

Jonathan ben Joseph of Ruzhiny's Temple Plan in the Printed Talmud

By: JOSHUA SKARF

Beginning with the 1720¹ publication of the Babylonian Talmud in Frankfurt on the Main, nearly every printed edition of the Talmud has included a plan of the Temple attributed to Jonathan ben Joseph of Ruzhiny. This plan functions as a study aide for Mishnah *Middot*, which surveys the design of the Temple complex in Jerusalem.² Jonathan ben Joseph's plan is the most intricate and complex illustration appearing in the standard printed version of the Talmud. In this article, I will trace the development of this plan, its influences, evolution, and present-day form. In the process, I hope to demonstrate how and why images in printed books evolve and that analysis of illustrations can be a useful philological tool.

Jonathan ben Joseph of Ruzhiny

In 1720, Judah Aryeh Loeb ben Joseph Samuel began printing an edition of the Talmud in Frankfurt on the Main on the press of Johann Koelner.³ Three years earlier in Amsterdam, he had been forced to desist from a

¹ Dates of editions in this paper refer to the year in which the volume containing *Middot* was printed. In instances when only the Hebrew year is listed, the Gregorian year has been approximated by subtracting 3760.

² Perhaps more than any other tractate of the Mishnah, the information in *Middot* can be understood through diagrams, especially a plan of the Temple. For an explanation of why no diagrams by the *tannaim* were included alongside *Middot*, see Joshua Skarf, "Oral Transmission, Ekphrasis, and Technical Drawings: On the Formation of Mishnah *Middot*," *Images* 15 (Brill: 2022), 18–26.

³ Koelner was the most prolific printer of Hebrew texts in the city at the time. See Marvin J. Heller, *Printing the Talmud: Complete Editions, Tractates and Other Works and the Associated Presses from the Mid-17th Century through the 18th Century* (Leiden: Brill, 2018), 110 and 122.

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similar effort due to charges of copyright infringement, but the matter had since been resolved.⁴ Alongside the many enrichments that were made to the text, diagrams that had been omitted in most earlier printed editions were included on the printed pages. In this spirit, at the end of the volume containing tractate *Middot* the printer appended reproductions of the Temple diagrams prepared by Maimonides (d. 1204) over half a millennium earlier for his commentary on the Mishnah. This was the first time these diagrams appeared in a printed Talmud, as previous editions left only blank spaces for the images within the text of Maimonides' commentary on *Middot*.⁵ Though Maimonides' diagrams were no doubt a welcome addition, over the centuries other scholars had prepared more detailed plans of the Temple and the publisher decided to commission a new diagram to include alongside the reproductions of Maimonides' illustrations.

Fortuitously, as the volume containing *Middot* was being prepared, another scholar arrived in Frankfurt hoping to publish his own richly diagrammed book. This scholar, Jonathan ben Joseph of Ruzhiny (now in Belarus), had served as the rabbi of Ruzhiny during the early years of the eighteenth century, when famine and pestilence in the wake of the Great Northern War caused the region great hardship. In 1710, Jonathan and his family were forced by plague to flee the city and take up residence in a shack in the wilderness.⁶ Jonathan, who had studied astronomy, vowed that if he survived the ordeal, he would publish a book on the sanctification of the new moon, a monthly Jewish ritual. When the epidemic subsided, he returned to his community and began writing the book, a commentary on Maimonides' *Hilkhot Kiddush Ha-Hodesh* (The Laws of Sanctification of the New Month). Jonathan journeyed to Frankfurt on the Main hoping to obtain an approbation from Rabbi Samuel Schotten, who unfortunately died shortly after Jonathan's arrival in 1719, before he could

⁴ Judah Aryeh Loeb resumed where he had left off, so the volume containing *Middot* was among the first printed in Frankfurt on the Main. See Raphael Rabinovitch, *History of the Printing of the Talmud* (Jerusalem: Mossad Harav Kook, 1965), 109 [Hebrew] and Marvin J. Heller, "Approbations and Restrictions: Printing the Talmud in Eighteenth-Century Amsterdam and Two Frankfurts," *Essays on the Making of the Early Hebrew Book* (Leiden: Brill, 2021), 537–557.

⁵ This arrangement followed the standard layout for manuscripts of Maimonides' commentary, which inset either the diagrams or blank spaces in the text. In the 1720 edition, asterisks appear in the text, rather than blank spaces, referring the reader to the diagrams that follow the text.

⁶ Richard Gottheil and Isaac Broydé, "Jonathan ben Joseph," in *Jewish Encyclopedia*, 1906, Vol. 7, 235, and Jonathan ben Joseph, *Yeshuah Be-Yisrael* (Frankfurt on the Main: Johann Koelner, 1720), Introduction.

oblige. The book, *Yeshuah Be-Yisrael*, was nonetheless printed on the Koblner press the same year that the volume of Talmud containing Mishnah *Middot* was produced.

Although we cannot be certain of the exact events that led Jonathan ben Joseph to create a new plan of the Temple, we can assume that the publisher, Judah Aryeh Loeb, commissioned the work. Aside from circumstantial evidence, Jonathan ben Joseph described a similar scene between the two men in his introduction to a third work, Abraham bar Ḥiyya's *Tzurat Ha-Aretz*. This book, also a treatise on astronomy, was written in 1133 in Spain, and was first published in 1546 in Basil with a Latin translation. In 1725, Judah Aryeh Loeb published a new version which had been reworked by Jonathan ben Joseph.⁷ Jonathan recalls in the introduction how he was approached by Judah Aryeh Loeb, who asked him to fix the corruptions of the previous version and remake the image plates. It is reasonable to assume that a similar exchange took place five years earlier and that the publisher, recognizing Jonathan ben Joseph's erudition and skill in producing diagrams, commissioned him to prepare a new plan of the Temple for the Talmud.⁸

New Temple Plans Based on *Middot*

In the approximately 530 years since Maimonides' Temple diagrams were first produced, dozens of scholars had created illustrations of the Temple.⁹ Some of these illustrations were three-dimensional drawings rather than plans. Others were unrelated to the text of Mishnah *Middot*, based

⁷ *Tzurat Ha-Aretz* (Offenbach on the Main: Pantura, 1725).

⁸ Joseph Patrich asserts, based on a caption in Zalman Menahem Koren, *Ve-asu Li Mikdash* (Jerusalem: Western Wall Heritage Fund, 2007), 55, that Jonathan ben Joseph's plan was originally made for a second edition of *Hanukat Ha-Bayit*, a book I will discuss below. See Joseph Patrich, "On the Number of Gates of the Temple's Great Court ('Azarah) and the Gates of the Grille (Soreg): Current Scholarship and a New Proposal," *Hiddushim Beheker Yerushalayim*, Vol. 29, ed. Eyal Baruch and Avraham Faust (Ramat Gan: Bar Ilan, 2014). I see no evidence for such a claim and assume that Koren meant that it was *influenced* by the plan in the editio princeps of *Hanukat Ha-Bayit*. Patrich acknowledges in the article that he found no evidence of a second edition of *Hanukat Ha-Bayit*.

⁹ The version of Maimonides' plan printed in the 1720 Talmud had itself evolved. Comparing the 1720 version with MS Pococke-295r (1167–1168), I note the following extra details in the newer version: 1. The Menorah branches are visible; 2. new illustrations represent the Showbread Table, the Golden Altar, and the Laver; 3. there is a clearer depiction of the tiers of the External Altar; 4. there is a new depiction of the Nicanor Gate.

instead on the Biblical descriptions of the Temple of Solomon and Ezekiel's enigmatic vision of a future Temple.¹⁰ Still, there were a handful of plans, both for Jewish and non-Jewish audiences, drawn specifically to depict the Temple described in *Middot* or (in one case) the closely related description by Maimonides in the *Hilkebot Beit Ha-Behirah* section of his *Mishneh Torah*.¹¹

Like Maimonides, Yom-Tov Lipmann Heller (d. 1654) prepared a plan of the Temple in his commentary on the Mishnah, *Tosefet Yom Tov* (Prague: Moshe ben Yosef Bezalel, 1616).¹² Dutch Hebraist Constantijn l'Empereur (d. 1648) included a scale plan of the Temple with his Latin translation of *Middot* (Lyon: Bonaventurae & Abrahami, 1630).¹³ This translation made *Middot* available to the Latin-speaking populace and, a decade later, French scholar Louis Cappel (d. 1658) relied on it for one of the three original plans in his *Trisagion sive Templi Hierosolymitani Triplex Delineatio* (1640), which analyzed the differences between the descriptions of the Temple appearing in the Bible, in Josephus, and in *Middot*.¹⁴ In 1650,

¹⁰ Some plans belonged to a school of thought that all versions of the Jerusalem Temple were identical. This was championed by Juan Batista Villalpando (d. 1608), who reasoned that the Temple was Divinely inspired and was thus the platonic ideal of architecture. As such, he felt it was illogical that different versions could have existed.

¹¹ For an extensive—though incomplete—list of Temple diagrams, see Wolfgang Herrmann, “Unknown Designs for the ‘Temple of Jerusalem’ by Claude Perrault,” *Essays in the History of Architecture Presented to Rudolf Wittkower*, ed. Douglas Fraser, Howard Hibbard & Milton J. Lewine (Bath: Phaidon, 1967), 143–158, which lists forty-seven examples, 154–158. See also Helen Rosenau, *Vision of the Temple: The Image of the Temple of Jerusalem in Judaism and Christianity* (London: Oresko Books, 1979), which discusses depictions of the Temple in general, and Matt Goldish, “Some Trends in Temple Studies from the Renaissance to the Enlightenment,” in Steven Fine, ed. *The Temple of Jerusalem: From Moses to the Messiah — in Honor of Professor Louis H. Feldman* (Leiden: Brill, 2011), 303–327. For a list of specifically Jewish plans up to modern times, see Patrich, “On the Number of Gates,” 213–214.

¹² This plan is ignored by Herrmann and Rosenau, while Goldish (319) mentions it only in passing. It was reprinted in Krakow in 1643, where Heller served as Chief Rabbi, and twice in the 1680s in Wilhermsdorf and Amsterdam.

¹³ Herrmann, *Unknown Designs*, 156 (no. 19). L'Empereur's text and plan were later incorporated into the complete Latin translation of the Mishnah by Guilielmus Surenhusius (Amsterdam: Gerardus & Jacobus Bostieus, 1698–1702).

¹⁴ *Trisagion* was widely disseminated as part of Brian Walton's *Polyglot Bible* (London: Thomas Roycroft, 1655). It was primarily in response to the popular work of Villalpando. See Louis Cappel, *Trisagion sive Templi Hierosolymitanik Triplex Delineatio*, introduction and Goldish, “Some Trends,” 314.

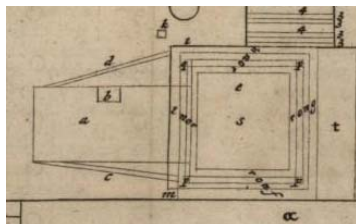
John Lightfoot (d. 1675) published a plan in *The Temple: Especially as it Stood in the Dayes of our Saviour* (London, 1650) that relied extensively, but not exclusively, on *Middot*. Louis de Compiegne de Veil's Latin translation of Maimonides' *Mishneh Torah*, *De Cultu Divino*, Vol. VIII (Paris: Guidonem Galillou, 1678) included a relatively sparse plan drawn by noted French architect Claude Perrault (d. 1688).¹⁵ Bernard Lamy (d. 1715) revisited the Temple plan over three separate publications; his first plan, part of *Introduction à la lecture de l'écriture sainte composée en Latin* (Lyons, 1669), is reminiscent of the drawings by l'Empereur, Lightfoot, and Perrault.¹⁶ Last was a plan created by Moshe Hefetz (d. 1711), a prominent rabbi in Venice, for his book on the design of the Temple, *Hanukat Ha-Bayit* (Venice: Bragadini, 1696), which he describes in the introduction as a study of Mishnah *Middot*.

While these were the *Middot* plans that existed when Jonathan ben Joseph began working on his new diagram, it is hard to determine if he utilized or even had access to most of them. Assessing direct influence is complicated, especially when dealing with drawings that aim to diagram the same source material. What appears to be copied might simply be the result of like-minded but independent interpretations of the text.¹⁷ Only when the depiction represents a stylistic or idiosyncratic choice by the illustrator and is repeated in a later plan can we be confident of influence. For example, the depictions of the External Altar in l'Empereur's and Jonathan's plans have a similar appearance but are both straightforward depictions of the text and differ in how they portray the tiers and corners of the External Altar. By comparison, the graphics used by Hefetz and Jonathan for the Spark (*Nitzotz*) Gate share the same stylistic elements and embellish the plain meaning of the text, thus demonstrating clear signs of influence (fig. 1).

¹⁵ This plan is the primary subject of Herrmann, *Unknown Designs*.

¹⁶ Rosenau, *Vision*, 97–98, and Herrmann, *Unknown Designs*, 157–158 (nos. 35, 38, and 45).

¹⁷ In his dissertation on diagrams in Euclid's *Elements*, Eunsoo Lee dubs these two groups “created diagrams,” drawn from the text alone, and “transcribed diagrams,” that are based on previous diagrams in front of the illustrator. Transcriptions, he explains, inherit “the idiosyncratic features of the reference diagram.” See Eunsoo Lee, “Visual Agency in Euclid's *Elements*: A Study of the Transmission of Visual Knowledge,” PhD Diss., Stanford University, 2020, 28–30.



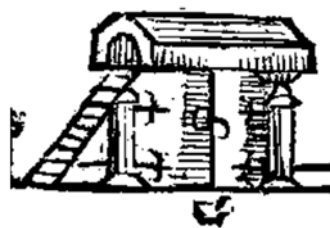
L'Empereur Plan, External Altar



Jonathan ben Joseph Plan, External Altar



Hefetz Plan, Spark Gate



Jonathan ben Joseph Plan, Spark Gate

Figures 1a–1d

Based on this criterion and a careful comparison of all the plans, it is apparent that Jonathan ben Joseph made primary use of the Hefetz plan when preparing his drawing. Jonathan ben Joseph's plan was by no means a direct copy, as the two contain major differences. Hefetz's drawing is a ninety-degree axonometric,¹⁸ while Jonathan drew his as a two-dimensional plan. Hefetz showed a square Temple Mount, whose larger area required a foldout page, while Jonathan's rectangular Temple Mount is distorted to fit the size of a standard page in the Talmud.¹⁹ Many small details and the orientation of elements changed as well. Still, of the sixty-four labeled elements in Jonathan ben Joseph's plan, thirty-nine show a

¹⁸ In a ninety-degree axonometric, the front and back walls of each room are shown with height in addition to length and width, as opposed to a plan view, which looks directly from above.

¹⁹ The *Hanukat Ha-Bayit* plan is printed on a larger sheet and folded to fit within the volume, with its legend at the bottom of the sheet. In the three versions held by the National Library of Israel, only one of the plans remains intact; the second preserves a detached legend; while in the third the legend has gone missing, and a later hand has written all the labels directly onto the plan. This small sample vindicates concerns that Heller recorded in *Tosefet Yom Tov*, where he opted not to draw his plan to scale because that would require “creasing and folding, which would disfigure it and make it easier to tear.”

clear resemblance to the graphics in Hefetz's plan. Two additional elements—the External Altar and the Sanctuary Opening—reflect enlargements that appear in the text of *Hanukat Ha-Bayit*.²⁰ Most doorways in the two plans are shown in the same decorative manner, with arched doorways, framed by jambs with distinct bases, shafts, and capitals. The Spark and Tadi Gates are drawn in a particularly similar manner. Both plans depict the Balustrade (*Soreg*) around the complex as a thick, crosshatched line. Jonathan's plan copies the distinct two-legged Laver stand and shows columns and tables in the Slaughterhouse (*Beit Ha-Tabahim*). The chambers and passages around the Sanctuary and the depiction of the various stairs also match the Hefetz plan. Both show semi-circular benches for the various courts on the Temple Mount. There can be no doubt that Jonathan ben Joseph had *Hanukat Ha-Bayit* before him while preparing his drawing.

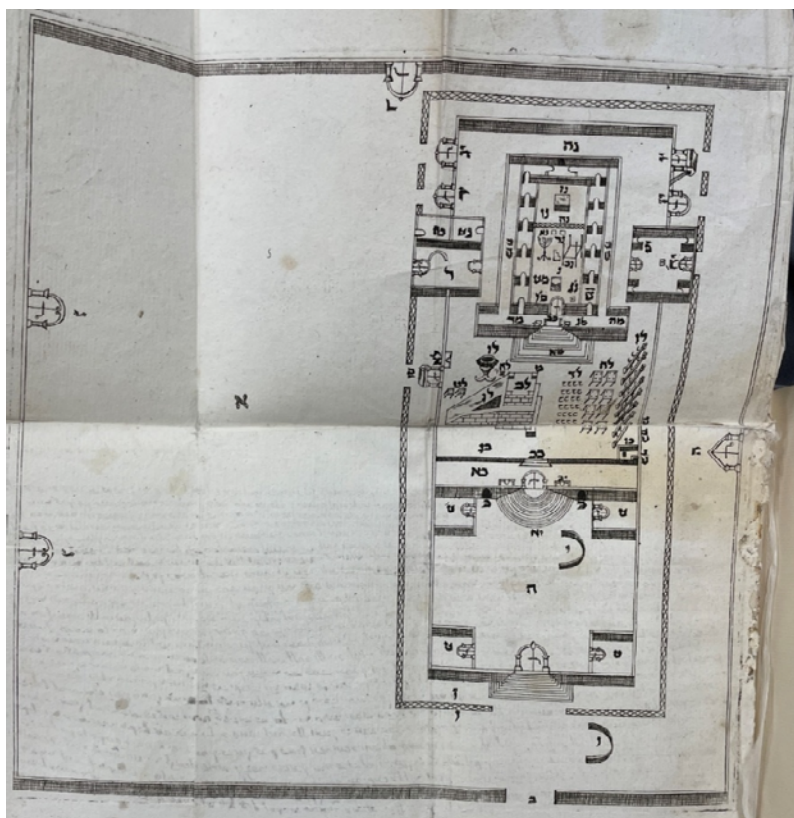
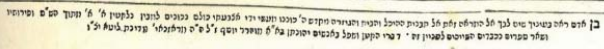


Figure 2: Temple Plan. Moshe Hefetz, *Hanukat Ha-Bayit* (Venice: Bragadini, 1696)

²⁰ See Appendix B for a list and comparison of items.



(Frankfurt on the Main: Johann Koelner, 1720)

Jonathan ben Joseph's Plan of the Temple

In the 1720 Frankfurt on the Main edition of the Talmud, *Middot* is printed at the end of the volume containing tractate *Me'ilah*. The four folios of *Middot* are followed by two pages reproducing Maimonides' Temple illustrations and then two facing pages with the Temple plan of Jonathan ben Joseph and its accompanying legend. The plan seems to have been printed using a woodblock rather than the newer intaglio method which was used by Hefetz in *Hanukat Ha-Bayit*.²¹ Below the plan is a caption stating that the plan of the Temple was "taken one for one from the Talmud and its commentaries and other important books that deal with this matter," the latter perhaps being a reference to *Hanukat Ha-Bayit*. The illustrator is identified as Jonathan ben Joseph from Ruzhiny, Lithuania.

The plan itself is rectangular in shape. Items are labeled with a Hebrew letter, keyed to the legend. Each cardinal direction is noted, with north oriented to the right. Walls are drawn as double lines, only sometimes hatched. Portals and various vessels appear in elevation within the plan. A double line surrounding the page marks the edges of the Temple Mount. This wall is pierced by five gates that are similar in appearance. Within the outer border is a second, crosshatched rectangle representing the Balustrade, off center to the north, and with thirteen gaps.²² Inside this frame to the east is a rectilinear staircase leading up to the large, ornamental entrance into the Women's Court. This court contains four chambers that create a cruciform space. A judicial assembly with a semi-circular bench is also shown in this court. Proceeding west, radial stairs lead to the narrow Israelite Court, followed by steps up to the Priestly Court. Here there is equipment for the Temple service, including hooks and tables for preparing sacrifices. The large External Altar sits to the left with a Ramp, successive tiers, and raised corners, next to the Laver with spigots and a water well. To the right are a number of chambers, including

²¹ Woodcuts, a form of relief printing, were largely replaced by the intaglio technique, which used metal plates engraved or etched with the image, with ink applied within the incisions rather than on the protrusions. This method was used for the plan in *Hanukat Ha-Bayit*, as evident from the traces of the platemark and close examination of the hatch patterns. Though it generally resulted in a superior image, intaglio images required a second pressing of the page using considerable pressure. This is perhaps why intaglio did not seem to gain traction in the printing of the Talmud. In the late eighteenth century, a new relief printing technique known as wood engraving was invented, which allowed for finer details. See Rob Banham, "The Industrialization of the Book 1800–1970," *The History of the Book*, 273–290, here 275–276, and Griffiths, *Prints and Printmaking*, 22–25.

²² See Patrich, "Number of Gates" for the significance of this number. The Hefetz plan has only six openings.

one that leads to a ritual bath on the roof and another with pillars and tables for butchering sacrificial animals. Continuing upward and inward there is a set of orthogonal stairs with three landings leading to the Vestibule (*Ulam*) via a portal with stepped lintels above the doorway. Past this, another door leads into the Sanctuary (*Heikhal*), which is surrounded by a series of cells. To the left is another judicial space and to the right is the Chamber of the Hearth (*Beit Ha-Moked*), the largest gatehouse containing four more small chambers. Several additional gates connect this courtyard with the Temple Mount beyond, including the two-story Spark Gate. Within the Sanctuary are most of the major Temple vessels: the Menorah, Golden Altar, and Showbread Table. Two curtains, the so-called *Teraksin* Cubit, separate this space from the innermost Holy of Holies, where there is an outcropping of rock, the Foundation Stone, which once supported the Ark of the Covenant.

Jonathan's plan includes features that were absent in the *Hanukat Ha-Bayit* plan and adds a greater level of detail. The East Gate and Vestibule Doorway are more elaborate, with the latter more closely matching the description in the text, showing stepped lintels above the opening. In addition to the semi-circular benches of the Jewish courts, backbenches are added, in accordance with descriptions elsewhere in the Talmud. The Laver has twelve spigots and appears alongside a water well with a pulley, keeping with the description in the Mishnah.²³ The Washing Chamber (*Beit Ha-Medihin*) shows a stairway to the roof, where a ritual bath can be seen. The Temple vessels, particularly the Golden Altar and Showbread Table, are artistically shown, with the notable addition of smoke rising from the Golden Altar. The *Teraksin* Cubit is drawn with two curtains, as described elsewhere in the Talmud.

Despite the many improvements, Jonathan ben Joseph's plan is not without some unsuccessful design decisions. It shows the eight columns in the Slaughterhouse lying down, whereas they were shown upright in the *Hanukat Ha-Bayit* plan. Due to the constraint of fitting the plan onto a single page, the Temple Mount cannot be shown as a square and the Women's Court is foreshortened. Some walls, particularly around the Priestly Court, are hatched while most other walls are left unfilled, seemingly without deliberate reason. The Laver, while shown in plan, still has its base as it appeared in the axonometric *Hanukat Ha-Bayit* illustration, though in a plan view the base should be hidden. The rounded stairs appear as ellipses, rather than semi-circles. These are small details, but as we

²³ For more on the function of this device, known as the *muchni*, see Joshua Skarf, "Ancient Water-Raising Devices and the Temple *Muchni*," *Bekhol Derakhekha Daehu* 26, (April 2012), 7–21.

will see, they are helpful in tracking changes to the plan as it is reproduced in later editions of the Talmud.

The Talmud printed in Frankfurt on the Main was a very influential edition. Raphael Nathan Nuta Rabbinovicz wrote that it exceeded all previous versions in value and “served as the starting point for all the print versions that followed until today (except the Prague version of 5488).”²⁴ Indeed, once Jonathan ben Joseph’s plan was included in this edition, it was duplicated in almost all subsequent versions of the Talmud. Each edition also reprinted the caption identifying Jonathan ben Joseph of Ruzhany as the artist.

Printing and Reprinting Images in the Talmud

Including images alongside text was a complicated endeavor even before the invention of printing. With each handmade copy, illustrators erred, corrected, or reinterpreted earlier images.²⁵ The technical difficulty of printing pictures alongside movable type led early printers to treat images as scribes had once done, leaving blank spaces to be filled in by a later illustrator. Still, it did not take long for publishers to begin using woodcuts and one can imagine an optimism surrounding this technology, that images in books would now be replicated faithfully.

In practice, this was not the outcome. The images produced by a single woodcut varied based on quality of materials and the skill of the printer who inked and pressed the template for each copy. The woodcut itself would get worn down with each pressing, further impacting the final image. While these changes were relatively minor, greater difficulties arose when a new edition of the text was prepared. Each image was created from a physical woodcut or metal plate that was the property of someone and was physically located somewhere. If the existing woodcut was not available, publishers needed to commission a new template, copied from the old one. Here they confronted the same problem as the hand-drawn illustrations: each new woodcut contained errors, corrections, and reinterpretations of the earlier one.²⁶ Therefore, from one edition to the next, even a printed illustration might evolve quite a bit.

²⁴ Rabbinovicz, *Printing of the Talmud*, 111.

²⁵ For an examination of this issue in the context of the simple geometric diagrams in Euclid’s *Elements*, see Lee, “Visual Agency,” 6–7.

²⁶ One example from this period is the 1738 English translation of Andrea Palladio’s *I Quattro Libri Dell’Architettura* by Isaac Ware. The author describes two previous English editions in which the copied illustrations either altered the pro-

When publishers of a new edition of the Talmud wished to reprint illustrations, they needed either to obtain an existing woodcut or to create a new template. A general comparison between prints demonstrates that there were many unique versions of Jonathan ben Joseph's plan, though some were reused in later editions. Comparing versions of this plan, the most intricate of all illustrations in the Talmud, can reveal which editions made use of earlier plates, which commissioned new ones, and what version was the reference image used for each new template, thus teaching us about the relationship between editions and presses. Certain telltale features, such as the design of the Temple Mount gates, the Tadi Gate, the crosshatch of the Balustrade, the East Gate, the shape of the fifteen rounded stairs in the Women's Court, the *Teraksin* Cubit opening, and the major vessels noticeably change from one version to the next. While an extensive list of variations is included in Appendix A, I will focus here on the three types of changes that typically appear in copies of images: corrections, errors, and stylistic changes.

Although the original Jonathan ben Joseph plan follows the text of the Mishnah closely, I previously noted some minor defects. Later versions of the plan sought to correct these issues. The 1797 Vienna edition depicts semicircular stairs between the Women's Court and Israelite Court, as described by the Mishnah, rather than shallower arcs, and the 1813 Slavuta plan shows the top landing as a semi-circle as well (fig. 4). Jonathan ben Joseph's plan depicts the Laver's base as two crescents, a holdover from the axonometric *Hanukat Ha-Bayit* diagram. When shown

portions and added "fanciful decorations" or else were done "with so little understanding and so much negligence, that it cannot but give great offence to the judicious." Ware, by contrast, claims to have "strictly kept to [Palladio's] proportions and measures, by exactly tracing all the plates from his originals, and engraving them with my own hand: So that the reader may depend upon having an exact copy of what our author published, without diminution or increase." See Andrea Palladio, *Four Books of Architecture*, tr. Isaac Ware (London: Isaac Ware, 1738), "Advertisement." An example of the same phenomenon in a Hebrew book can be found in *Sefer Minhagim*, translated into Yiddish by Simon Günzburg (Venice: di Gara, 1593). The woodcuts originally produced for this volume were reused in many Jewish books by at least four different printing presses in Prague, though never by two printshops at once, indicating that the physical plates changed hands. In other locales, where the original templates were not available, new woodcuts were required, as was the case when new templates were made in Amsterdam, Frankfurt on the Main, Dyhernfurth, and Hamburg. See Chune Shmeruk, "Ha-iyurim Min Haminhagim Be-yiddish, Vinetziya 5353/1593, Bi-hadpasot Hozrot Bi-defusei Prague be-me'a Hasheva Esrei," *Studies in Bibliography and Booklore*, 1984, Vol. 15 (Hebrew Union College, 1984), 52–31.

in plan, however, the base should not be visible. The 1826 Kopys edition corrects this incongruity, deleting the base. Later plans attempt to show individual spigots and make the Laver less flowerlike (fig. 5). The pan for collecting ashes from the External Altar only vaguely resembles a pan in the 1720 Frankfurt on the Main version and becomes steadily more abstract. This is revised in the 1826 Kopys edition and again in the 1853 Vilna version, which renders it more realistically. These corrections demonstrate original thought and analysis of the material, rather than rote copying. They indicate the involvement of people in the artistic process who were familiar with *Middot*, and not just hired workmen.



*Figure 4a-e: Stairs from Women's Court to Israelite Court.
From left to right: 1720 Frankfurt on the Main, 1797 Vienna,
1813 Slavuta, 1826 Kopys, 1853 Vilna.*



*Figure 5a-f: Laver. From left to right: 1696 Hanukat Ha-Bayit,
1720 Frankfurt on the Main, 1762 Sulzbach, 1813 Slavuta, 1826 Kopys, 1853 Vilna.*

Alongside the small number of corrections to the plans, the copies themselves introduce a number of errors. The 1739 Frankfurt on the Oder/Berlin edition mixes up the Tadi Gate and the East Gate, showing the former with an arch and the latter with a pointed lintel (fig. 6–7). It also lacks the openings in the *Teraksin* Cubit, a commonly repeated mistake. The plans in 1762 Sulzbach, 1797 Vienna, and 1868 Berlin show a Laver with only nine spigots, rather than twelve (fig. 5). The 1764 Amsterdam edition oddly shows the right half of the Showbread Table leaning inward, an error that is progressively embellished in many of the following editions. It also depicts the Menorah with a flat base instead of a tripod, omits the crenelation around the Golden Altar and depicts its smoke less realistically (fig. 8). The 1826 Kopys plan reverses the direction of the second Small Sanhedrin and shows twenty curved steps instead of fifteen (fig. 4). The 1853 Vilna edition omits the Foundation Stone in the Holy of Holies.



Figure 6a–d: *Susian Gate*.
From left to right: 1720 Frankfurt on the Main, 1764 Amsterdam,
1853 Vilna, 1860 Zhitomir.



Figure 7a–e: *Tadi Gate*.
From left to right: 1720 Frankfurt on the Main,
1739 Frankfurt on the Oder, 1826 Kopyts, 1853 Vilna, 1860 Zhitomir.



Figure 8a–e: *Golden Altar, Menorah, Showbread Table, and Terakim Cubit*.
From left to right: 1720 Frankfurt on the Main, 1764 Amsterdam,
1804 Dyhernfurth, 1853 Vilna, 1860 Zhitomir.

Different versions also contain changes due to stylistic preferences. These range from simple changes with little significance to more drastic changes in style. Each plan, for example, has a different hatch pattern for the Balustrade, and the 1866 Vienna edition alters its appearance completely, replacing the crosshatching with loops. The East Gate design changes from plan to plan, based entirely on stylistic preferences, as no mention of a pediment or clerestory appears in rabbinic literature (fig. 9). The 1764 Amsterdam edition adds hatching to the Temple Mount gates, presumably to give depth to the depiction, and uses a solid line in place of a dotted line to mark the inner surface of the External Altar. The 1802 Dyhernfurth plan shows the Golden Altar with a base and capital, though neither Scriptures nor the Mishnah give indication of a tripartite division for that vessel (fig. 8). The 1826 Kopyts version draws most walls with

three lines instead of two, shows a spiral staircase in the Washing Chamber, and makes the Tadi Gate a pointed arch (fig. 7). Some changes also reflect new techniques and printing capabilities. The 1853 Vilna plan revises the design of the Temple Mount gates entirely, making them somewhat oriental²⁷ (fig. 6–7). In addition, it updates the Menorah, Golden Altar, Showbread Table, the Laver (which no longer looks like a flower, fig. 8), pillars, and almost all the doorways. The 1860 Zhitomir edition redraws most elements and updates them stylistically. Of special note in that version are the Menorah, shown with the bulbs and bells as described in the Bible, and the Susian Gate (fig. 6), which depicts a cityscape. Whether due to desire to correct, error, or stylistic changes, it is clear that Jonathan ben Joseph's Temple plan changes significantly from edition to edition.



Figure 9a–d: East Gate to Women's Court.

From left to right:

1720 Frankfurt on the Main, 1762 Sulzbach, 1811 Vienna, 1853 Vilna.

²⁷ This may have reflected the mid-19th century trend in synagogue architecture to use the “Moorish” style. For the rise of this style, its telltale features, its identification with Jewish origins and specifically the architecture of the Temple see Ivan Davidson Kalmar, “Moorish Style: Orientalism, the Jews, and Synagogue Architecture,” *Jewish Social Studies* New Series, 7:3 (Spring–Summer, 2001), 68–100, here 73 and 77–78.

Reuse of Templates

The various Jonathan ben Joseph plans demonstrate that, when possible, publishers preferred to use an existing template when preparing a second edition. This saved the expense of preparing a new one and was particularly prevalent when a specific printer made a second or third edition. Such was the case with multiple editions published in the cities of Sulzbach, Vienna, Dyhernfurth, Slavuta, and Vilna.

Less commonly, a printing press might acquire a template from a defunct publishing house. The 1834 Prague edition seems to have reused the template from the 1797 Vienna printing. Other than font and thickness of ink, the two prints are identical, down to the number of lines in the crosshatching. How might the plates have gone from Vienna to Prague? The Vienna plan was printed by Joseph Hraschanzky, who operated his press from 1785 until his untimely death in 1806. The business then passed to his son Georg. However, the son's financial outlook declined and in 1813 he was forced to sell the printing press to a former worker, Georg Holtzinger.²⁸ The sale was a messy affair, and printing equipment ended up in Pressburg, among other places.²⁹ Meanwhile in Prague, the 1834 edition was printed by Moshe Landau, who got his start at the Scholl publishing house, where he became a partner in 1824 and then the sole owner around 1826. Franz Johann Scholl had started printing Hebrew books in 1813, the same year in which the Hraschanzky sale occurred.³⁰ A letter from Landau in 1836 shows that he was familiar with the fate of the Hraschanzky/Holtzinger printing house, which he felt had been ruthlessly driven out of business by his main competitor, Anton Schmid.³¹ While there is no definitive link or bill of sale that demonstrates how the woodcut was transferred from one printing press to the other, I can only note that the two images are identical and point to a timeline that makes a transfer of the template in the early nineteenth century plausible.

²⁸ Louise Hecht, "Christian Printers as Agents of Jewish Modernization? Hebrew Printing Houses in Prague, Brno and Vienna, 1780–1850," *Judaica Olomucensia* 2015/1, 30–61, here 43–44.

²⁹ Reinhard Buchberg, "*Hraschanzky*: Geschichte und Bibliographie einer Wiener Buchdruckerei (1785–1813)," unpublished MA thesis (Vienna: University of Vienna, 2008), 61.

³⁰ Sharon Flatto, "19th-Century Prague: Tradition, Modernization, and Family Bonds," *Hebrew Union College Annual*, 2016, Vol. 87, 279–334, here 321.

³¹ Iveta Cermanová, "The Fall and Rise of Hebrew Book Printing in Bohemia 1780–1850," *Hebrew Printing in Bohemia and Moravia*, ed. Olga Sixtová (Prague: Jewish Museum in Prague, 2012) 215–237, here 236.

The reuse of a template can also provide evidence regarding the relationship between two editions. There is some confusion regarding the first Talmud printed in Slavuta between 1801 and 1806, which according to its frontispiece was published by Dov Ber ben Israel Segal and Dov Ber ben Pesah. These men, however, are unknown and Marvin Heller has convincingly argued that the real publisher was Moshe Shapira, whose name is connected with earlier printings of Hebrew books in Slavuta as well as the subsequent editions of the Talmud produced there.³² Examining the Jonathan ben Joseph plan in each of the Slavuta editions supports this claim, as they are all produced from the same template. While this does not decisively prove that they were produced in the same print house, since one publisher could have acquired the template from the other, it is a strong piece of evidence in support of Heller's conclusion.

Stemma

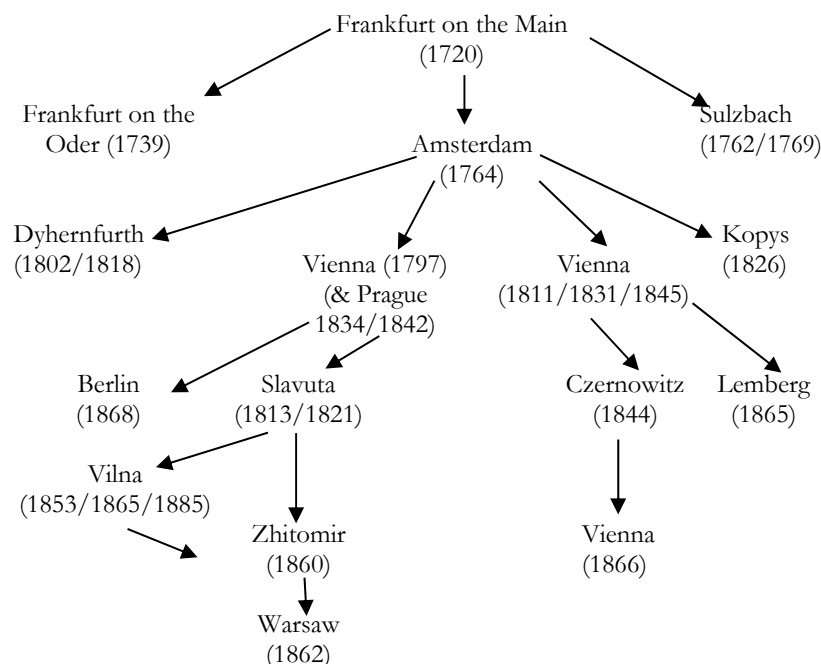
Once the various plans have been analyzed and compared, this information can be used to construct a stemma (family tree) of the different printed editions of the Talmud. In his study of the manuscripts of Ibn al-Haytham's *Treatise on Optics*, Dominique Raynaud has shown that images alone can be used to reconstruct a stemma. His stemma constructed based on images aligns with one based on textual analysis, demonstrating the validity of this method of philology.³³ Raynaud asserts that it is easier to establish a stemma based on images since there are more discrepancies in images than in the text.³⁴ In our case as well, a reconstructed stemma based on the plan of Jonathan ben Joseph, as detailed in Appendix A, largely conforms with the established chain for the printed editions of the Talmud and provides a datapoint beyond the self-reported claims of the publishers.³⁵

³² Marvin J. Heller, "On the Identity of the First Printers in Slavuta," *Essays on the Making of the Early Hebrew Book* (Leiden: Brill, 2021), 360–381.

³³ Dominique Raynaud, "Building the Stemma Codicum from Geometric Diagrams: A Treatise on Optics by Ibn al-Haytham as a Test Case," *Archive for History of Exact Science*, Vol. 68, No. 2 (March 2014), 207–239.

³⁴ Ibid., 208. Similarly, Chaim Dov Friedberg used images to ascertain the printing press on which certain books were published. See Ch. B. Friedberg, *History of Hebrew Typography in Poland* (Tel Aviv: Baruch Friedberg, 1950), 136 n. 3.

³⁵ Rabbinoicz writes that the 1797 Vienna and Dyhernfurth Talmuds copied Frankfurt on the Main, and that the 1813 Slavuta printing copied Dyhernfurth. Otherwise, all conclusions align. Rabbinoicz seemingly bases his conclusions on the title pages of each Talmud, which may have been motivated by marketing or legal requirements.



Stemma of Jonathan ben Joseph plans in printed editions of the Talmud, 1720–1870

Authorship

Assigning absolute authorship for a woodcut image is not at all straightforward. There are many people involved in creating the image: the designer of the diagram is not usually the person who cuts the woodblock, nor the one who traces the design onto the wood. An editor may be involved in making corrections or commissioning the work.³⁶ One or more additional people are responsible for inking and printing the image.³⁷ In any case, images in manuscripts were rarely credited, but with the rise of printed texts, publishers realized that a well-known illustrator could become a selling point for the edition.³⁸ The acknowledgment of Jonathan ben Joseph in the 1720 Talmud can be seen as part of this trend.

³⁶ Lee, *Visual Agency*, 384–385, 416.

³⁷ Arthur M. Hind, *An Introduction to a History of Woodcut I* (New York: Dover Publications, 1963), 90.

³⁸ Lee, *Visual Agency*, 384. Jonathan ben Joseph had authored other rabbinic works and was a community leader, so perhaps his name lent authority to the drawing. In biographical compilations of rabbinic figures, such as *Bibliotheca Hebraea* (Vol.

Following the publication of the 1720 Frankfurt on the Main Talmud, different unnamed artists were responsible for copying the plan in subsequent editions. This was normal, as early print images were copied freely, without concern for copyrights.³⁹ What is more interesting is the persistent captioning of the plans with attribution to Jonathan ben Joseph of Ruzhiny. This might be simply an acknowledgment of the originator of the design or a marketing ploy, competing with other printed editions of the Talmud that contained the Jonathan ben Joseph plan.⁴⁰ However, it also indicates the acceptance of the diagram as an authoritative commentary unto itself. Most diagrams that appear in the Talmud do so within a specific commentary on the Talmud. For example, there are images inset in the commentary of Rashi. While the images in the printed Talmud are likely not direct copies of those drawn (or commissioned) by the commentator himself,⁴¹ they nonetheless “belong” to that author’s commentary and are generally treated as an organic part of it. As such, there is no need to include the name of an illustrator. The Temple plan of Jonathan ben Joseph, however, is unique in that it is an illustration that is not part of a larger commentary. The drawing itself, along with its accompanying legend, *is* the commentary. It is thus the only drawing in the Talmud that has always been deliberately captioned with the name of its creator. As the plan was reprinted, it gained popularity with Talmud scholars and became an accepted interpretation of Mishnah *Middot*. Later publishers may have concluded that even while making changes to the plan, it was appropriate to leave the caption rather than call attention to changes.⁴²

In addition to the persistent caption of the plan, there are at least two indications that Jonathan ben Joseph’s plan became part of the canon.

3, No. 844) and *Keneset Yisrael* (428), he is primarily known as the author of *Yeshuah Be-Yisrael* and for his commentary on Abraham ben Hiyya’s *Tzurat Ha-Aretz*.

³⁹ Hind, *History of Woodcut*, 284. See also 354 for an analysis of editions of Bernard von Breydenbach’s *Sanctae Peregrinationes* and their use of either the original or copies of illustrations. The issue of copyright is one of the most commonly examined topics in the history of printing the Talmud, but is beyond the scope of this paper.

⁴⁰ Editions of the Talmud commonly proclaimed their wide array of commentaries and addenda in their frontispiece. However, no version ever advertised the inclusion of this plan as a special feature.

⁴¹ Heller, *Printing the Talmud*, 117–119.

⁴² Changing the plan somewhat diverges from standard practice regarding corrections to a printed Jewish text. Errors were generally left in place and noted in glosses. See Yaakov Shmuel Spiegel, *Amudim Be-Toldot Ha-Sefer Ha-Ivri* (Ramat Gan: Bar Ilan Press, 1996), 229–233. However, our case is unique, as this “commentary” is a drawing rather than text.

One sign of this status can be seen in instances of diagrammatic criticism. Later rabbis treated the legend much as they would any canonical corpus, leaving it intact but making emendations in the margins. Benjamin Ze'ev (Wolf) Boskowitz (d. 1818), a prominent Hungarian rabbi, recorded several glosses. These were first printed within the 1831 Vienna edition of the Talmud and appear in several other versions. Likewise, Jacob Emden (d. 1776), an influential German rabbi, made corrections to the legend, which were included in the 1885 Vilna edition.

A second sign of the authority afforded the Jonathan ben Joseph plan is its impact on the reproduction of earlier *Middot* plans in rabbinic texts. The *Tosefet Yom Tov* commentary on the Mishnah was continuously in print and subsequent versions of its Temple diagram began to mimic the Jonathan ben Joseph plan. For example, in the 1752 Amsterdam edition, the Laver was updated to look like the one in Jonathan ben Joseph's plan. The 1818 Vilna edition takes this further, noticeably adopting features such as the Spark Gate, semi-circular stairs, Laver, and Exterior Altar. This shows the influential status of Jonathan ben Joseph's plan.

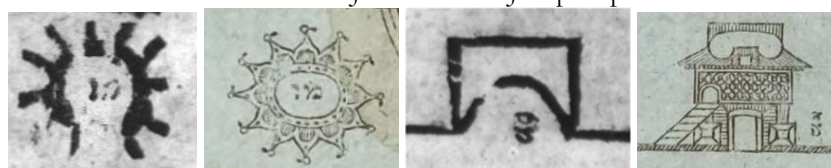


Figure 10a–d:
Laver and Spark Gate as seen in 1616 and 1818 editions of *Tosefet Yom Tov*.

Although secondary artists were rarely credited, the Romm publishing house was an exception to this rule.⁴³ Of the many versions of the Jonathan ben Joseph plan, the 1853 Vilna edition is the only one that credits a second artist, Eliezer Lipmann ben Natan Nuta Matz.⁴⁴ Matz was a rabbi in Vilna, and was known for designing the “Vilna” font used in the Romm Talmud.⁴⁵ He also operated his own printing press in the city.⁴⁶ While Matz' name was reprinted in the 1866 Vilna edition of the Talmud, it was

⁴³ Two Romm printings of *Tosefet Yom Tov* included plans that credited secondary artists: in 1818 by Dov Ber ben Joseph Jozefa, a coppersmith who had also created a version of the Vilna Gaon's map of the Exodus, and in 1832, by Eliezer Lipmann ben Natan Nuta Matz.

⁴⁴ Although the surname is often transliterated as “Metz,” Ruth Wisse, a relative of his by marriage, has assured me that Matz is the correct spelling.

⁴⁵ Shmuel Shraga Feigensohn, “Le-Toldot Defus Romm,” *Lithuanian Jewry*, Vol. 1 (Tel Aviv: Am Hasefer, 1959), 268–296, here 271. He previously illustrated the *Tosefet Yom Tov* plan of the Temple published by the Romm publishing house in 1832. For Matz' clerical role, see the cover page of *Ein Yisrael*, Vol. 3.

⁴⁶ Friedberg, *Toldot Ha-Defus Ha-Ivri*, 131.

erased from the prominent 1885 version which served as the exemplar of most modern printings of the Talmud. For this reason, Matz has largely gone unacknowledged as the artist responsible for the most widespread version of the Jonathan ben Joseph plan. Nonetheless, it is appropriate to assign him partial credit for the version of the plan appearing in most printed volumes of the Talmud today.

Conclusions

Comparing versions of the Jonathan ben Joseph plan can teach us much about the printing of the Talmud, and also about what happened in general once an illustration appeared in print. Every copy required a template, and when available, old templates were often reused. When this was not possible, new templates needed to be prepared. Although these were copies of the original, they inevitably introduced changes, either deliberately or by accident. One can use these alterations to reconstruct the stemma of the image and perhaps the printed edition at large. In this case, new versions continued to be attributed to Jonathan ben Joseph, either out of marketing concerns or because the plan had become canonical. Still, there was always a new artist, usually uncredited, responsible for creating the image for each edition, and in the case of the Vilna printing, which still forms the basis of most printed versions of the Talmud, the artist can be identified as Eliezer Lipmann ben Natan Nuta Matz. Beyond being a helpful study aide for Mishnah *Middot*, the plan also provides an interesting window into the history of the printed Talmud.⁴⁷

⁴⁷ The author wishes to thank Meir Hakohen from the Yeshivat Har Etzion library for photographing figure 3, Gavriel Weinstein for photographing figure 12, and Moreshet Auction House for providing figure 17.

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Appendix A: Variations Between Plans

Below is a list of the most noticeable changes between editions of the Jonathan ben Joseph plan. Specific corrections and errors that help demonstrate the relationship of these versions are noted. Dates refers to the publication of the volume *containing Middot* and are in brackets if the date is calculated based on the Hebrew year. The number in parentheses refers to the legend that accompanies the Jonathan ben Joseph plan in all editions.

1. [1720], Frankfurt on the Main: Johann Koelner, Vol. 17 (fig. 3)
2. [1739], Frankfurt on the Oder/Berlin: Michael Gottschalk, Vol. 11b. (fig. 12) Variations: Tadi Gate (3) is arched while Susian Gate (2) has a pointed lintel. No opening in the *Teraksin* Cubit (47). Temple Mount gates (2, 4, 5) are especially tall, Washing Chamber stairs are very narrow (22), brickwork on water well (31) is different.
3. [1762], Sulzbach: Meshullam Zalman Frankel, Vol. 11.⁴⁸ (fig. 13) Variations: Laver has only nine spigots (31), gate capitals (2, 5, 13) are rectilinear, East Gate (9) is wider and has a winglike tympanum, single clerestory window, and no spire, Laver (31) has a thicker stand, water well does not have concave walls, Golden Altar (43) smoke is different.
Source: As it does not contain the changes of 1739 Frankfurt on the Oder/Berlin, it was presumably copied from the original.
4. [1764], Amsterdam: Sons of Solomon Proops, Vol. 11. (fig. 14) Variations: Gates (2–5, 17) are hatched, External Altar (27) inner perimeter is a solid line, no crenelation around the Golden Altar (43), Menorah (44) has a flat base, and the right side of Showbread Table (45) is leaning inward. No border around semi-circular court bench (6), East Gate (9) lacks a clerestory window and has a more pointed arch, Laver (31) has a spindly stand, water well walls lean inward, Foundation Stone (48) hatching is different, Spark Gate (57) stairs are bounded by double lines.
Source: As it does not contain the changes of 1739 Frankfurt on the Oder/Berlin or 1762 Sulzbach, it was presumably copied from the original.

⁴⁸ The [1769] Sulzbach Talmud by the sons of Meshullam Zalman Frankel, Vol. 11, makes use of the same template.

5. [1797], Vienna: Joseph Hraschanky, Vol 38. (fig. 15)
Variations: All the same variations as 1764 Amsterdam. In addition, the Laver (31) has only nine spigots (as in plan 1762 Sulzbach), the southern wall (near 29) is not hatched, and stairs are semi-circular instead of semi-elliptical (near 17). East Gate (9) has a thinner tympanum, water well (31) is narrower at top.
Source: 1764 Amsterdam.
6. [1802], Dyhernfurth: Joseph May, Vol. 11.⁴⁹ (fig. 16)
Variations: As with 1764 Amsterdam, Gates (2–5, 17) are hatched, External Altar (27) inner perimeter is a solid line, and right side of the Showbread Table (45) is leaning inward. In addition, no opening in the *Teraksin* Cubit (47), Golden Altar (43) has a base and crown, and Menorah's base is again a tripod, correcting earlier errors but introducing a new design. Unlike 1797 Vienna, southern wall hatch and stairs mimic the original.
Source: 1764 Amsterdam.
7. [1806], Slavuta, Dov Ber ben Israel Segal and Dov Ber ben Pesah.⁵⁰ (fig. 17)
Variations: As with 1797 Vienna, Gates (2–5, 17) are hatched, External Altar (27) inner perimeter is a solid line, no crenelation around the Golden Altar (43), Menorah (44) has a flat base, southern wall (near 29) is not hatched, and stairs are semi-circular (near 17). However, Laver correctly shows twelve spigots. East Gate (9) spire is wider, with no clerestory windows, hatch marking doors to Musical Instrument Chamber (16) is reversed, staircase in Washing Chamber (22) is shorter, top row of water well (31) is embellished, Golden Stands (46) are taller, doors to Chamber of the Hearth (51) are narrower, fewer stairs in front of Spark Gate (57).
Source: 1797 Vienna.
8. [1811], Vienna: Anton Schmid, Vol. 11.⁵¹ (fig. 18)
Variations: As with 1764 Amsterdam, Gates (2–5, 17) are hatched and right side of the Showbread Altar (45) is leaning inward. One

⁴⁹ The [1818] Dyhernfurth Talmud by Joseph May, Vol. 21, makes use of the same template.

⁵⁰ The [1813] and [1821] Slavuta Talmud by Moshe Shapira, Vol. 20, make use of the same template. As noted above, Shapira was likely the true publisher of the 1806 edition as well. I would like to thank Moreshet Auctions for providing me with an image of the 1806 plan.

⁵¹ The [1831] Vienna Talmud by Schmid, Vol. 11 and 1845 Vienna Talmud by Schmid, Vol. 11, make use of the same template.

opening in the *Teraksin* Cubit (47). No crenelation around Golden Altar (43), Menorah (44) has a flat base. Unlike previous plans, all lines on the External Altar (27) are solid.

Source: 1764 Amsterdam.

9. [1826], Kopys: Israel Yafeh, Vol. 36. (fig. 19)
Variations: As with 1764 Amsterdam, Gates (2–5, 17) are hatched, External Altar (27) inner perimeter is a solid line, no crenelation around Golden Altar (43). While Menorah is similar to Dyhernfurth 1802 (but has only two feet), Golden Altar does not resemble the distinctive version in that plan.
 This plan introduces a number of unique innovations. *Teraksin* Cubit (47) is hatched differently, walls are all marked with three lines instead of two, Ash Pan (32) is more realistically depicted, Laver base (31) has been deleted, Tadi Gate (3) is shown as a pointed arch, and second small Sanhedrin (15) is reversed. Unlike 1797 Vienna and 1813 Slavuta, stairs (near 17) are semi-elliptical, but there are twenty risers instead of fifteen. Spiral staircase in Washing Chamber (22). Border of Temple Mount is hatched (1), simpler doorway to small Sanhedrin (6), East Gate (9) is more embellished, doorways to Musical Instrument Chambers (16) left unhatched, hatch of wall separating Priestly Court from Women's Court (20) changes direction, Sanctuary Opening (41) is not hatched, Foundation Stone (48) abuts the curtains.
Source: 1764 Amsterdam.
10. 1834, Prague: Moshe Landau, Vol. 17.⁵²
Source: Identical to 1797 Vienna.
11. [1849], Czernowitz: J. Eckhardt, Vol. 17. (fig. 20)
Variations: As in 1811 Vienna, Gates (2–5, 17) are hatched, no crenelation around Golden Altar (43), right side of Showbread Table (45) is leaning inward, no hatch in southern wall (near 29), Menorah (44) has two legs, but with a circle in its stem, and all lines on External Altar (27) are solid. Top landing leading up to East Gate (9) is hatched and there are added squares adjacent to the Showbread Table (45).
Source: Vienna 1811.

⁵² The 1842 Prague Talmud by Moshe Landau, Vol. 39, makes use of the same template.

12. 1853, Vilna: Joseph Reuben Romm, Vol. 38.⁵³ (fig. 11)
Variations: Most of the small changes described in previous plans are replaced with new graphics, making it difficult to compare this plan with other versions. Semi-circular staircase links it to 1797 Vienna and 1813 Slavuta plans. As in 1813 Slavuta, East Gate (9) has no clerestory windows and top row of water well (31) is embellished. Gates (2–5) are drawn in an oriental style, East Gate (9) is revised, pillared doorways are replaced with wooden doors, brickwork in many locations, new graphic for the Rings (26), new graphic for Laver and water well (31), a revised Sanctuary Opening (41), curlicues on the Menorah (44), flames on Altar (43), straightened Showbread Table (45), additional pair of doors entering Musical Instruments Chambers (16), hatched corners of External Altar (27), Ash Pan (32) shown as a giant spoon, tables added in the Vestibule (36).
Source: Slavuta 1813.
13. 1860, Zhitomir: Shapira Brothers, Vol. 19. (fig. 21)
Variations: Plan is quite different from all its predecessors. It uses a different printing technique and adds delicate details and shading, with almost every feature redesigned. Furthermore, it likely used more than one plan as a source, sharing aspects with the Vilna 1853 version but also referring to the older Slavuta 1813 plan. Semi-circular stairs link it with both. As with Vilna 1853, wall around the inner compound is a thick, solid line, many doorways show a domed roof instead of an archway, corners of the External Altar (27) are hatched, Ash Pan (32) resembles a pan, and there are tables in Vestibule (36). However, unlike Vilna 1853 plan, only two doors to Musical Instruments Chambers (16), Laver (31) is flower-like, doors in Chamber of Hewn Stone (62) align, Rings (26) revert to the older style, and Foundation Stone (47) is shown.
This version also has many unique features. Ritual bath (23) is square instead of circular, three Sanhedrins (6, 15, 62) have circular seats, East Gate (2) includes a cityscape in the tympanum and wood paneled doors, all other gates (3–5) are shown with bricks and a floral décor (3-5), stairs are drawn more delicately, Menorah (44) shows individual components as described in the Torah, Showbread Table is a completely new design (45), and Foundation Stone is wider and with texture (47).
Source: Vilna 1853 and Slavuta 1813.

⁵³ The 1866 Vilna Talmud by Joseph Reuben Romm, Vol. 20, makes use of the same template, as does the 1885 edition, Vol. 24. While the first edition was partially printed in Grodno, the volume with *Middot* was produced in Vilna.

14. 1862, Warsaw: S. Orgelbrand, Vol. 18.
Variations: Based on distinctive Zhitomir 1860 plan but executed with less skill and printed without the same tonal variation. Susian Gate (2) cityscape has less detail, flame above East Gate (9) is less symmetrical, Balustrade (7) hatch is irregular, Ash Pan (32) handle is shorter, Chamber of the Hearth (51) tile is smaller, base of Menorah (44) is flat.
Source: Zhitomir 1860.
15. 1865, Lemberg: A.J. Menkes, Vol. 23.
Variations: An accurate redrawing of the 1811 Vienna plan. It differs only in minor details. Hatch of Balustrade (7) is not at 45 degrees, inner perimeter of the External Altar (27) is a dashed line.
Source: 1811 Vienna.
16. 1866, Vienna: Jacob Schlossberg, Vol. 22.
Variations: Like 1844 Czernowitz plan, Menorah (44) has two legs and a circle in its stem, all lines on External Altar (27) are solid, top landing leading up East Gate (9) is hatched, and there are added squares adjacent to Showbread Table (45). Balustrade (7) has a loop pattern instead of the typical hatch pattern.
Source: 1844 Czernowitz.
17. 1868, Berlin: Julius Sittenfeld, Vol. 23.
Variations: Like 1797 Vienna, Laver (31) has only nine spigots, southern wall (near 29) is not hatched, and stairs are semi-circular (near 17). Inner perimeter of External Altar (27) is a solid line, stairs in Washing Chamber (22) are more compact.
Source: 1797 Vienna.

Appendix B: Translated Legend

JbJ# - number in the Jonathan ben Joseph plan

HB# - number in the *Hanukat Habayit* plan

JbJ#	HB#	Item	Description <i>[and later corrections]</i>	Graphic Similarity?
1	1	Temple Mount <i>Har Ha-Bayit</i>	The Temple Mount is 500x500, and on the south side there was more empty space than the other sides, and on the east there was more room than the north and west, and on the north there was more room than on the west. <i>mMid 1:2, start of mMid 2.</i>	No
2	2	Susian Gate <i>Shaar Shushan</i>	Gate in the wall of the Temple Mount on the east side, which had drawings of the capital Susa, and was therefore called the Susian Gate. <i>Ibid.</i>	Yes
3	5	Tadi Gate <i>Shaar Tadi</i>	North gate in the wall of the Temple Mount, called the Tadi Gate. It had no use, except as an exit for a ministering priest who had nocturnal emissions. <i>Ibid.</i>	Yes
4	4	Kiponus Gate <i>Shaar Kiponus</i>	West gate in the wall of the Temple Mount, called the Kiponus Gate, used for entering and exiting. <i>Ibid.</i>	Yes
5	3	Huldah Gates <i>Shaarei Huldah</i>	Two southern gates in the wall of the Temple Mount, called the Huldah Gates as most of the people would enter and exit through them, as it says, "Give ear, all the inhabitants of the world (<i>baled</i>)." <i>Ibid.</i>	Yes
6	10	Small Sanhedrin 1 <i>Sanhedri Ketanah</i>	Seat of a small Sanhedrin at the east entrance to the Temple Mount, and before them were three rows of 23 people each. <i>bSan 36.</i>	No
7	6	Balustrade <i>Soreg</i>	Balustrade 10 cubits high around the entire Sanctuary, pierced by 13 gaps opposite the 13 gates. <i>mMid 2:3.</i>	Yes
8	7	Walkway <i>Heil</i>	The Walkway is an open area around the Sanctuary between the Balustrade and the walls of the Sanctuary, 10 cu-	No

JbJ#	HB#	Item	Description <i>[and later corrections]</i>	Graphic Similarity?
			bits wide and containing 12 stairs between the Balustrade and the east gate of the Sanctuary. Each riser was half a cubit high and each tread half a cubit. <i>mKelim 1:8 [mMid 2:3]</i> .	
9	N/A	East Gate <i>Sbaar Ha-Mizrahi</i>	East Gate of the Sanctuary, entrance to the Women's Court and other courts. Length of all the courts from east to west was 187 cubits, and their width from north to south was 135 cubits. <i>mMid 5:1</i> .	No
10	8	Women's Court <i>Ezrat Nashim</i>	Women's Court, 135x135, and in its four corners were four courts called <i>Lishkot</i> (chambers), each 40x40 cubits long and wide. <i>Ibid. [mMid 2:5]</i> .	Yes
11	9	Wood Chamber <i>Lishkat Ha-Etzim</i>	Wood Chamber for the woodpile of that day. <i>Ibid. [Note 1 by Jacob Emden]</i> .	Yes
12	9	Nazirites' Chamber <i>Lishkat Ha-Nezirim</i>	Nazirites Chamber, where they would prepare their peace offerings and burn their hair under the container. <i>Ibid.</i>	Yes
13	9	Lepers' Chamber <i>Lishkat Ha-Metzora'im</i>	Lepers' Chamber, where their hair was shaved. <i>Ibid.</i>	Yes
14	9	Oils Chamber <i>Lishkat Beit Ha-She-manim</i>	Oils Chamber for the Menorah and the Menorah and meal offerings. <i>Ibid.</i>	Yes
15	10	Small Sanhedrin 2 <i>Sanhedrin Ketanah</i>	Second small Sanhedrin at the entrance to the Israelite Court, arranged in a half-circle with three additional rows of 23 each. <i>bSan 36</i> .	No
16	20	Musical Instrument Chambers <i>Lishkot Klei Shir</i>	Two chambers under the Israelite Court underground, where the Levites would store their harps and learn to play music, with openings into the Women's Court. <i>mMid 2:6</i> .	Yes

JbJ#	HB#	Item	Description [and later corrections]	Graphic Similarity?
17	11	Nicanor Gate <i>Shaar Nicanor</i>	Nicanor Gate, entrance to the Israelite Court from the Women's Court. One goes up via 15 steps, each with a riser of half a cubit and a tread of half a cubit. <i>Ibid</i> and <i>mMid</i> 1:4.	Yes
18	21	Israelite Court <i>Ezrat Yisrael</i>	Israelite Court, length from north to south of 187 cubits, and width from east to west of 11 cubits. <i>mMid</i> 2:6.	Yes
19	12	Chamber of Pinhas the Outfitter, Chamber of the Griddle Cakes Makers <i>Lishkat Pinhas Ha-Malbish, Lishkat Osei Havitin</i>	Two chambers on each side of the gate. The right one is called the Chamber of Pinhas the Outfitter, and the left was the Chamber of the Griddle Cakes Makers. <i>Ibid</i> [<i>mMid</i> 1:4].	Yes
20	22	Priests' Podium <i>Makom Dukhan Ha-Kohanim</i>	Place of the Priests' Podium, with three steps each half a cubit. <i>Ibid</i> .	Yes
21	24	Salt Chamber <i>Lishkat Ha-Melah</i>	Salt Chamber below the Priests' Court, opening onto the Israelite Court. <i>mMid</i> 5 [<i>mMid</i> 5:3, Note 2 by Jacob Emden, Note 1 by Wolf Boskowitz.]	No
22	26	Washing Chamber <i>Lishkat Beit Ha-Medihin</i>	Washing Chamber open to the Salt Chamber and to the Hides Chamber, and in it was a staircase to go up to the roof of the Hides Chamber. <i>Ibid</i> .	No
23	25, 27	Hides Chamber <i>Lishkat Beit Ha-Parvah</i>	Hides Chamber, where sanctified hides would be salted, and on its roof was the place of immersion for the High Priest on Yom Kippur. <i>Ibid</i> .	No
24	36	Slaughterhouse <i>Beit Ha-Mitbahim</i>	Slaughterhouse, and in it were eight pillars called "dwarfs" and on each were three iron rings. <i>Ibid</i> .	Yes

JbJ#	HB#	Item	Description <i>[and later corrections]</i>	Graphic Similarity?
25	35	Tables <i>Shulpanot</i>	Eight Tables before the Slaughterhouse, on which the innards were washed. <i>Ibid.</i>	Yes
26	34	Rings <i>Taba'ot</i>	Twenty-four Rings, in which the necks of sacrifices were put at the time of slaughter. <i>Ibid.</i>	Yes
27	32	External Altar <i>Mizbeah Ha-Hitzon</i>	The External Altar, its base was 32x32 cubits. In the southeast corner there was no base. It rose a cubit and stepped in one cubit — this was the height of the base. It stepped up five cubits and in one cubit — this was the ledge which was 30x30. It stepped up three cubits and in one cubit, leaving 28x28, the place of the corners, which were each one square cubit. Within the corners there was 26x26, where the priests could walk, one cubit in width all around. The area of the sacrificial woodpile was thus 24x24. On the southwest corner there were two drains for wine and water libations and a pile of ashes in the middle of the altar. <i>mMid start of 3.</i>	Enlarged Plan
28	33	Altar Ramp	Altar Ramp, 32 cubits long from south to north, and 16 cubits wide. A small gap was left between the Ramp and the Altar so that they would not touch. From the Ramp there were two small ramps, one on the east would reach the ledge, and one on the west would reach the base. In the west there was a window called the <i>revuvah</i> where birds that were invalidated were put until they decayed. It was 8 cubits from the south wall of the Sanctuary to the Ramp. <i>mZev 5:3 and there in the Talmud [bZev 54a and mMid 3:3].</i>	No
29	23	Priests' Court	Priests' Court, its length from north to south 135 cubits, and width from	Yes

JbJ#	HB#	Item	Description [and later corrections]	Graphic Similarity?
		<i>Ezrat Kobanim</i>	east to west 11 cubits, with exedras around the walls. <i>mMid 2[:2]</i> .	
30	N/A	Ash heap <i>Dishun Mizbeah Ha-Hitzon</i>	Place to put ashes from the External and Internal Altars and the bird innards, a distance from the east of the ramp of 3 handbreadths. <i>mTam 1 [bTam 28]</i> .	No
31	37	Laver <i>Kiyor</i>	Laver of the Altar and its stand, with twelve spigots for twelve priests at once. There was a cistern alongside to lower it at night. Its location was between the Vestibule and Altar. Both were on the south side. <i>mMid 3[:6]</i> .	Yes
32	N/A	Ash Pan <i>Mahtab</i>	Pan for removing ashes from the Altar, placed between the Ramp and the Altar to the west.	No
33	38	Marble Slab <i>Tavlah shel Shayish</i>	Marble Slab with a ring attached, where young priests would be lowered to the <i>shitin</i> [a drainage channel]. <i>mMid 3:3</i> .	No
34	39	Altar Tables <i>Shulhanot Ha-Mizbeah</i>	Two Tables to the west of the Ramp, one of marble and one of silver. Innards and fats were placed on the marble table, while silver sacrificial instruments were placed on the silver table. <i>mShek 1:4–5</i> .	Yes
35	40–41	Vestibule stairs <i>Maalot Ha-Ulam</i>	Twelve steps in the 22 cubits between the Altar and the Vestibule. From the Altar to the west were three cubits. Above were three steps, with each rise and tread half a cubit. Above this was a step with a rise of half a cubit and a tread of three cubits, called a landing [<i>rovad</i>]. Above this were two steps, each rising half a cubit with treads of three cubits, also called <i>rovad</i> . Above these were four steps with each rise and tread half a cubit. And above it was a step with a rise of half a cubit and a tread of four cubits, also called a <i>rovad</i> . Thus the Vestibule floor was higher than the	Yes

JbJ#	HB#	Item	Description <i>[and later corrections]</i>	Graphic Similarity?
			floor of the Altar by six cubits. <i>Ibid</i> 6. <i>[mMid 3:6]</i> .	
36	43–44	Vestibule <i>Ulam</i>	Vestibule of the Temple, length from north to south of 70 cubits, and width from east to west of 11 cubits, with two tables, one of marble and one of silver at its entrance to place the showbread upon entering and exiting. <i>mMid end of 4</i> .	No
37	42	Vestibule Doorway <i>Petaḥ shel Ulam</i>	Vestibule Doorway. It had no doors, just a curtain. Its width was 20 cubits and its height was 40, and on it were adorned five beams called <i>maltariot</i> , each above the previous, made for decoration. The width of its wall was five cubits. <i>mShek 6 and mTam 2. [mMid 2:3]</i> .	Enlarged Plan
38	45	Chambers of the Slaughtering Knives <i>Beit Ha-Hal-ifot</i>	Chambers of the Slaughtering Knives were open to the Vestibule from the north and south. Knives that had been damaged were stored there, and in each there was a wicket door at the end open to the Sanctuary and each measured from north to south 15 cubits, with a width the same as the Vestibule. Altogether, the length of the vestibule was 100 cubits. <i>mMid 4</i> .	No
39	48	Stepped Passageway and Drainage Space <i>Mesibah</i> and <i>Beit Horadot Ha-Mayim</i>	Space that on the north side is called the <i>Mesibah</i> because it wraps around the back of the Sanctuary and the Cells, and on the south side it is called the house of (Herod) [the place for draining] of the water because rainwater from the roof would drain via pipes there. <i>Ibid</i> .	Yes
40	47	Cells <i>Ta'im</i>	Fifteen Cells north of the Sanctuary, consisting of three levels of five and so too in the south of the Sanctuary. The northeast and southeast cells had five openings: one into the Stepped Passageway and one into the second	Yes

JbJ#	HB#	Item	Description [and later corrections]	Graphic Similarity?
			cell, and one to cell above and one to the Vestibule and one to the Sanctuary. And so on the south side, only there the opening into the Sanctuary was permanently closed. <i>Ibid.</i>	
41	42, 46, 49	Sanctuary Opening <i>Petaḥ Ha-Ulam</i>	The opening of the Sanctuary was 10 wide and 20 high, and the walls were six thick. The Sanctuary was 40 long from east to west, and 20 wide from north to south. <i>mMid start and end of 4.</i>	Yes
42	53	Marble Slab <i>Tavlab shel Shayish</i>	Square marble slab right as one enters, on the ground, for extracting from beneath it dirt for a <i>sotab</i> . <i>mMid 2:2.</i>	Yes
43	50	Golden Altar <i>Mizbeaḥ Ha-Zahav</i>	Golden Altar standing in the middle between the Showbread Table and the Menorah a bit toward the outside as is described in the Torah of Moses.	No
44	51	Candelabrum <i>Menorah</i>	The Menorah stands in the south of the Sanctuary and before it is a stone with three steps for the priest to stand on when preparing the lamps. The preparer would rest a golden pitcher and the wicks on it. <i>mYom 2:5.</i>	No
45	52	Showbread Table <i>Shulḥan Ha-Zahav</i>	Golden Table in the north of the Sanctuary, and resting on it would be the Showbread and its jars and bowls, as written in the Torah.	No
46	54	Golden Stands <i>Kanei Zahav</i>	Two Golden Stands on which the High Priest would rest blood from the cow and goat on Yom Kippur when he exited the Holy of Holies. <i>mYom 5:2.</i>	No
47	55	<i>Teraksin</i> Cubit <i>Amah Teraksin</i>	<i>Teraksin</i> Cubit, with two curtains that were each a handbreadth thick, with a space between them of three handbreadths. <i>Ibid.</i>	No
48	56-57	Holy of Holies <i>Kodshei Ha-Kodashim</i>	The Holy of Holies, length and width of 20x20 cubits, and the Foundation Stone was in the middle, which the Ark would rest upon. <i>mMid end of 4. [Note 2 by Wolf Boskowitz].</i>	Yes

JbJ#	HB#	Item	Description <i>[and later corrections]</i>	Graphic Similarity?
49	47	West Cells <i>Ta'im Mi-Maarav</i>	Three cells west of the Sanctuary and the Holy of Holies, and three above it and two above them — altogether eight. An opening was in the middle one into the other cells on each side, and another opening to the cell above. <i>Ibid, as per Rasbi, Tosafot, and the Semag.</i>	Yes
50	58	Space behind the Sanctuary <i>Aharei Beit Ha-Kaporet</i>	Eleven cubits behind the Sanctuary until the wall of the Inner Enclosure. <i>mMid start of 5.</i>	Yes
51	18	Chamber of the Hearth <i>Beit Ha-Moked</i>	Chamber of the Hearth with two gates, one open to the Walkway and one to the Inner Enclosure, and in its four corners were four chambers, and a slab was there with a ring fixed in it and under it were the golden keys to the Sanctuary hung from a chain. <i>mMid 1:6. [mMid 1:9].</i>	Yes
52	19	Chamber of Altar Stones <i>Lishkat Arnei Mizbeah</i>	Chamber in which the Hasmoneans stored the Altar Stones that were defiled by the Greeks. It was in the non-holy section. <i>Ibid. [mMid 1:7].</i>	No
53	19	Chamber of the Showbread <i>Lishkat Lechem Ha-Panim</i>	Chamber where the Showbread was baked, and it was in the holy section. <i>Ibid.</i>	No
54	19	Chamber of the Hearth <i>Lishkat Beit Ha-Moked</i>	Chamber of the Hearth and from there you would descend to the Immersion Chamber on a path under the <i>birah</i> , and there were bonfires in it, and it was in the non-holy section. <i>Ibid.</i>	No
55	19	Chamber of the Lambs <i>Lishkat Ha-Tela'im</i>	Chamber of the Lambs, and it was in the holy section. <i>Ibid.</i>	No
56	17	Sacrifice Gate	Sacrifice Gate <i>mMid 1:5, end of 2.</i>	Yes

JbJ#	HB#	Item	Description [and later corrections]	Graphic Similarity?
		<i>Shaar Ha-Korban</i>		
57	16	Spark Gate <i>Shaar Ha-Nitzotz</i>	Spark Gate, a type of exedra, and above it was a loft where guards stood and it was accessed from the Walkway via stairs. <i>mMidt 1:5</i> .	Yes
58	13	Fuel Gate <i>Shaar Ha-Delek</i>	Fuel Gate [<i>delek</i> instead of <i>daluk</i>] used to bring in wood for the Altar woodpile. <i>mMid 2:4</i> .	Yes
59	14	Sacrifice Gate <i>Shaar Ha-Korban</i>	Sacrifice Gate <i>mMid 1:5, end of 3</i> . [Note 3 by Wolf Boskowitz, this should be labeled the Firstborn Animals Gate.]	Yes
60	29	Chamber of the Exile <i>Lishkat Hagolah</i>	Chamber of the Exile, containing a water cistern made by people from the Exile to provide water for the Sanctuary. <i>mMid 2</i> . [<i>mMdi 5:4</i> . Note 4 by Jacob Emden, Note 4 by Wolf Boskowitz.]	Yes
61	28	<i>Parhadrin</i> Chamber <i>Lishkat Parhadrin</i>	Wood Chamber, also called <i>Parhadrin</i> Chambers of the High Priest. <i>Ibid</i> .	Yes
62	30	Chamber of Hewn Stone <i>Lishkat Ha-Gazit</i>	<i>Gazit</i> [<i>Gazit</i>] Chamber, where the Great Sanhedrin sat in a half circle, half outside the holy section, and within were three rows of 23 jurists each, open both to the holy and non-holy section. <i>Ibid</i> .	Yes
63	31	Lofts of <i>Beit Artinas</i> <i>Aliyot Beit Artinas</i>	Lofts of <i>Beit Artinas</i> . <i>bYom 19</i> .	Yes
64	15	Water Gate <i>Shaar Ha-Mayim</i>	Water Gate, through which water was brought on Succot for libations on the Altar. <i>mMid 1:4</i> .	Yes

Appendix C: Versions of the Plan through 1870

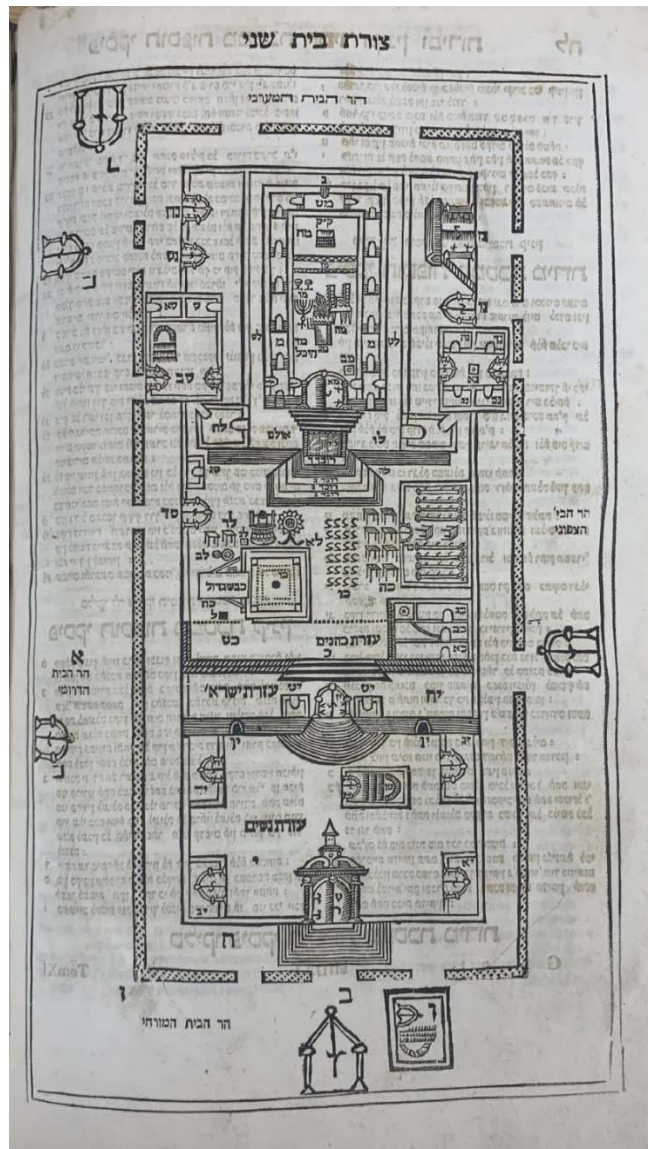


Figure 12: Jonathan ben Joseph Temple Plan.
(Frankfurt on the Oder/Berlin: Michael Gottschalk, 1739)

(Dyhernfurth: Brothers May, 1802)

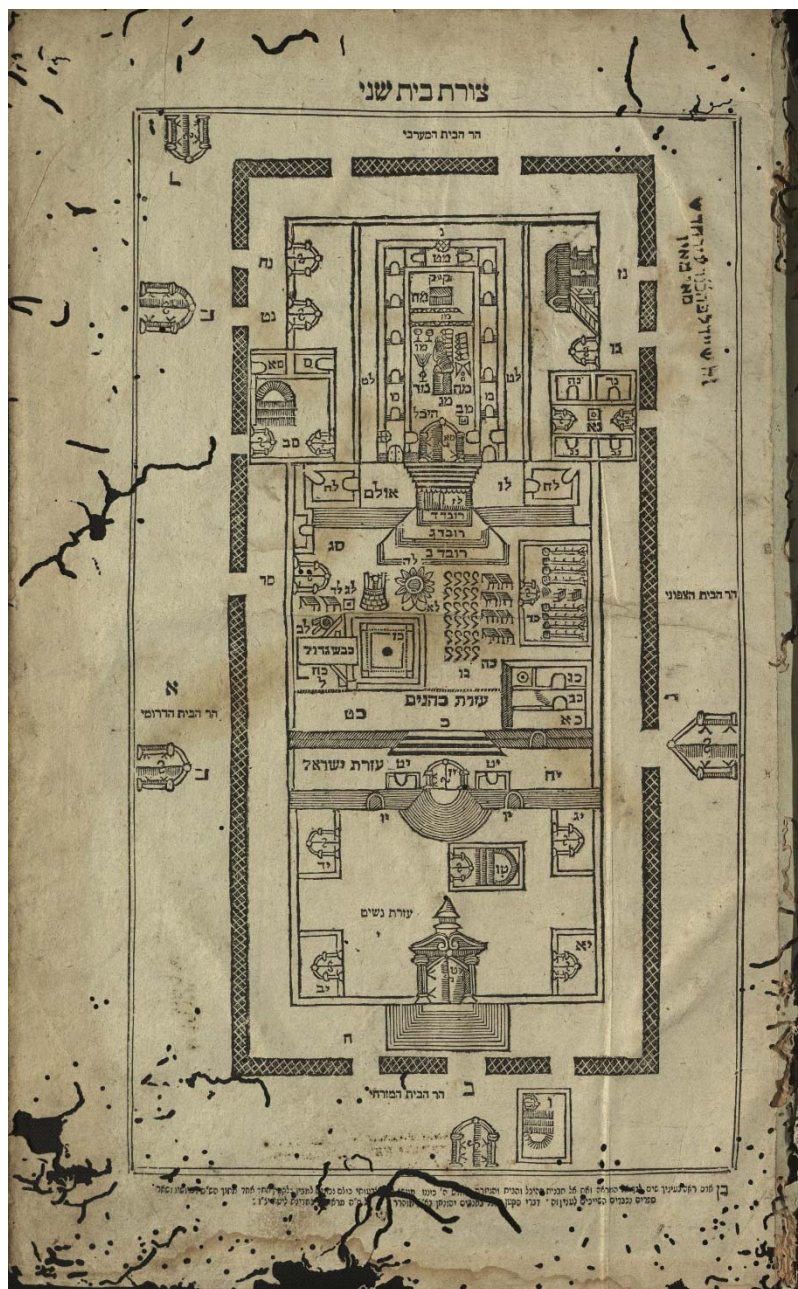


Figure 17: Jonathan ben Joseph Temple Plan.
(Slavuta: Moshe Shapira, 1813)

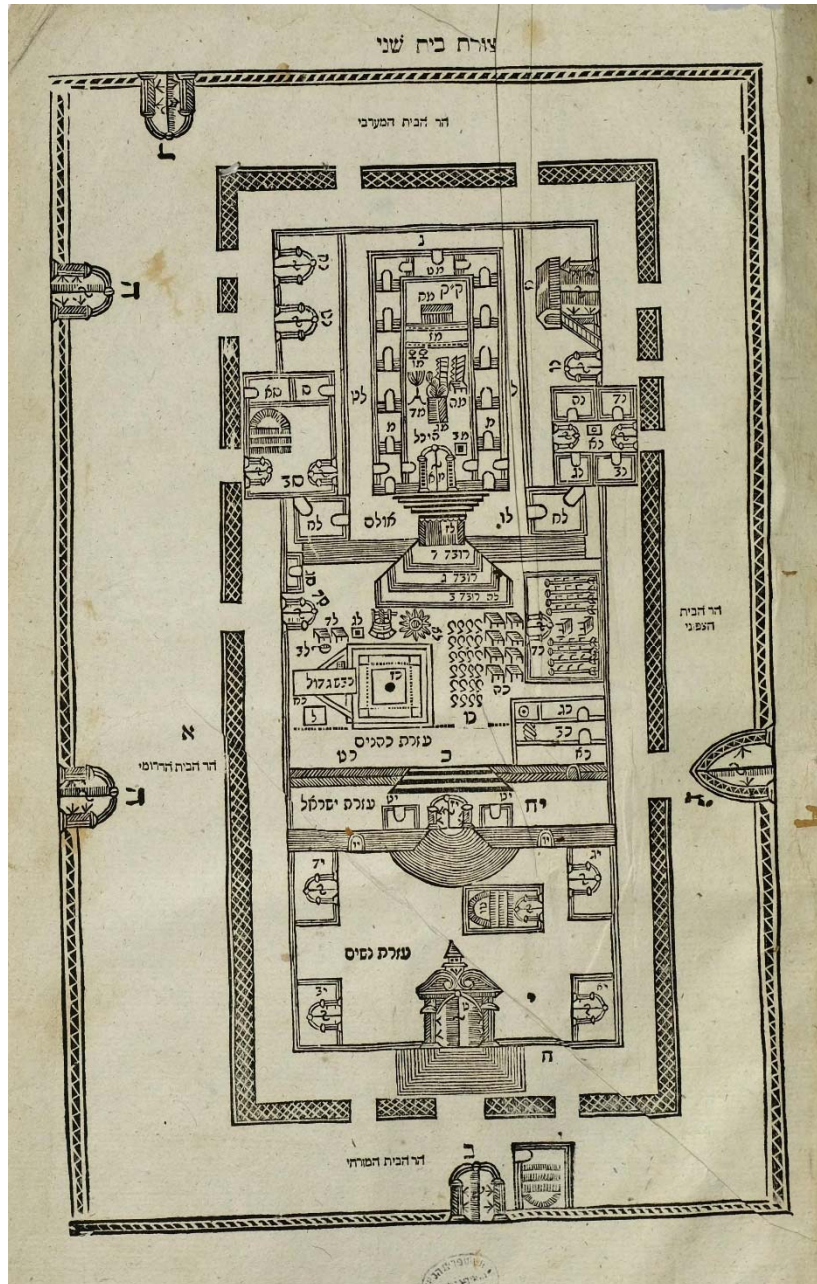


Figure 19: Jonathan ben Joseph Temple Plan.
(Kopys: Yisrael Yafeh, 1826)

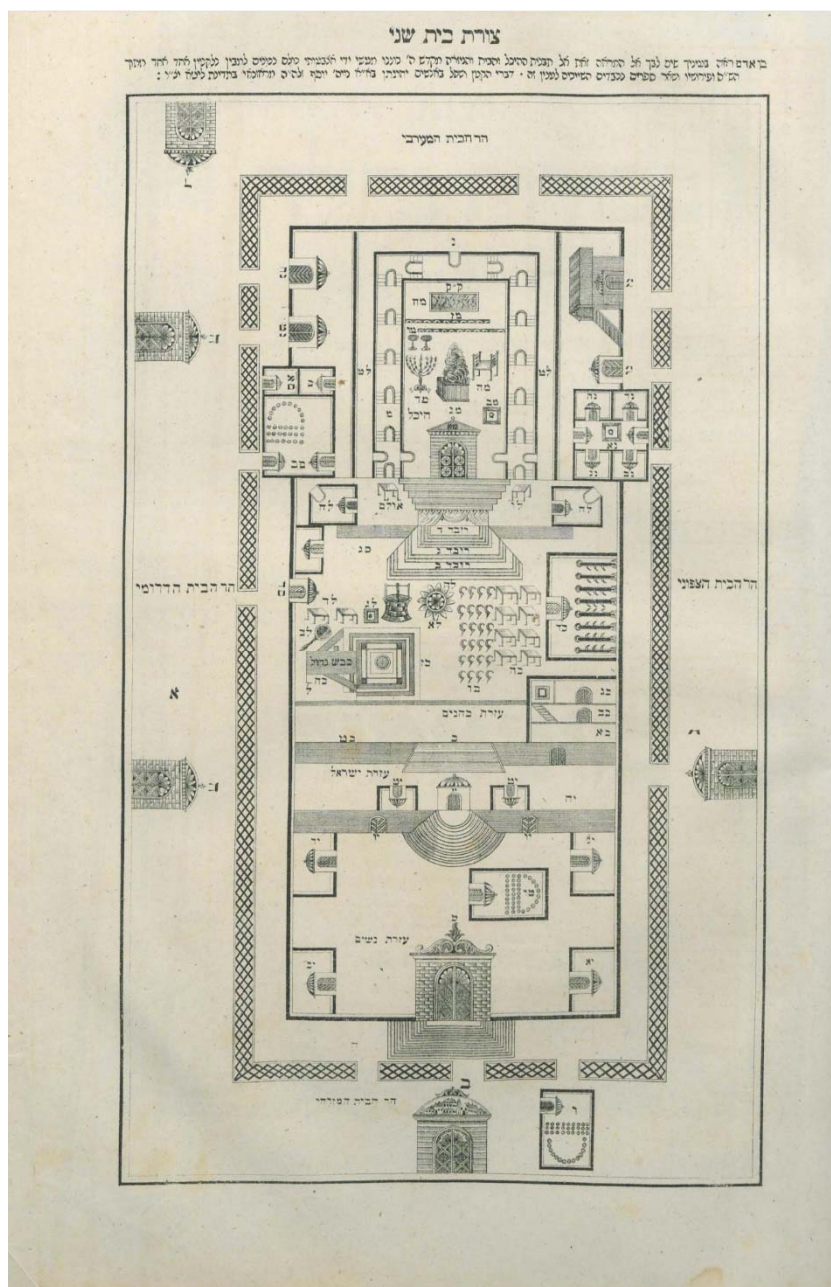


Figure 21: Jonathan ben Joseph Temple Plan.
(Zhitomir: Shapira Brothers, 1860)

Figure 22: Jonathan ben Joseph Temple Plan.
(Lemberg: Menkes, 1860)

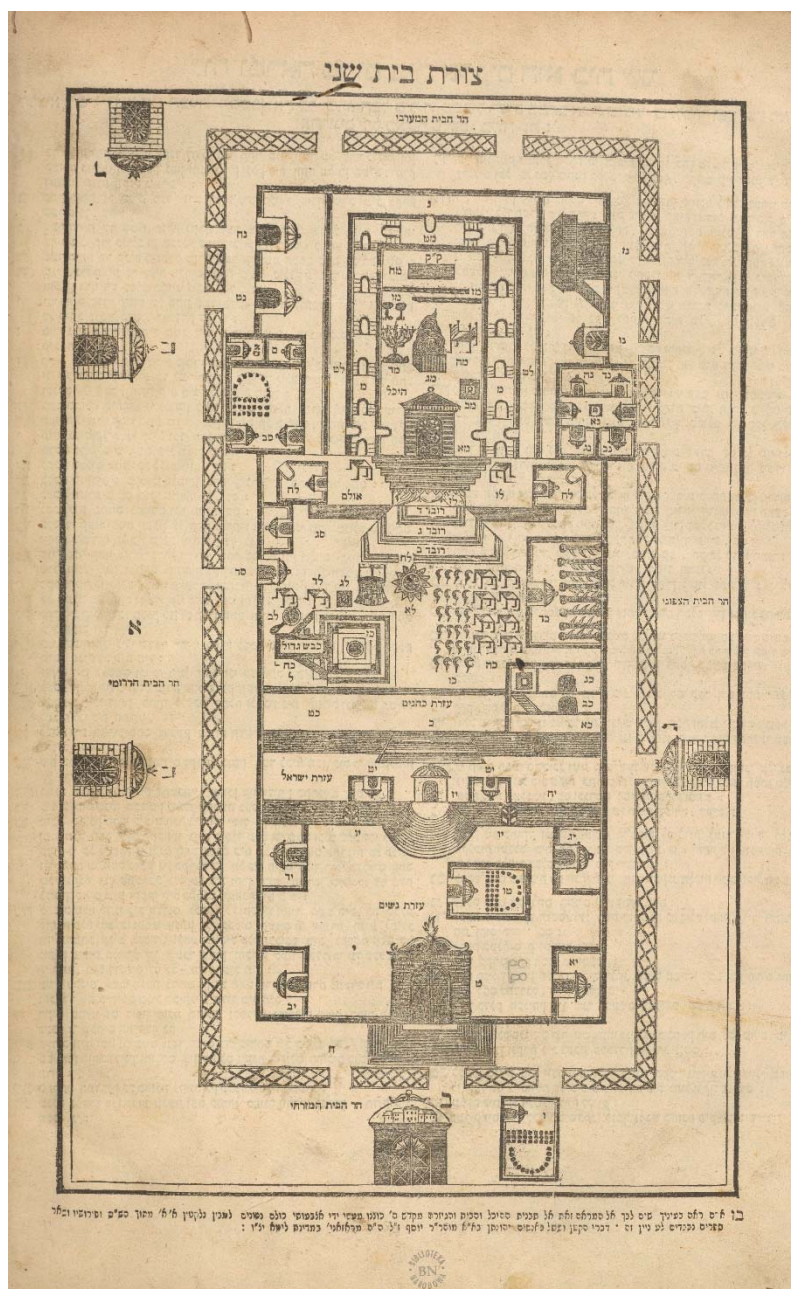
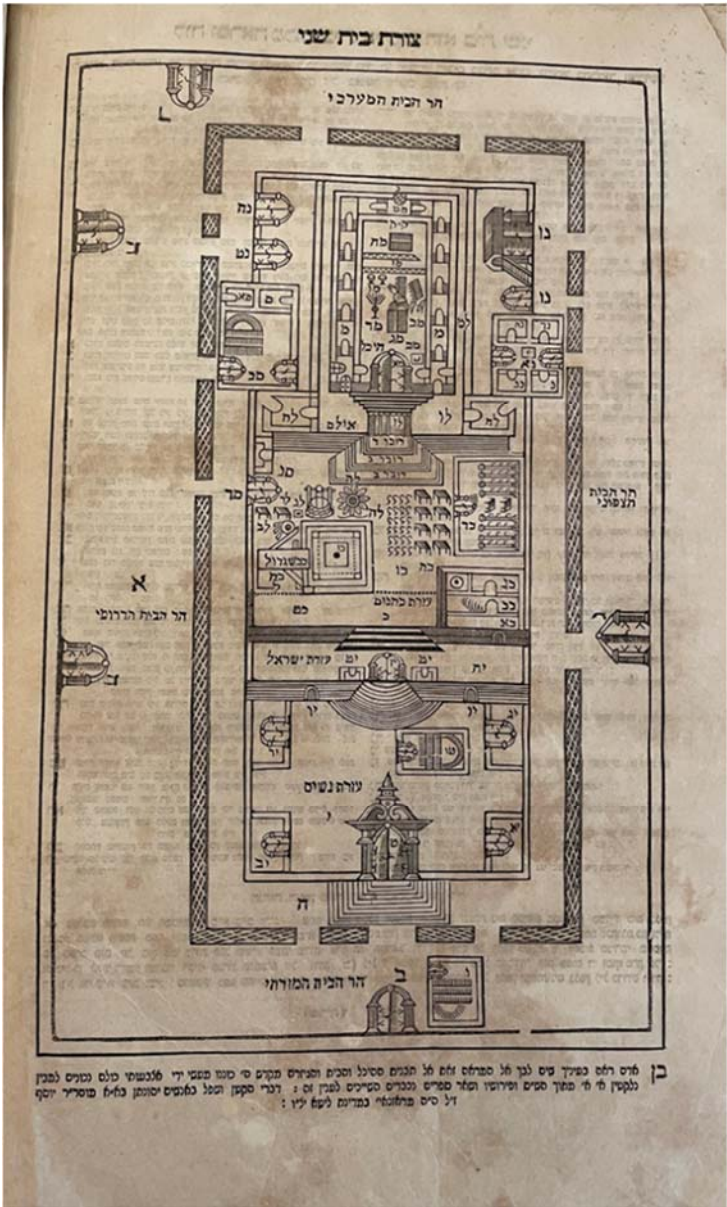


Figure 23: Jonathan ben Joseph Temple Plan.
(Warsaw: Orgelbrand, 1862)



*Figure 24: Jonathan ben Joseph Temple Plan.
(Lemberg: Abraham Joseph, 1865)*

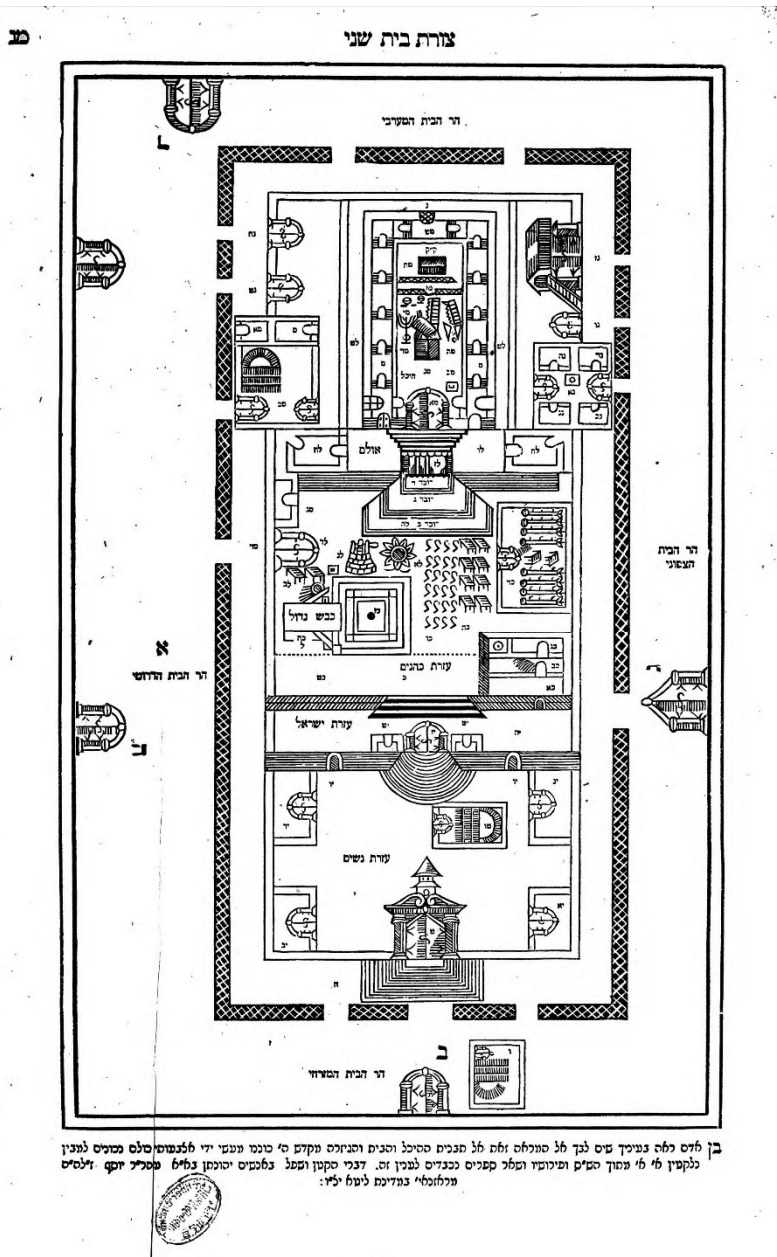


Figure 26: Jonathan ben Joseph Temple Plan.
(Berlin: Zittenfeld, 1868)