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The Deep Structure of the Jewish Portable Sanctuary

Globinska struktura judovskega prenosnega svetišča

Abstract: The architectural image of the Jewish portable sanctuary is the problem framework of the paper. The conviction that the sacred tabernacle, as a work of God, is a complete work of art leads to a search for starting points to discover the uniqueness of its in-depth structure. The research established two: the first is the preparation of an authentic architectural scheme of the Jewish portable sanctuary as a basis for compositional analyses. The second is dictated by the determination of the possible presence of a compositional tools which manifests itself mainly in the use of proportions. The perceptible richness of the presence of almost the entire range of harmonic proportions is revealed in the texts discussed. Their abundance and affinity dispel the suspicion of accidental presence in the underlying tissue of the architectural image of the portable sanctuary. They rather point to the enviable building skills of the priestly elite and their concern to protect this knowledge from the uninitiated.

Keywords: sacred tent, Exodus, Moses, architecture, harmonious proportions, composition

Izvleček: *Problemski okvir prispevka je arhitekturna podoba judovskega prenosnega svetišča. Prepričanje, da je sveti šotor kot božje delo popolna umetnina, vodi k iskanju izhodišč za spoznavanje edinstvenosti njegove globinske strukture. V raziskavi sta vzpostavljeni dve: prvo je priprava verodostojne arhitekturne sheme judovskega prenosnega svetišča kot podlage za kompozicijske analize. Drugo pa narekuje ugotavljanje morebitne navzočnosti kompozicijskega inštrumentarija, ki se kaže predvsem v uporabi proporcij. V obravnavanih besedilih se razkrije presentljivo bogastvo navzočnosti domala celotnega nabora harmoničnih proporcij. Njihovi številnost in sorodnost razblinjata sum o naključni navzočnosti v podkožju arhitekturne podobe prenosnega svetišča. Prej kažeta na zavidljivo stavbarsko znanje duhovniške elite in skrb, kako to znanje obvarovati pred neposvečenimi.*

Ključne besede: *sveti šotor, Exodus, Mojzes, arhitektura, harmonične proporcije, kompozicija*

Introduction

The research of spatial images in biblical texts,[1] so far focused on the study of the Pentateuch, is surprising both for their unexpected frequency and for their richness of meaning (Debevec 2020, 233–253). The unique image of the Jewish sacral complex gradually crystallizes in them. The culminating point of this process can be identified as the most important event of the Moses' story – the conclusion of the Sinai Covenant. The ritual and spatial arrangement of its solemn conclusion goes beyond spatial arrangements previously known to have been used for the individual religious practices of the patriarchs before Moses. (Debevec 2021, 655–668) In the thematic structure of the Pentateuch, it appears as a prelude to the central architectural theme – the Jewish portable sanctuary. As a type of Jewish sacred complex, the portable sanctuary is undoubtedly the architectural crown and icon of the Sinai Covenant, since there is no building in the Pentateuch to which more verses are dedicated than to the sacred portable sanctuary. (Friedman 1992, 292) According to the structure of the text of the second book of Moses, Moses receives instructions from Yahweh to make a portable sanctuary at the same time as he receives the tablets of the law, which is why the real (architectural) expression of the Sinai Covenant can be seen in the sanctuary. An encounter with the biblical descriptions of this sacral complex is an encounter with an enigma, which researchers, both lay and top professionals, have striven to unravel for centuries. Logically, the focus of the majority of research has been in the fields of theology, biblical exegesis, biblical criticism, history and archaeology. There has been noticeably less distinctly architectural research. The basis of the present research is the Jewish portable sanctuary as an architectural work of art. The problem it addresses is therefore whether it is possible to extract compositional framework of the Jewish portable sanctuary from biblical descriptions, what it is and what this means for understanding its architectural form. The problem will be addressed with the help of the descriptive method and the method of literary and compositional analysis, with the aim of shedding light on the starting points for

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further architectural analysis of the in-depth structure of the considered architectural complex.

The Sacred Tent – a work of architectural art

The structure of the texts in which the architectural image of the portable sanctuary (Fig. 1) appears is composed of the following passages from Exodus: Ex 25,1–27,19; 30,1-7.17-19 and 36,8–38,20. Whatever the significance of the theological, ritual and institutional implications that the portable sanctuary brings to the life of the Israelite community on its journey from Egyptian bondage to the Promised Land, one cannot ignore the desire of the writers or editors of the texts to present it as a superb artistic achievement. As befits a work of God, the biblical account presents the portable sanctuary as an architectural masterpiece, both in terms of technical ingenuity, functional efficiency and material exclusivity, and its compositional purity, perfection of design and richness of its symbolic language. We are dealing with a true work of architectural art, which is clear from the very first sentences of the corpus of texts related to the design, appearance and construction of the sanctuary itself. Yahweh himself is the author of the idea. He reveals to Moses the concept of this architecture; from its spatial structuring, design features and scale, to its structural and technical details. The biblical text leaves no doubt about it: »And let them make me a sanctuary; that I may dwell among them. Make this tabernacle and all its furnishings exactly like the pattern I will show you!« (Ex 25,8-9) In order for the construction of the portable sanctuary to optimally approach the perfection of the conception, both in consistency and quality, Yahweh appoints Bezaleel and Aholiab as chief builders (Ex 31,1-6)[2], and their assistants (Ex 31,6)[3]. The substantive identity of Yahweh's instructions as to what the sanctuary should be (Ex 25,10–27,19; 30,1-7.17-18) and the description of its construction (Ex 36,8–38,20) dispel any suspicion of a deviation of the realisation from the conception. This is reiterated at the

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[2] »See, I have called by name Bezaleel the son of Uri, the son of Hur, of the tribe of Judah: And I have filled him with the spirit of God, in wisdom, and in understanding, and in knowledge, and in all manner of workmanship […] And, behold, I have given with him Aholiab, the son of Ahisamach, of the tribe of Dan.«

[3] »And in the hearts of all that are wise hearted I have put wisdom, that they may make all that I have commanded thee.«

end of the description of the construction of the sanctuary: »According to all that the Lord commanded Moses, so the children of Israel made all the work. And Moses did look upon all the work, and, behold, they had done it as the Lord had commanded, even so had they done it: and Moses blessed them.« (Ex 39,42-43) The authorship of the portable sanctuary, anchored in a transcendent reality, justifies and establishes perfection as the unprecedented quality of its architectural image. This exclusivity is the necessary foundation of any attempt to clarify the ambiguity of the biblical texts about the architecture in question.

The essential peculiarity of this architectural work of art is that it is the result of an artistic articulation in which matter is transformed from its original form and given a new, imagined and thus »semanticized« form.[4] This process is coordinated by a deep structure, a unique feature of the (architectural) work of art. This dimension, superior to formalism and semanticism, in which content as »interiority« and artistic formality as »the exterior of this interiority« mutually determine and inspire each other (Muhovič 2018, 22), is also manifested in the present case as a field worthy of deeper attention. Roman Ingarden calls this coordinating mechanism, characteristic of architectural art, the »artistic composition of the work«, by which the artist wants to »realise in the work of art this or that aesthetic quality of value – both in the form of the spatial bodies themselves and in the appearances that they denote« (Ingarden 1980, 195). Composing is therefore a process characteristic of artistic creation by which (in architecture) the creator determines the interrelationships of size, function and form between the parts that make up the planned architecture, in order to achieve convincing aesthetic effects and, of particular interest for the present discussion, the point or state of its crystallisation into a »composition« – the »formal skeleton«[5] of the architectural work of art. The creator can rely solely on his own judgement to compose an architectural work, or he can use various tools for organising the work of art that have been tried and tested in the history of architectural creation. The most important characteristic and quality of the latter is the almost universal validity

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4   More on this: Muhovič 2015, 243–250.

5   More on this: Muhovič 2015, 352.

of the uniqueness of their effect on the experiencer. These principles of organising a work of art are called proportions.[6]

Basis for drawing up a scheme for a portable sanctuary

The delineation of this architecture is an irreplaceable basis for the compositional analysis of the Jewish portable sanctuary. The biblical description requires an abstraction of the architectural image of the sanctuary, with the aim of reducing the possibility of false assumptions as much as possible. From the texts under discussion, the following indisputable characteristics of the temple complex can be extracted, and from those, it is possible to draw up a spatial scheme for this architectural work.

The first of these is the format of the courtyard in which the tent of meeting stands. Yahweh instructs Moses: »The length of the court shall be an hundred cubits, and the breadth fifty every where, and the height five cubits of fine twined linen.« (Ex 27,18) Height here refers to the fence enclosing the yard.
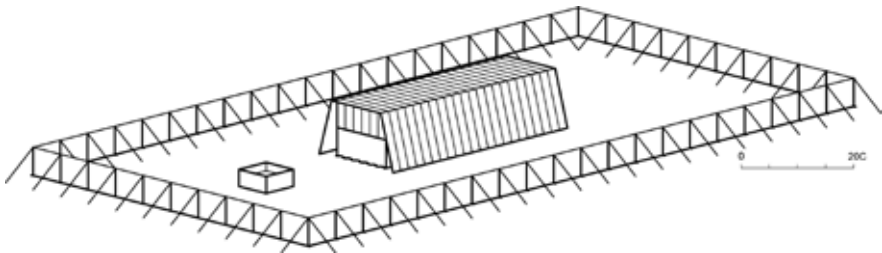
Figure 1   Spatial drawing of the portable sanctuary.

The height of the tent is equally unambiguous. It is determined by the height of the gilded acacia wood panels that make up its lining: »Ten cubits shall be the length of a board, and a cubit and a half shall be the breadth

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6   Lat. *Proportio*. The principle of correlation of two quantities in which the ratio between individual parts of the whole is equal to the ratio of the individual part to the whole to which it belongs.

of one board.« (Ex 26,16) There is no explicit reference in the text to the length and width of the tent. We can infer them from the instructions on how many panels make up each side, but even in this case without complete certainty: »And thou shalt make the boards for the tabernacle, twenty boards on the south side southward. [...] And for the sides of the tabernacle westward thou shalt make six boards. And two boards shalt thou make for the corners of the tabernacle in the two sides.« (Ex 26,18-23) There are two ambiguities affecting the length and width of the tent. The first relates to the way the panels are connected to each other. There are two options. The panels can stand flush against one another (Figure 2) or by overlapping arrangement (Figure 3). In the first case, the length and width of the tent are multiples of the given panel width (one and a half cubits), but in the case of folding panels, the dimensions in question remain pure speculation. Another ambiguity concerns the way in which the two specially designed corner panels are integrated into the tent's lining. Again, there are at least two possibilities. The corner panel can be stacked across the junction of the longitudinal panel and the transverse panel (Figure 4). In this case, it merely reinforces the corner and contributes to the orthogonality of the floor plan but its shape does not affect the length and width of the tent. Alternatively, it can be inserted between the longitudinal and transverse wall panels (Figure 5), its shape modifying the two dimensions in question. A description of the format of the carpets that make up the mat is a valuable aid in resolving the presented dilemmas. The carpet is most effective as a structural element to ensure the stability of the tent if its longer side is stretched across the panel walls. Assuming that the panels of the wooden lining meet each other with their side panels and that the back wall of the sanctuary is made up of six panels, the developed length of the cross-section of the tent, which is to be covered with a mat, is twenty-nine cubits. The difference of one cubit resulting from a twenty-eight-cubit-long carpet seems reasonable, since it allows the mat to be stretched to ensure the stability of the tent structure in the transverse direction. On the basis of the above, it is possible to draw a diagram of a Jewish portable sanctuary for the purposes of compositional analysis (Figure 6). The diagram does not include the position of the pillar partition between the Holy and the Holy of Holies, since the texts under discussion tell us nothing about it, nor, for the same reason, the positions, with the exception of the wash basin, of the elements of the sanctuary that are otherwise unambiguously described in terms of their dimensions: the

ark of the covenant, the table of shewbread, the incense altar in the tent itself, as well as the altar for sacrificial offerings in front of it. The layout of the sanctuary scheme is such that the lines of the cut elements, either on the ground plan or in sections, define their axes, while the lines of the elements in different views define their edges.
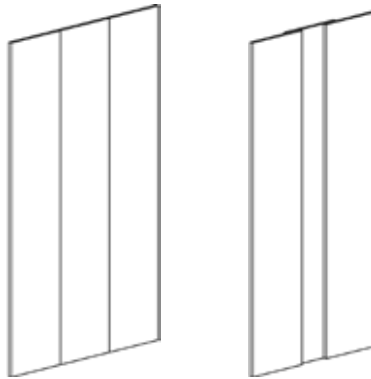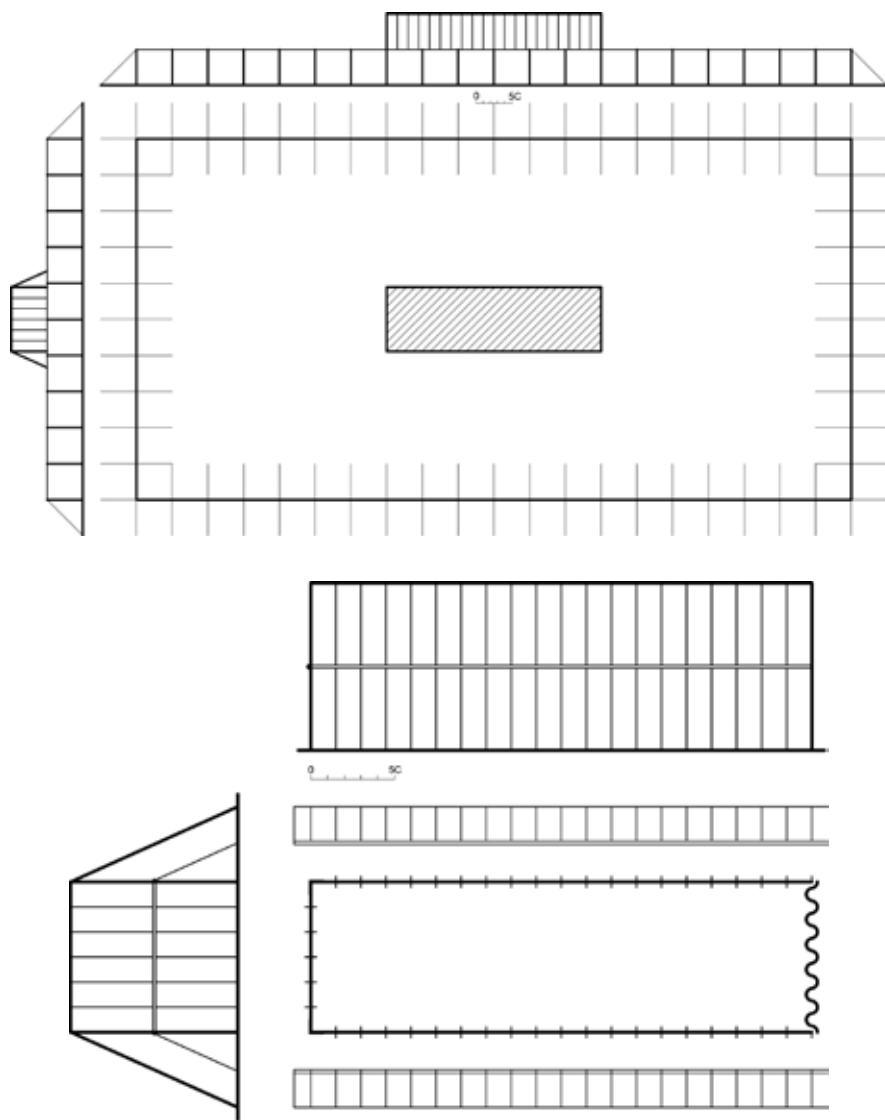

Figure 2   The panels meet at their longer edges.
Figure 3   Panels are assembled by folding.
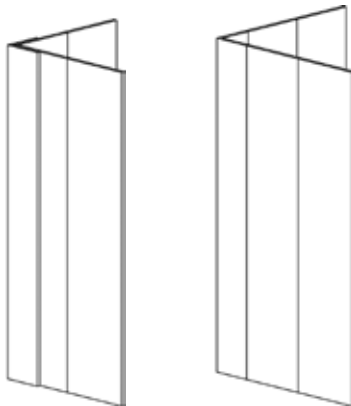
Figure 4   The corner »two-piece« panel covers the junction
                 of the longitudinal and transverse panels.
Figure 5   The corner panel is inserted in the plane of the
   tent's lining.

**Figure 6**   Scheme of the Jewish portable sanctuary.

»Entry points« into the formal underlying tissue of the Jewish portable sanctuary

Among the effective tools that have been developed in the field of architectural theory for unravelling the in-depth structure of an architectural work is compositional analysis. Its objective basis is the plan of the architectural work – a systematically arranged system of two- and three-dimensional graphic representations (floor plan, section, view, axonometry). The plan has an even more abstract essence in dimensions, i.e. in numbers, either of individual elements or of spatial parts or the whole. In the discussed biblical texts, we encounter the Old Testament system of measures of length. It consists of the following units and their interrelationships. The basic unit is the cubit (C) (Figure 7). 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)
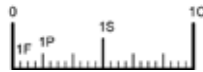
Figure 7 Structure of the Old Testament system of length measurements.

The description of the portable sanctuary, given the nature of biblical texts, is unusually rich in dimensional data. A closer inspection of the description shows some elements which, unlike the others, are dimensionally described by all three characteristics, length (l), width (w) and height (h). It is significant that the elements described in this way are at the same time the most theologically, ritually and symbolically important elements of the sacral complex under consideration. The Ark of the Covenant (Heb. *'arôn ha-'edût.*) is the first in this series. It is shaped like a prism, supported by four legs. Yahweh instructs Moses: »And they shall make an ark 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.« (Ex 25,10) The next element is the table of shewbread (Heb. *shulhan happānîm*). Yahweh's instructions are similar: »Thou shalt also make a table of shittim wood: two cubits shall be the length thereof, and a cubit the breadth thereof, and a cubit and a half the height thereof.« (Ex 25,23) Latter is followed by the incense altar. It is not mentioned
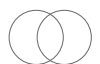
in Yahweh's instructions but is mentioned in the description of its manu-facture. Shaped like an upright prism, it measured one cubit in length, one cubit in breadth and two cubits in height (Ex 37,25-28). The altar for sacri-ficial offerings (*mizbah hā'ōlâ*), or brazen altar, completes the set. Again, it is a prismatic shape. Yahweh instructs: »And thou shalt make an altar of shittim wood, five cubits long, and five cubits broad; the altar shall be foursquare: and the height thereof shall be three cubits.« (Ex 27,1-8) The dimensions of the elements presented are, at first sight, nothing special. In our search for entry points into compositional analysis, they become interesting when we take as their notation the unit *1S* (half a cubit), which is already present in the descriptions of the dimensions of the elements under consideration. A transcription of the dimensions shows the fol-lowing values:

Ark of the Covenant: *l:* 5, *w:* 3, *h*: 3 (Figure 8)

Table of shewbread: *l:* 4, *w:* 2, *h*: 3 (Figure 9)

Incense altar: *l:* 2, *w:* 2, *h*: 4 (Figure 10)

Altar of burnt offerings: *l:* 10, *w:* 10, *h*: 6 (Figure 11)

Figure 8   Compositional scheme of the Ark of the Covenant.
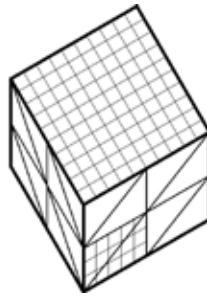*M=1S* (*1/2C*), proportions 3 : 5 and 1 : 1.

Figure 9   Compositional scheme of the table for sacramental bread, shewbread. *M=1S*, proportions 1 : 2, 2 : 3 and 3 : 4.

Figure 10 Compositional scheme of the incense altar. *M=1S*, proportions 1 : 1 and 1 : 2.

Figure 11 Compositional scheme of the altar for sacrificial offerings. *M=1S*, proportions 1 : 1 and 3 : 5.

As can be seen from the column above: the Ark of the Covenant consists of lower, upper, front and back panels in the ratio 3 : 5 and the two side panels in the ratio 3 : 3, which is the same as 1 : 1; the table of shewbread consists of lower and upper panels in the ratio 2 : 4, which is the same as 1 : 2, front and back panels in the ratio 3 : 4 and two side panels in the ratio 2 : 3; the incense altar has lower and upper panels in the ratio 2 : 2, which is the same as 1 : 1, and front, back and side panels in the ratio 2 : 4, which is the same as 1 : 2; and the altar for sacrificial offerings has lower and upper panels in the ratio 10 : 10, which is the same as 1 : 1, and front, back and side panels in the ratio 6 : 10, which is the same as 3 : 5.[7]

In summary, the dimensions of the most important elements of the Jewish portable sanctuary under consideration reveal the presence of the following ratios: 1 : 1, 1 : 2, 2 : 3, 3 : 4 and 3 : 5. The uniqueness of these ratios is at least twofold.


7   See Figures 8, 9, 10, and 11.

Firstly, that is so because they belong to the family of so-called harmonic or musical proportions. They are known to the Western world thanks to Pythagoras (570 BC–475 BC) and his exploration of sound. He showed that the pitch of a tone produced from a taut string is inversely proportional to its length, and that the intervals between harmonically sounding frequencies can be expressed in simple numerical ratios. This led to the following set of musical proportions: 1 : 1 *prima*, 8 : 9 *secunda*, 5 : 6 *tertia minor*, 4 : 5 *tertia*, 3 : 4 *quarta*, 2 : 3 *quinta*, 3 : 5 *sexta*, 4 : 7 *septima* and 1 : 2 *octava*. Given the exegetes' belief that the priestly redaction of the Pentateuch dates from the middle of the eighth century BC (Milgrom 1992, 459), the presence in these texts of the proportions that Pythagoras is said to have discovered almost three hundred years later seems illogical. On the other hand, scholars of the Greek scholar's life note that Pythagoras, like other Greek thinkers: Thales, Socrates, Plato and Aristotle, studied in Egypt. He is said to have spent twenty-two years there before going to Babylon and returning home at the age of fifty-six. He was in Heliopolis at first, one of the centres of accumulated knowledge at the time (together with Memphis, Hermopolis and Thebes). The local clergy would have first sent him to Memphis, from where he was directed to Thebes, where he studied mathematics, architecture and music. (Strohmeier 1999) Recent historical and archaeological research on the interactions of Old Testament Israel with contemporary Greek culture shows the complexity of the flow of knowledge and services. The intermingling of cultures seems to have left traces in the biblical texts (Römer 2015, 185–203). Last but not least, the education of the members of Israel's royal court and their friends, which certainly included the highest members of the clergy, was strongly influenced by Egypt, at least during the reigns of David and Solomon, who was also married to Pharaoh's daughter (Lemaire 1992, 309). It seems possible that the Jewish clergy had access to the accumulated knowledge of Egyptian, Mesopotamian and Greek cultures.

Another thing that makes the proportions unique is their effect. Although the point of any compositional key is to aid the artist in his endeavour to bring the effect of the emerging work of art closer to the ideal of beauty, harmonious proportions have a special place among them, since harmony, in the words of Philolaus (470–385 BC), is »the fusion of the many and the union of the disjointed« (Sovre 1946). The latter was beautifully explained in musical terminology by the composer Anton Foerster

(1837–1926): »Consonance is an interval, sufficient for the ear, which is free to progress to other intervals; dissonance is an interval, not yet enough for the ear, which requires an untying to the nearest consonance.« (1904, 6) Harmony, in the self-sufficiency of its effect and in the satisfying pleasure that this effect has on the experiencer, plays the role of an aesthetic origin.[8] As such, at the level of man's experience of sense-perceptible reality, it becomes an attribute of the transcendent, of the Divine. We know that this is not an exaggeration thanks to the medieval mathematician, Leonardo Fibonacci (~1170 to ~1250). In his work, *Liber abbaci*, he introduced to the public infinite numerical sequences in which each successive number is the sum of the previous two. The first two sets of numbers are particularly relevant for the present illustration: 1, 1, 2, 3, 5, 8, 13 ... and 1, 3, 4, 7, 11, 18 ... They contain almost all the numbers that make up the family of harmonic proportions. The essential feature of the Fibonacci number sequences is that their numerical relationships are most closely related to the proportion of the golden ratio *(sectio aurea)*.[9] The quotient of any two consecutive numbers of these sets is an approximation to the irrational golden ratio φ. The golden ratio is a kind of convergence matrix of creation because of its ubiquity in nature (from the structure of the human body to the geometry of the plant world). (Muhovič 2015, 854) The following harmonic proportions can be seen in the Fibonacci number sequences: 1 : 1, 1 : 2, 2 : 3, 3 : 5, 3 : 4, and 4 : 7 (Figure 12).
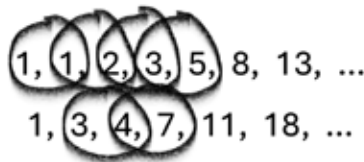

Figure 12   First and second Fibonacci number sequences with harmonic proportions marked.

8   More on this: Tatarkiewicz 1970, 80.

9   Divine proportion. This was the name given to the proportion of the golden section by the scholar of Euclid's works, the Franciscan, Luca Pacioli di Borgo San Sepolcro (1445–1514). It is a proportion in which the ratio of the greater to the lesser part of a whole is equal to the ratio of the whole to the greater part.

The proportions found so far in the dimensional descriptions of the elements of the portable sanctuary from the family of harmonic proportions (five out of a total of nine) raise the question of whether the other dimensional biblical descriptions of this sanctuary can be extracted from the remaining ones. Among the elements of a portable sanctuary, the distinctly flat elements with which it is composed are suitable for such an experiment. Perhaps their flatness is why they are described in the text only in terms of length and width but not in terms of thickness. There are three such elements. According to the logic of construction, the first of these is a wooden panel (Heb. *qěrāšîm*), as an element of the lining of the sanctuary. Regarding it, Yahweh orders: »And thou shalt make boards for the tabernacle of shittim wood standing up. Ten cubits shall be the length of a board, and a cubit and a half shall be the breadth of one board.« (Ex 26,15-16) Expressing the two dimensions in terms of the smallest unit of the measurement system, the finger, we can calculate the following values: *d: 240F, w: 36F*. Selecting a modulus (*M*) of *6F* shows a ratio of 6 : 5 (*tertia minor*), which is repeated exactly eight times along the length of the panel (Figure 13). Transcribing the dimensions with the unit *1S,* as we did for the first group of elements (the Ark of the Covenant, the table of shew bread, the incense altar, and the altar of burnt offerings), the values: *l: 20S, w: 3S* are obtained. Taking as the starting point of the analysis two panels that meet each other with their longer sides, the same proportion is shown, with the panels repeating four times along their length (Figure 14).
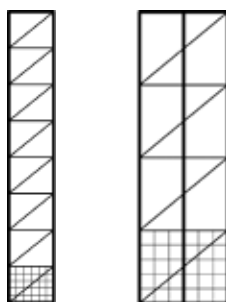

Figure 13   Panel compositional scheme. *M=6F*, proportion 6 : 5.
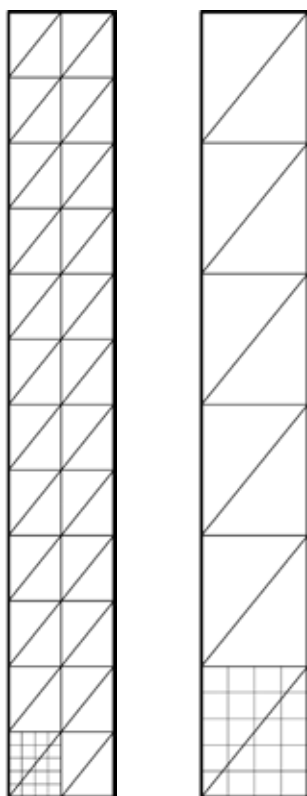**Figure 14**   Panel compositional scheme. *M=1S*, proportion 6 : 5.

The next element is the carpet that makes up the sanctuary's cover. Here again Yahweh is precise: »Moreover, thou shalt make the tabernacle with ten curtains of fine twined linen, and blue, and purple, and scarlet: with cherubims of cunning work shalt thou make them. The length of one curtain shall be eight and twenty cubits, and the breadth of one curtain four cubits: and every one of the curtains shall have one measure.« (Ex 26,1-2) In the dimensions *d*: *28C*, *w*: *4C* is immediately recognisable proportion 4 : 7 *(septima)* with a modulus (*M*) of *1C* and the proportion is repeated four times along the length of the carpet (Figure 15). Transcribing the dimensions based on the unit *1S* yields double the values of *l*: *56S*, *w*: *8S,* resulting in a doubled (finer) structure of 4 : 7. The latter is thus repeated twice along the width of the carpet and eight times along its length (Figure 16).
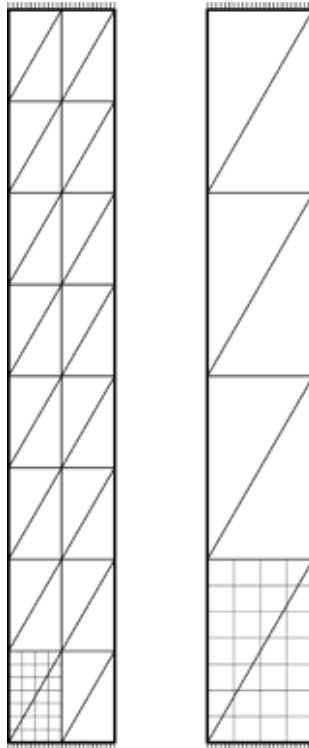
Figure 15 Compositional scheme of the carpet mat. *M=1C*, proportion 4 : 7.

Figure 16 Compositional scheme of the carpet mat. *M=1S*, proportion 4 : 7.

There remains the carpet that forms a three-layer roof. The same instruction applies to a carpet of goats' hair, a carpet of red-dyed rams' skins, and a carpet of tanned skins: »The length of one curtain shall be thirty cubits, and the breadth of one curtain four cubits: and the eleven curtains shall be all of one measure.« (Ex 26,8) In these dimensions: *d*: *30C w*: *4C* reveals a 4 : 5 (*tertia*) ratio, where the modulus (*M*) is *1C* and the ratio is repeated six times along the length of the carpet (Figure 17). Converting the dimensions based on a modulus (*M*) of *1S* gives the values of *l*: *60S*, *w*: *8S* and a similar situation to that of the carpet mat. The proportion is repeated twice along the width of the carpet and twelve times along its length (Figure 18).

Figure 17   Compositional scheme of the roof carpet. *M=1C*, proportion 4 : 5.

Figure 18   Compositional scheme of the roof carpet. *M=1S*, proportion 4 : 5.

From the set of harmonic proportions, the 8 : 9 (*secunda*) proportion remains. Given that all the other proportions define the design features of the most important building blocks of the Jewish portable sanctuary, it seems unusual that the 8 : 9 proportion should be omitted. The special status of the proportion in question is hinted at in the so-called Rhind papyrus,[10] whose author was the Egyptian scribe, Ahmes. The papyrus was created in 1650 BC. On it, Ahmes explains that it is a transcription of a two-hundred-year-old document that deals with the solutions of eighty-seven complex problems in mathematics and geometry. Of interest for the present discussion is a geometric enigma referred to on the papyrus as the »quadrature of a circle«, number 50. The Egyptians solved the otherwise unsolvable problem of how to construct a square with the same area as a given circle using a simple drawing tool, a pair of compasses and a ruler, with surprising precision for practical use. They found that the area of a circle with a diameter of nine units is approximated by the area of a square with a side of eight units, by a relatively small discrepancy.[11] Among the important elements of the sanctuary are two for which there is no dimensional information in the biblical descriptions. The first is the golden candlestick in the Holy of Holies, and the second is the laver for the clergy, placed between the altar for sacrificial offerings and the front of the tabernacle. The text under consideration tells us only that the laver is cast in bronze, and that it is two-part in design, since a bronze stand on which it is placed is mentioned (Ex 38,8).[12] It is a matter of pure speculation to think that the 8 : 9 aspect ratio, due to the very likely circular shape of the basin,[13] would have been incorporated into this element of the shrine. Even more significantly, the proportion in question fits nicely with the format of the front and the rear façade of the tent. If the same procedure is applied as for the compositional analysis of the wooden panel of the lining of the sacred tent and expresses the format of the façade with the smallest measure of the Old Testament system of measurement – the finger – the following values: *w: 216F*, *h: 240F* are obtained. Using the

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10 Alexander Henry Rhind, a Scottish antiquarian, acquired the papyrus in Luxor in 1858.

11 More on this: Peet 1970, 90.

12 »He also made a bronze washbasin with a bronze stand from the mirrors of the women who served at the entrance to the tent.«

13 The laver in Solomon's sanctuary is circular in shape (2 Chron 4:2).

same *6F* module and a 9 : 8 aspect ratio, a grid is obtained that covers the façade without any residue; five times eight modules in height and four times nine modules in width (Figure 19). The proportional schemes of the panels and the façade can be seen as at least partial confirmation of the above reasoning, which was used as a basis for drawing the scheme of the sacral complex in question.
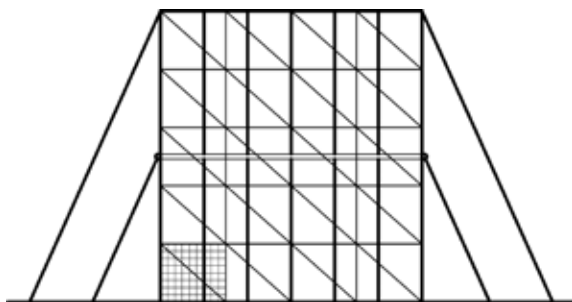
Figure 19   Compositional scheme of the rear facade of the tent. *M=6F*, proportion 9 : 8.

When examining the relevance of the proportional keys for the compositional analysis of the Jewish portable sanctuary, the floor format of the altar for sacrificial offerings, calibrated with a 1 : 1 ratio, with dimensions of ten-by-ten spans, is of interest. Its dimensions resemble the design basis of the Pythagorean rectangle. (Kurent 2002, 55) It is based on a square grid of size ten times ten units with a circle inscribed inside. The peculiarity of the construction is that the circle and underlying grid precisely coincide at eight points. A rectangle drawn through points A, B, C and D breaks up the square so that all the numerical values forming the harmonic proportions can be seen in the resulting grid segments, as well as the sacred triangle with sides 3 : 4 : 5 (Figure 20). The otherwise very frequent presence of the number ten in the corpus of Old Testament texts reflects a semantic continuity linking this number to the perfection of the divine order. (Hunt 1998) The incense altar seems to be a condensed collection, a memory unit of harmonious proportions through which the portable sanctuary as a work of architecture becomes an expression of transcendent beauty and perfection.
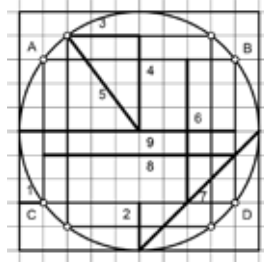
Figure 20   Pythagorean rectangle.

Discussion

The findings presented here justify the consideration of the Jewish porta-
ble sanctuary as an architectural work of art. The search for entry points
or compositional tools to explore its deep structure revealed a surprising
richness of proportions. This forms a complete set of harmonious propor-
tions, thus dispelling the suspicion of their accidental presence in the un-
derlying tissue of the architectural image of the portable sanctuary. These
proportions are characterised by their affinity to the proportion of the
golden section, which makes the sanctuary an even more convincing
expression of the cosmic perfection. The findings raise various questions:
whether the presence of the identified proportions actually explains the ar-
chitectural physiognomy of the portable sanctuary as a whole, or whether
it is an imaginative encoding of architectural wisdom, and to what extent
the possible use of the identified proportions can help resolve the ambi-
guities of the architectural image of the architectural complex in question.
Similarly, the presence of compositional tools in Old Testament biblical
texts, otherwise attributed to the Greek cultural milieu, is intriguing. These
questions suggest possible directions for further exploration of the pro-
blem, with priority being given to testing the extent to which a particular
proportion determines the architectural characteristics of the sacred tent.

In the light of the above, an architectural reading of the biblical texts on the
Jewish Tabernacle becomes more and more like confronting an »archi-
tectural Sudoku« since, although at first glance they give the impressi-
on of considerable incompleteness, they contain, or so it seems, all the

necessary information about its architectural form, if only they can be put in their proper relationships to one another.

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