural *rotuli*, corresponds to the late adoption of this book-form in ninth-century Greek and Latin Byzantine liturgies[31] as well as in copies of the Qur'an, as in the finds from the Damascus Geniza.[32] In recent years,

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[30] The version cited here is that of MS Hamburg Cod. hebr. 19 (according to the Sol and Henkind Talmud Text Databank at the Saul Lieberman Institute). For a different version in the *Tosefta*, see S. Lieberman, *Tosefta ki-feshuṭah: a comprehensive commentary on the Tosefta,* vol. 9, *Neziqin*, New York, 1955, p. 150. In *Tosefta Shabbat* 13:4 and in the Babylonian Talmud *Shabbat* 115b the version טומוס של ברכות appears. Surely, the Greco-Roman term τομοζ= tomus does not indicate 'codex', but rather 'scroll', as was its usage in antiquity. Saul Lieberman's commentary implies that this was not a horizontal but rather a vertical scroll. See *Tosefta*, ed. S. Lieberman, *Seder Moed*, *New* York, 1962, p. 58; *Seder Neziqin*, New York, 1988, p. 49. See also, S. Lieberman, *Hellenism*, p. 303, n. 30; S. Lieberman, *Tosefta ki-feshuṭah*, vol. 3: Seder Moed, New York, 1962, p. 206. Shlomo Naeh has disputed this interpretation, claiming that both טומוס and תכריך described in the Babylonian Talmud, *Bava Metsi'a* denote the way in which deeds had been preserved, glued to one another to form a horizontal scroll rather than a rotulus. In his view, both טומוס and תכריך are generic terms for papyrus scrolls. See S. Naeh, in *Sha*'arei *Lashon*: *Studies in Hebrew*, *Aramaic* and *Jewish languages Presented to Moshe Bar-Asher*, eds. A. Maman, S. E. Fassberg & Y. Breuer, vol. 2 (Rabbinic Hebrew and Aramaic), Jerusalem 2007 (in Hebrew) pp. 250-253. Naeh (ibid., p. 251) attempted to substantiate his theory with the finds of Judaean Desert documents which were glued along their sides, ignoring his own earlier mention of the existence of many tied deeds from the Judaean Desert which lines were *inscribed* throughout the full length of the papyrus scroll, and were unfurled vertically (op. cit., p. 231-232). See also A. Sperber, *A Dictionary of Greek and Latin Legal Terms in Rabbinic Literature*, [Ramat Gan] 1984, pp. 98–99. A tomus of benedictions – טומוס של ברכות – is also mentioned in *Tosefta Shabbat* 13:4 (Lieberman edition, op. cit., p. 58): הברכות, אע"פ שיש בהן מאותות השם ומענינות הרבה שבתורה, אין מצילין אותן אבל נשרפין במקומן. מכן אמרו כותבי ברכות כשורפי תורה. ומעשה באחד שהיה כותב ברכות אמרו עליו לפני ר' ישמעאל והלך ר' ישמעאל לבודקו. כשהיה עולה בסולם, הרגיש בו. נטל טומוס של ברכות ונתנו לתוך ספל של מים. A rotulus of benedictions - תכריך של ברכות – is mentioned only once in the parallel recounting of the same episode in the Palestinian Talmud, *Shabbat* 16a (15c): מעשה באחד שהיה כותב ברכות והלך ר' ישמעאל לבודקו. כיון שהרגיש בקול פעמותיו שלר' ישמעאל נטל תכריך שלברכות וזרקן לתוך ספל של מים.

[31] See L.W. Daly, 'Rotuli: Liturgy Rolls and Formal Documents', *Greek, Roman and Byzantine Studies*, 14 (1973), pp. 333–338; G. Cavallo, *Rotoli di Exultet dell'Italia meridionale*, Bari 1973; *Exultet: Rotoli liturgici del medioevo meridionale*, ed. G. Cavallo 1994; A. Jacob, 'Rouleaux grecs et latins dans l'Italie méridionale', in Hoffmann (ed.), *Codicologie comparée*, pp. 96-97. Vertical scrolls in Greek and Latin were also produced later. See M. Maniaci, 'The Liturgical Scroll between Orient and Occident: Ideas for a Comparative Study', *Comparative Oriental Manuscript Studies Newsletter*, 2 (European Science Foundation, Research Networking Programme 2), (July 2011), pp. 16–21.

[32] S. Ory, 'Un nouveau type de musḥaf : Inventaire des corans en rouleaux de provenance damascaine conservés à Istanbul', *Revue des études islamiques*, 33 (1965), pp. 87–149; J. Sourdel-Thomine & D. Sourdel, 'À propos des documents de la grande mosquée de Damas conservés à Istanbul', ibid., pp. 73–85. According to the plates appended to the articles, one can see that indeed these are rotuli. On the vicissitudes of the fragments discovered in 1900 inside the Qubbatal-khazna in the Umayyad Great Mosque courtyard see A. D'Ottone, 'Manuscripts as Mirror of a Multilingual and Multicultural Society: the Case of Damascus Find', in *Negotiating Co-Existence: Communities, Cultures and Convivencia in Byzantine Society*, eds. B. Corstini & S. La Porta, Trier 2013, pp. 63-88. See also the useful summary by Ronny Vollandt, 'A Muslim Genizah in Damascus', in Cambridge University Library - *Fragment of the Month*, June 2018.

hundreds of fragmented vertical scrolls from the collections of the Fusṭāṭ Geniza are being uncovered by Judith Olszowy-Schlanger, after Gideon Bohak drew her attention to the many rotuli he had come across while examining Geniza fragments in search of magical texts.[33] Around half of them were manufactured by piecing together parchment sheets, and half by assembling paper sheets. It appears that the use of this book-form was fairly common. It overlapped with the early manifestations of the codex, but continued to be used at least until the eleventh century. According to Olszowy-Schlanger, this type of scroll was common mainly in Egypt during the eleventh century, and its remains include a large variety of texts: about half are liturgical (containing *piyyutim* and some prayers), while the rest include Babylonian Talmud treatises, halakhic literature, *Haftarot* and anthologies of biblical verses, as well as dictionaries and glossaries of medicine and magic. About half of the rotuli were copied on the blank sides of pieces which had been cut off from written documents (some of them Arabic) and stitched together. The sizes of the assembled pieces are not uniform, their width is narrow and their length varies. The shapes and character of the rotuli in Hebrew script suggest, as inferred by Judith Olszowy-Schlanger, that many had served as some kind of personal notebooks. These had been copied and produced by their users – rabbis, scholars, physicians and magicians – for personal and professional use, being low cost and conveniently portable items. Vertical rotuli, whether in Greek, Latin, and Arabic or in Hebrew script, which were still produced during the eleventh century, undermine the assumption that they represent a transitional phase between the traditional scroll and the codex. The dating of some may indicate that their production began during the transition period between the traditional scroll and the codex, but apparently they were still manufactured long after the emergence of the codex. The fragments of rotuli found and investigated by Olszowy-Schlanger are compiled in her forthcoming book. The ongoing probing into these documents will no doubt shed light on the usage of this book-form and its circumstances.

[33] G. Bohak, 'The Magical Rotuli from the Cairo Genizah', in *Continuity and Innovation in the Magical Tradition*, eds. G. Bohak, Y. Harari & Sh. Shaked (Jerusalem Studies in Religion and Culture 15), Leiden 2011, pp. 321–340.