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From Bomberg to the *Beit Midrash*: A Cultural and Material History of Talmudic Page Layout

Students of Talmud learn to comfortably navigate a volume of Gemara, with its unusual page layout, multiple reference tools, and tens of commentaries and supercommentaries. In my recollection, nobody taught this to me in a formal way. Instead, like many, I picked it up gradually and by osmosis in the years from high school to yeshiva. Like complicated things we learn to do habitually, an outsider's perspective can help bring to our explicit consciousness what we might know unselfconsciously. That's why I have found myself coming back to this 1498 printed Latin Bible, with the Vulgate (the Latin Bible) in the middle of the page surrounded by two important medieval Catholic commentaries: *The Glossa Ordinaria* and the commentary of Nicholas of Lyra [fig. 1].[1]

As a quick glance makes clear, the famous and ubiquitous *tzurat ha-daf* (page layout) of the Gemara was never exclusively by Talmudists for Talmudists. It was a common practice for producing non-Jewish European glossed texts in manuscript and later print from the high middle-ages though the sixteenth century. Some copyists and later printers of the Gemara—whether those printers were Jews or not—adopted it from contemporary Christian textual production. What is remarkable about the Gemara's *mise-en-page* (the term for *tzurat ha-daf* in the academy) is not its invention, but its staying power as the normative way to produce texts of the Talmud. Thinking about how and why printed editions of the Talmud look and feel the way they do can help us appreciate the power and importance of *tzurat ha-daf* as a textual phenomenon, one uniquely suited for the culture of traditional Rabbinic learning.

In this article, I want to trace the history of *tzurat ha-daf* of the Gemara while incorporating the insights of book historians and the growing research into the material nature of textual transmission. I am interested in the diverse formats of Talmudic pages prior to printing and the transition to a fixed page layout and fixed folio numbers, with Daniel Bomberg's

1 *Biblia Latina Cum Glossa Ordinaria et Expositione Nocolai de Lyra* (Basel, 1498). For more on page layout in medieval texts in general and the *Glossa Ordinaria* in particular see Lesley Smith, *The Glossia Ordinaria: The Making of a Medieval Bible Commentary* (Brill, 2009).

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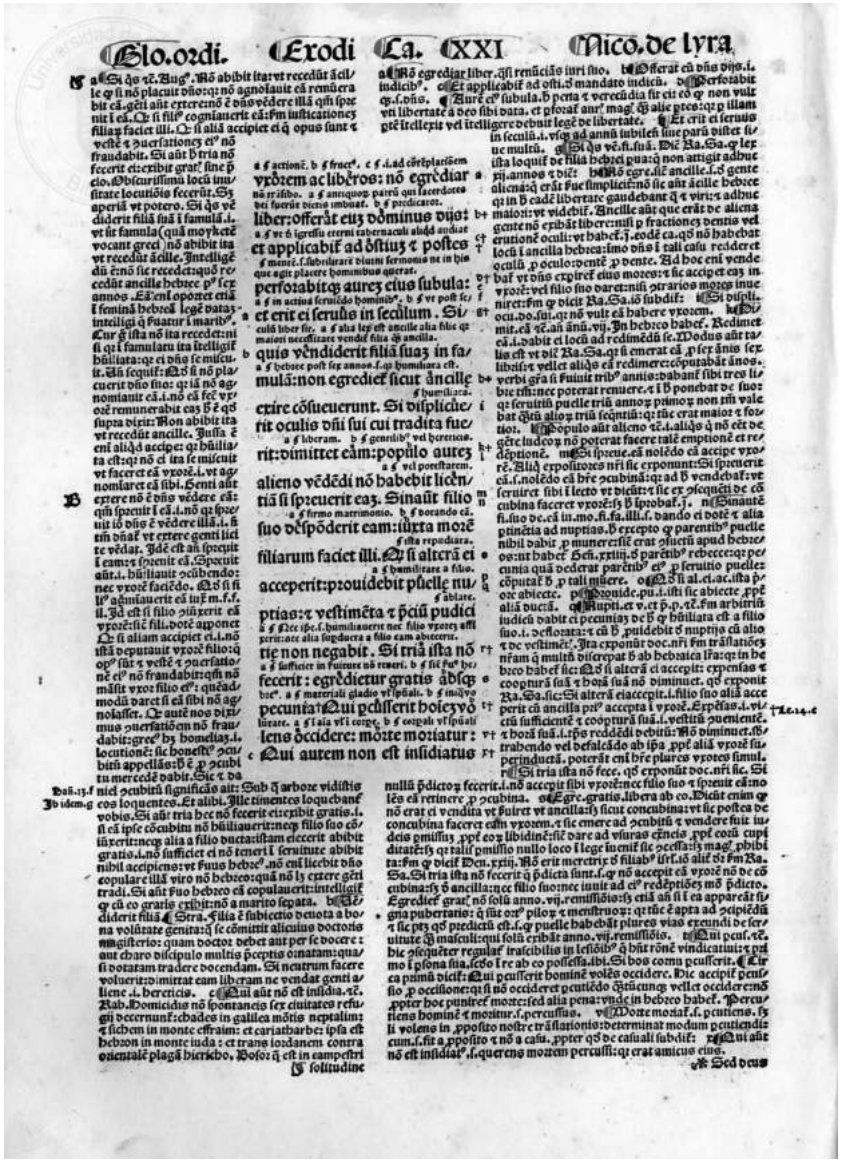

Fig. 1. *Biblia Latina Cum Glossa Ordinaria et Expositione Nocolai de Lyra*, Basel, 1498 [courtesy Universitaria du Deusto]

first printed edition of the entire Talmud between 1519 and 1523. The basic history of Talmudic printing has been told in a lifetime of publications by Marvin Heller and in Yeshiva University's important exhibition catalog, *Printing the Talmud*.[2] I will add to this conversation by explaining why this *mise-en-page* and the specific fixed folio numbers had staying power in Rabbinic texts long after similar glossed texts had ceased being popular in Latin or other Western languages. Finally, I want to touch, however briefly, on some cultural aspects of the page layout of Rambam's *Mishneh Torah* and offer some explanations for the more diverse page layouts of *Mikraot Gedolot* (Rabbinic Bibles) over time.

Texts as Material and Cultural Objects

A growing field of scholarship is examining texts as material and cultural objects. Scholars are thinking about how recorded texts appear in concrete forms—scrolls on parchment, bound codices on paper, magazines on cheap glossy paper. These scholars emphasize the ways in which technology and knowledge-transmission are intimately connected to one another.[3] Jewish studies is joining this trend.[4]

Broadly speaking, there are three interrelated factors that can explain the material form which the written word takes.

- The materials and technology available to produce and distribute texts: People can only record written texts with the materials and technology available to them. For example, the invention of paper decreased the price of the written word and enabled more text to be available to more people, with wide cultural

2 Sharon Liberman Mintz and Gabriel M. Goldstein, eds., *Printing the Talmud: From Bomberg to Schottenstein* (Yeshiva University Museum, 2005) [hereafter, *From Bomberg to Schottenstein*].

3 The most well-known work in the field is Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change* (Cambridge University Press, 1980), though many dispute her basic conclusions; also see Ann M. Blair, *Too Much to Know* (Yale University Press, 2010); Anthony Grafton, *Inky Fingers: The Making of Books in Early Modern Europe* (Belknap Press, 2020); Ann Blair, et al., *Information: A Historical Companion* (Princeton University Press, 2021).

4 Zeev Gries, *The Book in the Jewish World, 1700-1900* (Liverpool University Press, 2007); Adam Shear, *The Kuzari and the Shaping of Jewish Identity, 1167-1900* (Cambridge University Press, 2008); Joseph R. Hacker and Adam Shear, *The Hebrew Book in Early Modern Italy* (University of Pennsylvania Press, 2011); David Stern, *The Jewish Bible: A Material History* (University of Washington Press, 2018); Noam Sienna, "Making Jewish Books in North Africa, 1700-1900" (Ph.D. dissertation, University of Minnesota, 2020); Yaakov Meir, *Defus Rishon: Mahadurat ha-Talmud ha-Yerushalmi, Veneziah, 1523* (Magnes, 2022); Yoel Finkelman, "The Passover Haggadah as a Material Object," in a forthcoming volume on the Passover Haggadah edited by Rebecca Abrams.

implications.[5] Cheap ball point pens encourage things like the jotted down note-to-self.

- Economics and the market for knowledge and education: Who will pay for text, how will that money or those goods be moved from place to place, and who stands to earn a profit from creating and circulating those texts? In the middle-ages, for example, written texts were less common than today and much more expensive, but an individual patron had more leeway to individualize the written text, since he (or occasionally she) could order what he wanted from a scribe and artist. In contrast, book buyers today have greater and cheaper access to printed works, but the format is hardly individualized at all due to constraints of the mass market.
- Cultural assumptions about what one does with words: Some texts are meant for slow study, others for quick reading, and still others for long-term storage or record keeping. The material form that the text takes will depend on cultural expectations about what will be done with the words once committed to writing. A receipt from a cash register—generally to be thrown away or at most saved briefly—will appear in a material form different from a university-course textbook, with an expectation (not always fulfilled) that students will read carefully and prepare for papers and exams. A newspaper takes on a material form different from a non-fiction book, even when reporting on the same topic, due to different assumptions about how the reader will treat those printed words.

Mass-market newspapers are a fine example. Cheaper paper in the nineteenth century and advances in print technology that lowered prices enabled mass-market newspapers and made it possible to imagine large quantities of disposable written materials. Technological changes in shipping and distribution of both words and knowledge, such as the telegraph and the railroad, helped knowledge about current events reach further more quickly, so reporters could produce texts and distribute them quickly to a far-flung audience. The spread of literacy helped create a large population of consumers, which made the newspaper a potentially profitable commodity to produce. Shorter articles scattered on a page with large-print headlines, as well as illustrations, and later photographs, enabled consumers to learn about many diverse topics and to take in as much detail as they felt like and had time for.[6]

5 Lothar Müller, *White Magic: The Age of Paper* (John Wiley & Sons, 2015).

6 Andrew Pettegree, *The Invention of News: How the World Came to Know about Itself* (Yale University Press, 2014); Blair et al., *Information*, Chap. 7 and 636–637.

Thinking about texts as material objects and commodities that exist within a broader market, technological environment, and intellectual culture can offer insight into the material form that the Talmud has taken, from the earliest manuscripts we have today until the ArtScroll-Schottenstein or Koren-Steinsaltz editions of the late twentieth and early twenty-first centuries. (Digital Talmud requires a much longer treatment, for another time).[7]

Talmud Manuscripts

Thousands of Talmudic manuscripts, some more whole but most quite fragmentary, have survived. The earliest are Geniza fragments from the ninth century, but the tradition of copying texts by hand continued into the twentieth century, particularly among Yemenite Jews. A search on KTIV, the National Library of Israel's digital repository of Hebrew manuscripts from around the world, reveals over 8500 manuscripts produced up to the year 1600 (a year when manuscripts would still be considered a normal way to study in most regions) with "Talmud Bavli" in the title. Nearly 8000 of those are small, fragmentary documents from the Cairo Geniza, while several hundred others are fragmentary pages from other sources. Only about 100 of those are codices with large quantities of text. The most famous and important of these is the Munich manuscript, the only surviving manuscript of the entire Babylonian Talmud (Bavarian State Library, Munich, Germany, Cod. hebr. 95).[8]

Naturally, each Talmudic manuscript is unique, copied by a specific copyist for an individual person (very often in the case of Jews, individuals copied manuscripts for their own personal use).[9] No one manuscript is identical to another, not only because of ubiquitous copyist's errors. The patron could arrange to order a manuscript to contain exactly what he (and it was almost always a he) wanted, given the confines of what texts are available to copy from, what interests him and the society around him, what texts he already owns, and the financial and material resources available. We can divide medieval Talmudic manuscripts into three categories.

1) Copies of Talmudic texts with no commentary. The aforementioned Munich manuscript, for example, separates the Mishna

7 Elli Fischer and Shai Secunda, "Brave New Bavli: Talmud in the Age of the iPad," *Jewish Review of Books* (Fall 2012).

8 Available at https://www.nli.org.il (direct link https://tinyurl.com/mun95).

9 As Malachi Beit-Arié notes, Hebrew manuscripts in the middle-ages were more likely than Latin ones to be produced by individuals for individuals, which contributed to diversity. See Malachi Beit-Arié, "The Individual Nature of Hebrew Book Production and Consumption," in *Manuscrits Hébreux et Arabes: Mélanges En l'honneur de Colette Sirat* (Brepols, 2014), 17–28.

from the Gemara by placing the Mishna in what we would call today "text boxes." But it contains no commentary. The majority of Talmudic manuscripts match this description.

2) Copies of commentaries on the Talmud without the Talmud itself. For example, Jer. NLi. 4°13 a fifteenth-century manuscript in Eastern script that was used at some point in its history by an Ashkenazi learner who added marginal notes [fig. 2]. It contains only Rashi's commentary on the Bavli without the Bavli itself.[10]

3) Copies of the Talmud along with commentaries on the same page. Ms. Oppenheim 248 at the Bodleian, a fifteenth-century Italian manuscript, includes tractates *Yevamot* and *Kiddushin* with Tosafot and excerpts from the Mordekhai, along with some stunning artistic page designs.[11] Similarly, Jer. NLi. 8°3662 is a thirteenth-century Ashkenazi fragment on parchment. Only one page of this manuscript has survived, but it contains a passage from *Bava Batra* with Rashi's commentary written carefully in the margins [fig. 3].[12]

The central limiting factors on what to include in a Talmudic manuscript were cost and the availability of other texts. Manuscripts were extraordinarily expensive. The writing surface—not the labor cost of the scribe—was the most expensive aspect of manuscript production. Since the skin of a sheep or goat could provide parchment for only a few pages, a long text required the slaughter of tens of animals. Paper, common already in the Islamic world in the tenth century and increasingly available in Europe by the fourteenth, could help lower costs, but paper was handmade and was not a cheap material either. In addition, the painstaking work of copying could take weeks if not months, depending on the length of the text being copied, and professional copyists had to be paid. Even an individual who chose to copy a text for himself would have to take time away from other potentially lucrative activities to write. Hence, patrons copied only what they needed. If they already had a copy of the Gemara, they would, if they could afford it, copy or order a commentary, but would not likely pay to have the Gemara itself copied again. Someone who owned neither a text nor commentary might order a single object with both texts.

After being created, these manuscripts could change over time. A student or future copyist could add or subtract in the margins of the text,

10 https://www.nli.org.il (direct link https://tinyurl.com/rashi413).

11 https://hebrew.bodleian.ox.ac.uk/catalog/manuscript_395.

12 https://www.nli.org.il (direct link https://tinyurl.com/nli83662). Also see Liberman Mintz and Goldstein, *From Bomberg to Schottenstein*, 186.

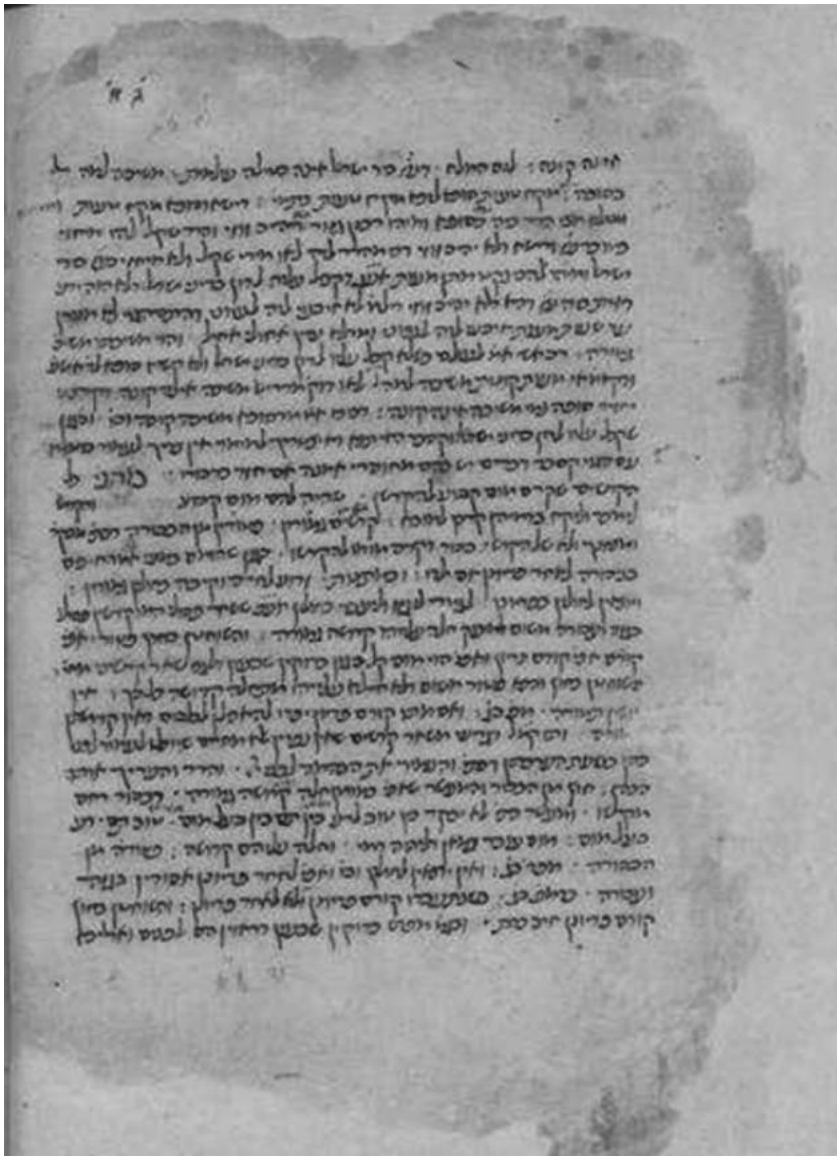

Fig. 2. Rashi's Commentary on the Talmud, 15th century, Ms. Heb. 4º 13 [courtesy National Library of Israel]

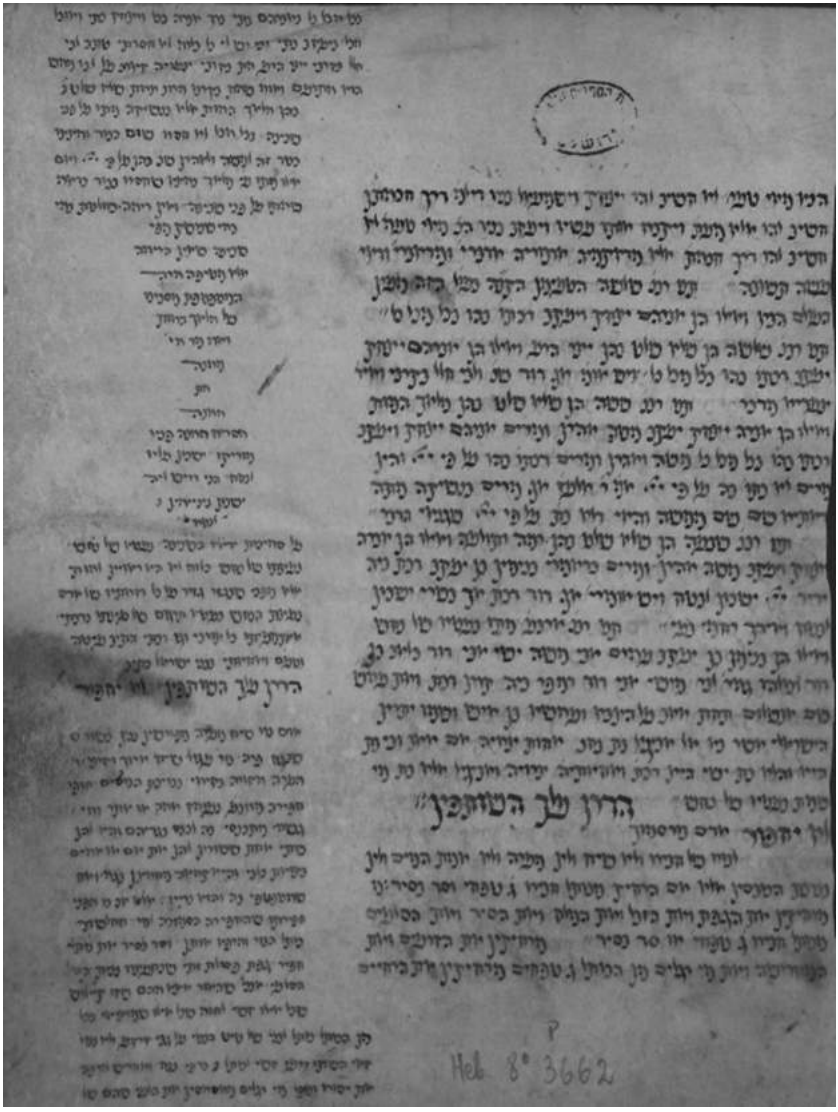

Fig. 3. Talmud *Bava Batra* with Rashi's commentary, 13th century, Ms. Heb. 4° 3662 [courtesy National Library of Israel]

copying some or all of an established commentary or adding thoughts of his own. Take the example of an Ashkenazic manuscript of the tractates *Gittin* and *Shevuot* from Ashkenaz in the fourteenth century, in which the commentary of Rashi is copied by another scribe in the margins (Vatican Ms. Ebr. 140).[13]

Prior to printing, then, there was no fixed *tzurat ha-daf* to the Gemara. The diffuse contexts of production, the absence of any centralized body playing a role in production, led to Talmudic manuscripts of all kinds, individually suited for the one who ordered or studied from it.

Talmudic Printing up to 1519

Famously, Gutenberg invented European-style printing with movable type in the 1440s (though he did not act alone, and print with related technology had existed in Asia much earlier). The phenomenon of Hebrew printing, tiny in comparison to the larger European project, began in the late 1460s. During the era of "incunabula"—books printed with European technology up to the year 1500—there were three regions involved in Hebrew printing: Italy, the Iberian Peninsula, plus one Hebrew book printed in Constantinople (interestingly, the first book in any language printed in the Ottoman empire).[14]

Early printed copies of the Talmud appeared in both Italy and the Iberian Peninsula, with a critically important difference between them. Italian printings, produced by members of the Soncino family, contained the Talmud, Rashi, and Tosafot on the page—as well as (in some cases) other medieval commentaries printed in the back—in the format similar to what we are familiar with today. In contrast, printers in the Iberian Peninsula included only the commentary of Rashi [fig. 4].[15] In both Italy and Iberia, printers produced individual tractates, particularly ones that printers thought would sell, namely, those tractates studied most intensely by rabbis and learned Jews.

The reasons for this discrepancy between Italian and Iberian prints are straightforward. While both Rashi and Tosafot are Ashkenazi commentaries, Rashi's commentary had spread throughout the Jewish world as *the* first and most central and indispensable commentary on the

13 https://www.nli.org.il (direct link https://tinyurl.com/VatEbr140).

14 A. K. Offenberg, *Hebrew Incunabula in Public Collections: A First International Census* (DeGraaf, 1990). On the *Tur* printed in Constantinople, see Joseph Hacker, "Authors, Readers, and Printers of Sixteenth Century Hebrew Books in the Ottoman Empire," in *Perspectives on the Hebraic Book*, ed. Peggy Pearlstein (Library of Congress, 2012), 17–63.

15 Marvin J. Heller, *Printing the Talmud: A History of the Earliest Printed Editions of the Talmud* (Am Hasefer, 1992).

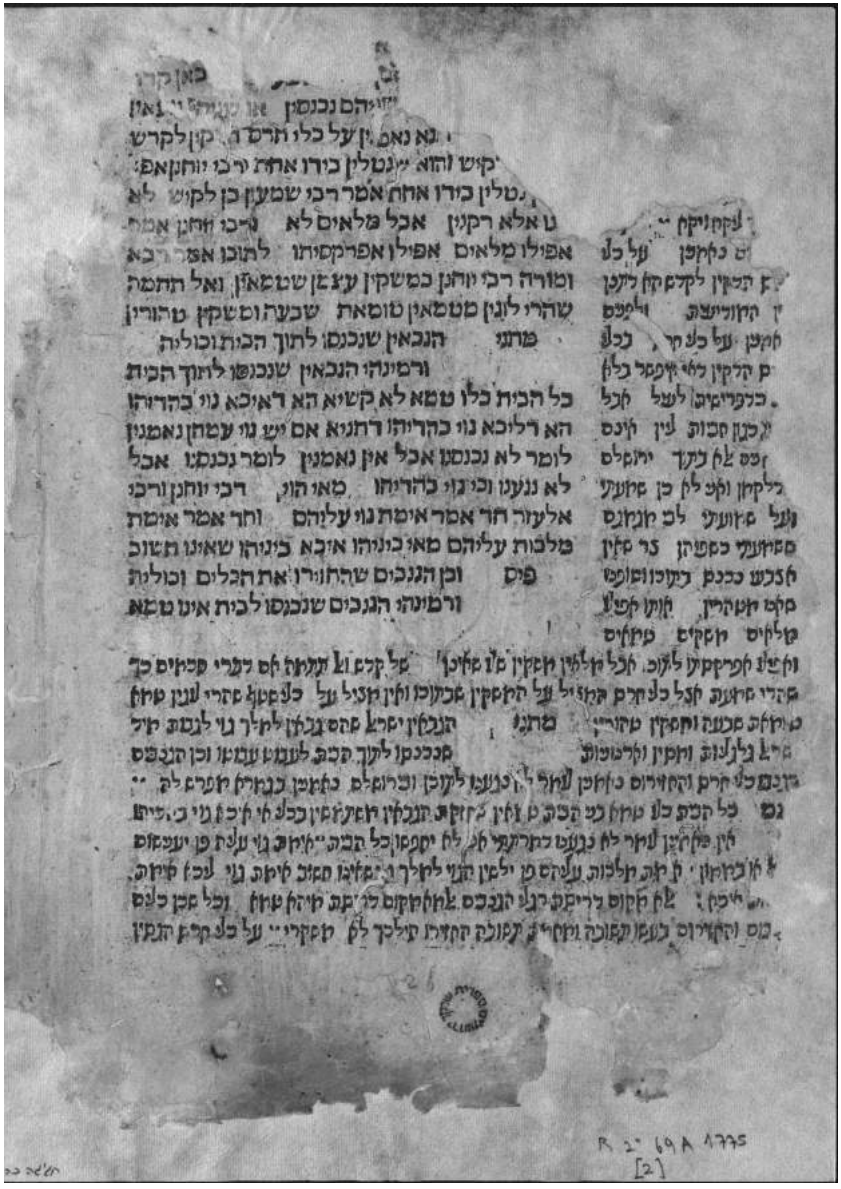

Fig. 4. Talmud *Hagiga*, Guadalajara, 1482 [courtesy National Library of Israel]

Gemara. As Haym Soloveitchik put it, Rashi's commentary brought about a sea change in Talmudic scholarship, since it was the first to enable students to understand the Gemara without a human teacher.[16] This solved a problem for students of Talmud everywhere. In contrast, the particular thematic and methodological approach of the Tosafot—assuming that all the Talmud in specific and Rabbinic literature in general are internally coherent and devoid of real contradictions, and their method of solving seeming contradictions by creative limitations on the principles and cases described in the Talmud—was never quite as popular in Sephardic schools, where *halakha le-ma'ase* (practical halakhic ruling) was of greater importance than Tosafistic dialectics.[17]

Bomberg and His Students as Sixteenth-Century Printers

This state of affairs continued until 1519, with the arrival of Daniel Bomberg, the great Venetian Christian printer of Jewish texts.[18] Bomberg, a businessman from Antwerp, was also an intellectual, a Hebraist, and a renaissance man who harbored philo-semitic tendencies and even studied Hebrew.[19] He opened his print shop in Venice in the second decade of the sixteenth century and realized that there was more to gain by expanding to underdeveloped markets than by competing with others in existing strong markets. Hebrew printing was lagging behind Christian printing, and Venice was enough of a commercial and shipping center to reach markets throughout the Jewish world. Bomberg hired a staff that included Jews and Jewish converts to Christianity to do the work. Some of his Jewish staff even converted to Christianity while working for him.

Bomberg's publishing house produced many individual titles, but his most significant contribution came from large-format, luxurious, multi-volume editions of classic Jewish texts. He spared little expense on the finest paper, quality fonts and type, and a trained and knowledgeable staff, many of whom looked up to him as a paradigm of professionalism and humanism. He produced two editions of a seminal *Mikraot Gedolot* (Rabbinic Bible), a large-format edition of Rambam's *Mishneh Torah* with

16 Haym Soloveitchik, "The Printed Page of the Talmud: The Commentaries and Their Authors," in *From Bomberg to Schottenstein*, 38.

17 Marvin J. Heller, "Earliest Printings of the Talmud," *From Bomberg to Schottenstein*, 65 and the sources cited there.

18 Angelo Piattelli, "New Documents Concerning Bomberg's Printing of the Talmud," in *Meheva le-Menahem: Assufat Mehkarim le-Khvod Menahem Haim Shmeltzer*, ed. Shmuel Glick (Makhon Schocken, 2019), 171–199.

19 Bruce E. Nielsen, "Daniel van Bombergen, a Bookman of Two Worlds," in *The Hebrew Book in Early Modern Italy*, ed. Hacker and Shear, 56–75.

multiple commentaries, the first printing of the *Talmud Yerushalmi*,[20] commentaries on the Bible and Talmud, and many books of liturgy.[21]

But his most lasting contribution to Jewish printing was the *editio princeps* of the complete Babylonian Talmud. The Soncino family, as they moved from place to place, had produced only those selected Talmudic volumes which were the focus of study in the major yeshivas. Between 1519 and 1523, Bomberg produced an edition of the entire Bavli, today one of the most expensive examples of Hebrew printings in the world. Only a handful of complete sets remain.

Bomberg's biggest competition were the Soncino editions.[22] By borrowing and adopting the best features of the Soncino editions and adding additional features, he hoped to improve his edition and capture a greater market share. He began by imitating the basics of the Soncino editions—the text of the Gemara in the middle in a more formal square font, surrounded by Rashi and Tosafot in a semi-cursive font (so-called Rashi script)[23] with four lines of commentary atop, framing the Gemara text [fig. 5]. Like many Soncino editions, Bomberg also included Rambam's commentary on the Mishna and the commentary of the Rosh appended to the volume, following the text of the Talmud. Bomberg largely used the Soncino text for the Gemara as well as for Tosafot, though he made changes based on other available manuscripts.[24] But he also added several other features. Printing the entire Talmud meant that an individual purchaser could easily (though not cheaply) acquire the entire text.[25] This in turn enabled a small but fantastically influential innovation: folio numbers throughout the entire texts. Adding folio numbers to a complete set of Talmud created the universal reference tool used until today. (Technically, these are folio, not page numbers, but I will use the terms interchangeably for the sake of simplicity.)

Bomberg realized that printing created opportunities to address an age-old human problem: what to do when there is more to know than the human mind is capable of remembering? Obviously, writing helps, but

20 Meir, *Defus Rishon*.

21 A.M. Haberman, *Ha-Madpis Daniel Bomberg u-Reshimat Sifrei Beit Defuso* (Museum of Printing Art, 1978).

22 Heller, *Printing the Talmud*, 145.

23 Since "Rashi script" is a Spanish-inspired font, the Ashkenazi Rashi himself would not have used it.

24 On the work processes involved in making textual emendations in prints, see Meir, *Defus Rishon*.

25 Evidence from the late sixteenth century suggests that in at least one location a full set of Bavli would cost roughly three months of a basic salary. See Shifra Baruchson, "Jewish Libraries: Culture and Reading Interest in 16th Century Italy," *Library History* 10 (1994), 19–26.

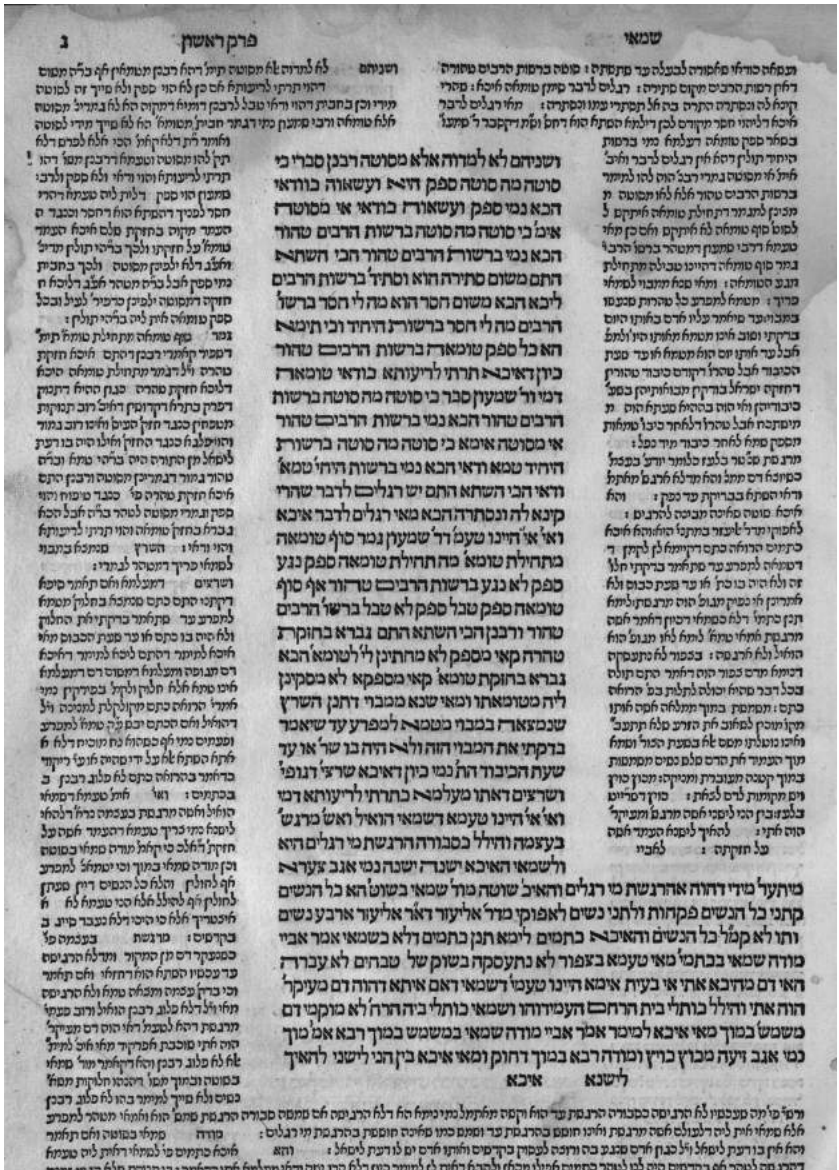

Fig. 5. Talmud *Nidda*, Venice, Bomberg, 1523 [courtesy National Library of Israel]

printing also makes the challenge more difficult, since writing and printing increase the total quantity of texts available to be recalled. To make the most of written texts as an aid to memorization, one has to be able to find what one is looking for in longer texts. Ann Blair points to important medieval solutions to this problem, given that knowledge was preserved in Europe through the technology of manuscript.[26]

Print offered new solutions, two of which are related to Bomberg's work: page numbers and page-number-based indices or references. Unlike print books, each manuscript is different, which has the consequence that page numbering or a reference system linked to those page numbers would have to be unique to a given manuscript. A page reference to one manuscript would be useless in identifying a text or topic in another manuscript. With print, numbering the pages of a given edition allows one to construct an index or create references to pages for each and every copy of that edition or any edition paginated in the same way. Prior to Bomberg, references to passages in the Talmud would be less precise—a commentator might indicate that the relevant passage appears "toward the end of *Perek Bameh Madlikin*," for example. There were no fixed *daf* numbers, and a general reference was the best the medieval author could do to help point someone in the right direction. Bomberg's page numbers enabled authors, printers, students, and teachers to pinpoint a source with a fraction of the time and effort one would need using the old medieval system. Bomberg's pagination was so successful at addressing the challenge of reference that, with a handful of minor changes, it remains the exact system used until today in virtually every edition. Bomberg's most powerful innovations were not in the text, but in the paratext: material in a written text other than the main content itself that are provided by authors, editors, printers, publishers, and others to help navigate and make sense of the main text.[27]

Bomberg understood what he was doing, and he took steps to entrench his innovation and prove its value to students. The Bomberg edition's commentaries, like an index in the back of a non-fiction book today, reference the commentaries to the folio numbers of the passages on which they are commenting. Bomberg also produced individual volumes of Talmudic commentaries that reference his own system of folio numbers. As early as 1523—the same year he completed the first edition of the Gemara—he published Rashba's commentary on *Gittin* and Ramban's commentary on *Bava Batra*. Each paragraph of commentary identifies the *daf* of the passage upon which they are commenting. This became more

26 Blair, *Too Much to Know*.

27 Gerard Genette, *Paratexts: Thresholds of Interpretation*, trans. Jane Lewin (Cambridge University Press, 1987). On the power of paratexts to frame and influence reception of Jewish texts, see Shear, *Kuzari*.

sophisticated as time advanced. Bomberg's 1547 edition of *Sefer Mitzvot ha-Gadol* identifies the folio numbers of the passages which the book quotes. Effectively, advanced indexing and referencing made the previously printed individual tractates by Soncino obsolete, or at least much less desirable than a complete set of Bomberg.

Bomberg's editions were popular, and demand enabled him two produce two more editions of the Gemara in 1526–1539 and 1543–1549, each building on the success and structure of his first edition. From then on, there was no turning back. As mentioned, virtually every edition of the Bavli printed since then has followed Bomberg's page layout and numbering of folios (though the layout of later editions of *Berakhot* follows Bomberg's second edition rather than first).

Talmud learners, and buyers, gradually became accustomed to these fixed pages, which then enabled and encouraged new indexing tools. Marco Antonio Justinian—a non-Jewish printer who had learned the trade in Bomberg's studio—built on his teacher's innovations and added new kinds of indexing and "search tools" to his 1546–1551 edition, which remain critical until today for the study of classical Jewish texts. Justinian had hired Yehoshua Boaz as an editor of Hebrew texts, and Boaz added four important indices to this Gemara: *Ner Mitzva*, *Ein Mishpat*, *Torah Or*, and *Mesoret ha-Talmud* (later referred to as *Mesoret ha-Shas*), which also became standard in future editions produced all over the world of Jewish printing. *Ner Mitzva* identifies and numbers halakhic topics raised in the Gemara; *Ein Mishpat* cross-references those halakhic topics to later halakhic literature, including *Semag*, *Tur*, and Rambam's code; *Torah Or* cross references the Talmud to the chapter of those verses of the Hebrew Bible quoted in the Talmud;[28] and *Mesoret ha-Talmud* cross references passages in the Talmud to the folio numbers in parallel passages elsewhere in the Talmud. The latter index in particular demonstrates the power and importance of the fixed pages. *Torah Or* is, in this context, also particularly interesting, given that the addition of chapter numbers in Hebrew Bibles was a relatively new innovation, introduced by Bomberg to his Rabbinic Bibles (more on that below). These indices help link the Talmud to the broader body of sacred Jewish texts.

These innovations had enormous staying power and are, as any student in the *beit midrash* knows, invaluable to this day. These seemingly

28 This, too, was made possible by another of Bomberg's innovations, the inclusion of chapter and verse numbers in a Jewish Bible. The numbering of Biblical chapters has its roots in thirteenth-century Catholic circles, and Bomberg added chapter numbers to his first *Mikraot Gedolot* (1516–1517) and verse numbers to his second *Mikraot Gedolot* (1525). These reference tools also became standard in later Jewish Bibles (see below).

simple features in pagination and indexing were so successful that they continue to enable study and learning, no doubt beyond the wildest imaginations of their creators.

The fixed nature of Talmudic page numbers and format can be learned from the small number of exceptions that prove the rule. To take one example, the printing by the Prositz brothers of Tractate *Nidda* in Prague in 1608 includes only the Talmud with no commentaries and without any reference to the page numbers.[29] Shortly thereafter, between 1616 and 1620, the same brothers tried to improve their product by producing several volumes in Cracow that included Rashi without Tosafot and which, despite deviating from standard page layout, included in the margins references to the Bomberg page numbers [fig. 6].[30] Ultimately, consumers were not interested, and the experiment did not find imitators. A handful of other exceptions over the course of history shared a similar lack of long-term success.[31]

The fundamental format—created by Soncino, established by Bomberg, and improved by Justinian—was *the* format for the Talmud. Significant and lasting supplements would wait until the nineteenth century, with the editions produced by the widow and brothers Romm in Vilna in the second half of the century. Critically, though, their changes were essentially additions rather than modifications. They built a layer on the foundations of the past, by adding multiple commentaries, some on the page like Rabbenu Hannanel, and others in the back, like Maharsha or supercommentaries on the Rosh. And they built on technological advancement and subsequent price decreases to produce editions that could be more affordable, even a mass-market item.[32] But even as bold and innovative a printer as Devora Romm made no attempt to fix what had not been broken since the sixteenth century.

The Cultural Meaning of the Talmudic Page

Over the course of the sixteenth century, the glossed *mise-en-page* gradually diminished in importance in European non-Jewish printing. This may stem from the way in which printing increased the quantity

29 Liberman Mintz and Goldstein, *From Bomberg to Schottenstein*, 242. This publication was inspired by Maharal's interest in returning to a *peshat*-oriented approach to Gemara. This is ironic given his often imaginative and "pilpulistic" approach to Aggada.

30 Heller, *Printing the Talmud*, 381–387.

31 Several examples appear in Liberman Mintz and Goldstein, *Printing the Talmud*.

32 The first fruit of a working group on the Romm Press and its impact has appeared in Mordechai Zalkin, "*Ha-Ru'ah ha-Hayya be-Ofanei ha-Defus: Devora Romm ke-Sokhenet Tarbut*," in *Derekh Sefer: Shay le-Ze'ev Gries*, Avriel Bar-Levav, et al., eds. (Carmel, 2021), 511–527.

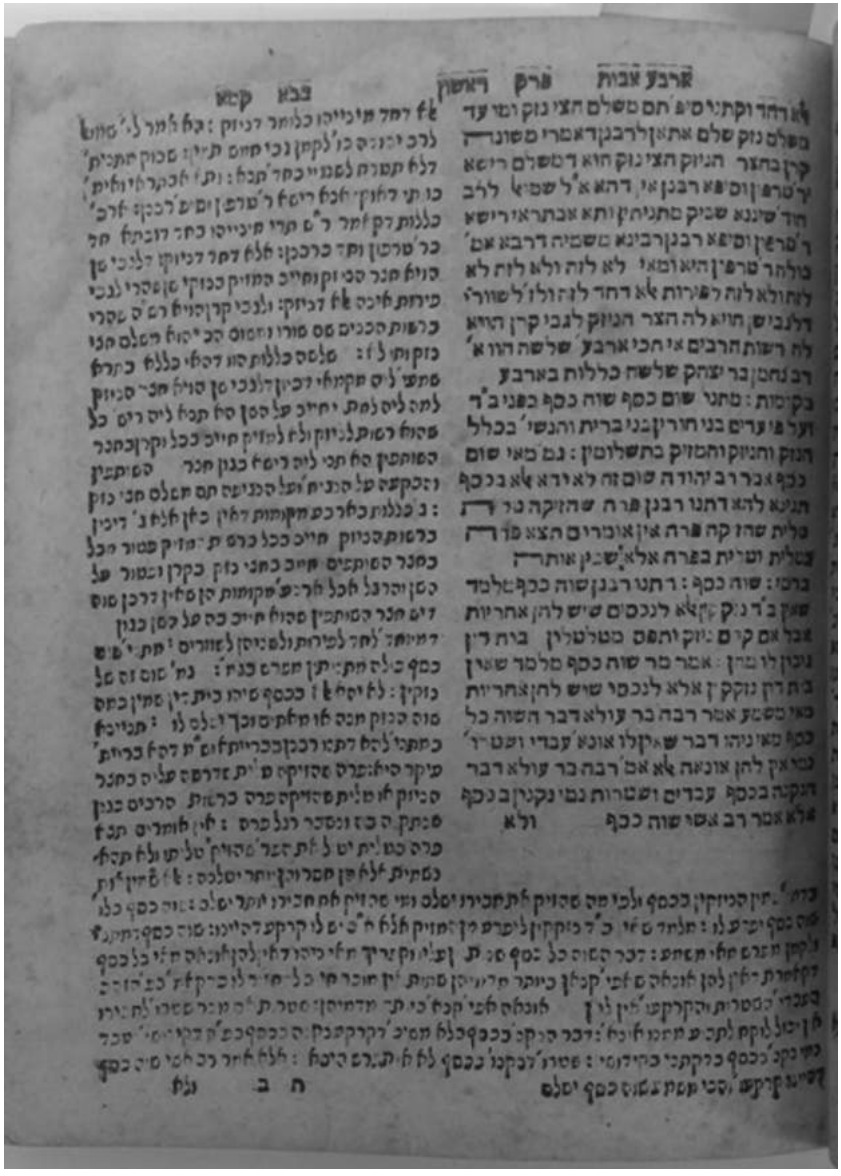

Fig. 6. Talmud *Bava Kamma*, Cracow, 1616 [courtesy National Library of Israel]

of texts available at cheaper prices, making it easier to acquire several volumes of texts and commentary and making it less necessary to get them on the same page. It may also be related to the Protestant preference for unglossed Bibles. But it remained central to Gemara in specific and Rabbinic literature more generally. I want to suggest that the staying power of this *mise-en-page* in Rabbinic texts is related to a link between the experience of learning in a *beit midrash* and this page layout. *Tzurat ha-daf* is a good way to lay out a page if you want to study in the ways students often do in traditional *batei midrash*.

What, then, is this *mise-en-page* good for? What makes it appropriate for Talmud study? There is, of course an obvious and true answer—it helps to have the relevant texts, commentaries, and other literature available easily on the part of the learner. That being said, I believe that the issue is deeper than that, in ways that are unique both to the Talmud and Rabbinic literature as a literary canon as well as the pedagogic and intellectual culture of the *beit midrash*. Two aspects of Rabbinic intellectual culture stand out.

First, Rabbinic literature is layered. The entire discourse is dependent on this layered authority, in which earlier textual layers are formally more authoritative than later ones. Who is conceptually in an earlier layer than whom is central to understanding everything about how the Talmud serves as a grounding for later Jewish law. Focusing on the Bavli as it appears in the standard *daf*, the Mishna, authored by *Tanna'im*, is the foundational text, the bedrock. The Gemara is structured as a commentary on the Mishna and is based on the principle that the post-Mishnaic authorities, the *Amora'im*, may not disagree with the earlier authorities. At most, *Amora'im* can choose to agree with one *Tanna* over another. Now, *Amora'im* (or *Stam*) may suggest readings that deviate radically from the simplest readings of the *Tanna'im*, but structurally they do not argue with those who are in the layer above them on the hierarchy. Post-Mishnaic authorities present their ideas as if they are the thoughts of those who came before.

The same holds true regarding later commentators. *Rishonim* (medieval rabbis) don't argue with the Gemara; they explain it. Both Rashi and Tosafot work with the assumption that the Talmud is the authoritative groundwork of their understanding. Their task is to explain it. And while Rashi sticks, for the most part, to a simple reading, Tosafot introduce new ideas, categories, and distinctions that are absent from the Gemara. Still, the Tosafot present what they are doing as explaining what the Gemara "really" means. It would be unthinkable for the Tosafot to solve a contradiction in Rabbinic literature by determining which opinion is the right one and which one wrong.

Second, Talmudic and Rabbinic discourse are discursive, focusing on conversation and, in particular, debate. The Mishna regularly cites several

opinions regarding a particular law and occasionally creates a more formal dialogue between them. The Gemara extends conversation to be an organizing principle of the entire text. *Matkif*, *eitivei*, *mahu, ini, mai*, *minayin* are all Talmudic terms indicating types of questions and challenges. When questions are asked, the Talmud offers suggested answers: *ika le-meimar*, *leima*, *i ba'it eima*, or even a simple *amar lei*. As often as not, the Gemara includes more than one answer to any given question, and it is more likely not to determine the right or even normative answer to a given question. Instead, the goal of the *sugya* (Talmudic discussion) is to clarify the nature of the debate (*mai beinayhu*), the legal implications of each opinions (*le-mai nafka mina*), or how each side of the debate would respond to challenges. The Gemara is more interested in exploring possibilities than it is in finding right answers.

The trend again continues into the middle-ages. Rashi generally tries to offer a smooth reading of the local passage by defining words, offering background information, adding details to cases, and smoothing over ambiguities. The Tosafot quite often begin with the simple words: *Perush ha-Kuntres*, followed shortly thereafter by *ve-kashe*, broadly meaning that Rashi interprets in the following way, but that that way is problematic, particularly that it is contradicted by another passage in Rabbinic literature.[33] Tosafot are often in explicit debate with Rashi, and in those cases they see themselves as a layer dependent on Rashi.

Tzurat ha-daf exemplifies the tradition of discursive and layered reading. The Mishna is placed in the center, marking it as most authoritative, while the Gemara follows it in the center, marking it as an authoritative commentary. Both are in the more formal square script. Rashi and Tosafot, in a less formal semi-cursive script on the side, mark them as chronologically later layers, less authoritative, but visually revolving around the Gemara. Placing Rashi and Tosafot on opposite sides visually matches the regular and consistent disagreements between the commentaries, both about specific readings and about their reading strategies and methods. Having these texts and commentaries on the same page allow not only for multiple texts and commentaries, but represent a dialogue that is occurring over real, chronological time and over conceptual, layered time.

Note also the way that primary and secondary sources maintain their independence here. The commentaries have their own status and validity and are central enough to become their own topic. A *shiur* (class), *hiddush* (novel interpretation), or *teshuva* (responsum) might not focus on the Gemara, per se, but instead emphasize the dispute between Rashi and Tosafot about the Gemara. Obviously, one cannot understand the dispute between

33 Note that the term *kuntres* (notebook) to refer to the commentary reflects the fact that it was copied in a separate volume from the Talmud.

the medieval authorities without understanding the Gemara, but it is critical in Rabbinic learning that the commentaries can become their own primary sources. The commentaries maintain their status as distinct texts.

The Distinctive Pedagogy of the Beit Midrash

Moreover, the page layout reflects a pedagogic approach common in the *beit midrash*. Students have two major intellectual goals. First, to understand the relationships between the various opinions, voices, and arguments in the layered conversation, including the relationship between the various voices. Second, to do that work themselves. The *mise-en-page* facilitates the pedagogic model of what the morning blessing refers to as "involvement in words of Torah."[34] Students are not trying to figure out *the* right answer to a question, but rather to trace what various commentaries have said over the years. The student works to know the possible interpretations suggested by earlier commentaries and the relationships between them.

Traditional students of Rabbinic literature do not aim for a synthetic, easy to digest conclusion or summary of the issues. The student in the *beit midrash* is expected to be active: to dive in to the messy back and forth, the questions and answers, the problems and solutions, and to make order out of the controlled chaos. He (and thankfully, increasingly she) is expected to figure it out himself. The *talmid hakham* is expected to know a great deal of Torah, but knowledge is not enough. The *matmid* (diligent student) is expected to gain that knowledge by doing the heavy lifting of piecing together the opinions and arguments, understanding the relationships between them, and teasing out their halakhic implications. The experience of study and analysis is no less important than the acquisition of knowledge. More, the student is meant to participate in that conversation by raising her own questions, identifying strengths and weaknesses in previous interpretations, and even offering novel interpretations of her own. Study does not end with mere understanding, but with active creation of new knowledge accomplished by participating in the cross-layer conversation.

This is reflected in the *beit midrash* as a physical space and human experience. It is not a modern academic library, where solitary individuals read silently. Nor is it a classroom, where the "sage on the stage" fills the students with his or her wisdom. Instead, the *beit midrash* is a place for loud conversation and interaction. Dialogue is part of the experience and heated discussion is encouraged.[35] The busyness of the *beit midrash*

34 This description of the culture of the Beit Midrash is informed by Moshe Halbertal and Tova Hartman Halbertal, "The Yeshiva," in *Philosophers on Education*, ed. Amelie Rorty (Routledge, 1998), 458–469.

35 Modern western habits of reading as a silent and solitary experience are a historical exception. See Alberto Manguel, *A History of Reading* (Viking, 1996).

matches the busyness of the page. Whether *havruta* is a traditional mode of study or a modern one,[36] the idea of back and forth, of working it out for yourself, has played a central role in Rabbinic pedagogy and the culture of the *beit midrash*. The Talmudic *mise-en-page* gives the reader all the texts that he needs to do so, but it allows no shortcuts.[37]

Compare the page layout of the Gemara to that of the article you are currently reading. The text can be read coherently from beginning to end, unlike a Rashi or paragraph of the Tosafot, so a simpler page layout works. The assumption of a journal article is that I, the author, will do the analysis and explanation for you, synthesizing a coherent thesis rather than give you the raw materials to draw your own conclusions. Indeed, I have worked hard to make sure that this article is as easy to read and digest as possible. Footnotes below are there to keep the author honest and allow the reader to check the work, but there is no assumption that every reader should make use of them. Should a reader want to follow up references, she will need a trip to the library (be it one of bricks or, increasingly, bytes).

Similarly, think about the two sides of an opening of the contemporary ArtScroll Schottenstein Talmud. The text of the Talmud appears twice. On one side is the standard, canonized page. On the facing side is a unique, creative, and effective literal translation of the Talmud into English interspersed with enough background information to make for a smooth reading of a surface interpretation of the text. The *tzurat ha-daf* side of the page is there for reasons of following the tradition. But the English side looks completely different, designed not for in-depth, do-it-yourself study, but instead a basic understanding provided by an outside authority. Often, the ArtScroll Gemara is used in the context of those who listen to someone else explaining the Gemara, thus making the experience more passive on the part of the learner. The experience of studying with an ArtScroll is vastly different than *beit midrash* learning, and its own *mise-en-page* is carefully designed to serve its own purposes.

The Sea of Rabbinic Texts over Time and Space

Returning to the early printed Talmud volumes, the dialogue on the page occurs over time and space. Let us take as exemplary the Justinian edition, including Bomberg's layout and folio numbers as well as Boaz's indexing tools. We can account for the texts on the page, the texts gathered in the back, as well as texts that are referenced in the indices. The text

36 Shaul Stampfer, *Lithuanian Yeshivas of the Nineteenth Century* (Littman Library of Jewish Civilization, 2012), 144.

37 I am not making a claim that this was the only pedagogy of every *beit midrash* over history, only that this is a central approach in Jewish intellectual history.

on the page of the Gemara spans over 1500 years of Jewish history. It includes the entirety of Rabbinic literature from the Mishna in the second century through the Gemara in the seventh, through Rashi and the Tosafists in the high Middle Ages, including the contemporary contributions of staff in the printshop adding footnotes and references. Commentaries in the back, like those of the Rosh and Rambam, expand the medieval participants in the conversation. If we account for texts that are referenced by the indexing tools, we expand the chronological reach even further, including the Bible, which is referenced in the *Torah Or*.

Pay attention as well to the geographic spread of the voices written or referenced in the page. The Mishna comes from the Land of Israel, while the Talmud took shape in today's Iraq. Rashi and the Tosafists were active in northern Europe, while Maimonides, whose commentary on the Mishna is found after the Talmud, wrote in northern Africa. The Rosh, whose commentary is also found toward the back of the book, by virtue of immigrations during his life, bridges the communities of Germany, France, and Spain. The book itself was printed in Italy. Every geographical region of Rabbinic significance appears in the book.[38] Through the act of study, the student can experience him or herself not only as knowledgeable in texts, but as part of a transhistorical and transnational Jewish people and as a participant in a transhistorical and transnational conversation.

The *Ner Mitzva* and *Ein Mishpat* help expand the layered and discursive learning to a much broader set of canonical texts. More precisely, cross-referencing tools help create and enable the sense of the "Sea of Talmud" that includes not only Talmudic literature but later commentaries and halakhic works as part of a single interpretive body and canon. Over the course of time, R. Yosef Karo becomes a link connecting so much Rabbinic literature. One reaches his *Beit Yosef* and *Shulhan Arukh*, his major works based on the *Tur*, from the Gemara by way of the *Ein Mishpat*. In the *Beit Yosef*, Karo relies on the Gemara and considers Rosh one of his central authorities—included in the back of Bomberg's Talmud and later editions—and Rambam's *Mishneh Torah*, indexed through the *Ein Mishpat*. On the page of many editions of the *Mishneh Torah* is *Kesef Mishneh*, Karo's attempt to connect Rambam to the Gemara. With the help of the *Ein Mishpat*, the ongoing and expanding dialogue of the *beit midrash* extends not only to the Talmud, but through multiple other books as well. Note that the *Tur*, *Shulhan Arukh*, and *Mishneh Torah* developed their own glossed page layout (but not fixed page numbers), like the Talmud with

38 More precisely, every region except Eastern Europe. R. Moshe Isserles' *Mappa* began appearing along with the *Shulhan Arukh* in 1578, at which point the *Ein Mishpat* effectively linked to Eastern Europe well.

central text and multiple commentaries, reflecting their participation as canonical texts in this intellectual and spiritual mode of study.

Excurses on *Mishneh Torah* and *Mikraot Gedolot*

This connection between medium and message, accident and essence, is also exemplified by Rambam's *Mishneh Torah*, a closely related example of glossed text with layered commentary that encourages the student to make order out of a messy conversation. *Ein Mishpat* in the Gemara, as noted, references the *Mishneh Torah*, which makes for an intriguing example because of Rambam's deliberate attempt to simplify rabbinic discourse. He states in his introduction to the *Mishneh Torah*: "[The intent of this text is] that a person will not need another text at all with regard to any Jewish law . . . . A person should first study the Written Law, and then study this text and comprehend the entire Oral Law from it, without having to study any other text between the two" (translation from Sefaria.org). Part of Rambam's goal of summarizing the bottom line of Jewish law in the *Mishneh Torah* is to avoid the distractions of the back-and-forth of Talmudic discourse, to articulate a clear halakhic bottom line without the complexities of Talmudic dialectics. His goal of a simple summary matches the page layout of the first editions of the *Mishneh Torah*, beginning in Rome around 1474 and later in 1480, which supplies the unadorned text of the *Mishneh Torah* and no commentary.

The 1509 Constantinople edition of *Mishneh Torah* included commentaries such as *Hagahot Maimoniot* and *Migdal Oz*. Bomberg's edition of 1524 [fig. 7], as well as many earlier and later printed editions, show the influence of the Talmud page layout. Rambam's text sits in the center, surrounded by commentators' attempts to connect Rambam back with the Talmudic back-and-forth. Commentators wanted to know the sources of Rambam's conclusions, how he was reading authoritative Talmudic passages, if those interpretations are correct, how they match practice in other regions of Jewish life, and whether it is proper to follow his halakhic conclusions. Rambam succeeded in becoming a major code of Jewish law, but he failed at simplifying the complexities of the Talmudic discourse or trying to replace it. These commentaries dragged the *Mishneh Torah*, despite itself as it were, back into the *beit midrash*, where Rambam's simple summary was problematized and made the stuff of dispute, commentary, dialogue, questions, challenges, and answers.[39] The culture of the *beit midrash* overcomes Rambam's desire for simplicity.

39 For more on the differences between commentaries on the *Mishneh Torah* and codes like the *Shulhan Arukh*, see Haym Soloveitchik, "Mishneh Torah: Polemic and Art," in his *Collected Essays: Volume II* (Liverpool University Press, 2014), 378–396.

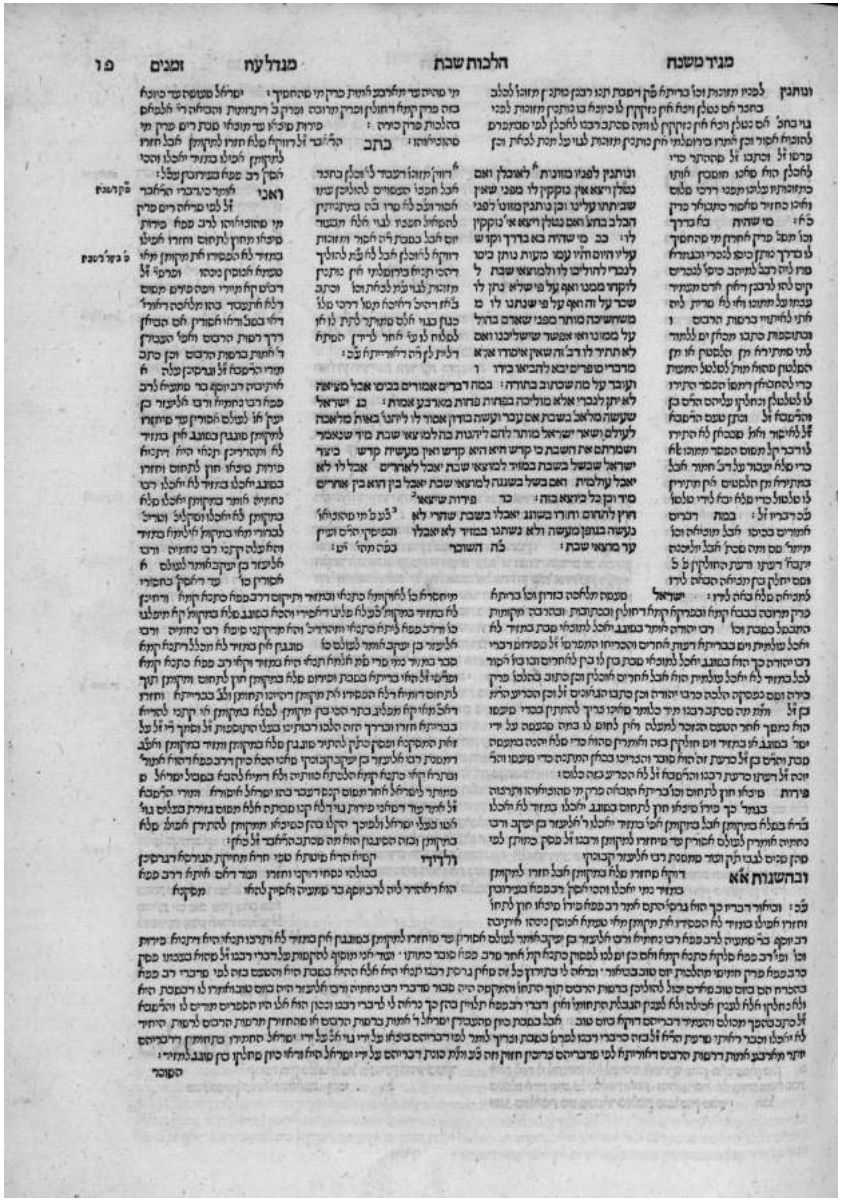

Fig. 7. Maimonides, *Mishneh Torah*, Venice, 1524 [courtesy National Library of Israel]

The student ought to know not only the bottom line of the halakhic law but also where that law comes from, how Rambam read and implicitly comments on earlier authoritative precedent, what positions Rambam takes within disputes of earlier authorities, and whether contemporary Jews ought to follow his bottom line or another one. Rambam wanted to be the final and concise voice. Instead, he became one (very important) voice in a broader trans-generational conversation. Page layout reflects changing and controversial cultural assumptions about what reading and studying a text involves.

Think also about Bomberg's *Mikraot Gedolot* in this context, which were published during the same period as his first Talmud. Here, too, Bomberg adapted the glossed page layout, with a central text in the middle surrounded by commentary. Bomberg's 1525 *Mikraot Gedolot*, his second edition, had very significant staying power, particularly the nuances of Masoretic text edited by Yaakov ibn Adoniyahu, which became the standard text for Jewish Bibles for centuries [fig. 8]. The *Mikraot Gedolot* also served as a model for many future Jewish Bibles that would include the text of Scripture, Masoretic notes, and multiple commentaries. But the staying power and influence of Bomberg's *Mikraot Gedolot* did not extend either to the specifics of the layout nor to any fixed page numbering. Over the centuries, the choice of commentaries to be printed along with the Bible changed, as did the exact placement of the primary texts and commentaries. The 1703–1708 Berlin Rabbinic Bible, the first to include Rashbam, placed the commentaries underneath rather than around the Biblical text [fig. 9]. The 1897 Pietrikov edition placed the Biblical text in the upper corner of the page, rather than the middle. It, like some other East European *Mikraot Gedolot*, includes imaginative homiletical commentaries, including in Yiddish, rather than multiple representatives of medieval *peshat* schools, which Bomberg preferred. Why the differences? Why is there a fixed Talmud page and no fixed page for the Bible with commentaries?

One answer relates to the diversity of uses of the Bible, as opposed to the narrower uses of the Talmud. There are many things Jews can do with a Hebrew Bible: bring it to synagogue to follow along with Torah, Haftarah, and Megillah readings; study the Bible unglossed; recite passages, such as Psalms, as liturgy; or study the commentaries to the Bible. A family in the nineteenth century might own a Bible primarily as a sacred object in which to record family records, births, and the like. Each of these uses would motivate a different layout. A liturgical Bible need not have commentaries, for example. A family Bible must include a place to record significant family events.[40]

40 On the relation between function and form in Jewish Bibles, see Stern, *Jewish Bible*.

Fig. 8. *Mikraot Gedolot*, Venice, Bomberg, 1524 [courtesy National Library of Israel]

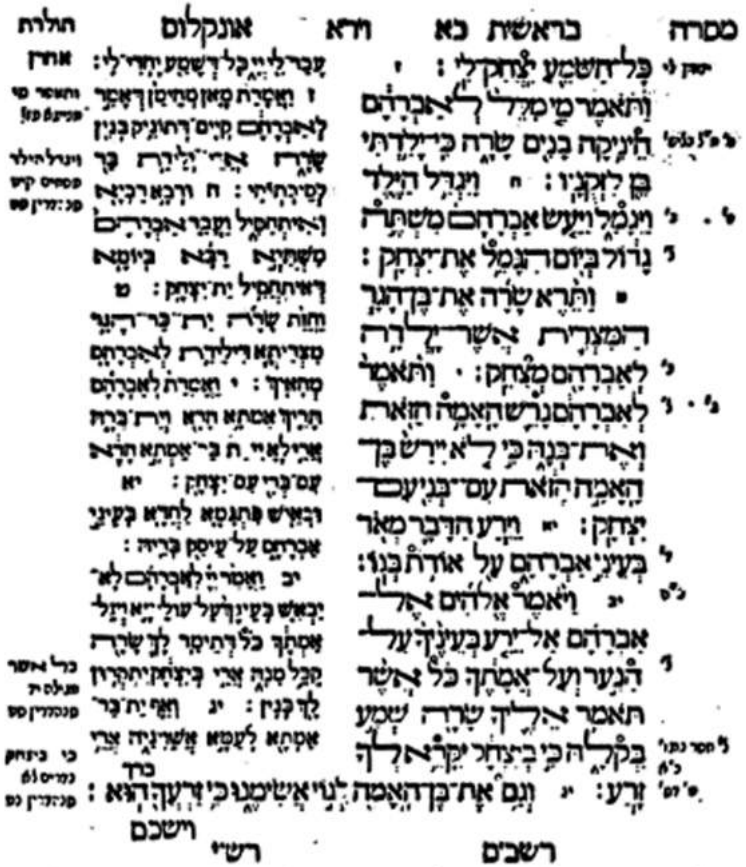

Fig. 9. *Mikraot Gedolot*, Berlin, 1703 [courtesy National Library of Israel]

Additionally, even when the Bible was used for study there have been vastly different approaches to it and vastly different audiences. One could, for example, study without commentary. Even among commentaries, homiletics consistently competed with a *peshat*-oriented approach. Rationalistic, midrashic, kabbalistic, and *musar* orientations competed for the attention of individuals and communities. With the exception of Rashi, there was no consensus about a must-have commentary. Audience also mattered. Commentaries for learned men would differ from commentaries for less learned men and women. There are so many approaches to recitation and study of the Jewish Bible that a single layout could not do.

In contrast, Talmud study is more regimented. There is primarily one thing to do with a volume of Talmud: study it. And the study requires commentaries, since the Talmud is so difficult to follow without them. Moreover, the close connection between Talmud, Halakha, and Jewish practice meant that certain commentaries had canonical status. Talmud also had a more narrow audience, being studied almost exclusively by adult men. Traditional Jewish interaction with Talmud involved a more fixed form of study, which leads to a more fixed page layout.

I would like to add a more prosaic explanation, which to my mind is as important as the above. In his first *Mikraot Gedolot*, Bomberg made a significant addition by adding chapter numbers and (in the second edition) verse numbers, features with little Jewish precedent which were based on thirteenth-century Catholic developments.[41] After Bomberg, they became features of standard Jewish Bibles. Chapters and verses enable easy cross-referencing to the Bible. It is simple to reference a verse in one edition and find it in any other edition of the Bible, no matter what commentaries it has or how it is laid out. Hence, there is no reason to use folio or page numbers as a reference point. Without the need for fixed page numbers, there is plenty of freedom to experiment with new layouts and new commentaries.

The same cannot be said of the Talmud, which is broken down into units of chapter length, without smaller natural units, such as verses, to use as reference points. Talmudic chapters are too long to use as effective points of reference. Like modern topical indices in a nonfiction books, page numbers do that work. This system of reference-points was so valuable to students that printers could ill afford to do away with it. The easiest and most economical way to maintain that fixed pagination was simply to copy the entire text, as is, page by page. The alternative would be to come up with some other way of altering the layout of the

41 Jordan S. Penkower, "The Chapter Divisions in the 1525 Rabbinic Bible," *Vetus Testamentum* 48:3 (1998), 350–374.

page without changing the pagination itself. Printing with movable type was too difficult a task to do so easily, such that page-for-page copying was a preferable solution.

Traditional students of Talmud take the page layout for granted. I have suggested that that taken-for-grantedness has both prosaic and more profound aspects. It began with a particular technological and economic moment in sixteenth-century Venice, under the guiding hands of one of Jewish intellectual history's unlikely and unsung heroes, Daniel Bomberg. But the technology and economics worked symbiotically with core values of Jewish learning, which granted Bomberg's innovations vast staying power.