# Juan Bautista Villalpando and Sacred Architecture in the Seventeenth Century

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In previous publications,[1] I have argued that the plan and decoration of the nine-bay synagogue, which emerged in Poland in the second decade of the seventeenth century, was influenced by the treatise of Juan Bautista Villalpando with its magnificent image of the Temple of Jerusalem (Figures 1–5).[2] In this article, I expand the scope of research to include several Dutch and English monuments that illustrate the dissemination of this Polish building type and Villalpando's influence. Consideration of these distant Jewish and Christian edifices strengthens my hypothesis about the impact of Villalpando and makes possible a better understanding of the place that Polish Baroque synagogues occupied in architectural history. In particular, study of this building type underscores the essential role played by both architectural typology and messianic mysticism in the program of those sacred buildings that were modeled to a great extent on the iconography of the Temple.

Eschatological thought occupied an important place in the spiritual life of Europe in the sixteenth and seventeenth centuries. It was invigorated in Italy, a center of Christian humanistic culture and Jewish spirituality after the Spanish expulsion, and found believers in the Ottoman Empire and eastern and western Europe.[3] It varied across the continent, split between the Reformation and Counter-Reformation, and survived crises as anticipated apocalyptic dates passed. It was, however, not welcome in the Catholic Polish-Lithuanian Commonwealth, where millenarianism and

Judaising were almost synonymous,[4] and where the Protestant vision of Papal Rome as a "Babylon" soon doomed to collapse was persecuted.[5] As a result, the large community of Ashkenazi Jews there preferred to hide any manifestations of their belief in near redemption, in spite of the messianic fervor stirred by forecasts based on the *Zohar*, by Lurianic kabbalah, and by the Sabbatean prophecy. By contrast, in the Protestant Low Countries and England, millenarian brethren acted publicly. They involved Jews in their preparations for the advent of the millennial kingdom, and applauded the appearance of the alleged messiah, Shabbetai Zevi (1626–1676).[6] In addition to millennialism, the concept of the New Children of Israel was popular in Protestant countries. In Holland, it was a component of patriotic myth that identified the Dutch as a divinely chosen people, already an advanced outpost of the new Adamites.[7] In England, messianic enthusiasm together with Hebraism was popular in the days of the Puritan Revolution; it vanished—at least among the intellectual elite—only with the Restoration.[8] While approaches to messianic mysticism in Catholic Poland and the Protestant Low Countries and England were distinct from each other, the Sephardic and Ashkenazi Jewish communities freely exchanged people and ideas, heeding messianic rumors and their refutations with a common hope for near redemption.[9] In 1648, predicted in the *Zohar* as the year the messiah would appear, the violent persecution of the Jews during Bohdan Chmielnicki's uprising and the subsequent invasion

of the Commonwealth by Muscovites were a great shock for the Jewish world, resulting in a massive emigration of Jews from Poland and Lithuania. Eastern European refugees arriving in Amsterdam, like other Jews who continued to believe that the messianic prediction would soon be realized, viewed these traumatic events as "birth pangs" of the as yet unfulfilled messianic expectation, an expectation that was met when Shabbetai Ẓevi was declared messiah in 1665. This proved to be the major event in the messianic history of the century, Ẓevi's subsequent forced conversion to Islam in 1666 resulting in turmoil among the messianic believers.[10] In the epoch during which eschatological thought spread through Europe, the Temple became an important symbol intelligible across diverse cultures.

The current study was stimulated by an interest in the genesis and spread of a particular type of Baroque sacred building, the so-called nine-bay synagogue, a variation of the four-pier synagogue with equal vaulted bays. To date, no satisfactory explanation of its origins has been proposed, despite continuous discourse on the problem.[11] Explanatory theories propose the genesis of the nine-bay synagogue from Orthodox Church architecture,[12] or as an evolution from the older so-called *bimah*-support synagogues, with their clustered central piers, in the lands of the Polish-Lithuanian Commonwealth. Scholars who argue that the *bimah*-support synagogue was inspired by kabbalistic ferment and liturgical innovations of the sixteenth century, or as a parallel to the biblical "tower" (Nehemiah 8:4), refusing to see additional sources of the nine-bay design, reduce the importance of the nine-bay synagogue to that of a merely efficient architectural solution providing a congregation with more space, and with better visual and acoustic communication with the central *bimah*.[13] However, I contend that the iconographic significance of the Villalpandan treatise must be taken into account to understand the genesis of the nine-bay synagogue.

My aim in this article is to demonstrate the influence of Villalpando's image of the Temple of Jerusalem on the design of synagogues, churches, and monasteries in England, the Netherlands, and Poland during the seventeenth century. As we shall see, Villalpando's Temple assumed different architectural forms and different meanings in diverse cultures during the epoch of great eschatological expectations and in relation to messianic mysticism, millennialism, and the allegory of the New Children of Israel.

## Villalpando's Treatise and Its Influence

Juan Bautista Villalpando (1552–1608) was a Spanish architect, writer, and theorist, and, as of about 1575, a Jesuit friar.



**Figure 1** Ioannes Baptista Villalpandus and Hieronymus Pradus, *In Ezechielem explanationes et apparatus urbis ac templi Hierosolimitani. Commentarii et emaginibus illustratus opus*, vol. 2 (Rome, 1604), pt.1, title page

According to his own account, he studied mathematics and architecture with Juan de Herrera, the builder of the Escorial, in or around the court of Philip II. About 1583, he met Herónimo del Prado, a fellow Jesuit theologian, sculptor, and architect, with whom he undertook a detailed reconstruction of Solomon's Temple and a full commentary on the building as described by the prophet Ezekiel (chapters 40–42). The first volume of their treatise was published in 1596, after del Prado's death. The next two volumes containing graphic reconstructions of the Temple appeared in 1604 (see Figure 1).[14] This work included several details that make any quotation from Villalpando's imagery recognizable in future literature as well as in built monuments. These elements include the nine-bay ground plan, distinc-
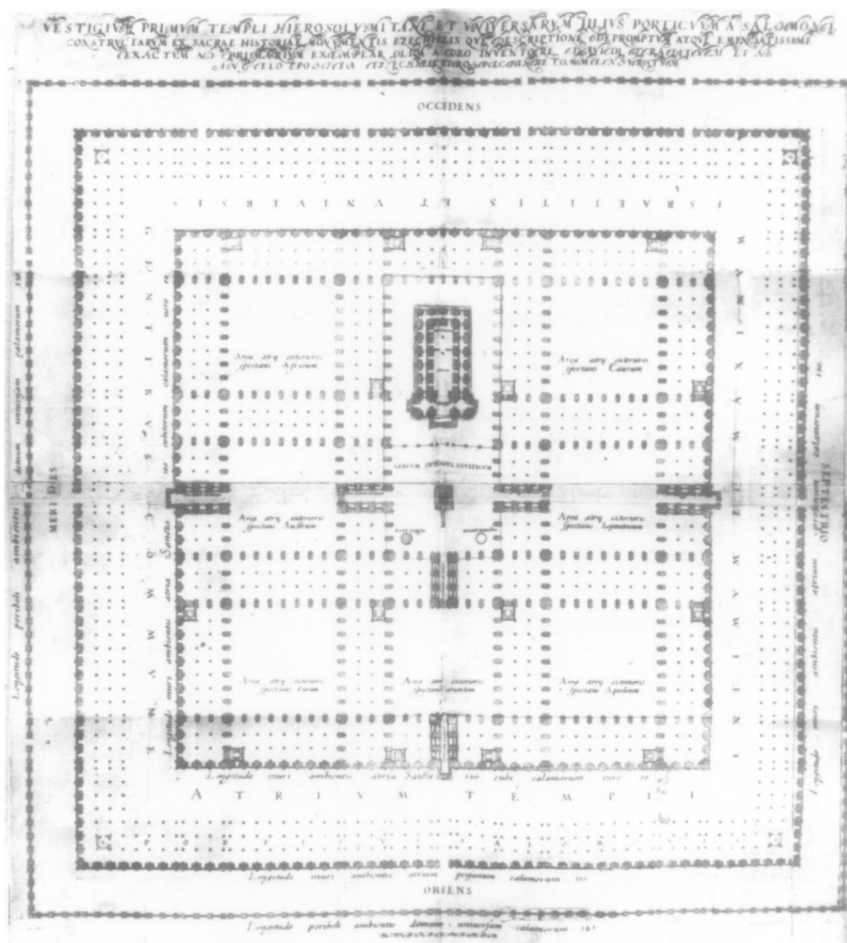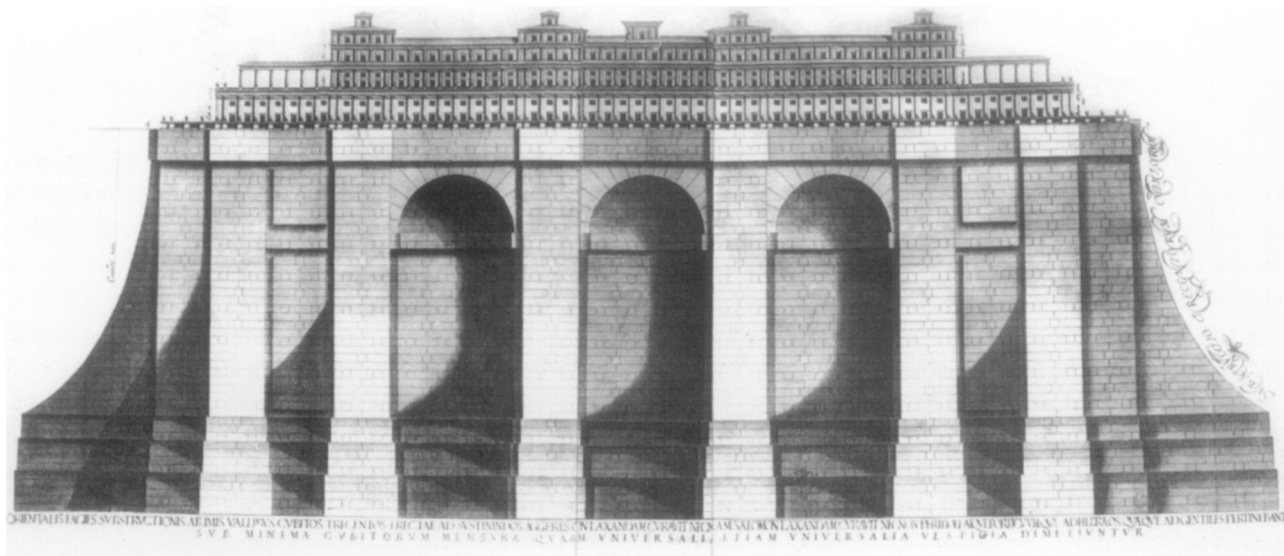
**Figure 2** Juan Bautista Villalpando, Temple of Jerusalem, plan

**Figure 3** Villalpando, Temple of Jerusalem, elevation

# EORVNDEM CASTRORVM DISPOSITIO, MVNDVM
referens, & Templum.

Genef. 48. ℣. 5. & Cap. 49. ℣. 4. 7. 9. 13. 14. 17. 19. 21. Deut. 33. ℣. 26.
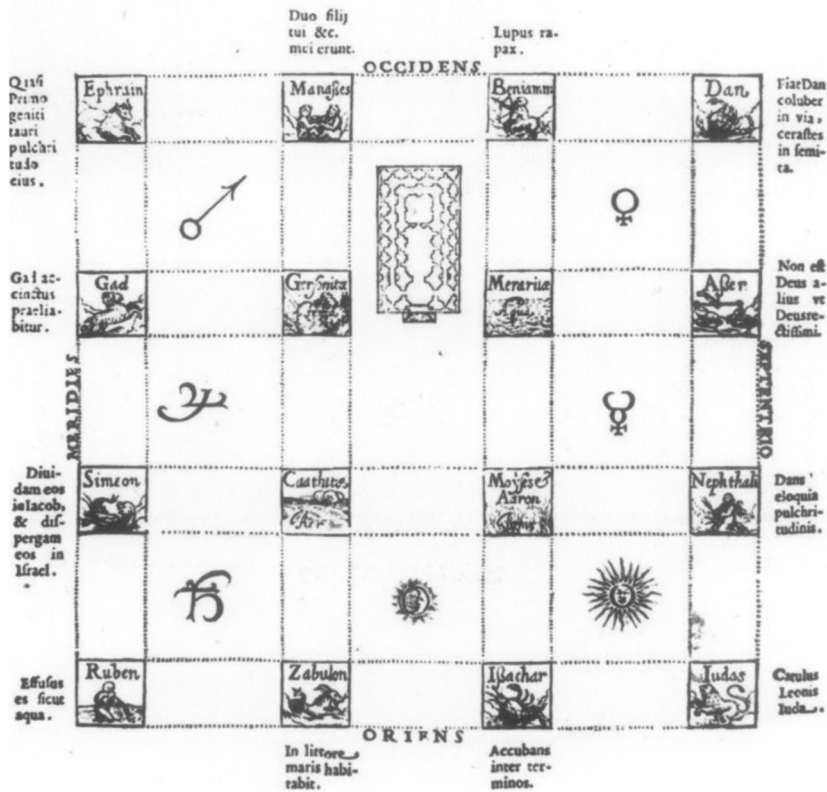
**Figure 4** Villalpando, chart showing symbolism of the Temple of Jerusalem

tive curved buttresses, and a Corinthianesque Solomonic architectural order (see Figures 3, 5).

In Villalpando's treatise, the nine-bay ground plan of the Temple compound was accompanied by an explanatory scheme ascribing cosmic meaning to the overall layout. The twelve outer nodes of the scheme represented the Twelve Tribes of Israel. The four central nodes corresponded, according to Villalpando, to the Levitical families—the sons of Gerson, Merari, and Kohath, together with Moses and Aaron, who were treated as one unit (Num. 2:1–34; 3:23–38). Villalpando connected the Twelve Tribes to the signs of the zodiac, and the Levites to the elements: fire, air,

earth, and water. In addition, the seven known planets were located in the spaces between the nodes of the scheme. The sanctuary was placed on the axis of the whole composition, shifted westward (see Figures 2, 4).[15]

According to Villalpando's reconstruction, the architectural order of the Temple combined Corinthianesque and Doric elements. The capitals of the columns, close to Corinthian in their shape but composed of palm and date fronds, supported a Doric entablature, including triglyphs, which corresponded to the butt-ends of wooden beams (see Figure 5). The channels of the triglyphs were decorated with narrow palm branches.

**Figure 5** Villalpando, architectural orders of the Temple of Jerusalem

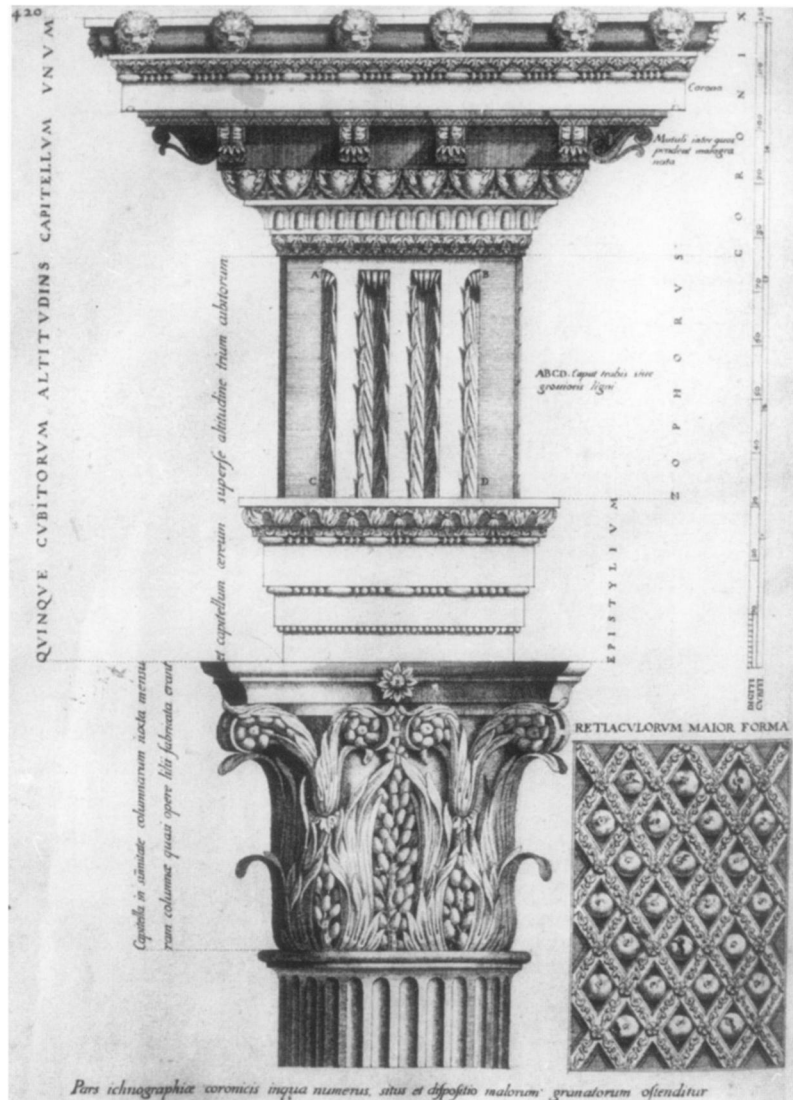Villalpando's architectural concept of Solomon's Temple was assumed to be divinely ordained as revealed to Hiram of Tyre. Under Villalpando's influence, the Corinthianesque order presented in the treatise as the characteristic order of the Temple came to be judged by his popularizers as a special, divine order within a peculiarly Baroque aesthetic theory opposed to Vitruvian theory.[16]

Graphic and textual quotations, as well as production of three-dimensional models of Villalpando's reconstruction of the Temple, recurred throughout the seventeenth, eighteenth, and even nineteenth centuries. They can be traced in more than twenty known works.[17] Besides these, Villalpando's imagery was reproduced in various maps and views of Jerusalem between 1660 and 1852.[18] His architectural

reconstructions were incorporated as backdrops for biblical subjects in drawings by Jan Luyken, his son Casper, Pierre Mortier, and Bernard Picart.[19]

Villalpando's theoretical writings also had an impact on built architecture, although not immediately. The Spanish Jesuit Francisco Bautista imitated Villapando's order at the church of S. Juan Bautista (1633–34) in Toledo, an adaptation that became recognized as a new Spanish order.[20] The book by Rabbi León, another important link in the chain of Villalpando's followers, was reprinted several times, translated into no fewer than seven languages, and popularized by a wooden model (Figure 6). Rabbi León's influence in the Reformed Low Countries coincided with the architectural creativity of Jacob van Campen and Daniel
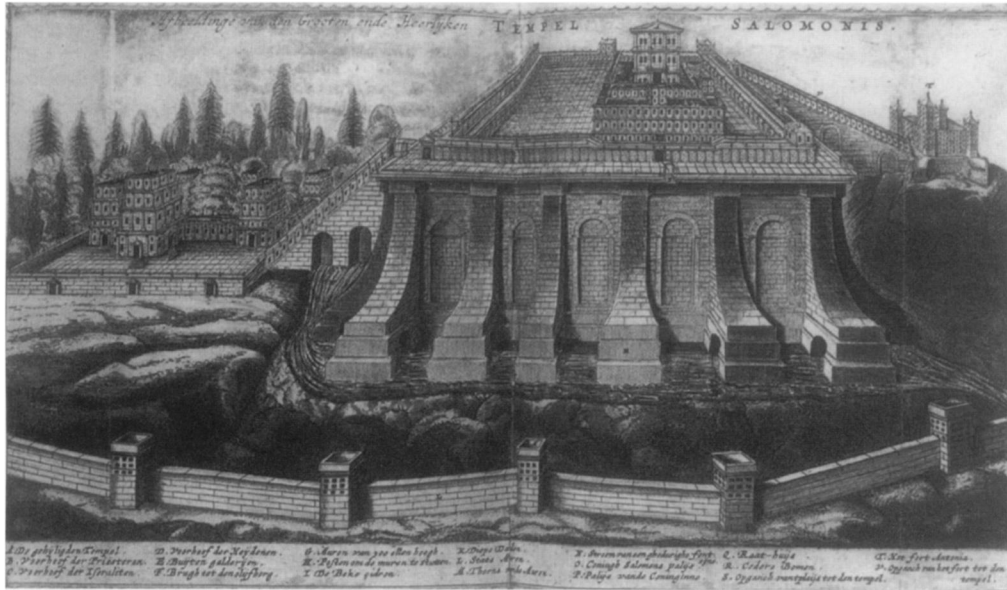
Stalpaert, whose work was also based directly on Villalpando's treatise. In England, Inigo Jones and Christopher Wren were impressed by the Jesuit's exposition. Poland became an early and important area of design applications modeled on Villalpando.

## The Polish Nine-Bay Synagogues and Villalpando's Treatise

In the Catholic Polish-Lithuanian Commonwealth, the influence of the treatise manifested itself early because it was speedily imported by Bernardines, Dominicans, Jesuits, and other monastic orders promoting the Counter-Reformation. Numerous Polish scholars have discussed the influence of the treatise on Polish architecture.[21] The oldest known copy of the book in Polish libraries is dated 1610, the same year its frontispiece was used for a booklet by Hieronim Bildziukiewicz.[22] The treatise appears to have influenced the theoretical literature in Poland as reflected in written works by Bartołomiej Nataniel Wąsowski (an advisor to King Jan Sobieski) and Benedykt Chmielowski.[23] Architects and masons in Poland were certainly familiar with the book, which was much more popular there than other works by such famous theorists as Vincenzo Scamozzi and Pietro Cataneo.[24] It is not known whether Polish Jews were acquainted with it.[25]

In the architecture of Poland, the first manifestations of Villalpando's iconography appeared in Catholic churches and monasteries. The characteristic combination of the Corinthian and Doric orders was often applied in Jesuit buildings. Several design applications marked by Villal-

pando's influence appear in works by the so-called older generation of Lublin architects, who were active in the first quarter of the seventeenth century.[26] One example is the façade decoration of the Jesuit Church in Lublin, with a frieze including triglyphs above Corinthian capitals, probably dating to 1617.[27] A similar combination of orders is noticeable in the Visitant Nuns Church in Krakow, as well as in the Jesuit Church portal in Kalisz.[28] The multibay scheme was applied to the layout of Carmelite and Camaldolese monasteries,[29] the first example with clear influence from Villalpando being the Carmelite monastery in Czerna, built in 1631.[30] Here the nine-bay scheme was reduced to a cross-in-square four-bay composition, in which the church compartments were substituted for several of the bays (Figure 7). In Brykowska's opinion, the concept of Solomon's Temple in the *desertum* at Czerna echoed an instruction by St. John of the Cross, who recommended "certain special places which God chooses" as an appropriate location for a monastery.[31] Beside this, as with other applications of Solomonic architecture, it could glorify the wisdom of the founder and the perfection of the building.[32]

As stated, I contend that Villalpando influenced the genesis of the so-called nine-bay synagogue, which spread through the eastern region of the Polish-Lithuanian Commonwealth beginning in the second quarter of the seventeenth century. In the existing literature, the term "nine-bay" or "nine-vault synagogue" denotes those four-pier buildings where the supports together with the transverse arches divide the ceiling of the sanctuary into nine equal vaulted bays.[33] This type is close to the so-called *bimah*-support synagogues,[34] in which the central piers are

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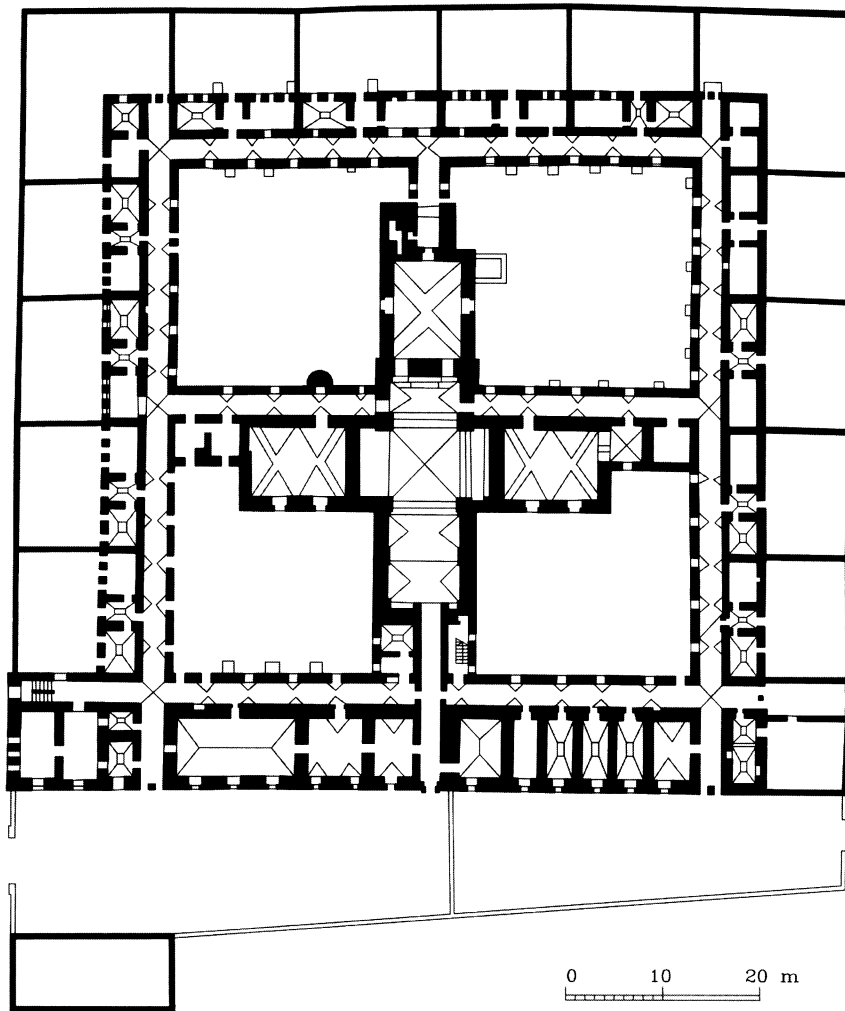
close to one another, and in their height do not reach the springing point of the major vaults; they bear a masonry canopy that supports the barrel vaulting of the main space of the prayer hall. The morphological similarity and chronological proximity of these two alternative versions of the four-pier scheme demand that they be closely examined.

The earliest two *bimah*-support prayer halls were built in the second half of the sixteenth century in Lublin and Przemyśl, but only the latter one can be analyzed as an authentic monument that survived until the Holocaust without major changes. This synagogue was constructed in 1592–94, probably by Italian architect Andrea Pellegrino Bononi.[35] No direct precursor has been found for an edifice of this type either in contemporary Jewish or Christian sacred architecture.[36] It is a building with four heavy columns placed at the four corners of the central *bimah*. The columns carry a cubic structure pierced by semicircular

arches and shouldered openings forming a structural support for the barrel vaulting on perimeter of the prayer hall (Figure 8).[37] The columns are crowned with Corinthian capitals that do not correspond to the proportions of the heavy shafts, which are akin rather to the Doric order. Apparently, the architect intended to employ the Corinthian order notwithstanding the structural requirements. This decision may have been inspired by the Corinthian columns proposed by Luca Pacioli in his reconstruction of the Temple gate titled "Porta Templi Domini Dicta Speciousa."[38] Alternatively, the idea may have been borrowed from the twisted Solomonic Corinthian columns, which were thought to be derived from the Temple, and were a motif especially fashionable in the Catholic world at that time, when the old St. Peter's basilica in Rome was under reconstruction.[39] Thus, the Solomonic idea may have been present in the four-pier synagogue design as early as the late sixteenth century.

There is every reason to believe that the Great Suburban Synagogue of L'viv was the earliest nine-bay synagogue. It can be dated with certainty by the agreement concluded between the Jewish community and the town hall, and by its confirmations by both the king and the Church.[40] The initial agreement between the Suburban community and the magistrate, dated 30 April 1624, stated that the synagogue vaulting "should be arranged modestly in three sections under an Italian roof," meaning a structure of three naves crowned by a hipped roof, not by a gable.[41] The document added that the building's width "cannot exceed 40 cubits, while the length will be limited to 38 cubits. The height from the ground to the top of the highest middle vault will be 20 cubits, in order to preserve the roof apex as high as those of the neighboring houses."[42] From this passage, we see that the decision to construct the vaults in equal heights had not yet been made when the agreement was signed. Before World War II, the interior of the building had changed little since the seventeenth century. Though the synagogue was destroyed by the Nazis, simplified but clear drawings and old photographs exist (Figures 9, 10). The column capitals at the Suburban Synagogue combined Doric, Ionic, and Corinthian elements (Figure 11). A belt of acanthus leaves with corner scrolls, resembling a Corinthian capital, was placed underneath the Doric echinus decorated with egg and dart, while four rosettes filled the four





**Figure 8** Attributed to Andrea Pellegrino Bononi, Old Synagogue, Przemyśl, Poland, 1592–94, destroyed

**Figure 9** Attributed to Giacomo Medleni, Great Suburban Synagogue, L'viv, now Ukraine, 1624–32, destroyed. The zodiac signs visible on the east wall, to the right of the Torah Ark, are those of Virgo and Leo.
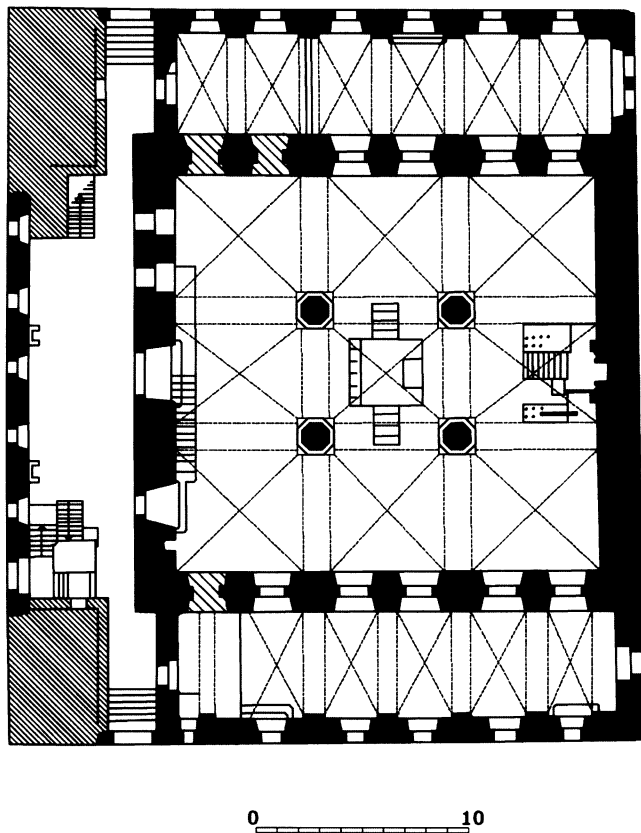
Figure 10 Great Suburban Synagogue, L'viv, plan

Unlike the synagogue of the L'viv suburban community, where the rabbi was the little-known Jacob Koppel ben Asher Kohen,[47] the synagogue of the Volhynian city of Ostroh was traditionally associated with one of the foremost Jewish commentators, Rabbi Samuel Eliezer ben Judah Ha-Levi Edels (1555–1631), and was called the MaHaRShA after his acronym. It was erected about 1627, when the Jews of Ostroh were granted a decree to build a synagogue not exceeding the height of the local Catholic and Orthodox churches.[48]

The general layout of the Ostroh Synagogue is very similar to that of the Suburban Synagogue of L'viv. It is clearly based on a nine-bay plan with equal vault bays (Figures 12, 13). Its capitals follow the composite order of the Suburban Synagogue of L'viv (Figure 14; see Figure 11). The size of its prayer hall is 20.85 x 18.3 m,[49] slightly larger than that of the Suburban Synagogue, which measured 20.1 x 19.28 m.[50] On the exterior, the synagogue was supplied with slanting buttresses, at least two on the main, west façade (Figure 15). Their position between the large round-arched windows suggests a quotation from Villalpando's curved buttresses, though in Ostroh no curvature was noticeable. The general layout of the building and its decorative details leave no room for doubt that it was designed by the same master who was responsible for the Suburban Synagogue of L'viv.[51]

corners under the abacus. This type of capital corresponds fairly closely to one of the Composite examples after Sebastiano Serlio.[43] The floral decoration of the capitals included rare element—rows of beading—which may be a visual quotation from the palm-and-date fronds in Villalpando's capitals. Szymon Zajczyk, a scholar who examined the monument before its destruction, characterized these capitals as "neither schematic nor common."[44] The octagonal columns supporting the vaults seem smooth, visually approximating Composite proportions. The ground plan of the building was nine-bay, with a slightly reduced central bay, and groin vaults separated by transverse arches, creating no emphasis on either axis. Zodiac signs sculpted on the walls[45] provided a connection with the Twelve Tribes of Israel. Nevertheless, the location of those signs differed from that suggested by Villalpando, as one can see in the prewar photograph of the east wall (see Figure 9).[46] The main elements of affinity between the Suburban Synagogue and Villalpando's reconstruction of the Temple were the composite architectural order that combined Corinthian and Doric elements, the nine-bay plan, and the decorative motifs associated with the Tribes of Israel.
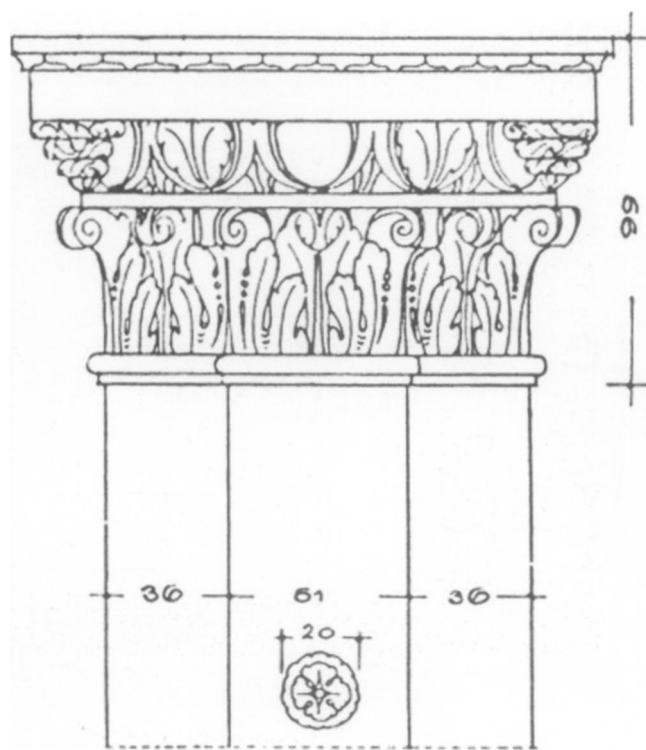


Figure 11 Great Suburban Synagogue, L'viv, capital

**Figure 12** MaHaRShA Synagogue, Ostroh, now Ukraine
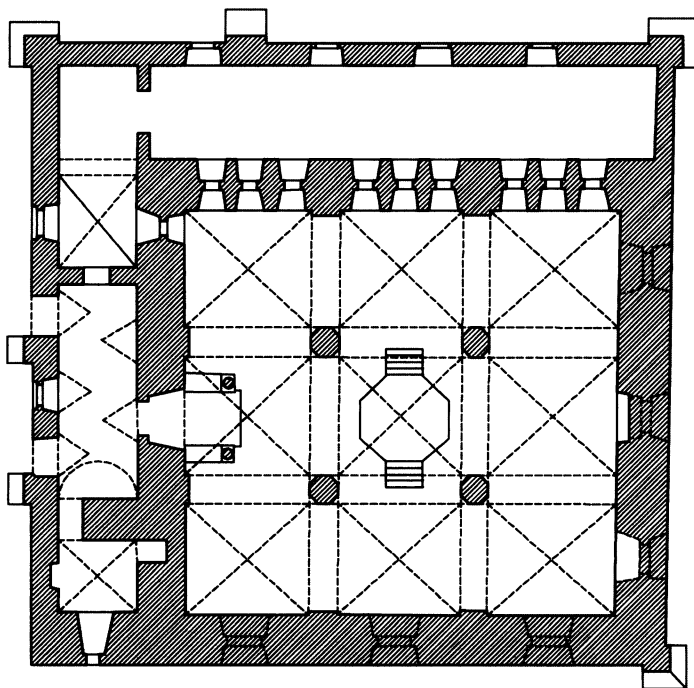


**Figure 13** MaHaRShA Synagogue, Ostroh, plan



**Figure 14** MaHaRShA Synagogue, Ostroh, capital

The presence of an architect in two distant cities in the same decade narrows the search for his identity. The architect of both synagogues was probably Giacomo (Jakób) Medleni or Madlaina, a master of the L'viv builders' guild since 1601, who arrived in that city from Graubünden in Switzerland at the end of the sixteenth century. According to recently discovered documents, Medleni had built the Luts'k Gate in Dubno for Prince Aleksander Zasławski in 1623.[52] The great similarity between the plan of this gate and those of the Luts'k and Tatar Gates in Ostroh, a city that was partially in the possession of the same Aleksander Zasławski, strengthens the argument that Medleni designed all three edifices.[53] Another of Medleni's works is the Bernardine Monastery in Iziaslav, a city located near Ostroh and belonging to the same aristocratic family.[54] The oldest preserved part of the building features a Mannerist attic wall similar to those of the town gates as well as to the MaHaR-ShA synagogue of Ostroh. The architect died in 1630,[55] having been one of the guild masters for about thirty years, so it would be reasonable to expect that any works executed by him in the third decade of the seventeenth century would bear the hallmarks of a very skilled professional.

A comparison may be made between the synagogue in Vilnius built in 1633[56] and those of L'viv and Ostroh. The Vilnius synagogue combined high supports reaching the imposts of the vault, a characteristic of the nine-bay scheme, with central piers standing close together and the perimeter of the prayer hall spanned by barrel vaults.[57] Thanks to this mixture of architectural features, we may regard the synagogue of Vilnius as a result of the historical development of the *bimah*-support synagogue in the direction of the nine-bay design. Its date, later than those of the L'viv and Ostroh synagogues, proves that the true nine-bay design was more Medleni's invention than the product of evolution of the older *bimah*-support type—provided that no transitional forms before 1624 are discovered. The *bimah*-support scheme existed independently and was used in other synagogues, such as those of Luts'k (1626–28), Tarnów (about 1630), Pinsk (1640), Slonim (1642), Navagrudak (1648), and Tykocin (1648).[58] Almost all these buildings use the Tuscan order, with a Vitruvian consistency in the heavy proportions of their piers, whereas only the synagogue of Tarnów bears Solomonic decoration similar to that of Przemyśl. Thus, the second wave of the *bimah*-support synagogues of the seventeenth century chronologically overlapped with the first nine-bay synagogues.

Insofar as the nine-bay design was not the result of a straightforward development of the *bimah*-support scheme, Villalpando's imagery as an alternative source is more likely. The treatise was available in L'viv; copies were held in the Jesuit College and the Carmelite Monastery;[59] another belonged to the local Dominicans;[60] and one other is still in the possession of L'viv University Library.[61] Villalpando's iconography was applied by Giacomo Briano (1589–1649)—the supervisor of Jesuit building sites in the province of Little Poland—when he designed the Jesuit Church in L'viv from 1617 to 1621. One version of his drawings was furnished with the recognizable combination of Corinthian capitals and rectangular openings toward the gallery in the frieze level as a substitute for triglyphs.[62] Although Briano also designed the Jesuit Church and college in Ostroh, it is impossible to attribute the local synagogues to him. He had left Poland in 1621, before fire destroyed L'viv's old Suburban Synagogue and a new building was commissioned; he did not return until September 1630,[63] when the new Suburban Synagogue of L'viv was nearly finished. In all likelihood, the synagogue of Ostroh was also begun while Briano was abroad, since its design was the subject of a document dated 1627. Briano never possessed a team of masons of his own capable of executing a serious commission, although he could have influenced the local guild masters such as Medleni. Moreover, it is probable that Jan Chomentowski (1594–1641), a Jesuit friar and architect, a professor of mathematics and Hebrew at the colleges of L'viv and Krakow, and probably a pupil of Briano who continued his teacher's projects,[64] could have popularized the Jesuit iconography among the local masters.

The ruin of Jewish life due to the Chmielnicki uprising in mid-seventeenth-century Poland stalled the construction of synagogues. That of Leshniv, built about 1677, included apparently the earliest nine-bay prayer hall to follow those of L'viv and Ostroh. Other than the nine-bay design, no Villalpandian elements can be detected in this building with its modest version of the Tuscan order.[65] Nevertheless, some nine-bay examples show a more sophisticated approach to the architectural orders. In Zhovkva, in the so-called Sobieski Shul built in 1692, probably by Peter Beber,[66] a mixture of orders was applied to the capitals. In this immaculate nine-bay synagogue with four round, Doric-proportioned columns, the egg-and-dart echinus was underlined by a row of acanthus leaves and rosettes, and surmounted by the Corinthian abacus (Figures 16, 17). On the exterior, sloping buttresses strengthened walls pierced by high round-headed windows. The architectural appearance of this monument may have been influenced by the Amsterdam synagogues, which are discussed below. It is likely that the authority of Uri (Phoebus) ben Aaron Ha-Levi (1625–1715), a Hebrew and Yiddish printer who moved his press from Amsterdam to Zhovkva in 1690 reportedly at the invitation of King Jan Sobieski,[67] played an

important role in this cross-cultural fertilization. Another
application of Doric proportions, combined with egg-and-
dart echinus and Corinthianesque volutes and curved
Corinthian abacus, is known from the Little Synagogue of
Rzeszów, built in 1705–10.[68]

It is also possible that Villalpando's influence on the
nine-bay design persisted in some synagogues with but-
tresses, like that of Przeworsk, built in the second half of
the seventeenth or early eighteenth century.[69] The curva-
ture of its buttresses seems very slight in the surviving pre-
war photographs, though in the drawing by Kajetan
Wincenty Kielisiński from 1838 they are remarkably curved
(Figure 18).

The reflection of Villalpando's Temple iconography in
the overall composition of the L'viv and Ostroh synagogues
did not have the same meaning as it did in Catholic exam-
ples such as the Carmelite monastery in Czerna. In the lat-
ter case, Villalpando's imagery referred to the Temple of
antiquity and thus sanctified the newly developed site.
While synagogues also referred to the historical Temple of
Jerusalem, this reference was ordinarily expressed in words
and through the orientation of the building.[70] However, the
synagogues at L'viv and Ostroh, unlike most others of the
past, also quoted the sacred source through architectural
means. Moreover, this iconography expressed the profound
Jewish hope for the rebuilding of the Temple and for the
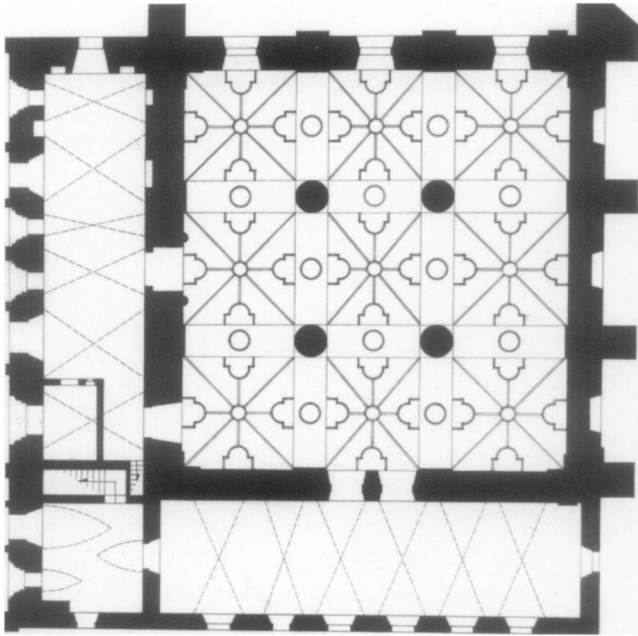advent of the messiah, who was expected to "reveal himself

**Figure 17** Great Synagogue, Zhovkva, plan

speedily in our days."[71] I believe that their architectural appearance echoed messianic fervor, the kabbalistic revival among the Jews of the eastern Polish lands in the first half of the seventeenth century mentioned by contemporaries.[72] This fervor was muted by Jewish authorities for the good of community, given the threat of Catholic reprisals. For instance, Rabbi Edels of Ostroh, himself well acquainted with kabbalah, criticized Jewish youth for discussing mysti-

cism publicly.[73] However, the architectural expression of messianic fervor was probably considered too arcane to arouse Catholic reaction.

Villalpando's influence in Poland appeared in Catholic book lore and sacred architecture soon after the treatise arrived in the country. The application of his characteristic architectural order and the multicourt scheme emerged in the design of churches and monasteries. These quotations could glorify the edifice and its founder, and they could hallow the building site by comparing it with the Temple Mount. By contrast, in the nine-bay synagogues, which emerged in the 1620s, Villalpando's nine-court scheme of the Temple compound was transformed into the nine-bay hall layout of a synagogue. In this case, the application of Villalpando's imagery presumably reflected the messianic expectations of the Jewish community of Poland.

## The Influence of Villalpando on Seventeenth-Century Dutch Church and Synagogue Design

Fifteen years after Medleni had interpreted the nine courts of Solomon's Temple as nine bays of vaults, Villalpando's treatise inspired several works by the Dutch architect Jacob van Campen (1595–1657).[74] His interest in Villalpando dated at least to 1634, when he asked his friend and client, the poet and statesman Constantijn Huygens (1596–1687), to arrange for the loan of the book.[75] It is possible that van Campen was acquainted with Rabbi León, since the latter assisted Huygens in construing Hebrew passages,[76] while van Campen's knowledge of the original text is beyond doubt. Starting with the churches of Hooge Zwaluwe and
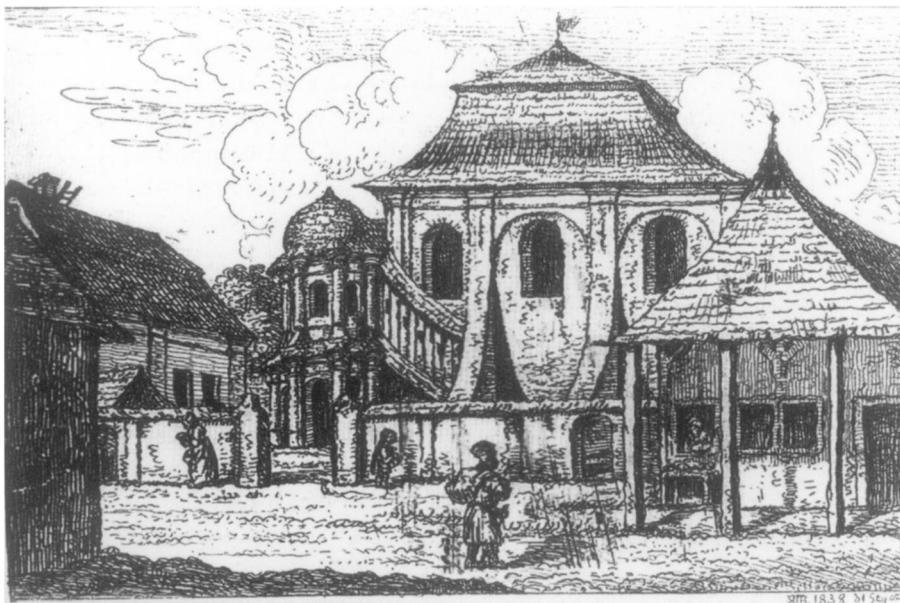
**Figure 18** Kajetan Wincenty Kielisiński, drawing of synagogue, Przeworsk, Poland, 1838
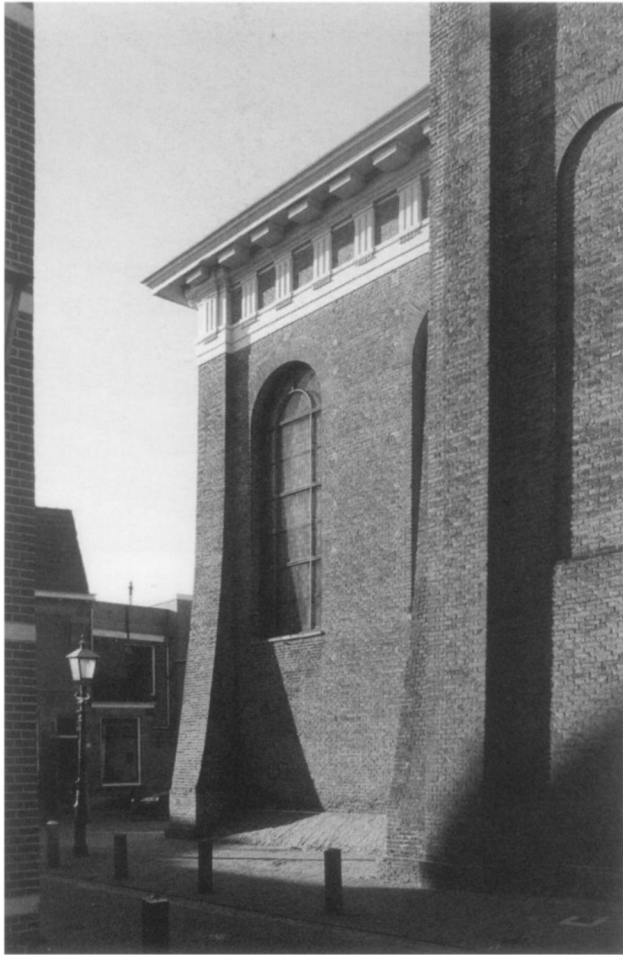
**Figure 19** Jacob van Campen, Nieuwe Kerk, Haarlem, 1646–49

church. This architectural device repeats van Campen's interpretation of the church's elevations as based on the elevations of the Temple platform rather than on those of the Temple building proper. The placement of the columns is crucial for understanding the ground plan of the church, given that the nine-bay division of the vaulting is not explicit, since the bays are not treated homogeneously. The four interior square piers of the Nieuwe Kerk, which delineate the nine-bay design scheme, have a clear load-bearing function. The secondary columns merely support the center of the beams. In the original design that van Campen proposed to the Haarlem municipality in 1645, the vaults rested on twelve columns, but he reduced their number to eight on the request of the magistrate. Nevertheless, the initial idea was not forgotten: the church interior as painted by Pieter Jansz. Saendredam in 1652 depicts twelve columns though in fact four of them never existed.[80] The twelve columns of the church apparently evoked or symbolized the Twelve Tribes of Israel, an important component of Villalpando's symbolic interpretation.

The intersecting vaults of the axial naves of the church produced a cross, which was emphasized by painted heraldry glorifying the legendary participation of the Haarlemmers in the Crusades. Though the cross was not explicit in Villalpando's nine-bay scheme, undoubtedly it was of great importance for the Reformed Church. The four central columns, which produced the cross-in-square or nine-bay layout of the church, became crucial elements of the architectural scheme. Their significance was restated in the pulpit, where the acoustic canopy was subdivided into nine bays by four columns bearing the intersecting joists. Additional parallels between the pulpit and Villalpando's image of the Temple can be detected in its spatial location within the church, where it took the place of the sanctuary in the nine-bay plan of the compound,[81] and in the curved buttresses added on its north and south sides. In the case of the pulpit, the four columns could be interpreted as an allusion to the Levites—the Archpriests—but not to the horns of the altar as supposed by van der Linden,[82] since preaching prevailed over sacrifice in the Reform Church.[83] Van Campen's role in the creation of a meaningful spatial composition and a liturgical ordering for the Reformed Church should not be underestimated, since it was the architect's imagination that transformed the nine-bay plan of the Temple compound into the nine-bay scheme of a church and of its pulpit.

Van der Linden has already proposed several reasons for the application of the imagery of the Temple in the Nieuwe Kerk. In a commentary to the State Bible, the rebuilt Temple as described by Ezekiel was considered to

Rensewoude, built in 1639–41, he introduced curved buttresses and Greek cross–based plans into Reformed Church sacred architecture.[77] Later, in van Campen's Nieuwe Kerk in Haarlem, designed in 1645 and erected in 1646–49[78] (Figures 19, 20a), the impact of Villalpando's reconstructions became even more explicit.

As van der Linden has shown, the similarity between Villalpando's imagery and the Nieuwe Kerk is noticeable in the curved buttresses alternating with the round-headed windows echoing the buttresses and niches of the Temple platform; in the austerity of the church's elevations crowned by a horizontal cornice; and in the triglyphs on its frieze.[79] One may add that the cross-in-square plan of the Nieuwe Kerk in Haarlem is analogous to the plan of the Temple compound in Villalpando's interpretation (see Figure 2), and with the explanation of its symbolism (see Figure 4). The nine original courtyards of the Temple are replaced by the bays of vaulting and the flat coffered ceiling in the
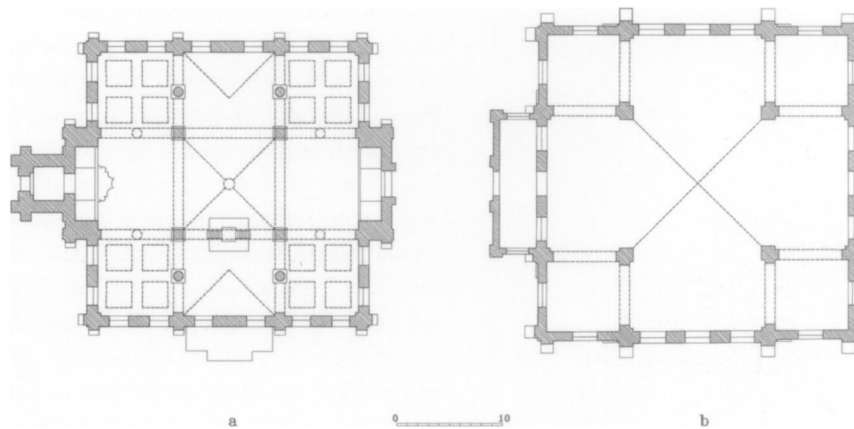
**Figure 20** Plans of a) Nieuwe Kerk, Haarlem, and b) Oosterkerk, Amsterdam

be a prophecy of the Universal Church.[84] Another motif in the program of the Nieuwe Kerk was the Temple purified of idolatry. Since the suppression of the Protestant Church in Europe was compared to the destruction of the Temple of Jerusalem by the Babylonians, its restoration by Zerubbabel appeared analogous to the liberation of the Dutch people from the papacy and Spanish tyranny.[85] Finally, the hope for peace was widespread when the Nieuwe Kerk was designed and built; the end of the Eighty-Year War between Spain and Holland was already in sight in 1645, and the peace treaty was signed in January 1648. Thus, current events were compared with the days of Solomon, the peaceful king and builder of the Temple.[86]

These analogies can be linked to the myth of the so-called New Children of Israel, widespread in the Protestant lands. This concept became especially popular in patriotic literature, chronicles, historiographic and geographic works, didactic stories, poetry, drama, and in the plastic arts of the Netherlands, where a newly created national mythology of the Nederkinderen Israëls took root.[87] One of the most interesting components of this ideology was the typology that connected biblical events with current affairs, not in terms of a causal relationship but by analogy.[88] In keeping with this typology, the inaugural sermon preached on 3 May 1648 presented the reconstruction of the Temple of Solomon in the shape of the Nieuwe Kerk as the fulfillment of biblical prophecy.[89]

Apart from this typology, which included more patriotic propaganda than messianic fervor, eschatological thinking can be detected in the concept of the Nieuwe Kerk. The year of its dedication was identified as a date of messianic significance in the *Zohar* and in later quasi-Zoharic texts,[90] and this calculation was well known in millenarian circles.

The presence of the eschatological symbol of the Twelve Tribes of Israel in the composition of the church, to say nothing of its symbolic parallels with the Temple, only reinforces this suggestion. The cumulative Solomonic symbolism of the building thus echoes not only current historical events such as the peace treaty between the States-General and Spain, but a popular millenarian calculation as well.

Van Campen's concept was borrowed by Daniel Stalpaert (1615–1676), who as the city architect was responsible for executing van Campen's design of the Amsterdam town hall. It was repeated in Stalpaert's church in Oudshoorn (1661–71), where he applied a purified version of the scheme. He reduced the number of pillars to four, and kept the curved buttresses and the pulpit, similar to those in Nieuwe Kerk, again linking the church design with Temple iconography. Nevertheless, the architect's treatment of the church exterior emphasized the cross both in the ground plan with its protruding axial naves, and in the varied heights of the compartments, which departed from the integral volume and continuous cornices of the Nieuwe Kerk at Haarlem. Thus the nine-bay plan, clearly recognizable in a sequence of monuments, became a device connecting the Hebrew Bible and Christianity in Protestant church architecture. This device could emphasize the image of Solomon's Temple in the symbolism of a Christian sanctuary, or blur it, depending on the architect's handling of the design.

Stalpaert applied the four-pillar scheme once more, to the Oosterkerk in Amsterdam (1663–71) (Figures 20b, 21).[91] He repeated familiar features, starting with the curved buttresses. Above a cross-in-square plan, the intersecting barrel vaults of the axial naves dominating the interior and the exterior were increased on account of the corner bays. He
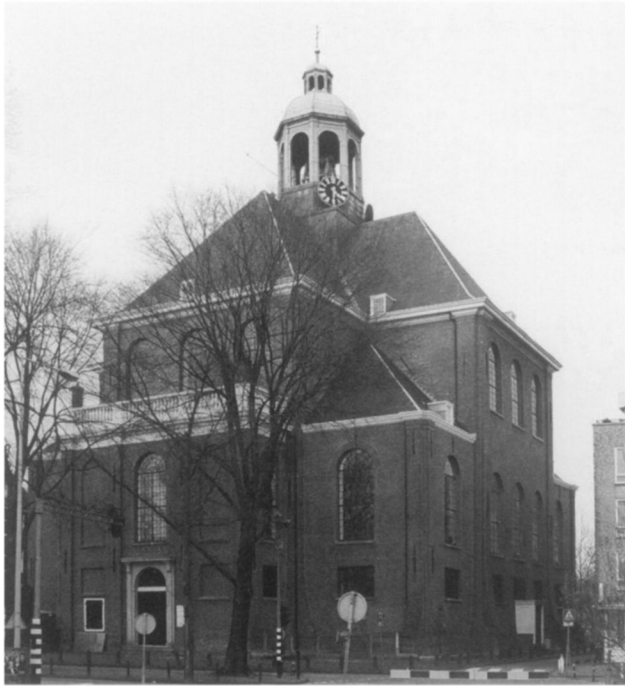
**Figure 21** Daniel Stalpaert, Oosterkerk, Amsterdam, 1663–71

imported the shape and position of the pulpit from the churches of Haarlem and Oudshoorn,[92] though the acoustic canopy now rested on only two piers and was divided into twelve flat bays instead of nine. Obviously, the church echoed Villalpando's reconstruction of the Temple, although Stalpaert's knowledge of Rabbi León's interpretation cannot be ruled out. The question remains as to whether the symbolism of the two later churches, those of Oudshoorn and Amsterdam, was a product of the patriotic theory of the New Children of Israel or was inspired by millenarian expectations. The churches both date from about 1666, a year in Christian chiliasm, but further research on the actual building program is needed for a satisfactory conclusion.

The next application of the nine-bay scheme came in the Grote Sjoel, the Ashkenazi Great Synagogue of Amsterdam, built by a master mason Elias Bouwman (1636–1686) under Stalpaert's supervision, in 1670–71 (Figures 22, 23). This synagogue was to become the first four-pier synagogue in Holland and an important point of intersection for concepts of synagogue architecture coming from both west and east of Europe. It adopted the plan of the Reformed churches by van Campen and Stalpaert while following the four-pier layout from Poland suggested by the synagogue's patron Joseph ben Abraham, alias Joseph Polak, who came from the city of Bar in Podolia, a Polish province, now in Ukraine.[93] The Grote Sjoel did not inherit much

from the Polish prototype besides four pillars and the central *bimah*. The Dutch system of triple longitudinal wooden barrel vaults, the women's galleries protruding into the prayer hall and adjacent to the central pillars, as well as the orientation of the Holy Ark toward the geographical Jerusalem instead of to the conventional east, were noticeable departures that distinguished the Amsterdam synagogue from the Polish prototype.[94] In contrast to the churches described above, the barrel vaults of the Grote Sjoel ran along the longitudinal axis of the building. In this way, they emphasized the orientation toward the Torah Ark and avoided any allusion to the cross. The synagogue exterior is an integral volume, corresponding to its interior. The north elevation of the synagogue, if not others, was supported by curved buttresses (see Figure 23).

The Ashkenazi Great Synagogue was followed by the Portuguese Great Synagogue of Amsterdam—the Esnoga—built by the same Elias Bouwman, under Stalpaert's supervision. The initiating sermon by Rabbi Isaac Aboab de Fonseca on 23 November 1670 raised a generous donation of about forty thousand guilders for the purchase of the building plot. The cornerstones were laid in April 1671, and the synagogue was to have been completed by May 1672, but the French invasion and the hurricane on 1 August 1674 delayed the consecration to 2 August 1675, one day after the 9th of Ab, the Hebrew anniversary of the Destruction of the Temple. The ceremonies lasted for eight days, as did those for the dedication of the purified Temple under the Maccabees.[95]

Seven inaugural sermons were delivered by Aboab de Fonseca and his disciples. The first-day sermon was dedicated to Adam's fall and the need for redemption from original sin.[96] The second-day sermon placed the synagogue in the same relationship to the Solomonic Temple as man to the universe.[97] The preacher expressed a hope that "this blooming plant [that is, the new synagogue], may yet be transplanted to the Sacred Soil." The third-day speaker supposed that this would be the last synagogue to be built in captivity, and compared it to the Temple of Zerubbabel. The fourth-day sermon was dedicated to the power of prayer.[98] On the fifth day, there was some speculation about the size of the synagogue, which is only ten inches smaller than the Temple; this difference was explained by divine providence, but not the builder's deliberation.[99] On the sixth day, the building activity of the community was compared to that of God, who created and rejected many worlds before achieving this one, which is totally good.[100] The seventh-day sermon emphasized harmony between religion and politics, and condemned those who opposed the construction of the synagogue as an antithesis to the promised
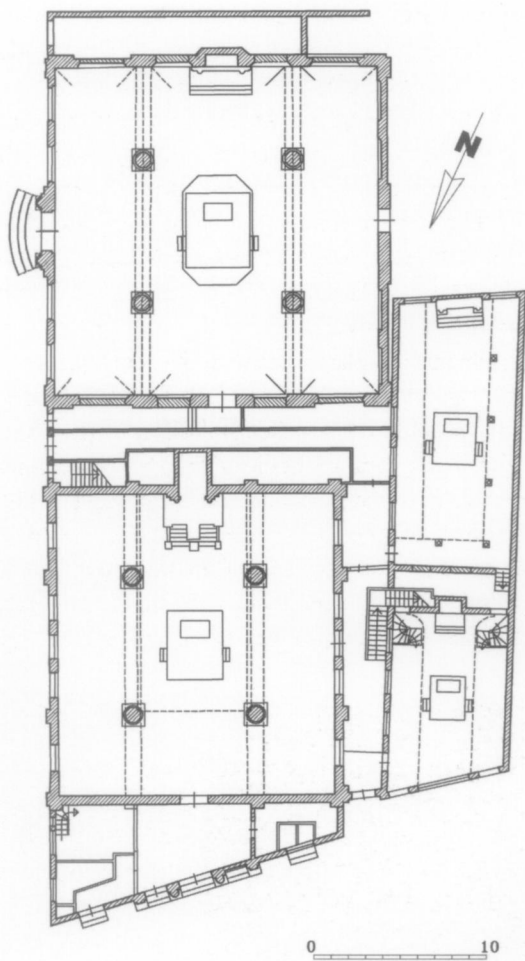
**Figure 22** Elias Bouwman, Ashkenazi Great Synagogue (Grote Sjoel), Amsterdam, 1670–71, plan and section. The Great Synagogue occupies the northeast corner of the compound.

**Figure 23** Ashkenazi Great Synagogue, Amsterdam, buttresses of the north façade
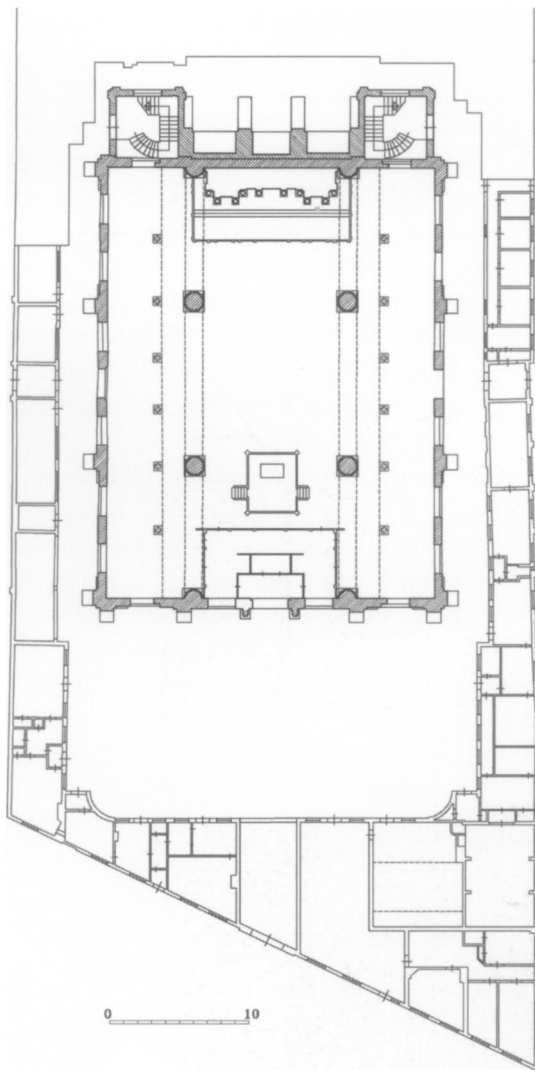
**Figure 24** Elias Bouwman, Portuguese Great Synagogue (Esnoga), Amsterdam, 1671–75, 1773–74, plan

the Corinthian abacus. On the exterior, the synagogue preserved an impressive integral volume, with elevations retained by curved buttresses alternating with high round-headed windows. The synagogue was placed within a courtyard formed by lower ancillary buildings, using urban planning to reinforce the impression of the Temple compound.[103] The further reconstruction of the synagogue in 1773–74, when four exceptionally massive curved buttresses were added to its east façade,[104] simply underlined the original concept (see Figure 25).

The semantic similarity between the Portuguese synagogue, the Dutch churches, and Villalpando's plan and interpretive scheme reveals the symbolism of the Esnoga with its four main columns dedicated to the Levitical families, and twelve secondary columns symbolizing the Tribes of Israel. The roofing of the synagogue interior avoids any emphasis on the transverse axis of the building, thus distancing itself from the cross-in-square composition explicit in the churches. The longitudinal barrel vaulting runs par-
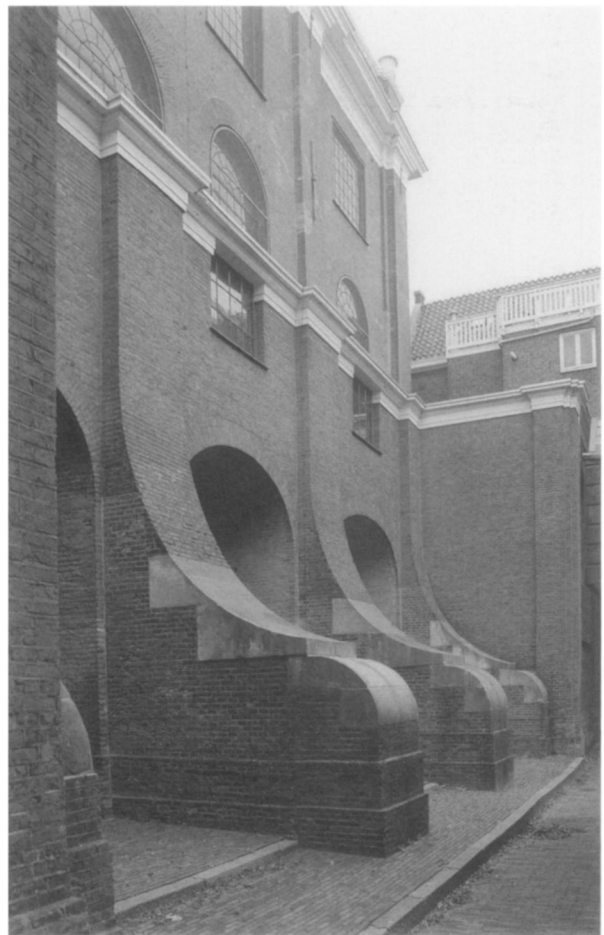


**Figure 25** Portuguese Great Synagogue, Amsterdam, view of the buttresses of the east façade

Heavenly House.[101] As I demonstrate below, several of the inaugural themes provide a context for interpreting the design of the synagogue.

The architectural appearance of the synagogue relied greatly on the image of Solomon's Temple by Villalpando, repeated in the model by Rabbi León, and in earlier achievements of Dutch Reformed sacred architecture (Figures 24–26).[102] Its ground plan included four central columns supporting the beams of three longitudinal wooden barrel vaults, while two rows of the secondary lower columns bore the women's galleries. The order of these columns combined the Ionic volutes and echinus with

**Figure 26** Portuguese Great Synagogue, Amsterdam, view of the buttresses of the north façade

allel to the main axis of the building, which emphasizes the ascending of the space toward the Torah Ark. It moves the worshipper from the Profane of the courtyard to the Holy of the prayer hall, and further to the Holy of Holies of the Ark. The side entrances distinctly mark the transverse axis of the building, even though the north door was blocked by the bench for the *parnassim* (elders) behind it.[105] Apparently, the entrances were inspired only in part by a need for symmetry, as supposed by Judith Belinfante and others.[106] It also gave expression to the relationship between the Esnoga and the Temple compound after Villalpando's reconstruction, with its three gates leading to the Temple platform from the east, north, and south, and the corresponding triad of gates of the interior Levitical courtyard (see Figure 2). The bench for the *parnassim* echoed the curved buttresses of the Temple platform, as did the preacher's pulpit in the interior of the Reform churches (Figure 27). Similarities and marked differences between the Esnoga and its Reformed church precursors reflected the effort of the Portuguese community to create what they called "bom judesmo," a "worthy" Judaism capable of confronting the dominant Christian culture on an equal footing.[107]

Acceptance by the Portuguese congregation of an architectural idea originating from their Ashkenazi brethren was unusual. The attitude of the wealthy and well-estab-



**Figure 27** Portuguese Great Synagogue, Amsterdam, bench for the *parnassim*

lished Portuguese Jews of Amsterdam to the Ashkenazi refugees from the Thirty Years War can best be described as pragmatic, limited to providing aid and charity in return for certain services.[108] Their perception of the Polish Jews who fled from Chmielnicki's massacres with only the clothes on their backs was initially slightly more favorable because of the number of educated people among them, correct official relations with the Jewish Council of the Four Lands, and a desire to deprecate by means of contrast the "beggars" of the German wave of refugees.[109] But by 1670, when the Poles had managed to achieve the leadership of the entire Amsterdam Ashkenazi community, there was no great difference in the attitude of the Sephardim toward *tudescos* (Germans) or *polacos* (Poles);[110] this position could anachronistically be described as Jewish anti-Semitism.[111] For instance, intermarriage between the two communities was prohibited, German and Polish Jews could occupy only the side aisles in the Portuguese synagogues, and Sephardi welfare contributions were used to reroute the new immigrants. While the Sephardi Jews were not fond of their poor relatives, they sometimes needed to employ Ashkenazi officials because of their greater Jewish knowledge, since the Ashkenazim had never been forced to live as crypto-Jews.[112] Nevertheless, the Sephardim borrowed the Polish architectural pattern for other reasons.

Acceptance of the Polish nine-bay design scheme by the wealthy Portuguese Jewish congregation of Amsterdam in the 1670s was prepared for by a common understanding of the symbolism of the building. As Villalpando's imagery was widespread throughout Europe, it became a kind of exclusive architectural language for the initiated. The design philosophy of the poor *polacos* was acquired by the arrogant Sephardim, well schooled in these allegories by Rabbi León and such architects as van Campen and Stalpaert. Moreover, it was probably messianic fervor that made believers receptive to any allusions to the approaching "last days."

At both Jewish communities of Amsterdam, the messianic tension had passed its climax in 1666 with the apostasy of Shabbetai Zevi, the famous false messiah. In the following years, the initially enthusiastic leaders of the Sephardim, including the *Haham* Aboab de Fonseca, became "unbelievers" worried about the stability and respectability of the congregation. Nevertheless, messianic expectations were still shared by many decent members of the community;[113] hence it is possible that the connection between the two Amsterdam synagogues and the Temple prototype was stipulated by apocalyptic calculations of the dates around which they were erected. In the Portuguese Jewish community of Hamburg, the followers of Shabbetai Zevi presumed the year 1670 to be the year in which the Temple would be rebuilt.[114]

According to the epistle circulated in Amsterdam—written by Nathan of Gaza, a disciple of Shabbetai Zevi—1670 was predicted as the year "of manifestation of the Holy Ancient One," while 1672 would be the year "when the ingathering of the dispersed [Tribes of Israel] shall take place, and he [Shabbetai Zevi, who Nathan of Gaza believed was the messiah] shall behold the sanctuary all ready built descending from above."[115] The dispute between those who expected the ready-built Temple to appear in the coming years, and the followers of a more politically balanced approach which included the commission of a new synagogue, was echoed in the seventh-day inaugural sermon: "Are we, they said, to build a palace for God who already has a house and throw the needy Portuguese out of their house into the street?"[116] The continuity of messianic expectations was explicit in the second-day inaugural sermon of the Esnoga, with its allegory of the synagogue as a plant hopefully transferred into the Sacred Soil,[117] that is, mystically moved to the Holy Land.

The architectural concept and building date of the Esnoga were solutions satisfying to both "believers" and "unbelievers" within the congregation. For instance, the "unbelievers" succeeded in constructing a synagogue instead of expecting the ready-built Temple, while the "believers" could be comforted by considering the importance of the year 1672 carved in the synagogue lintel instead of the historically correct 1675. Its shape satisfied everybody, since it supported the general Jewish hope for the redemption "in our days."

The situation in Jewish Amsterdam by 1670 was far from the postmessianic idyll; it was full of competition between the Sephardim and Ashkenazim, and tensions within each congregation. I dispute the opinion that the connection of the main synagogues of Amsterdam with the Temple of Solomon was a political allegory in which Holland was substituted for the Promised Land, while the Iberian peninsula and eastern Europe played the role of Egypt.[118] This interpretation seems to be an artificial projection of the New Children of Israel onto the Jews. It underestimates the strength of messianic sentiments in Judaism at that time. The third-day inaugural sermon of the Esnoga actually describes it as "the last synagogue *in captivity*."[119] A reference to the Temple of Zerubabbel—rebuilt on the return from the Babylonian exile—could address the recent calamities, as an analogous reference did in the inaugural sermon of the Nieuwe Kerk of Haarlem.

The influence of Villalpando's reconstruction of the Temple persisted in the Low Countries in the seventeenth century, apparent in characteristic quotations of Villalpando's Corinthianesque architectural order, the curved buttresses,

and the nine-bay scheme, which was interpreted in the cross-in-square plans of the churches and in the four-pier plans of the synagogues. Van Campen invented this concept, and his younger colleague Stalpaert later used it. It corresponded to the nine-bay synagogue layout imported from Poland due to the same visual source—Villalpando's treatise.

The symbolic meaning of the Villalpandan-inspired sacred buildings in the Low Countries was not uniform. The Reform churches quoted the Temple of Solomon to glorify victory of the "true" religion over "idolatry" and of the Dutch people over Spanish tyranny. While millennialism may have been a source of the Reformist program, messianic expectations were definitely taken into consideration when the Great Portuguese Synagogue was designed and built. A concern for controversial post-Sabbatean messianic issues found its expression in the architectural appearance of the synagogue.

## Villalpando and England

The messianic believers within the Jewish communities of Holland were not isolated from Christian millenarians. In fact, the model of the Temple by Rabbi León was inspired and commissioned by a millenarian theologian, Adam Boreel, who belonged to a group of Christian scholars that included Jan Amos Comenius and Peter Serrarius. Joint work by Christian and Jewish scholars aimed to bridge the abyss between Jews and Christians, a goal considered desirable at the dawn of the messianic era, and planned for 1655–56.[120] Besides Rabbi León, an outstanding representative of the Portuguese Jewish community, Rabbi Menasseh ben Israel (1604–1657), was involved in these activities. He played an important role not only in the teaching of Hebrew to the Christians, translating the *Mishnah* to improve Gentiles' understanding of contemporary Judaism, but also on the political stage. In the 1640s, he met twice with a Jesuit friar, Antonio de Vieira, and together they formulated "Judeo-Christianity," in which the coming of the Jewish Messiah and the Second Coming of Jesus could be interpreted as the same event. This formulation encompassed the possibility of salvation for all without the conversion of the Jews.[121] In 1655, Menasseh ben Israel traveled to England as agent of the Jews of the world to negotiate with Cromwell the readmission of the Jews to England. In this way, he sought realization of the prophecy that the complete dispersal of the Jews to the four corners of the world would hasten the coming of the messianic era.[122] The Dutch Christian millenarians and the messianic Jews worked closely with their British brethren such as Samuel Hartlib and John Dury.[123] Strong chiliastic aspirations on both sides of the

Channel focused on the restored monarch Charles II as the future ruler of the Millennial Kingdom.[124]

Nearly twenty years after Menasseh ben Israel's successful mission, Rabbi León traveled to England in 1674–75 with his model of the Temple. Rabbi León left Holland with introductions from Constantijn Huygens to the Portuguese ambassador in London, to Lord Arlington, to Henry Oldenburg, and to Wren. It may be assumed that Rabbi León presented his model both to the architect and to the king.[125] Although messianic enthusiasm was already out of favor in Restoration England, the impact of this visit should not be underestimated, given the interest in the image of the Temple as a prototype, at least for Wren.

Wren was associated with a group of reformers, represented by Robert Boyle, Walter Charleton, John Evelyn, John Wallis, and John Wilkins, who shared a religious and social vision of science, including millenarian aspects, albeit distinct from the Puritan radicalism of the 1640s. This group stood at the beginnings of modern science with its skeptical and experimental methods. In accord with Boyle's Christianized "corpuscular philosophy," they believed that providence and nature both stood behind all the motion in the world, and had to be studied with patient scrutiny. Wren managed to expand this approach into architectural history and its important subject of the biblical Temple of Jerusalem.[126]

Wren was well aware of Villalpando's Temple reconstruction, although his library apparently did not include it.[127] He considered Villalpando's work to be a "fine Romantic Piece after the Corinthian Order."[128] Wren proposed his own theory that the Tyrian or Phoenician order was that of Solomon's Temple, since its builders were Phoenicians. He assumed that the Tyrian order was ruder than the Corinthian, and that it was transmitted from the Egyptians to the Babylonians, on to the Phoenicians, and finally to the Greeks. It was thus a product of both nature and divine inspiration.[129] This divergence from Villalpando did not prevent Wren from producing design solutions himself that were similar to the Dutch patterns by van Campen and Stalpaert, to say nothing of his application of the Corinthian order combined with the cross-in-square scheme, apparently with reference to the Temple. This can be seen in a small group of churches that he built after the Great Fire of London—St. Mary-at-Hill (begun in 1670) (Figure 28a), St. Anne and St. Agnes (Figure 28b), and St. Martin's, Ludgate (Figure 28c) (both begun in 1677).[130] In each case, the main body of the church is roughly a square, and four columns define the innermost bay in the center of the building. The ceilings of these churches, outside the central bay, are low and flat, while the axial bays are spanned by higher barrel vaults, which intersect in the central bay in St. Anne
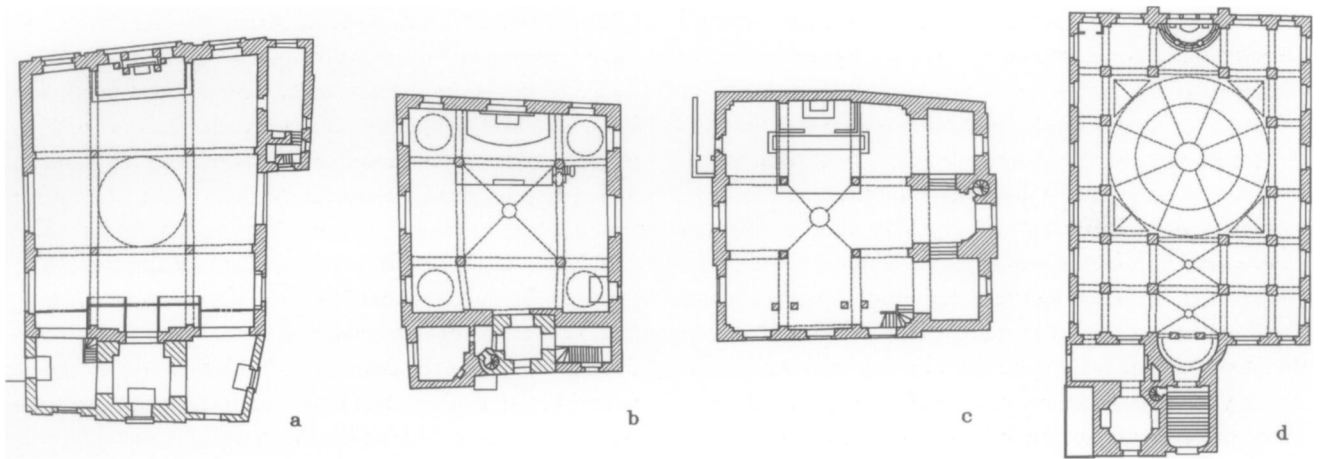
**Figure 28** Plans of Christopher Wren's churches, London a) St. Mary-at-Hill; b) St. Anne and St. Agnes; c) St. Martin's, Ludgate; d) St. Stephen's, Walbrook

and St. Agnes, and St. Martin's. In St. Mary-at-Hill, the central bay is spanned by a low dome on pendentives.[131] An evolution of this scheme is noticeable at St. Stephen's, Walbrook, built in 1672–79 (Figure 28d).[132] Wren increased the number of its central columns to twelve. The difference between the plan of Nieuwe Kerk of Haarlem and that of St. Stephen's, Walbrook, was the placement of the four diagonal columns. Their recessed position in Wren's work allowed for a splendid Baroque composition that included eight transverse arches, pendentives, and a dome. Unlike those of the Nieuwe Kerk, none of the twelve central columns of St. Stephen's, Walbrook, could be eliminated arbitrarily. The number of columns involved in the design of St. Stephen's, Walbrook, reflects the application of Villalpando's nine-bay scheme and its symbolism of the Twelve Tribes of Israel. Wren's cross-in-square church compositions may reveal his admiration of Villalpando's Temple plan and Corinthianesque order. Moreover, the Corinthian columns of St. Stephen's, Walbrook, are surmounted by an entablature decorated with triglyphlike floral elements, which could have been related to Villalpando's order, especially to his leaf-shaped channels in the triglyphs.

In the opinion of Margaret Whinney, the similarity between Wren's London churches and the Dutch churches discussed above is so great that there must be a connection between the Dutch and English work, though it is not possible to say exactly how Wren knew about the former.[133] One possible explanation comes via Wren's friend Dr. Robert Hooke, whose diary of 1674 records a trip to Holland by Abraham Story, a London mason, and his report on a new Lutheran church in Amsterdam and on the new syn-

agogue in the same city.[134] Another possible link is the visit by Rabbi León, who presented his model of the Temple to Wren in 1675.[135] Nevertheless, it remains difficult to explain the similarity between the Dutch and English church architecture by these contacts, since the construction of St. Mary-at-Hill and St. Stephen's, Walbrook, was already under way in 1674. Perhaps Wren was already aware of the Dutch projects from an earlier unknown source, or had developed his cross-in-square and twelve-column schemes independently from the Dutch prototype, but under the influence of Villalpando.

Beside the Dutch associations of Wren's design already discussed, his dependence on Claude Perrault—in his turn influenced by Villalpando's image of the Temple—is conspicuous.[136] This line is further traceable in the work of Wren's pupil Nicholas Hawksmoor (1661–1736). In his St. Mary's, Woolnoth (1716–23), Hawksmoor applied Solomonic elements such as twisted Corinthian columns and twelve fluted Corinthian columns delimiting the central space.[137] This edifice inherited much from Wren's St. Mary-le-Bow, built, according to the architect's statement, after the Templum Pacis.[138] The Solomonic connotation here was mediated, since Templum Pacis was built by Roman emperor Vespasian to honor the destruction of Jerusalem.[139] However, none of these varied examples was influenced by Wren's Tyrian theory, which was probably invented after a number of Wren's churches had already been built, at a time when interest increased in early Eastern Christian architecture as prototypical for "true" churches.

Wren's alleged dependence on some eschatological typology seems plausible given that the Dutch prototypes

may have been influenced by this kind of thought, in light of Wren's interest in theology[140] and his personal contacts with millenarian and messianic thinkers.[141] Nevertheless, a different meaning emerges in the quotation from the Temple at St. Stephen's, Walbrook, and in Wren's other churches. In St. Stephen's, references to the Temple seem to be less symbols of the Temple of the messianic era than an appropriate setting for an Early Christian saint, given the dedication of the church to one of the first deacons and the first Christian martyr of Jerusalem.

A very limited acceptance of the design principles of the Great Portuguese Synagogue of Amsterdam is evident in the daughter synagogue Bevis Marks of London (1701), though a Solomonic element—the twisted balusters—was placed on the *Aron Kodesh*, *bimah*, and pews.[142] Its architect was a master builder, Joseph Avis, a Quaker carpenter.[143] The four central columns of the mother synagogue were not reproduced at Bevis Marks, although the twelve Tuscan columns supporting the women's gallery may perhaps be regarded as a quotation, but may be a mere numerical appliance unconnected to Villalpando. However, these cannot be interpreted as an application of the Tyrian theory, because Avis did not belong to the Anglican establishment and was far removed from the architectural elite represented by Wren.[144] Moreover, Bevis Marks was a relatively modest building with limited means of expression. Kadish points out that "British Jews did not yet share the architectural confidence of their Dutch counterparts to make a comparable public statement of their presence."[145]

The influence of Villalpando's reconstruction is feasible in a number of Wren's churches, although Wren's own theory contradicted it. Wren developed the nine-bay scheme into an impressive Baroque work at St. Stephen's, Walbrook. Unlike the Dutch Reform application of Villalpando, the Temple allegory of this church was a setting for a Christian saint rather than a symbol of messianic expectations. The Bevis Marks Synagogue, though a recognized daughter of the Great Portuguese Synagogue of Amsterdam and Wren's contemporary, included certain messianic symbols, albeit not necessarily associated with Villalpando's imagery.

## Conclusion

Villalpando's influence on architectural theory and practice in western Europe and its eastern borderlands was continuous throughout the seventeenth century. This impact can be observed in Catholic and Reform churches as well as in synagogue architecture. Moreover, the nine-bay synagogue design, a transformation of Villalpando's vision of the Temple first invented in eastern Europe, was adopted in western Europe as a recognizably Solomonic element. The route from the nine-court scheme of the Temple to a twelve-pier, or a cross-in-square, or a nine-bay plan was pursued independently by Medleni in Poland, van Campen in Holland, and apparently by Wren in England. A genuine innovator, Medleni revised an earlier *bimah*-support scheme with the help of Villalpando's imagery and symbolism. Emphasis on the cross contained in a square, or on longitudinal vaulting, as well as the ambivalent symbolism of the nine-bay vaulting, was a matter of choice for the architects, depending on the commission.

Villalpando's influential work was not a marginal phenomenon in synagogue architecture; it manifested itself in a number of important monuments. In Poland, it was most evident in the magnificent synagogues of L'viv and Ostroh. Later applications were mostly confined to nine-bay-plan schemes, although a sporadic reference to the specific order and curved buttresses could still be discerned in the late seventeenth and eighteenth centuries. From Poland, the nine-bay scheme spread west with the waves of refugees. In the Grote Sjoel of Amsterdam, the four-pier design proposed by the Polish patron was eagerly taken up by the Dutch architects; in addition to the Portuguese Esnoga, it served as a model for a few Ashkenazi synagogues, such as the Nieuwe Sjoel in Amsterdam (mid-eighteenth century), the synagogue in Leeuwarden (1800), and probably that of Altona (1682–84).

The varied meanings of Villalpanian influences in sacred architecture in the seventeenth century depended on the cultural context. In Catholic edifices, reference to the Temple of Jerusalem praised the builders and their work and hallowed the new sacred site by means of Solomonic retrospection. In the Reform churches, Villalpando's imagery symbolized a return to the genuine roots of religion in accordance with the typological concept of the New Children of Israel. In Anglican architecture of the Restoration, the role of such quotation moderated to that of an illustration of the early Christian story. In synagogue architecture, the image of the Temple was called up by messianic expectations, hope for redemption "in our days." Cultural exchange between the Christian architects and Jewish clients, between millenarian Christians and messianic Jews, between Catholics and Protestants, gave an architectural device for expression of diverse symbolic meanings sought by the believers.

## Notes

1. Sergey R. Kravtsov, "Synagogues in Eastern Galicia," in Sarah Harel Hoshen, ed., *Treasures of Jewish Galicia: Judaica from the Museum of Ethnography and Crafts in L'viv, Ukraine* (Tel Aviv, 1996), 38; and Kravtsov, "O proiskhozhdenii deviatipolevykh kamennykh sinagog" (On the genesis of nine-bay masonry synagogues), in Ilia Rodov, ed., *Evreiskoie iskusstvo v evropeiskom kontekste* (Jewish art in the European context) (Jerusalem and Moscow, 2002), 191–204.

2. Ioannes Baptista Villalpandus and Hieronymus Pradus, *In Ezechielem explanationes et apparatus urbis ac templi Hierosolimitani. Commentarii et emaginibus illustratus opus . . .*, 2 vols. (Rome, 1596–1604).

3. Moshe Idel, *Messianic Mystics* (New Haven and London, 1998), 154–82.

4. Zdzisław Pietrzyk, "Judaizanci w Polsce w 2 połowie XVI w." (Judaisers in Poland in the second half of the sixteenth century), in Andrzej Link-Lenczowski and Tomasz Polański, eds., *Żydzi w dawnej Rzeczpospolitej* (Jews in the Old Commonwealth) (Wrocław, 1991), 151.

5. Catholic theologians eschewed eschatological explanation of current events, and connected the time of the apocalyptic prophecies either with the end of pagan Rome or with an unspecified future. See Jean-Robert Armogathe, "Interpretations of the Revelation of John: 1500–800," in Bertrand McGinn, ed., *The Encyclopedia of Apocalypticism*, vol. 2 (New York, 1999), 185–94.

6. Richard H. Popkin, "Some Aspects of Jewish-Christian Theological Interchanges in Holland and England, 1640–1670," in Johannes van den Berg and Ernestine G. E. van der Wall, eds., *Jewish-Christian Relations in the Seventeenth Century: Studies and Documents* (Dordrecht, 1988), 3–32.

7. Gerrit Groenhuis, *De Predikanten. De sociale positie van de predikanten in de Republiek der verenigde Nederlanden voor ca. 1700* (Groningen, 1977), 77–102; Groenhuis, "Calvinism and National Consciousness: The Dutch Republic as the New Israel," in Alastair C. Duke and Coenraad A. Tamse, eds., *Britain and the Netherlands* (The Hague, 1981), 118–33; Simon Schama, *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age* (New York, 1987), 94–105; Marloes Huiskamp, "Oppenbare Lessen in Geschiedenis en Moral. Het Oude Testament in Stadthuisen en andere Openbare Gebouwen," in Christian Tümpel, ed., *Het Oude Testament in de Schilderkunst van de Gouden Eeuw* (Zwolle, Amsterdam, and Jerusalem, 1991), 148–49; Antoni Ziemba, *Nowe Dzieci Izraela* (The New Children of Israel) (Warsaw, 2000), 73.

8. Harold Fisch, *Jerusalem and Albion: The Hebraic Factor in Seventeenth-Century Literature* (New York, 1964), 255–58; and Steven N. Zwicker, "England, Israel and the Triumph of Roman Virtue," in Richard H. Popkin, ed., *Millenarianism and Messianism in English Literature and Thought, 1650–1800* (Leiden, 1988), 38–42.

9. David Ruderman, "Three Contemporary Perceptions of a Polish Wunderkind of the Seventeenth Century," *Association for Jewish Studies Review* 4 (1979), 143–63.

10. Gershom Scholem, "Shabbetai Zevi," *Encyclopedia Judaica*, vol. 14 (Jerusalem, 1971), 1219–54.

11. Władysław Łuszczkiewicz, "Sprawozdanie z wycieczki odbytej w lecie 1891 roku" (Report on an expedition of summer 1891), *Sprawozdania komisyi do badania historyi sztuki w Polsce* (Reports of the Commission for Studies in Art History in Poland), vol. 5 (Krakow, 1896), 172–89; Alfred Grotte, *Deutsche, böchmische und polnische Synagogentypen vom XI. bis Anfang des XIX. Jahrhunderts* (Berlin, 1915), 37–39; Majer Bałaban, *Zabytki historyczne Żydów w Polsce* (Historic Jewish monuments in Poland) (Warsaw, 1929), 60; Adolf Szyszko-Bohush, "Materiały do architektury bóżnic w Polsce" (Sources on synagogue architecture in Poland), *Prace Komisji Historii Sztuki* (Works of the Commission for Art History), vol. 4 (Krakow, 1930), 1–25; Szymon Zajczyk, "Architektura barokowych bóżnic murowanych w Polsce (zagadnienia i systematyka materiału zabytkowego) (The architecture of Baroque masonry synagogues in Poland [problems and systematizing of historical material])," *Biuletyn naukowy, wydawany przez Zakład Architektury Polskiej i Historii Sztuki Politechniki Warszawskiej* (Scientific Bulletin of the Institute of Polish Architecture and Art History at the Polytechnic University of Warsaw) (Warsaw, 1933), 4, 186–95; Maria and Kazimierz Piechotka, *Wooden Synagogues* (Warsaw, 1957), 28–31; Piechotka and Piechotka, *Bramy nieba. Bóżnice murowane na ziemiach dawnej Rzeczpospolitej* (Gates of heaven: Masonry synagogues in the Old Commonwealth) (Warsaw, 1999), 70–80; Rachel Wischnitzer, *The Architecture of the European Synagogue* (Philadelphia, 1964), 115–22; Wischnitzer, "Mutual Influences between Eastern and Western Europe in Synagogue Architecture from the 12th to the 18th Century," in *The Synagogue: Studies in Origins, Archaeology and Architecture*, sel. and intro. by Joseph Gutmann (New York, 1975), 285–94; Brian de Breffny, *The Synagogue* (New York, 1978), 117–20; Carol Herselle Krinsky, *Synagogues of Europe: Architecture, History, Meaning* (Cambridge, Mass., 1985), 51, 205–17; Gerhard W. Mühlinghaus, "Der Synagogenbau des 17. und 18. Jahrhunderts," in Hans-Peter Schwarz, *Die Architektur der Synagoge* (Frankfurt am Main, 1988), 115–56; Geoffrey Wigoder, *The Story of the Synagogue* (Jerusalem, 1985), 100–105.

12. Bałaban, *Zabytki*, 60; Wischnitzer, "Mutual," 287–88.

13. Zajczyk, "Architektura," 190–91; Wischnitzer, "Mutual," 292; Wischnitzer, *European Synagogue*, 115; de Breffny, *Synagogue*, 117; Piechotka, *Bramy*, 70–80. To my knowledge, the only visual source suggested for the nine-bay synagogue was Lucas Cranach's engraving *The Measurement of the Temple* (see Mühlinghaus, "Der Synagogenbau," 143). However, it is excessively distant from the cradle of this building type—the eastern lands of seventeenth-century Poland.

14. Helen M. Hills, "Villalpando, Juan Bautista," in Jane Turner, ed., *The Dictionary of Art* (New York, 1996), vol. 29, 560. On Villalpando and his significance to Western art and thought, see also Gregor M. Lechner, "Villalpandos Tempelrekonstruktion in Beziehung zu baroker Klosterarchitektur," in Friedrich Piel and Jörg Träger, eds., *Festschrift Wolfgang Braunfels* (Tübingen, 1977), 223–37; René Taylor, "Hermetism and Mystical Architecture in the Society of Jesus," in Rudolf Wittkower and Irma Jaffe, eds., *Baroque Art: The Jesuit Contribution* (New York, 1972), 63–98; Taylor, "Juan Bautista Villalpando y Jerónimo del Prado. De la arquitectura práctica a la reconstrucción mística," in *Dios, arquitecto. J. B. Villalpando y el Templo de Salomón* (Madrid, 1994), 153–212; Robert J. van Pelt, *Tempel van de Wereld. De kosmische symboliek van de Tempel van Salomo* (Utrecht, 1984); Ralf Busch, "Johan Lund, seine 'Alter Jüdischen Heiligtümer' und die Vorstellung vom Salomonischen Tempel," in Aliza Cohen-Mushlin, ed., *Jewish Art*, vol. 19/20 (Jerusalem, 1993/94), 62–67; Lola Kantor Kazovski, "Piranesi and Villalpando: The Concept of the Temple in European Architectural Theory," in Bianca Kühnel, ed., "The Real and Ideal Jerusalem in Jewish, Christian and Islamic Art, Jewish Art," vol. 23/24 (Jerusalem, 1998), 226–44.

15. Villalpandus and Pradus, *In Ezechielem*, vol. 2, pt. 2, 420, 467, 470 (see n. 2).

16. Lech Kalinowski, "Barok. Styl czy epoka" (The Baroque: A style or an epoch), *Biuletyn Historii Sztuki* 1 (1958), 110.

17. Salomon de Bray, *Architectura moderna ofte Bouwinge van onsen tyt* (Amsterdam, 1631); Jacob Judah Arje León, *Retrato del Templo de Salomo. En el qual brevemente se descrive la hechura de la fabrica del Templo y de todos los vasos y Instrumentos con que en el se administrava, cuyo modelo tiene el mismo Autor, como cada uno puede ver*, and his *Afbeeldinghe van den tempel Salomonis . . .* (Middelburg, 1642); Roland Fréart de Chambray, *Parallèle de l'architecture antique et de la moderne*, 2nd ed. (Paris, 1650); Christopher Wren, Jr., *Parentalia: Or, Memoirs of the Family of the Wrens* (London, 1750); *Biblia Polyglotta. Complectentia Textus Originales Hebraicos . . .* , 6 vols. (London, 1653–57); [Johannes Henricus Coccejus], *Prophetia Ezechielis cum Commentario Johannis Coccei* (Amsterdam, 1669); Juan de Caramuel de Lobkowitz, *Architectura civil recta y oblicua, considerada y dibuxada en el Templo de Jerusalem . . .* (Vigevano, 1678–79); Campegius Vitringa, *Aanleydinge tot het rechte verstant van den tempel, die de propheet Ezechiel gesien en beschreven heeft* (Franeker, 1687); and Bernard Lamy, *Introduction à la lecture de l'Escriture Sainte* (Lyon, 1689). In London in 1694, German sculptor Gerhard Schott exhibited a model of the Temple close to Rabbi León's reconstruction; the model is now held in the Museum für Hamburgische Geschichte. See Leonhard Christoph Sturm, *Sciagraphia Templi Hierosolymitani* (Leipzig, 1694); Nikolaus Goldmann and Leonhard Christoph Sturm, *Vollständ. Anweisung zu der Civil-Baukunst* (Wolffenbüttel, 1696); Johannes Lund, *Die alten Jüdischen Heiligthümer, Gottesdienste und Gewohnheiten*, vol. 3 (Hamburg, 1722); and Johann Bernhard Fischer von Erlach, *Entwurff einer historischen Architektur* (Vienna, 1721). Between 1725 and 1735, David Mill produced an enormous model of the Temple after Villalpando's reconstruction, part of which is stored in the Bijbels Museum, Amsterdam; see Giovanni Amico, *L'architetto Prattico* (Palermo, 1726–50); Isaac Newton, *The Chronology of Ancient Kingdoms Amended* (London, 1728); Augustin Antoine Calmet, *Het Algemeen groot historisch . . . naam- en woord-boek van den gantschen H. Bybel* (Leiden, 1727); Jacob Scheuchzer, *Physica Sacra*, 4 vols. (Augsburg, 1731–35); Christian Rieger, *Vniversae architecturae civilis elementa* (Vienna, 1756); Bartołomiej Nataniel Wąsowski, *Callitectonicorum seu de pulchro architecturae sacrae et civilis compendio collectiorum liber unicus* (Poznań, 1678); and Benedykt Chmielowski, *Nowe Ateny albo academia wszelkiej sciencyi pełna* (New Athens, or Academy of All Sciences), vol. 1 (L'viv, 1745).

18. Rehav Rubin, *Image and Reality: Jerusalem in Maps and Views* (Jerusalem, 1999), 47–104, gives examples by Richard Blome in 1687, Romeyn de Hooghe in 1715 (cf. *Biblia Polyglotta*), François Halma in 1717, Richard Ware and William Taylor in 1725, Johann B. Probst about 1730, Matthaeus Seutter in 1734, Christian G. Hoffman about 1740, Robert Sayer in 1770, and Adolf Eltzner in 1852. Besides these, a recently printed work by William Stukeley, carried out about 1734, should be mentioned (see Pierre de la Ruffinière du Prey, *Hawksmoor's London Churches: Architecture and Theology* (Chicago, 2000), 105.

19. See the so-called Mortier Bible illustrated by Jan Luyken, Pierre Mortier, Bernard Picart, and others, *Historie des Ouden en Nieuwen Testaments*, 2 vols. (Amsterdam, 1700), passim; and *Alle de Werken van Flavius Josephus* (Amsterdam, 1732), with illustrations by Jan and Casper Luykens.

20. Sergio L. Sanabria, "Orders, Architectural," in *Dictionary of Art*, vol. 23, 489.

21. Kalinowski, "Barok," 110; Maria Brykowska, "Pustelnia w Czernej (A monastery in Czerna)," *Biuletyn Historii Sztuki* (Bulletin of Art History) 2 (1981), 176–78; Władysław Tatarkiewicz, *Estetyka nowożytna* (Modern aesthetics) (Wrocław, 1967), vol. 3, 205, 246–47; Jerzy Kowalczyk, *Sebastiano Serlio a sztuka polska* (Sebastiano Serlio and Polish art) (Wrocław, 1973), 244, 251; Kowalczyk, "Gli ordini nell'Europa centrale. Polonia, Slesia, Boemia," in *L'Emploi des ordres dans l'architecture de la Renaissance. Actes du colloque tenu à Tours du 9 au 14 juin 1986* (Paris, 1992), 317, 324; Kowalczyk, "Elementy Świątyni Salomona w kościołach nowożytnych w Polsce" (Elements of Solomon's Temple in the New Age churches of Poland), in Piotr Paszkiewicz and Tadeusz Zadrożny, eds., *Jerozolima w kulturze europejskiej* (Jerusalem in European culture) (Warsaw, 1997), 395–406; Kowalczyk, "Porządek salomonowy w polskiej architekturze nowożytnej" (The Solomonic order in modern Polish architecture), in Lech Kalinowski, Stanisław Mossakowski, and Zofia Ostrowska-Kębłowska, eds., *Nobile claret opus. Studia z dziejów sztuki dedykowane Mieczysławowi Złatowi* (Nobile claret opus. Studies in art history dedicated to Mieczysław Zlat) (Wrocław, 1998), 225–36; Adam Małkiewicz, "Teoria architektury w nowożytnym pismiennictwie polskim" (Architectural theory in modern Polish literature), *Zeszyty naukowe Uniwersytetu Jagiellonskiego (Prace z historii sztuki)* (Scientific proceedings of Jagellonian University [Studies in art history]) (Krakow, 1976), 40–41; Adam Miłobędzki, *Architektura polska XVII wieku* (Polish architecture in the seventeenth century) (Warsaw, 1980), 149.

22. Hieronymus Bildziukiewicz, *Divi titularis partii Casimiri insigne virtutum hieroglyphicis emblematum figuris adumbratum* (Vilnius, 1610). See Kowalczyk, "Porządek," 229.

23. See n. 17.

24. Brykowska, "Pustelnia w Czernej," 177–78.

25. The Hebrew edition of Rabbi León's book that referenced Villalpando was published only in 1650, during a short interval of peace during Chmielnicki's uprising, and probably did not reach Poland.

26. Miłobędzki, *Architektura*, 145–49.

27. Kowalczyk, "Porządek," 232–33.

28. Kowalczyk, "Elementy," 402.

29. Brykowska, "Pustelnia w Czernej," passim.

30. Nikolaus Pevsner, *Historia architektury europejskiej* (History of European architecture), vol. 2 (Warsaw, 1980), 201; Brykowska, "Pustelnia w Czernej," 172–78.

31. Brykowska, "Pustelnia w Czernej," 178; St. John of the Cross, "Ascent of Mount Carmel," in St. John of the Cross, introduction by Kieran Kavanaughand and trans. Otilio Rodriguez, *The Collected Works of Saint John of the Cross*, (London, 1966), 286–87.

32. Tadeusz Zadrożny, "Dei templum est, Dei structura est, Dei aedificatio est, czyli o niektórych aspektach recepcji idei Świątyni Jerozolimskiej w nowożytnej architekturze sakralnej" (Dei templum est, Dei structura est, Dei aedificatio est; or on some aspects of perception of the idea of Solomon's Temple in modern sacral architecture), in Piotr Paszkiewicz and Tadeusz Zadrożny, eds., *Jerozolima w kulturze europejskiej* (Jerusalem in European culture) (Warsaw, 1997), 407.

33. Piechotka and Piechotka, *Wooden Synagogues*, 30–33 (see n. 11); Szymon Zajczyk in his early "Architektura barokowych" uses the Polish equivalent of the term "nine-bay synagogue" for all types of four-pier design (see n. 11).

34. Piechotka and Piechotka, *Wooden Synagogues*, 30–33; Piechotka and Piechotka, *Bramy nieba*, 70–71 (see n. 11). Krinsky calls this type of synagogue "four-pillar tabernacle" (*Synagogues*, 11 [see n. 11]), while Thomas C. Hubka calls it "clustered-column" (*Resplendent Synagogue: Architecture and Worship in an Eighteenth-Century Polish Community* [London, 2003], 67).

35. Józef T. Frazik, "Sztuka ziemi przemyskiej i sanockiej. Uwagi o wykonawcach (Art of the regions of Przemyśl and Sanok: Notes on artists)," in Teresa Hrankowska, ed., *Sztuka około roku 1600. Materiały sesji Stowarzyszenia Historyków Sztuki zorganizowanej przy współpracy Wydziału Kultury Prezydium Wojewodzkiej Rady Narodowej w Lublinie, Lublin, listopad 1972* (Art around 1600: Proceedings from a session of the Society of Art Historians, organized in cooperation with the presidium of the the Department of Culture, Regional Popular Council in Lublin, Lublin, November 1972) (Warsaw, 1974), 206; Piechotka and Piechotka, *Bramy nieba*, 175.

36. Szyszko-Bohush, "Materiały," 3–4 (see n. 11); alternatively, Helen Rosenau supposes that the four-pier design was imported to Poland from northern Italy, without naming particular patterns; see Rosenau, "The Synagogue and Protestant Church Architecture," in Harry M. Orlinsky, ed., *The Synagogue: Studies in Origins, Archaeology and Architecture* (New York, 1975), 314.

37. Vienna Nationalbibliotek, Bildarchiv, Nr 449.346 Br, 449.348 Br.

38. See John Onians, *Bearers of Meanings: The Classical Orders in Antiquity, the Middle Ages, and the Renaissance* (Cambridge, England, 1988), 219–20.

39. John B. Ward-Perkins, "The Shrine of St. Peter and Its Twelve Spiral Columns," *Journal of Roman Studies*, vol. 42 (1952), 21–33.

40. Majer Bałaban, *Żydzi lwowscy na przełomie XVI i XVII wieku* (Jews of L'viv in the sixteenth and seventeenth centuries) (L'viv, 1906), 218–20.

41. The document is quoted in Bałaban, *Żydzi lwowscy*, 96; the Polish word "gatunek," which I translate as "section," derives from the German *Gattung*, and means "kind," "sort," "form," and, in the opinion of Tobias Lamey, "a truss." It is unlikely that the magistrate decided on the variety of the vault shapes invisible from the outside.

42. Bałaban, *Żydzi lwowscy*, 96. The main hall of the synagogue was about 38 x 40 Polish cubits (1 cubit = ca. 59.5 cm) on the exterior, while its interior height was about 18 cubits, as I have checked in the drawings by Grotte, *Synagogentypen*, pl. 5 (see n. 11).

43. *Sebastiano Serlio on Architecture*, trans. Vaughan Hart and Peter Hicks, vol. 1 (New Haven, 2001), 366 (after 1551 ed., bk. IV, LXII *v* [184 *r*]).

44. Zajczyk, "Architektura barokowych," 194 (see n. 11).

45. Jakób Schall, *Przewodnik po zabytkach żydowskich m. Lwowa* (Guide to Jewish monuments in L'viv) (L'viv, 1935), 56.

46. National Museum in Lviv, Collection of the Conservator's Authority, no. 46. See also Ethnological Institute in L'viv, Library, file no. 12621, Archive of Curatorium for Jewish Monuments, file C, tabl. 16. The signs of the zodiac placed on the east wall, to the right of the Torah Ark, are those of Virgo and Leo instead of Sagittarius and Scorpio, associated, respectively, with Benjamin and Dan in Villalpando's scheme.

47. Bałaban, *Żydzi lwoscy*, 207, 208, 569.

48. Stanisław Kardaszewicz, *Dzieje dawniejsze miasta Ostroga. Materiały do historii Wołynia* (Ostroh's past: Sources on the history of Volhynia) (Warsaw, 1913), 118. The privilege was issued by Anna Chodkiewiczowa, a daughter of Prince Aleksander Ostrogski, the patroness of that part of the city. Ostroh was shared between brothers Aleksander and Janusz Ostrogski in 1603; from 1620 on, the other part of the city was in the possession of Aleksander Zasławski, married to Janusz's daughter Eufrozyna. The Jewish population of Ostroh was so great that a biographer of Anna Chodkiewiczowa claimed that the "Jews almost founded there a new Jerusalem." Ibid.

49. See measured drawings by Ihor Fugol and others in the archives of the Center for Jewish Art, Hebrew University of Jerusalem.

50. Grotte, *Synagogentypen*, pl. 5.

51. Zajczyk, "Architektura barokowych," 194.

52. Serhii Yurchenko, "Pro chas budivnytstva Luts'koi bramy v Dubni" (On the dating of the construction of the Luts'k Gate in Dubno), *Zapysky Naukovoho tovarystva imeni Shevchenka. Pratsi Komisii arkhitektury ta mistobuduvannia* (Records of the Shevchenko Scientific Society: Works of the Comission for Architecture and Town Planning), vol. 241 (L'viv, 2001), 511–16.

53. Yurchenko, "Pro chas," 511–16.

54. Michał Kowalczuk, *Cech budowniczy we Lwowie za czasów polskich (do roku 1772)* (The builders' guild in L'viv during the Polish period [before 1772]) (L'viv, 1927), 31; Władysław Łoziński, *Sztuka lwowska w XVI i XVII wieku. Architektura i rzeźba* (The art of L'viv in the sixteenth and seventeenth centuries: Architecture and sculpture) (L'viv, 1901), 82; Andrzej Betlej, "Kościół OO. Bernardynów w Zasławiu: Zródła archiwalne do dziejów wystroju

późnobarokowego" (The Bernardine order's church in Iziaslav: Archival sources for the history of Late Baroque decoration), *Biuletyn Historii Sztuki* (Bulletin of Art History) 3–4 (1995), 353–64.

55. Kowalczuk, *Cech budowniczy*, 31.

56. Zajczyk, "Architektura barokowych," 194.

57. Piechotka and Piechotka, *Bramy nieba*, 79–80 (see n. 11).

58. Zajczyk, "Architektura barokowych," 194; Eleonora Bergman and Jan Jagielski, *Zachowane synagogi i domy modlitwy w Polsce. Katalog* (Extant synagogues and prayer houses in Poland: Catalogue) (Warsaw, 1996), 135.

59. Brykowska, "Pustelnia w Czernej," 178 (see n. 21).

60. The copy is preserved in the Rare Book Room, Library of Academy of Science, L'viv.

61. Rare Book Department, L'viv University Library, 2946 IV.

62. Briano's drawings were commented on by Richard Bösel at the Second International Congress of Ukrainists; see his "Der Architektur der Lemberger Jesuitenkirche," in *Druhyi Mizhnarodnyi Konhres Ukrainistiv, L'viv, 18–22 serpnia 1993 r. Dopovidi ta povidomlennia. Istoriohrafiya ukrainoznavstva, etnolohiya, kultura* (Second International Congress of Ukrainists, L'viv, 18–22 August 1993: Lectures and reports; Historiography of Ukrainian studies, ethnology, and culture) (L'viv, 1994), 184–89. For Briano's drawings, see John Bury, *Forty-three Sheets of Architectural Drawings by Giacomo Briano da Modena S. J.* (Milan, 1984).

63. Jerzy Paszenda, "Biografia architekta Giacomo Briano" (Biography of the architect Giacomo Briano), *Biuletyn Historii Sztuki* (Bulletin of Art History) 1 (1973), 13–14.

64. Jan Poplatek and Jerzy Paszenda, *Słownik Jezuitów artystów* (Dictionary of Jesuit artists) (Krakow, 1972), 99–100.

65. Sergey Kravtsov, "Rekonstruierte Vergangenheit. Die Synagoge von Leszniów im Model," *Judaica: Beiträge zum Verstehen des Judentums*, vol. 2 (2003), 99.

66. Piechotka and Piechotka, *Bramy nieba*, 290–91.

67. Waldemar Deluga proposed this interesting idea. On Uri ben Aaron Ha-Levi, see Majer Bałaban, "Z zagadnień ustrojowych Żydowstwa polskiego" (Some issues concerning the communal organization of Polish Jewry), in Karol Badecki, ed., *Studia lwowskie* (L'viv studies) (L'viv, 1932), 43; Jakób Schall, *Dawna Żółkiew i jej Żydzi* (The Old Zhovkva and its Jews) (L'viv, 1939), 71; and *Encyclopedia Judaica*, vol. 16 (Jerusalem, 1972), 6. The unusually high status of Uri Ha-Levi in Zhovkva can be illustrated by location of his press in the central square (Rynek) of the city, in spite of general prohibition on a Jewish presence in this area; the other known exception to this law was made for Jacob Bezalel ben Nathan, the Jewish factor of the royal family. See Stefan Gąsiorowski, "Żydzi w Żółkwi i ich kontakty z tamtejszymi Dominikanami w XVII i pierwszej połowie XVIII wieku" (Jews in Zhovkva and their contacts with local Dominicans in the seventeenth and first quarter of the eighteenth century), *Biuletyn Żydowskiego Instytutu Historycznego w Polsce* (Bulletin of the Jewish Historical Institute in Poland) 1–2 (1993), 25.

68. Łuszczkiewicz, "Sprawozdanie," 177 (see n. 11); Bergman and Jagielski, *Zachowane synagogi*, 116–17.

69. Piechotka and Piechotka, *Bramy nieba*, 274.

70. Krinsky, *Synagogues*, 8 (see n. 11); Wigoder, *Story of the Synagogue*, 36, 38 (see n. 11).

71. Babylonian Talmud, Sukka 52a.

72. See Gershom Scholem, *Sabbatai Ṣevi, the Mystical Messiah, 1626–1676* (Princeton, 1973), 79. The period from the late sixteenth to the first half of the seventeenth century was dotted with calculations of messianic dates, including those of 1575, 1598, 1621, 1630, and 1648; see Idel, *Messianic Mystics*, 158–59 (see n. 3); Idel, "'One from a Town, Two from a Clan': The Diffusion of Lurianic Kabbalah and Sabbateanism; A Re-Examination,"

*Jewish History*, vol. 7 (Haifa, 1993), 92–93; David Ruderman, "Three Contemporary Perceptions of a Polish Wunderkind of the Seventeenth Century," *Association for Jewish Studies Review* 4 (1979), 143–63.

73. *Encyclopedia Judaica*, vol. 6 (Jerusalem, 1972), 363–64; Scholem, *Sabbatai Ṣevi*, 78.

74. Jacob Zwarts, *Hoofdstukken uit de Gescheidenis der Joden in Nederland* (Zutphen, 1929); C. J. R. van der Linden, "De symboliek van de Nieuwe Kerk van Jacob van Campen te Haarlem," *Oud Holland* 1 (1991), 4, 22.

75. Van der Linden, "De symboliek," 7.

76. Ibid., 9.

77. Ibid., 4; Koen Ottenheym, "Architectuur," in Jacobine Huisken, Koen Ottenheym, and Gary Schwartz, eds., *Jacob van Campen. Het klassieke ideal in de Gouden Eeuw* (Amsterdam, 1995), 180–84.

78. Van der Linden, "De symboliek," 1–4; Ottenheym, "Architectuur," 184–87.

79. Van der Linden, "De symboliek," 8. He believes that not only Villalando but also François Vatable contributed to the image of the Temple in the architecture of the Nieuwe Kerk.

80. Van der Linden, "De symboliek," 1; Ottenheym, "Architectuur," 185–86. Saenredam depicted the interior of the Nieuwe Kerk at least five times with twelve columns, and at least twice with eight columns; see Petrus T. A. Swillens, *Pieter Janszoon Saenredam, schilder van Haarlem, 1597–1665* (Amsterdam, 1935), figs. 97–98, 100–103.

81. Villalpando's Temple reconstruction shifted the sanctuary the west, but not to the south.

82. Van der Linden, "De symboliek," 21.

83. The blood of a sin offering was put on the four horns of the altar (Ezekiel 43:19–20).

84. Van der Linden, "De symboliek," 11.

85. Ibid., 14–15.

86. Ibid., 15–16.

87. See n. 7.

88. Ziemba, *Nowe Dzieci*, 70–71 (see n. 7).

89. Van der Linden, "De symboliek," 21.

90. Idel, "One from a Town," 92 (see n. 72).

91. Erich Hubala, *Die Kunst des 17 Jahrhundert. Propyläen Kunstgeschichte*, vol. 9 (Berlin, 1970), pls. 292a, 292b, XLIX; and Spiro K. Kostof, *A History of Architecture: Settings and Rituals* (New York, 1985), 538–39.

92. The pulpit was similarly arranged in the churches in Leiden (Marekerk) and Rotterdam; see van der Linden, "De symboliek," 26.

93. David M. Sluys, *De oudste synagogen der Hoogduitsch-Joodsche gemeente te Amsterdam (1635–1671)* (Amsterdam, 1921), 17–18; Johannes F. van Agt and Edward van Voolen, *Nederlandse synagogen* (Weesp, 1984), 19–22.

94. Helen Rosenau mistakenly states that the Ashkenazi synagogue of Amsterdam borrowed its design from the Sephardi synagogue, which is chronologically impossible. Rosenau, "Synagogue and Protestant Church Architecture," 312 (see n. 36).

95. Judith C. B. Belinfante, Edward van Voolen, David P. Cohen Paraira, Jaffa Baruch-Sznaj, and Julie-Marthe Cohen, *The Esnoga: A Monument to Portuguese-Jewish Culture* (Amsterdam, 1991), 45–47. In spite of the later building date, the entrance door bears an inscription that contains a chronogram: "But I, through Thy great love, may come into Thy house" (Psalm 5:8), where the letters of the Hebrew word for "Thy house" are marked to indicate their numeric value, that is, 432, corresponding to 1672 C.E.; see Leo Fuks, "The Inauguration of the Portuguese Synagogue in Amsterdam in 1675," in Renate G. Fuks-Mansfeld, ed., *Aspects of Jewish Life in the Netherlands: A Selection from the Writings of Leo Fuks* (Assen, 1995), 86.

96. *Sermões que pregaraõ os doctos ingenios do K. K. de Talmud Torah, desta Cidade de Amsterdam. No alegre Estreamento, & publica celebridade da Fabrica que se Consagrou a Deos, para caza de Oraçaõ, cuja entrada se festejou em Sabath Nahamù anno 5435* (Amsterdam, 1675), 1–14.

97. *Sermões*, 17–36; Fuks, "Inauguration," 90–91, traces this back to "the ancient Hispanic theme of 'man as a microcosm,' but with an elegantly developed variation." I compare it to Villalpando's concept, as he, having dealt with the celestial and supercelestial spheres, then shows that the Temple is likewise related to the elemental world and in particular to the microcosm which is Man. See René Taylor, "Architecture and Magic: Consideration on the Idea of the Escorial," in Douglas Fraser, Howard Hibbard, and Milton J. Lewine, eds., *Essays in the History of Architecture Presented to Rudolf Wittkower on His Sixty-sixth Birthday*, vol. 1 (London, 1967), 93; and Villalpandus and Pradus, *In Ezechielem*, vol. 2, pt. 2, 471 ff. (see n. 2).

98. *Sermões*, 59–74.

99. The following calculation was based on First Kings (6:2): 60 cubits of the Temple, each cubit 24 inches, equal to 1440 inches; 130 feet of the synagogue, each one 11 inches, equal to 1430 inches. See *Sermões*, 85–86.

100. Ibid., 101–29.

101. Ibid., 133–48.

102. Yosef Kaplan, *The Portuguese Jews of Amsterdam in the 17th Century: Exhibition to Mark the 300th Anniversary of the Inauguration of the Portuguese Synagogue in Amsterdam* (Jerusalem, 1975), 62.

103. Belinfante, *Esnoga*, 56.

104. Ibid., 55–58.

105. Ibid., 54–55.

106. Ibid., 54.

107. Yosef Kaplan, "Gente Politica: The Portuguese Jews of Amsterdam vis-à-vis Dutch Society," in Chaya Brasz and Yosef Kaplan, eds., *Portuguese Jews as Perceived by Themselves and by Others* (Leiden, 2001), 28–29.

108. Yosef Kaplan, "The Portuguese Community in 17th Century Amsterdam and the Ashkenazi World," *Dutch Jewish History: Proceedings of the Fourth Symposium on the History of the Jews in the Netherlands; 7–10 December–Tel Aviv–Jerusalem, 1986* (Jerusalem, 1989), 28.

109. Kaplan, "Portuguese Community," 35–36.

110. Ibid., 41–42.

111. Gordon M. Weiner, "Sephardic Philo- and Anti-Semitism in the Early Modern Era: The Jewish Adoption of Christian Attitudes," in Richard H. Popkin, ed., *Jewish Christians and Christian Jews: From the Renaissance to the Enlightenment* (Dordrecht, 1994), 193.

112. Weiner, "Sephardic," 190–95.

113. The cantor of the congregation, Emmanuel Abenator; a renowned poet, Daniel Levi de Barrios; and a wealthy philanthropist, Abraham Pereyra, were among the Sabbatean "believers" in 1671; see Yosef Kaplan, "The Attitude of the Sephardi Leadership in Amsterdam to the Sabbatian Movement, 1665–1671," in Kaplan, *An Alternative Path to Modernity: The Sephardi Diaspora in Western Europe* (Leiden, 2000), 222.

114. Scholem, *Sabbatai Ṣevi*, 573.

115. Ibid., 270–71; Idel, *Messianic Mystics*, 194 (see n. 3). In Idel's opinion, this calculation could be connected to an astrological forecast based on the cycle of Saturn, since Shabbetai is a Hebrew name for the planet Saturn.

116. *Sermões*, 148 (see n. 96); Fuks, "Inauguration," 94 (see n. 95).

117. *Sermões*, 36.

118. See van der Linden, "De symboliek," 22 (see n. 74); Wischnitzer, *European Synagogue*, 92–97 (see n. 11); and David H. de Castro, *De synagoge der Portugees-Israëlitische Gemeente te Amsterdam* (Amsterdam, 1950), passim.

119. *Sermões*, 55 (my emphasis).

120. Popkin, "Some Aspects," 3–32 (see n. 6); Adri K. Offenberg, "Jacob Jehuda León (1602–1675) and His Model of the Temple," in Johannes van den Berg and Ernestine G. E. van der Wall, eds., *Jewish-Christian Relations in the Seventeenth Century: Studies and Documents* (Dordrecht, 1988), 95–115;

Adri K. Offenberg, "Jacob Judah León Templo's Broadsheet of His Model of the Temple," in Adri K. Offenberg et al., eds., *Bibliotheca Rosenthaliana: Treasures of Jewish Booklore* (Amsterdam, 1994), cat. no. 14.

121. De Vieira later was judged by inquisition. See Popkin, "Some Aspects," 20.

122. Popkin, "Some Aspects," 21. On Menasseh ben Israel, see also Cecil Roth, *Menasseh ben Israel* (Philadelphia, 1934).

123. Harry M. Bracken, "Bishop Berkeley's Messianism," in Richard H. Popkin, ed., *Millenarianism*, 75 (see n. 8).

124. Popkin, "Some Aspects," 24. For more on Christian-Jewish contact, see Popkin, "Christian Jews and Jewish Christians in the 17th Century," *Jewish Christians and Christian Jews*, 57–80.

125. Du Prey, *Hawksmoor's London Churches*, 9, 49 (see n. 18).

126. James R. Jacob and Margaret C. Jacob, "The Anglican Origins of Modern Science: The Metaphysical Foundations of the Whig Constitution," *Isis: An International Review Devoted to the History of Science and its Cultural Influences* 71 (1980), 251–53; and Lydia M. Soo, "Wren," in Randall J. van Vynct, ed., *International Dictionary of Architects and Architecture*, vol. 1 (Detroit, 1993), 994–95.

127. Du Prey, *Hawksmoor's London Churches*, 149.

128. *Parentalia*, quoted in Lydia M. Soo, *Wren's "Tracts" on Architecture" and Other Writings* (Cambridge, England, 1998), 169.

129. Soo, "Wren," 995; and Soo, *Wren's "Tracts,"* 128–29.

130. Margaret Whinney, *Wren* (London, 1971), 61.

131. Ibid., 62–63.

132. Ibid., 64.

133. Ibid., 63.

134. Ibid., 64; and Henry W. Robinson and Walter Adams, eds., *The Diary of Robert Hooke: 1672–1680* (London, 1935), 111.

135. Offenberg, "Jacob Jehuda León," 108 (see n. 120).

136. On Claude Perrault and Villalpando, see Wolfgang Herrmann, "Unknown Design for the 'Temple of Jerusalem' by Claude Perrault," in Fraser, Hibbard, and Lewine, *Essays to Rudolf Wittkower*, 143–58 (see n. 97); and Naomi Miller, "An Encomium to Louis XIV and Versailles," *Architectura. Zeitschrift für Geschichte der Baukunst* 23, no. 1 (1993), 33.

137. Du Prey, *Hawksmoor's London Churches*, 106–9.

138. Ibid., 108; and Soo, *Wren's "Tracts,"* 216.

139. It is not known whether Wren was informed about the "Vredestempel" apparently designed and painted by van Campen in 1648 in Haarlem. See Ottenheym, "Architectuur," 54 (see n. 77).

140. Wren spoke about the importance of astronomy for theology and lectured at Oxford on the astronomic calculation of Easter. See Kerry Downes, "Wren," in *Dictionary of Art*, vol. 33, 392.

141. Wren corresponded with Hartlib and even built him a transparent three-story beehive. See Hugh Trevor-Roper, *Crisis of the 17th Century: Religion, the Reformation, and Social Change* (New York, 1967), 267.

142. Clarence Epstein, "Compromising Traditions in Eighteenth-Century London: The Architecture of the Great Synagogue, Duke's Place," in Sharman Kadish, ed., *Building Jerusalem: Jewish Architecture in Britain* (London, 1996), 59.

143. See Epstein, "Compromising Traditions," 53–59; and Sharman Kadish, *Bevis Marks Synagogue: 1701–2001* (London, 2001), 1.

144. See Kadish, *Bevis Marks*, 20; and Kadish, "Constructing Identity: Anglo-Jewry and Synagogue Architecture," *Architectural History: Journal of the Society of Architectural Historians of Great Britain* 45 (2002), 388–89.

145. Kadish, *Bevis Marks*, 8.

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Figure 10. Drawing by the author after Grotte, *Deutsche Synagogentypen*, pl. 5

Figure 11. Drawing by Grotte, *Deutsche Synagogentypen*, pl. 5

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Figure 24. Drawing by the author after Jaacob S. Baars and J. W. Kuiper, in van Agt and van Voolen, *Nederlandse synagogen*, 23