Edinost in dialog *Unity and Dialogue*
80 (2025) 1: 255–278

Izvirni znanstveni članek Original scientific paper (1.01)
Besedilo prejeto Received: 13. 12. 2024; Sprejeto Accepted: 30. 1. 2025
UDK UDC: 26-53:78
DOI: 10.34291/Edinost/80/01/Debevec

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Musical Proportions in a Jewish Portable Sanctuary

Glasbene proporcije v judovskem prenosnem svetišču

Abstract: An architectural reading of biblical texts about the Jewish portable sanctuary, especially the metrical properties of its components, shows the presence of relationships that belong to the family of musical proportions. This paper discusses the question of whether the understood proportions are merely concealed in the dimensional characteristics of the elements of this composite architecture, or whether they are in fact part of its deep structure. The discussion shows that the musical proportions are not just some sort of by-product or curiosity of the defined measurements of the most important parts of the Jewish portable sanctuary, but rather they regulate almost all of its essential design features in a mutual balance.

Keywords: tabernacle, architecture, compositional analysis, musical proportions

Izvleček: *Arhitekturno branje bibličnih besedil o judovskem prenosnem svetišču, zlasti merskih lastnosti njegovih sestavin, pokaže navzočnost razmerij, ki spadajo v družino glasbenih proporcij. Problem te razprave je vprašanje, ali so razbrane proporcije zgolj skrite v dimenzijskih značilnostih elementov te sestavljive arhitekture ali pa so v resnici del njene globinske strukture. Razprava pokaže, da glasbene proporcije niso zgolj nekakšen stranski produkt oziroma kurioziteta merskih opredelitev najpomembnejših delov judovskega prenosnega svetišča, temveč da v medsebojni uravnoteženosti uravnavajo domala vse njegove bistvene oblikovne značilnosti.*

Ključne besede: *sveti šotor, arhitektura, kompozicijska analiza, glasbene proporcije*

There is divine power in numbers ordered by the same ratio.
Daniele Matteo Alvise Barbaro (1514–1570)

Introduction

The study of spatial images in the Pentateuch[1] centres on descriptions of the tabernacle, the place of the ritual meeting of Yahweh with the people of Israel during their forty-year sojourn in the desert. The volume of texts relating to the tabernacle (Exodus 25,1–27,19; 30,1-7, 17-19; 36,8–38,20), rich in detailed descriptions of its parts, with engineering terminology and the concentration of dimensional data, gives the impression even at first reading that this is not just a picturesque description, the purpose of which would only be to strengthen the effect of the reality of the drama of the journey of the Israelites from slavery to the Promised Land, but has a complexity that significantly exceeds the narrative layer of the Exodus. Through an architectural »reading« of these texts, the image of the sanctuary as an architectural work rises before our eyes, once with final certainty, at other times shrouded by a veil of vagueness. For centuries, the allure of the undefined has fuelled the passion of various scholars of biblical texts in their desire to clarify the image of this architectural enigma. The present discussion considers it from an architectural perspective. The rationale of this is justified on the one hand by the already presented nature of the descriptions of the sanctuary and, on the other, by its divine »origin«, since the tabernacle was made according to the instructions of Yahweh himself (Exodus 25:8-9),[2] which gives it the status of a perfect architectural masterpiece. One of the most important elements of architectural art is its deep structure. It can be understood within the compositional framework because of which the architectural work awakens aesthetic pleasure in the viewer. Investigation of the deep structure of the Jewish portable sanctuary to date has revealed the presence of proportions.[3] They have been identified in the dimensions of its important elements, such as the ark of the covenant, the altar of incense, the table of shewbread, the altar of burnt offerings, the panels of the sanctuary wall, the carpet of the

1 The research entitled *Genealogy of space in biblical texts* is taking place within the framework of the research program of the Faculty of Architecture of the University of Ljubljana *Sustainable design of a quality living environment* (Source of financing no. P5-0068).

2 »And let them make me a sanctuary; that I may dwell among them. According to all that I shew thee, *after* the pattern of the tabernacle, and the pattern of all the instruments thereof, even so shall ye make *it*.«

3 More on this in Debevec 2023, 383–403.

covering and carpet of the roof covering. The set of established proportions is not random, since they form a complete set of musical proportions.

As a result of the described findings, the central question remains as to what extent and in what way the revealed richness of proportions determines the architectural image of the Jewish portable sanctuary. In searching for an answer to the question posed, the descriptive method and the method of compositional analysis were used as specific tools of architectural analysis. In the current investigation of the discussed problem, an architectural scheme of the Jewish sanctuary complex has already been drawn up for the purposes of compositional analysis, without which any compositional test remains pure speculation.

To understand the procedures and findings presented in the discussion, the distinction between measure, module, ratio and proportion is important. Measure is a description of the size characteristics of a certain whole or individual part of it, expressed in numbers. As a selected measure, the module is the size unit of the composition. It is therefore »the axiomatic basis of a certain system of formal and conceptual relations« (Muhovič 2015, 515). Ratio is a relation expressed by measures (numbers) or modules. We can talk about proportion when we are dealing with the repetition of a ratio in a certain composition (Kurent 2002, 7).

Starting points of compositional analysis

The basis of any architectural reading of the compositional characteristics of the selected architecture is the plan or scheme of its architectural characteristics. As a result of the study of biblical records about the tabernacle in the discussion *The Deep Structure of the Jewish Portable Sanctuary*, the starting points based on the architectural scheme of the sanctuary complex were presented. The architectural scheme was created with a digital drawing tool, which prevents the possibility of geometric inaccuracy and the associated dubiousness of the results of compositional analysis. The architectural scheme shows the set of parts of the sanctuary complex that will be the subject of further compositional analysis. According to architectural logic, the hierarchical set is formed by the following parts: the fanum of the sanctuary, the fence of the fanum, the floor plan of the sacred tent,

its longitudinal and transverse facades, the covering of the sacred tent and the roof covering. In the case of the fanum fence, the demonstration of the presence of proportions will be limited to its transverse part, since the established proportions also correspond in the same way and with the same module to the format and structure of its longitudinal part.

In the proportional analysis of the listed parts of the Jewish portable sanctuary, a whole set of musical proportions was used, which succeed each other in the following order: 1:1 square – unison, 8:9, hemidiagon – major second, 5:6 quadriagon – minor third, 4:5 biauron – major third, 3:4 penton – perfect fourth, 2:3 hemiolion – perfect fifth, 3:5 auron, 4:7 sixton – minor seventh and 1:2 double square – octave (Wilkinson 1989, 69). A geometric method was used to determine the presence of a particular proportion in the specific part of the sanctuary in question. The essence of this is the use of similar rectangles.[4] The simplest geometric way of determining the relationship between two sides of a rectangle is the diagonal, which allows a proportional grid to be drawn. This shows two things: the degree to which it corresponds to the format and inner structure of the part being analysed and, based on the field of such a proportional grid, it is also possible to determine the size of the module according to which the grid is calibrated. An essential condition for the credibility of the results of the geometric method is the accuracy of the drawing. This is no longer a problem with the use of digital drawing tools, which were also used in our analyses.

The complexity of the tent of the tabernacle's composition

The result of the compositional analysis of the individual parts of the Jewish portable sanctuary, based on the described starting points, is surprisingly extensive material that fulfils the pre-set minimum condition that the proportional grid of the selected proportion fits at least with the outer edge of the considered work, whereby the module of such a proportional network is expressed by integer multiples of the units of the Old

4 More on this in Scholfield 1958, 102–105.

Testament measurement system.[5] The stated condition is fulfilled by 102 analyses. According to the proportions presented, they are distributed in the following shares: 1:1 six, 8:9 five, 5:6 eleven, 4:5 twelve, 3:4 nineteen, 2:3 nineteen, 3:5 thirteen, 4:7 one and 1:2 sixteen. The final selection of compositional analyses is the result of the introduction of an additional condition. According to this, in addition to matching the format of the work in question, the proportional grid must also be harmonized to some extent with its internal structure. The vagueness of such a condition is a consequence of the contradiction involved in the search for the largest possible module. On the one hand, this increases the persuasiveness of the presence of a certain proportion in the part of architecture that is the subject of analysis but, on the other hand, due to its size, it necessarily only partially or only exceptionally fits with its finer internal structure. The described paradox is beautifully shown in the proportional analysis of the fanum – the courtyard that surrounds the holy tabernacle in a ratio of 1:2.[6] The latter covers the fanum surface next to the 100*S* module with only one field (Figure 01). A proportional mesh of the same proportion, structured with a ten-times smaller module, 10*S,* corresponds with all the pillars of the longitudinal part of the fanum enclosure and with every other pillar of its transverse part (Figure 02).

The material sifted with the added condition shows fifty-three analyses that are worthy of a more detailed presentation. According to the discussed parts of the portable sanctuary, they are arranged in the following shares: the fanum of the sanctuary 7, the fence of the fanum 8, the floor plan of the sacred tent 9, the longitudinal facade of the sacred tent 7, its transverse facade 8, the covering of the sacred tent 7 and the roof cover of the sacred tent 7. Among the modules, 2*S* is the most common. It appears in 17 analyses. The others follow in noticeably smaller proportions: 1*S* seven times, 3*S* and 10*S* four times, 2*P* three times, then 6*S*, 5*S*, 4*S*, 20*P*, 10*F* and 6*F* twice and 100*S*, 50*P*, 5*P*, 4*P* and 1*P* once.

5 The Old Testament system of measures of length consists of the following units and their interrelationships. The basic unit is the cubit (*C*). It consists of two spans (*S*). Each span is divided into three palms (*P*) and each palm is further divided into four fingers (*F*) (Powell 1992, 899–908).

6 Double square.

The presence of the auron in the Jewish portable sanctuary

The available scope of the discussion precludes a more detailed presentation of all the proportional analyses. Further presentation will therefore be limited to only one of the proportions. The chosen ratio is the auron, 3:5. There are at least three reasons for its representativeness, although it does not stand out from the others in terms of persuasiveness: in biblical texts it is written in relation to the most excellent element of the Jewish portable sanctuary – the »ark of the covenant« (Exodus 25:10, 17),[7] proportional analyses confirmed its presence in all the considered parts of the portable sanctuary, and the proportion itself is also an expression of the golden section, the auron, with small whole numbers.

In terms of size, the largest part of the portable sanctuary is the fanum. The 3:5 ratio is present in the fanum with the 20*P* module. A proportional grid calibrated according to it and with cell orientation: longitudinal 3, transverse 5, covers the surface of the fanum with ten cells in the longitudinal direction and three in the transverse direction. The transverse division of such a network corresponds with every other pole of the longitudinal part of the fanum fence (Figure 03).[8]

In the fanum enclosure, the auron is revealed with a ten times smaller module.[9] A proportional grid calibrated according to it, whose cells are oriented: horizontally 3, vertically 5, divides the surface of the enclosure

7 »And they shall make an arc of shittim wood: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof, and a cubit and a half the height thereof! [...] And thou shalt make a mercy seat of pure gold: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof!«

8 We place the diagonal *d1* of the considered proportion in the corner of the fanum *O1*. The diagonal intersects the opposite longitudinal edge of the fanum at point *O2*. The horizontal *H1* placed here determines point *O3* on the opposite edge of the fanum and with it also the position of the next diagonal *d2*, its intersection with the edge of the fanum *O4* and the horizontal *H2* drawn through it. The latter defines point *O5* on the longitudinal edge of the fanum. We place a new diagonal *d3* on it, with which we determine point *O6* on the opposite edge, and with it also the position of the horizontal *H3*. Its intersection with the opposite edge at point *O7* determines the position of the last diagonal *d4*. It intersects the transverse edge of the fanum at point *O8*, through which we draw the vertical *V1*. Diagonals *d1, d2* and *d3* determine the intersections *P1, P2* and *P3*, through which we draw horizontals *H4, H5* and *H6*. We continue the analysis by placing the diagonal *d1'* at the corner 01' which is diagonally opposite the starting point. The diagonal intersects the horizontal *H3* at point *P4*, through which we draw the vertical *V2*. The intersections of this vertical with the other diagonals, *P5, P6* and *P7*, determine the positions of the missing horizontals of the proportional grid.

9 Two palms.

into three parts by height, while its vertical division in the rhythm of five cells corresponds with all the pillars of the fence (Figure 04).[10]

The auron proportion covers the floor of the tabernacle with only two cells, oriented longitudinally 5 and transversely 3. The size of the cell is determined by module 6*S*. The transverse that delimits the cells corresponds to the joint of the tenth panel of the tent frame with the eleventh.[11] Note that the outer edge of the extended grid for the half-field in the longitudinal direction corresponds with the lower edge of the obliquely tensioned roof covering (Figure 05).

In the proportional analysis of the longitudinal facade, the auron proportion appears with module 4*S*. According to it, the calibrated grid with cell orientation: horizontal 3, vertical 5, covers the format of the facade area with a total of five cells. Its vertical division corresponds with the joints of the fourth with the fifth panel, the eighth with the ninth, the twelfth with the thirteenth and the sixteenth with the seventeenth (Figure 06).[12]

A half module[13] shows the presence of the golden section on the transverse facade of the sanctuary. A grid with cell orientation: horizontal 3, vertical 5, covers the facade surface with three cells in the horizontal direction and two in the vertical direction, while its vertical division corresponds to the

10 We place the proportional diagonal *d1* in the corner of the transverse fence of the fanum *O1*. The diagonal intersects the upper edge of the considered surface at point *O2*, where we can place the first vertical of the proportional grid *V1*. This defines a new point *O3* on the opposite edge of the fence. We continue the division along the horizontal edge of the plane in the described manner. The last diagonal *d17* intersects the vertical edge of the plane at point *O34*. At point *O34*, we draw the horizontal line *H1*. This intersects the drawn diagonals at points *P1, P2, P3*, ... and P*16*. Through them we draw new verticals of the proportional grid. We repeat the described way of dividing the area of the fence in question by placing the diagonal *d1'* at the corner *O1'*, which is diagonally opposite the starting point. Diagonal *d1'* drawn through this point intersects vertical *V16* at point *P17,* through which we draw another horizontal *H2*. This determines a new set of intersections with the diagonals (*d1* to *d17*), and with them also the positions of the missing verticals of the proportional grid.

11 We begin the proportional analysis of the floor plan of sacred tent by placing the proportional diagonal *d1* in the corner *O1*. The diagonal intersects the longitudinal edge of the sanctuary opposite the corner at point *O2*, through which we draw the horizontal *H1*. Thus, we get a new intersection with the longitudinal side on the opposite side *O3*. We draw a diagonal *d2* through it. It ends exactly at the starting point diagonally opposite corner *O4*.

12 We place the proportional diagonal *d1* in the lower left corner of the facade *O1*. The diagonal intersects the upper edge of the facade at point *O2*. Through it we draw the vertical *V1*, which intersects the lower edge of the facade at point *O3*. We repeat the described procedure four more times. The last diagonal *dz* ends exactly in the upper left corner *Oz* of the facade.

13 Two spans.

joints of the second panel with the third and the fourth with the fifth (Figure 07).[14]

Proportional analysis of the covering shows the presence of the golden section in the format of the set. It is revealed by module 4*S*, which has already been encountered in the analysis of the longitudinal facade. The proportional grid designed in this way with cell orientation: horizontal 3, vertical 5, covers the format of the connecting area with seven cells in the horizontal direction and three in the vertical direction. Note that the offsets of the horizontal subdivisions of the grid away from the joints between the carpets are the same size as the overlap between the set of carpets (Figure 08).[15]

The six times smaller module[16] shows the auron proportion in the roof covering. The proportional grid designed according to this module with cell orientation: horizontal 5, vertical 3, covers the roof covering format with eighteen cells in the horizontal direction and thirty-two cells in the vertical direction. The horizontal division of this rather dense mesh is captured by the entire internal structure of the roof covering (Figure 09).[17]

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14 We place the proportional diagonal *d1* in the lower left corner of the facade *O1*. The diagonal intersects the upper edge of the facade at point *O2*. Through it we draw the vertical *V1*, which intersects the lower edge of the facade at point *O3*. We draw a diagonal *d2* through it. It intersects the vertical edge of the facade at point *O4*, through which we draw the horizontal line *H1*. It intersects diagonal *d1* at point *P1*, the position of the last vertical of the proportional grid.

15 We place the diagonal *d1* of the considered proportion in the corner of the set of carpets *O1*. The diagonal intersects the opposite edge of the set of carpets at point *O2*. We place the vertical *V1* through it, which defines a new intersection *O3* opposite this intersection. We place a new diagonal *d2* at it, which determines the intersection *O4* on the opposite edge, in which we place the vertical *V2*. In the same way, we place the diagonal *d1'* in the starting point of the analysis, the diagonally opposite corner of the set of carpets *O1'*. It intersects the vertical *V2* at point *P1* and the opposite edge at point *O5*. Through the first we draw the horizontal *H1*, and through the second the vertical *V3*. The horizontal *H1* intersects both the diagonal *d2* at point *P2* and the diagonal *d1* at point *P3*. We place the new verticals *V4* and *V5* in them. The vertical *V3* intersects the diagonal *d2* at point *P4*, through which we draw the horizontal *H2*. The latter, with the diagonal *d1*, determines the last intersection of the proportional grid *P5*, through which we draw the vertical *V6*.

16 Two palms.

17 The proportional diagonal *d1* is drawn through the corner of the roof covering *O1*. The diagonal intersects the opposite edge of the covering at point *O2*. We place the first horizontal *H1* at the point and determine with it the intersection with the opposite edge *O3*. At the resulting intersection, we place the diagonal *d2*, which intersects the edge of the roof covering at point *O4*. Here we place the vertical *V1*. It intersects the diagonal *d1* at point *P1*, through which we place the horizontal *H2*. The procedure described so far is repeated, except that we take the corner of the roof covering *O1'* diagonally opposite the starting corner as the starting point. The diagonal *d1'* placed in it intersects the vertical *V1* at point *P2*. The horizontal line *H3* is drawn through it. This determines the intersection of *P3* with the diagonal *d2*. The vertical *V2* drawn through this point intersects the diagonal *d1* at point *P4*, where the horizontal H4 is placed. The same vertical also intersects the diagonal

At least three conclusions can be drawn from the refined set of compositional analyses with the presented criteria:

1. Musical proportions are not just some sort of by-product or curiosity of the defined measurements of the most important parts of the Jewish portable sanctuary, but regulate almost all of its essential design features.

2. The presence of a whole set of musical proportions in the compositional subcutaneous of the Jewish portable sanctuary can be confirmed. The compositional analysis confirmed the convincing presence of proportions of 1:1, 2:3, 3:5 and 1:2 in all the considered parts of the sanctuary. The presence of the proportion 4:7 is confirmed to the smallest extent, since it only appears in the analysis of the set of carpets of the covering of the sacred tent.

3. The degree of presence of musical proportions in the composition of the Jewish portable sanctuary is balanced, to the extent that none of the proportions stand out among the others due to their presence to such

d1' at point *P5*. It determines the horizontal position of *H5*. The construction of the proportional grid is continued by placing a new diagonal *d2'* in the intersection point *O3'* determined by the horizontal *H2* and the edge of the covering. The diagonal defines two new intersections: *P6* with the vertical *V2* and *O4'* with the edge of the roof covering. The intersection *P6*, through which the horizontal *H6* is drawn, intersects the diagonal *d1* at point *P7*. We place a new vertical *V3* in it. The vertical *V1'* placed at the intersection point *O4'* also determines two intersections: *P8* with diagonal *d1* and *P9* with diagonal *d2*. Horizontal *H7* in the first and horizontal *H8* in the second. We continue with the proportional analysis with the placement of the mirrored diagonal *d1 - d1zr* in the starting opposite corner of the cover *O5*. It defines as many as four new intersections. The first *P10* with diagonal *d2'*, the second *P11* with diagonal *d1*, the third *P12* with vertical *V3* and the fourth *P13* with diagonal *d1'*. The horizontal *H9* placed through the intersection point *P10* intersects the diagonal *d1* at point *P14* and thus allows the vertical *V4* to be drawn through it. The horizontal *H10* placed through point *P11* intersects the diagonal *d2'* at point *P15* and thus allows the vertical *V5* to be drawn through it. The horizontal *H11* drawn through point *P12* intersects both the diagonal *d1* at point *P16*, through which the vertical *V6* is drawn, and the diagonal *d2'* at point *P17*, through which the vertical *V7* is drawn. Through point *P13* are drawn both the horizontal *H12* and the vertical *V8*, which determines the intersection of *P18* with the diagonal *d1*, through which the horizontal *H13* is drawn. Vertical *V4* intersects diagonal *d2'* at point *P19*. The horizontal line *H14* is drawn through it. The same vertical also intersects diagonal *d1'* at point *P20*; The horizontal *H15* is drawn through it; and diagonal *d2* at point *P21*, which simultaneously determines the position of horizontal *H16*. Vertical *V5* defines four intersections with the diagonals drawn: with diagonal *d2* at point *P22*, with diagonal *d1'* at point *P23*, with diagonal *d1* at point *P24* and with diagonal *d1zr* at point *P25*. Horizontals *H17, H18, H19* and *H20* are drawn through the listed points. Vertical *V6* defines two new intersections with diagonals: with diagonal *d2* at point *P26* and with diagonal *d2'* at point *P27*. The horizontal lines *H21* and *H22* are drawn through the two points. The horizontal *H16* intersects the diagonal *d1'* at point *P28*, through which the vertical *V9* is drawn. It intersects both diagonal *d2* at point *P29* and diagonal *d1* at point *P30*. The horizontals *H23* and *H24* are drawn thorough the two points. The horizontal *H17* intersects the diagonal *d1'* at point *P31*. Vertical *V10* is drawn through it. It intersects the diagonal *d1zr* at point *P32*, and the position of the horizontal *H25*, which determines with the diagonal *d1* the last intersection *P33*, necessary to complete the proportional grid.

an extent that it could be called the leading compositional principle of the considered architecture.

The compositional diversity raises the question of the quality of the architectural work composed in this way. An astute researcher and connoisseur of the nature of works of art, Roman Ingarden, cites among the necessary features of an architectural work the requirement that the spatial form it embodies »is such that the principle of its building can be seen in it« (Ingarden 1980, 186). According to him, the composition of the holy tabernacle, if it is to be a superior work of art, should be governed by only one compositional key. So how should we understand the balanced presence of musical proportions in the architecture of the holy tabernacle?

The aliquot principle in the composition of the Jewish portable sanctuary

The answer to the question is to be found in the specific nature of musical proportions. It appears when comparing the proportional grids of the considered proportions, which are the result of compositional analyses of individual parts of the portable sanctuary. Specifically, when such a group of proportional grids is »stacked« one on top of the other, we find that some of them fit exactly in certain places. It is an obvious internal mutual harmony of proportions, the inherent inter-compatibility of musical proportions. This is to be expected, since musical proportions are originally derived from the logic of the oscillation of a variously divided tensioned string. In order to make it easier to understand the principle of inter-compatibility in the family of musical proportions, they are presented separately graphically with a waveform on an axis of uniform length (Figure 10). The wave presentation of a single proportion shows two key characteristics. The first determines the intersection of the wave with its axis. Since it is a logic of oscillation, the point in question can be called the »point of calm« or node. The long characteristic of a wave is the point at which the wave is farthest from its axis. The latter is called the »extremity point« or antinode. A comparison of the proportions presented in this way shows different moments of their inter-compatibility. Thus, the node of the proportion 5:6 corresponds to the antinode of the proportion 8:9 on the eighth wave and of the proportion 2:3 on the third

wave. Similarly, the node of the proportion 3:4 corresponds to the antinode of the proportion 5:6 on the fifth wave and the proportion 1:2 on the second wave. The position of the node of the proportion 2:3 corresponds to the position of the nodes of the proportion 5:6 between the fourth and fifth waves and the proportion 8:9 between the sixth and seventh waves. The position of the node of the proportion 3:5 corresponds to the position of the node of the proportion 4:5 between the third and fourth waves. The proportion 1:2 shows the richest harmony with the other proportions. Its node corresponds to the nodes of the proportions 3:4 between the second and third waves and the 5:6 between the third and fourth waves. At the same time, it also corresponds to the antinodes of all other proportions; with the proportion 1:1 on the first wave, with the proportion 8:9 on the fifth wave, with the proportion 4:5 on the third wave, with the proportion 2:3 on the second wave, with proportion 3:5 on the third wave and with the proportion 4:7 on the fourth wave. The reason for our attention to the presented inter-compatibility is not so much in the geometric, mathematical or physical »purity« of the phenomenon, although the latter is impressive, but in its effect. The essence of using a certain proportional key in an architectural composition is to pursue a particular effect or character of the composition in which it is used. The demonstrated inter-compatibility in the family of musical proportions shows that their co-presence in the composition, at the level of effect, does not create discrepancies. Quite the opposite. It enriches the characteristic effect in a way that is known in the world of music as the »aliquot« principle. Aliquot tones[18] are almost inaudible consonant tones with a certain basic tone which, together with it, form a sound, a tonal »alloy«. This is crucial to the basic tonal colour (Becker 1957, 156–64). When we try to translate this unique phenomenon from the world of sounds into the architectural language of the discussed topic, the question is appropriate of what is the »basic tone« of the architectural composition of the Jewish portable sanctuary, which is enriched by the musical proportions present in it according to the aliquot principle. The status of the basic tone in the composition under consideration seems to belong to the golden section. From the

18 Also resonant tones, subtones, partial tones, higher harmonic tones. Aliquot tones were discovered by Marin Mersenne (1588–1648).

logic of the first and second Fibonacci number series,[19] namely, we know that the proportions 1:1, 1:2, 2:3, 3:5, 3:4 and 4:7 are different expressions (approximations) of the golden ratio with small whole numbers.

To conclude; the writers and redactors of biblical descriptions of the Jewish portable sanctuary, be it mere fiction or real architecture, were aware that an important, if not essential, feature of a complete work of art worthy of divine authorship is its imaginative composition. The golden ratio was chosen as its »basic tone« as a kind of beauty matrix, the principle of all creation expressed through numbers. It is written into the composition of the holy tabernacle with the entire spectrum of musical proportions, with the obvious intention of bringing it to life in all its richness and harmoniously tuned variety. The way in which excellence is shown to be woven into the text of Exodus shows the virtuosity of the priestly elite of that time, who were aware that knowledge of how to approach the quality of transcendent beauty in the coordinates of this world can be safeguarded only if it is woven into sacred texts that are untouchable for the majority.

Discussion

The discussion showed the depth and variety of the presence of musical proportions in the underlying tissue of the Jewish portable sanctuary. The established inter-compatibility, which can be discerned in the compositional analysis in the partial mutual matching of the proportional grids, can serve the further research of this architecture towards resolving the textual ambiguities of the biblical descriptions of the portable sanctuary's architectural image, since in a perfect architectural work of art, the author of which is Yahweh himself, there can be nothing that would be an expression of vagueness or even arbitrariness. There is no shortage of open questions in this regard; where the interior covering is placed between the holy and the holy of holies, what the floor plan »format«of the holy of holies is, what the structure of the tent's floor is, how the tables for the shewbread and the altar of incense are placed in the holy, what the

19 More on this Debevec 2023, 395.

appearance of the entrance façade is, where the sacrificial altar is, where the laver for the clergy is and what its shape is, what the structure of the anchor ropes of the tent is and the fence of the courtyard, how the tent is placed in the courtyard surrounding it, to name just the most obvious. The directions in which the findings from the research on the architectural features of the Jewish portable sanctuary point are finally a kind of proof that we can, with the wealth of directions for treating biblical texts from theological, philosophical, historical, cultural-historical, sociological, normative, narrative, literary, symbolic and contemplative, to list only those that thought of the Bible immediately bring to mind, also talk about the legitimacy of the architectural layer by which the Bible is also a first-rate architectural theoretical work.

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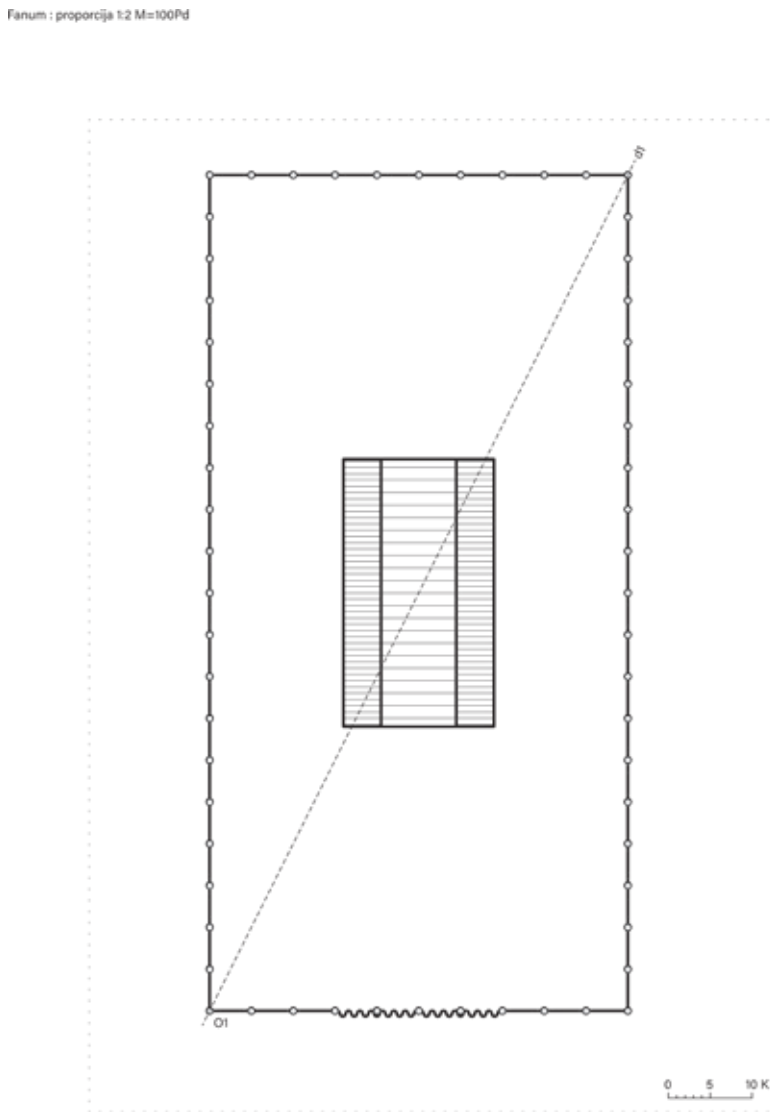

Figure 01: The proportion 1:2 in the fanum of the sanctuary. Module is 100S.

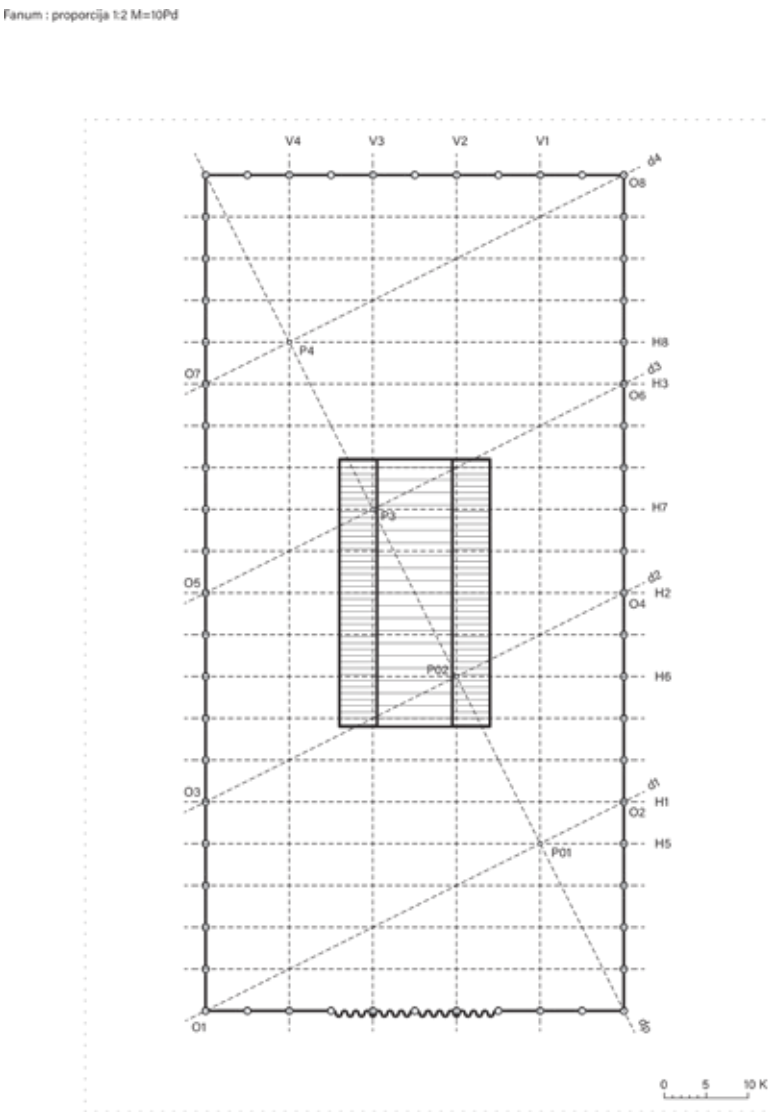

Figure 02: The proportion 1:2 in the fanum of the sanctuary. Module is 10S.

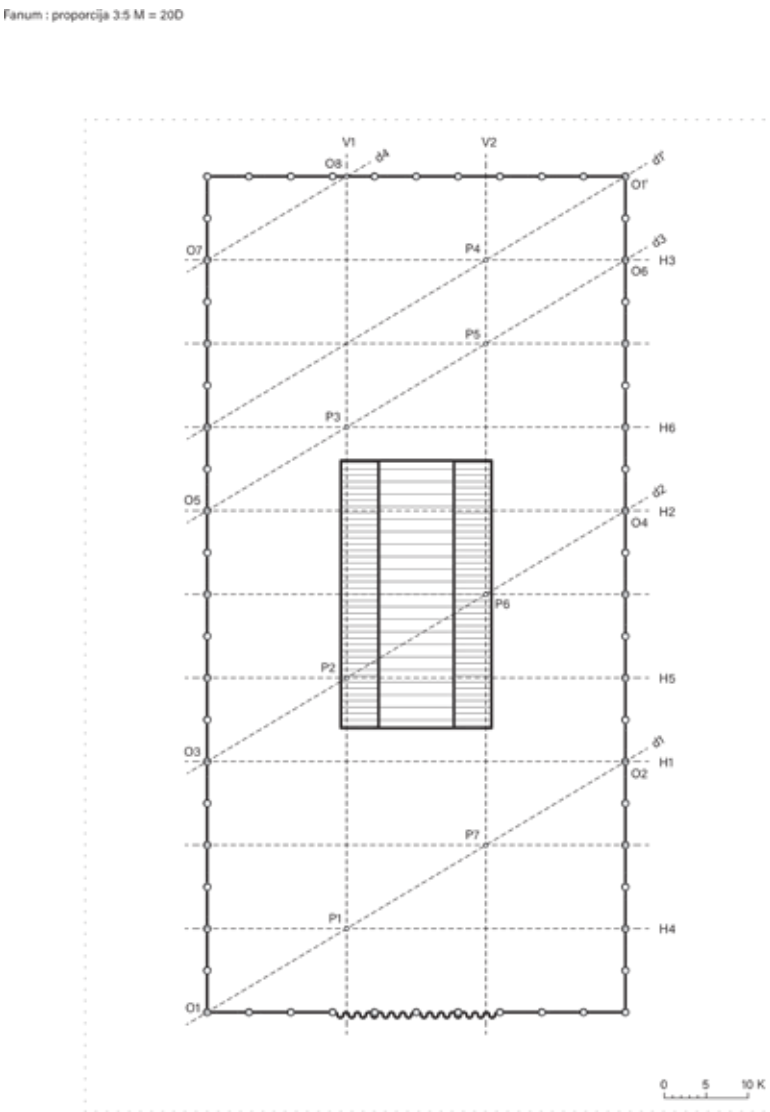

Figure 03: The proportion 3:5 in the fanum of the sanctuary. Module is 20P.

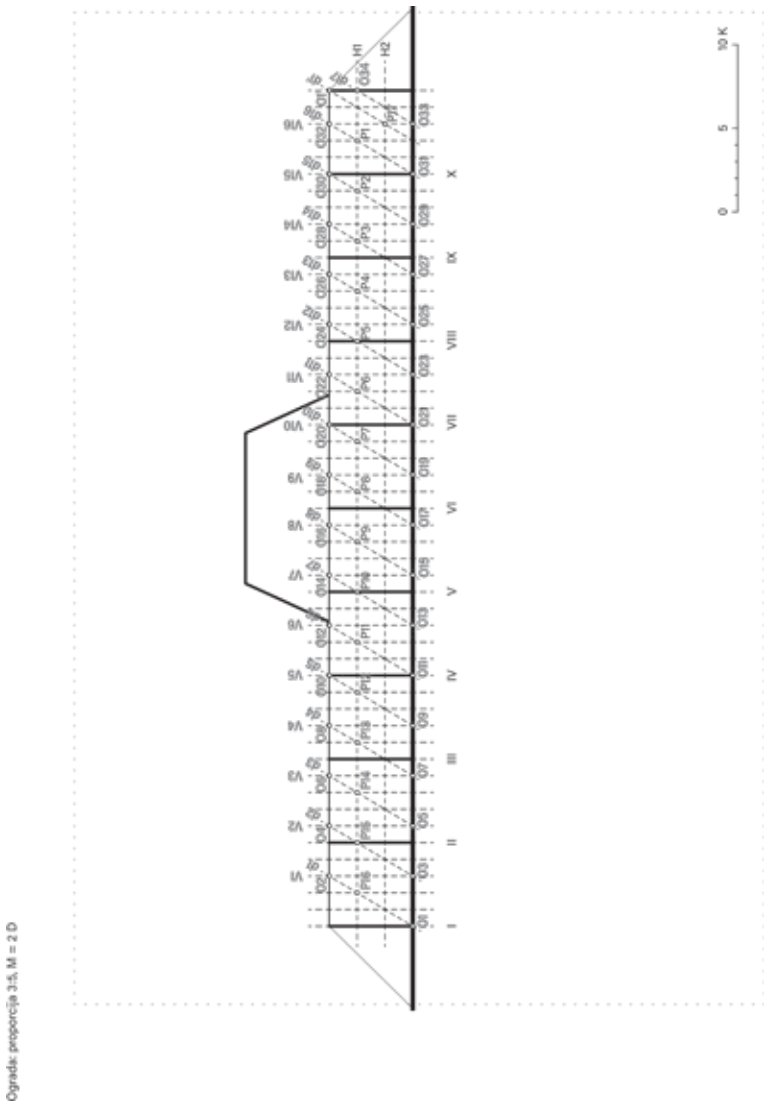

Figure 04: The proportion 3:5 in the fanum enclosure. Module is 2P.

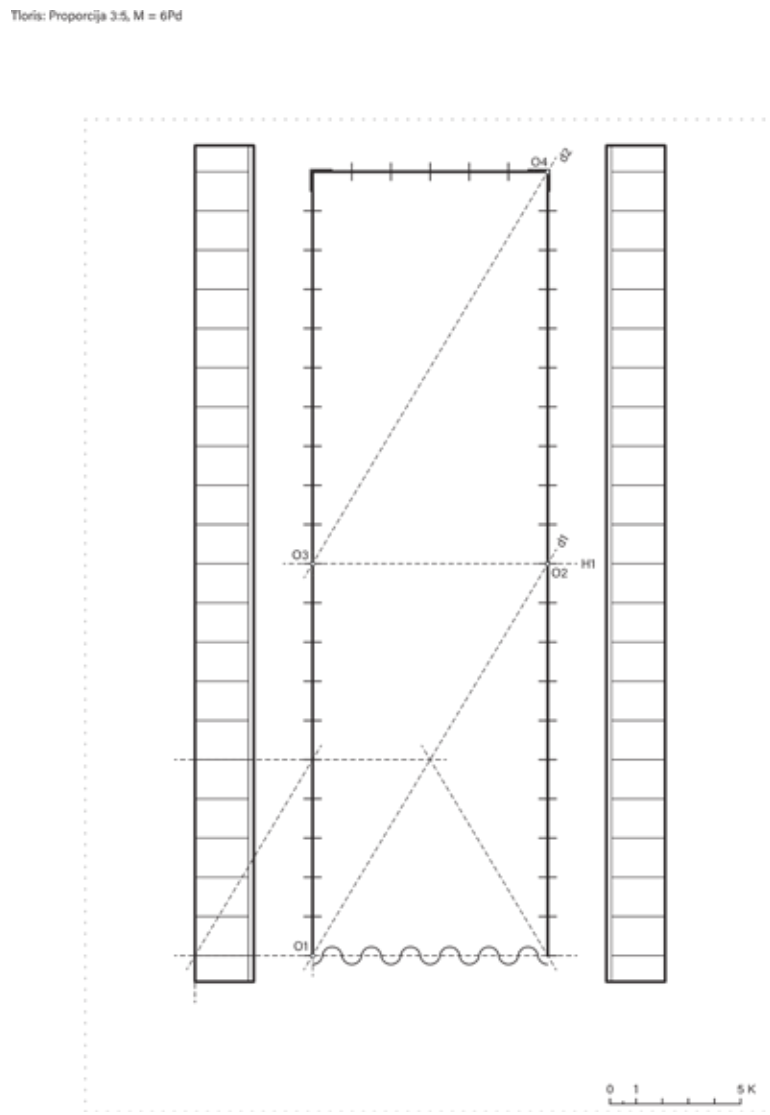

Figure 05: The proportion 3:5 in the ground plan of the holy tabernacle. Module is 6S.

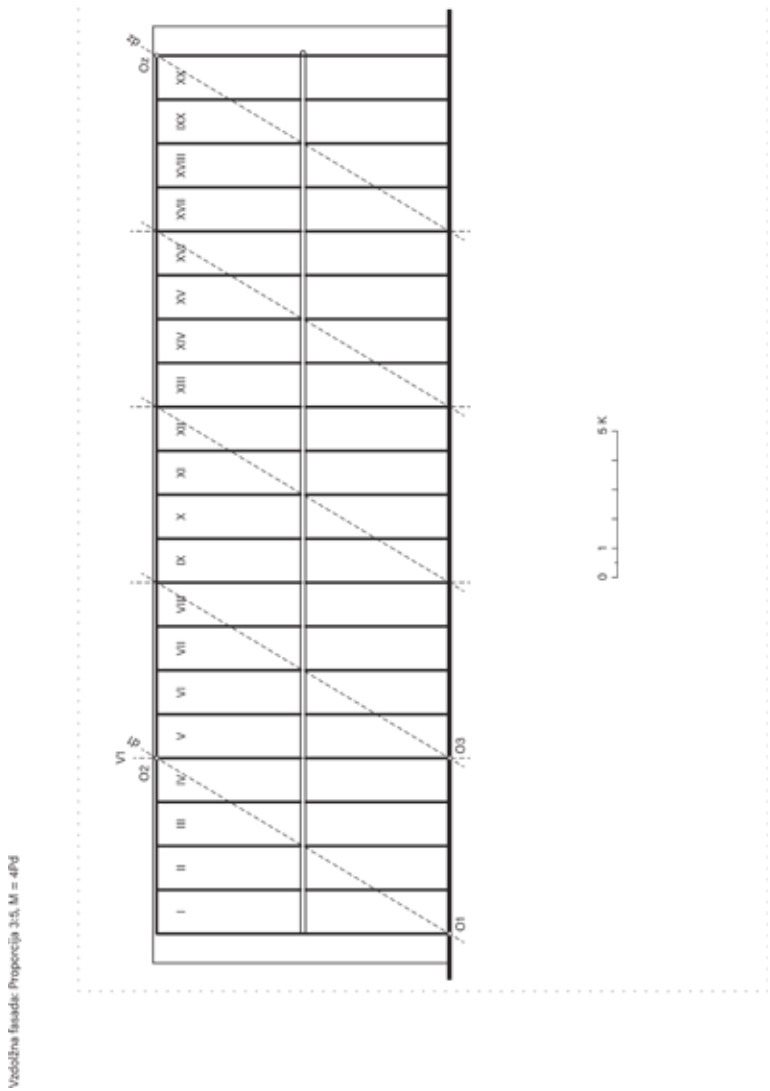

Figure 06: The proportion 3:5 in the longitudinal facade of the holy tabernacle. Module is 4S.

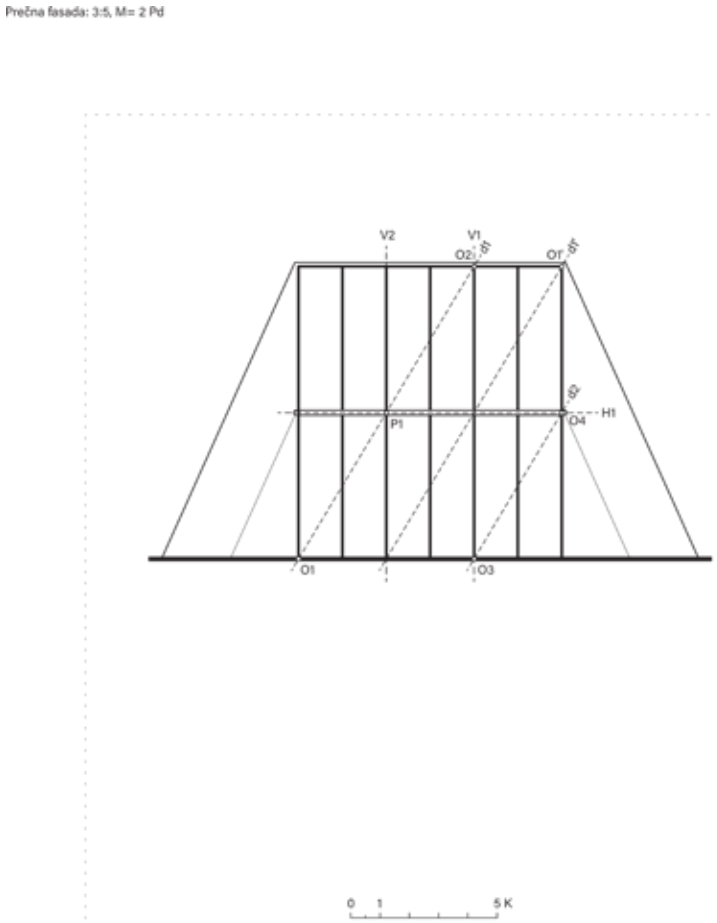

Figure 07: The proportion 3:5 in the transverse facade of the holy tabernacle. Module is 2S.

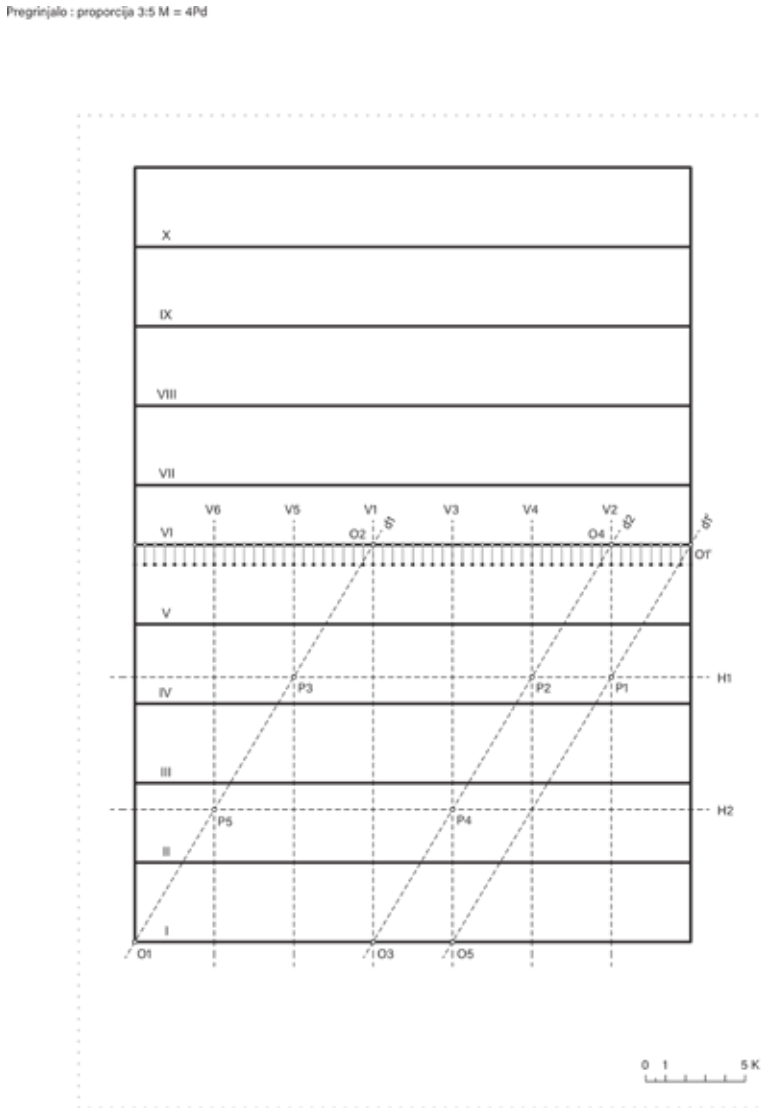

Figure 08: The proportion 3:5 in the covering of the holy tabernacle. Module is 4S.

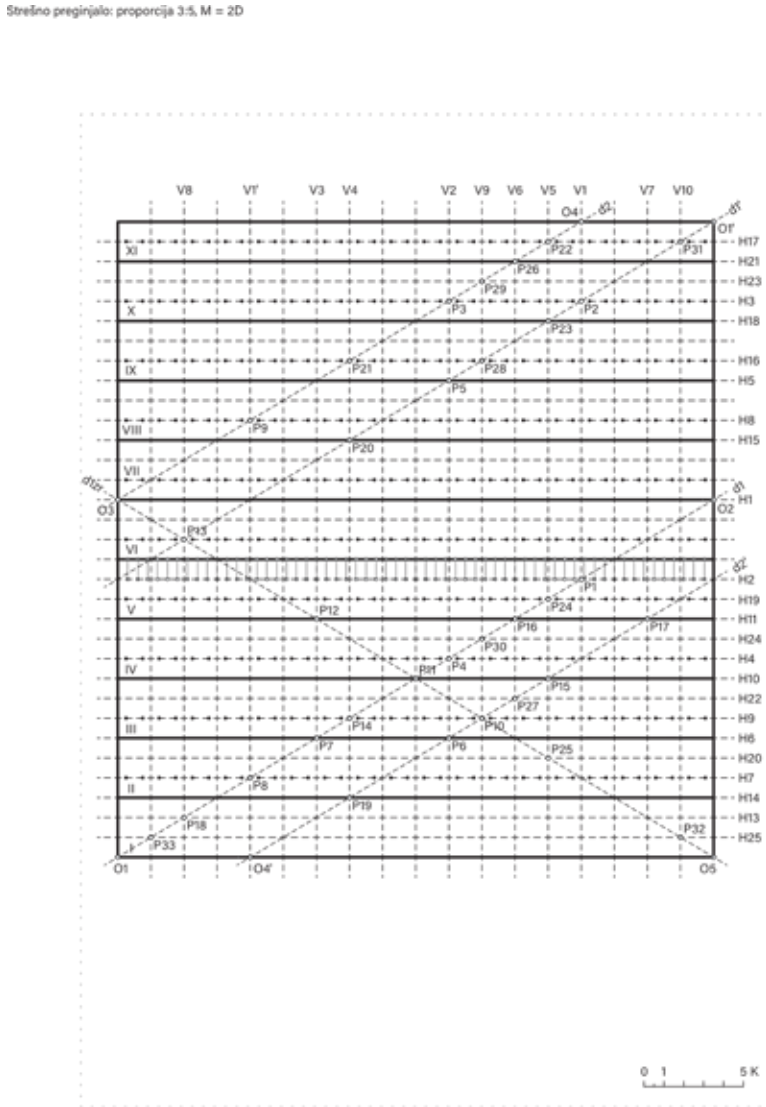

Figure 09: The proportion 3:5 in the roof coverings of the holy tabernacle. Module is 2P.

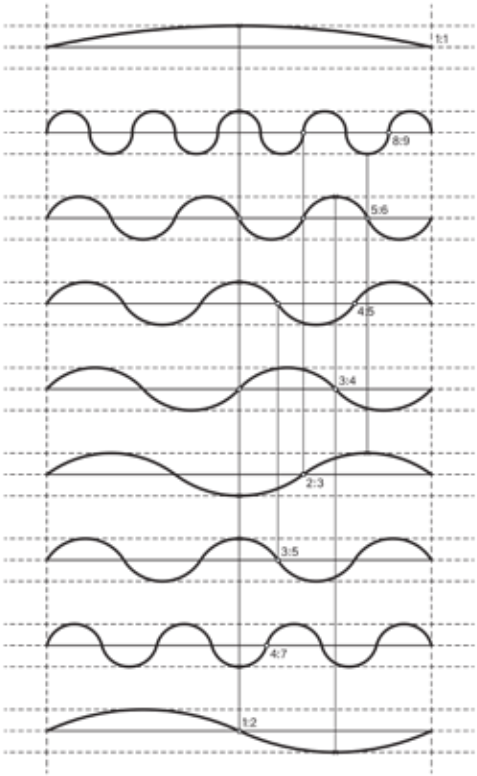

Figure 10: Schematic presentation of mutual correspondence of musical proportions.