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MUNARA – manāra, ma'dhana

MINARET – manāra, ma'dhana

MINARET*¹ – manāra, ma'dhana

Abstract

Architecture of minaret belongs to the cultural history of *pre-Islamic* art. The vertical observed in Islam is a semiologically transcendently metaphoric *sign* of the *téhnē* of religious architecture, a gnomon*² – a phenomenon-configural *zodiak* chronometer. The phenomenon of *fizis*-shape is a configural sacral elevation of substance – the immanently articulated purpose in Islam.

It means that it is “multifold and multi-faceted, since communication between God and the World, in the form of revelations, proceeds in the distinctive meaning of this world, which transcends the competence of a successful metaphor”. However, as a tangible being, with the sense of its vertical, it also serves to the muwaqqit to implement the acquired knowledge of the “linear time”, *al-zaman al-dāiri*, (of the role of repeating sequence) to formally *mold the principle* of its purpose. For a theologian, it represents a three-dimensionally indicated concealed *fizis*, a medium expressed in the *language* of architecture which, by harmoniously embedded *basis* – *inner* signs of religion, interprets a helical-spiral movement. External appearance of the minaret, a *reflecting vertical* aligned by constructive segments of *drum-halkas* and *hane-shaft* cannelures, indicates immanent shifts of the exposition of sun rays by embodying the shadow on its stones. The minaret also serves to the muezzin, to use the *call and the word*, the voice of *adhan* from serefe-balcony (by the Qur'anic-canonical *protocol* of religious instruction) to alert believers to Him and, by *miḥrāb* (tur. *mihrab*, *mihrap* ← ar. *miḥrāb*: *central niche in the wall of a mosque*), to direct to *Qibla* (the side of the world where the Ka'ba in Mecca is located) *sacramental* affection and spiritual feelings.

Key words: *Beacon-sign, self-supporting entity, minaret hermeneutics, cannelures of hane-šafti, gnomon.*

¹ Minaret (ar. *manāra*, *ma'dhana*; tur. *mīnarâ*, *minâre*; Bos. *m(i)na(ret)*)

² **Gnomon** is a *marked spot-stand* – reference point – a result of the genius of geometry of pharaoh Egypt and a fascinating methodological tool of the design-plan of the building. Our case of the minaret is the gnomon-sign, a vertical-wedge-pivot-rod, subject to astronomic speculation, which has received insufficient attention.

MINARET – manāra, ma'dhana

Introduction

With respect to Islamic philosophy, the subject of the research is artificially (*non-naturally*) emerged artistry and the master *holy* substance of thinking about the minaret. Here, hermeneutics of the minaret *arouses unknown* experience which is *carried* by the technique of structure, the unity of the Qur'an – *meaning* – spiritual and religious practice which, according to Islamic structure, results in the content of theology. The origin of the purpose of building, the idea of spiritual value, is probably shared by Sufism of the tasawuff and wisdom of the guards of Islamic philosophy.

Tectonics of the minaret dimensions, its three-dimensional body does not subordinate to itself the *inner* contemplative atmosphere of the mosque, but is rather an expression of architecture which, by means of minimalist aesthetics, articulates the phenomenon of purpose like the *pillar* contributes to the whole of the space.

The explication method has the role of *interpreting* the hermeneutical *speech* about the minaret, *suspended* between *philosophy*, *spiritual-sacral* (Islam) and *artistic-aesthetic* understanding of building its purpose.

In the process of renovation, hermeneutics of the razed minaret of the Ferhadija Mosque required rearticulation of its artefacts and the role of structurally-invisible building *téhnē*. This de-hermetizedly-connected case testifies of three linked principles of ancient stonemasonry: ancient *engineering practice* – *opus distonus* – of building the foot of the minaret, ontological presence of Oneness and muwaqqit's vernacular chronometer.

Location of the minaret in relation to the mosque and the material it was built of together determined the *status* of the building: *jum'ah* (tur. *cuma* ← ar. *jum'a* - Friday prayer) – mosque; **common** – *masjid* (tur. *mescid* ← ar. *masjid*) and *people's* mosque.



ILLUSTRATION ~ The minaret of the Ferhadija mosque in Banja Luka during reconstruction. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA ~ Minaret Ferhadije džamije u Banjoj Luci u toku rekonstrukcije.

1. Minaret architecture

Archeological sources of findings of the building structure of the minaret point to the cultural history of *pre-Islamic* Islamic art. Proto-design indicated the type of *artistry* (object-figure) *with the religious purpose*, the form of which *dates back* to the beginning of Islamic *Hijri year*, same as the early religious teaching of Islam (the Middle Ages), transcending *mythical-spiritual principle of the minaret being established by tawḥīd* (Figure 1, Figure 2 and Figure 3).

Acceptance of the type of building architecture is related to *early* beacons, such as the *temple of light* Atashgah (*Ateşgah*) near Isfahan (Figure 2), or to the re-articulated type created after the model of Roman multi-story watchtowers with rectangular or circular geometric basis, with regional varieties resembling Umaidī-Iraqī spiral-stepped buildings with cubic base, such as al-Mutawakkil minaret in Samara (Figure 4) and a subtype of the Ibn Tulun Mosque in Cairo (Figure 5).

ILLUSTRATION LEFT ~ Figure 1. A tower in the center of the city of Ura (Hura) near Firuzabad in Iran (about 224. A.D.). (Source: Mozzati, 2010: 80)

Figure 2. Archeological remains of Atashgah near Isfahan, Iran – Zoroastrian fire temple. (Source: Internet 1; accessed on 02.12.2022)

Figure 3. Archeological traces of the Djenné Mosque in Sahara. (Source: Mozzati, 2010: 32)

ILLUSTRATION LEFT ~ Figure 4. Abu Dulaf minaret, Samarra. (Source: Hoag, 1975: 55)

Figure 5. Minaret of the Ibn Ṭūlūn Mosque, Cairo. (Source: Internet 2; accessed on 10.12.2022)

Figure 6- Associative appearance of early Islamic money, Arabic-Byzantine type. (Archives of Akšamija Sa/BiH)



Thus, history of *Islamic sacral art* includes integrally shaped ubiquitous constitutive *corpus famallius* of architecture which has immanently defined the minaret, for over 1700 years, as a type of building in the service of the *Islamic World* of the Planet.

For the architect-builder, the minaret represents the *canonical stronghold* for design and building – a *landmark*, a transforming dispositionally conceived ancient *matrix-model* - *prima materia* (probably similarly executed as a military watchtower – a belvedere, tower, guard tower) geometrically reshaped structure of *téhnē* (*Pharos* lighthouse, embankments in the region of Međuriječje, *Zarathushtra* hearthstone, *sacrificial sacred* site of Inca, Roman obelisk-*mundus*, belfry, clock tower) and establishes a *profane-sacral relationship* with the context of its directly built whole. Using *tawhīd* (tur. ← arap. *tawhīd*) to interpret messages of artefact-artistry – *transferring the teaching* of transcendental-contemplative basis of the canon, is an „imaginarium“ of the Meccan orthodoxy of Islam – of inner *invisible* metaphysics and outer *visible* support to sculptural form^{*1}, and it is present in the structure of the house of religion.

According to Oleg Grabar (1987), visual source of the appearance of minaret can be found in the image of the revers of early Islamic coins, Arabic-Byzantine type of metal *dirham*, which is a visual articulation of the associative code of *fizis* of the form of minaret (Figure 6).

Studies of the *form of the figure of minaret* observed the *evolutional* ancient structured experience of building technology, when the configural artistic style emerged – the type of utilitarian architecture of a facility of multioriginal form. Regional and territorial spread of *form of the figure* of minaret depended on autochthonous-vernacular influence of Islamic building reduced to the typological Arabic, Levantine, Maghrebi, Seljuk, Mauri, Indian-Islamic and Indo-Moghul, Chinese (pagoda *Ta*) context of the purpose and appearance of the building. It is believed that Seljuk style of architecture of the minaret is reduced to the strict, rational and restrained status of the building for military purposes.

The vertical *stance* of the minaret is an indicator of the site of *God's house* and a dominating landmark-silhouette, a figure, foundation of doctrine of the Qur'an – the canon of the protocol of Islamic norms which every mosque *has* to house.

The structural form is characterized by the typologically resulting *linked-building* status – a generatively created model-symbol from the time *before Christ* – a canon which is linked by the architecture of Islamic artistry (by means of semiologically-shaped stronghold) of the upright vertical of structurally read self-supporting *building entity* and disposition of the matrix established by *primordial material* (stone, wood, earth) – a relationship which transforms the artistic form of its purpose.

This ancient, ubiquitous articulation of the minaret is *referred to* by archeological findings of one of the origins – a stone wall and foundation of the *desert mosque Djenné* in Algerian Sahara. The evidence includes sites and structures of the original minaret (marked with rocks!). Besides, an appropriate insight into archeological artefacts and the early medieval museum holdings testifies of the *prototype* of minarets.^{*2}

¹ To what extent did *muhandis*, the anonymous author of the original design of the mosque, approached building the structure of its minaret and, in aesthetic context, related to the *trace of the Truth about oneness* (Uniqueness of the Divine principle; Seyyed, 2005: 66)?

² *Rectangular-square* minarets: Al'Hasan (1195-1196) in Rabat, Minaret of the Kutubbija Mosque (12th century) in Marrakesh, in Kaiouran,

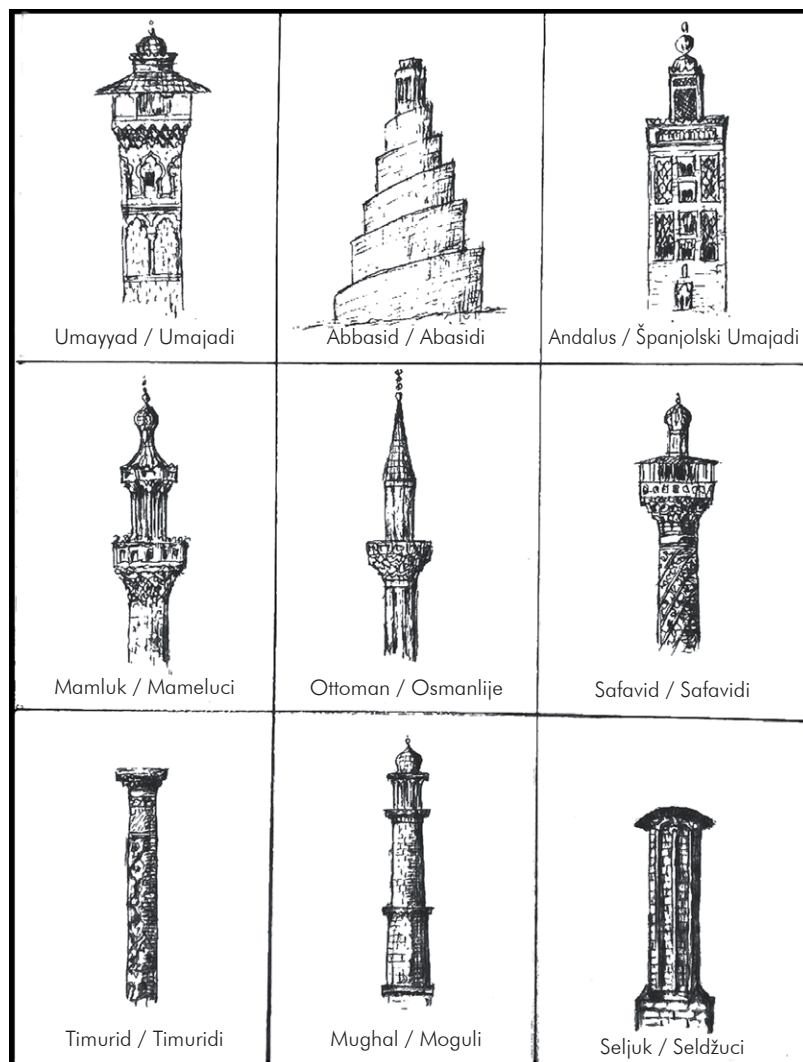


ILLUSTRATION ~ Different minarets of different cultures. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA ~ Različiti tipovi munara u različitim kulturama.

Square minarets - examples:

ILLUSTRATION LEFT ~ Figure 7. Minaret of the Great Mosque of Keruanu (5th century). (Archives of Akšamija Sa/BiH)

Figure 8. Minaret of the Al-Hasan Mosque, Rabat, Morocco (1190-1196).

Figure 9- Al-Fakhriya - Al-Aqsa Mosque minaret, Jerusalem (1297-98) (architect Qadi Sharaf al-Din al-Khalili). (Archives of Akšamija Sa/BiH)

Circular minarets - examples:

ILLUSTRATION LEFT ~ Figure 10. Minaret of the Jam Firuskuh Mosque (1179-1194), Afghanistan. (Archives of Akšamija Sa/BiH)

Figure 11. Minaret of the Al-Ahzar Mosque, Cairo (970 - 972). (Archives of Akšamija Sa/BiH)

Figure 12- Minaret (Sayyidn)-Hussein Mosque, Cairo (1154). (Archives of Akšamija Sa/BiH)

Figure 13. Kuvat al-Islam Kutb minaret (1199-1366), Delhi. (Archives of Akšamija Sa/BiH)

minaret of the San Juan Mosque (930) in Cordoba, minaret of Garaldo (1156-1198); *Circular-polygonal* minarets: Complex of tents, the *camp* on Mount Arafat near (from the 11th or 12th century; one of the seven mosques), *minaret* Kirman – Seljuk (from the late 11th century), Bistam – Seljuk (from about 1120) Turkey, Sereban *minaret* (late 12th century), Jam *minaret* (12th century), Natanz (Iran), *minarets* in Damascus, Baghdad and Isfahan, Samarra, in Lower Egypt (in the Balkans and in Bosnia); Indo-moghul and Chinese: Watchtower of Han dynasty;

Wooden octagonal minarets

It is generally known that natural resources have conditioned types of material for building the minaret, and therefore in cities, city neighborhoods and isolated ambiental wholes they were built of stone³ or brick. However, conditions of rural environment directed ancient builders to articulate the wooden minaret, which resulted in a distinctive architecture of minarets – a reflection of the cultural tradition of a region.

In vernacularly built mosques, depending on geographic conditions in the forest-agrarian territory, minarets were built in the existing wooden structure of the roof (Figure 14, 15 and Figure 16). Karst-Mediterranean region abounds with mosques where minarets are separated from the main building, walled with the autochthonous kind of stone.

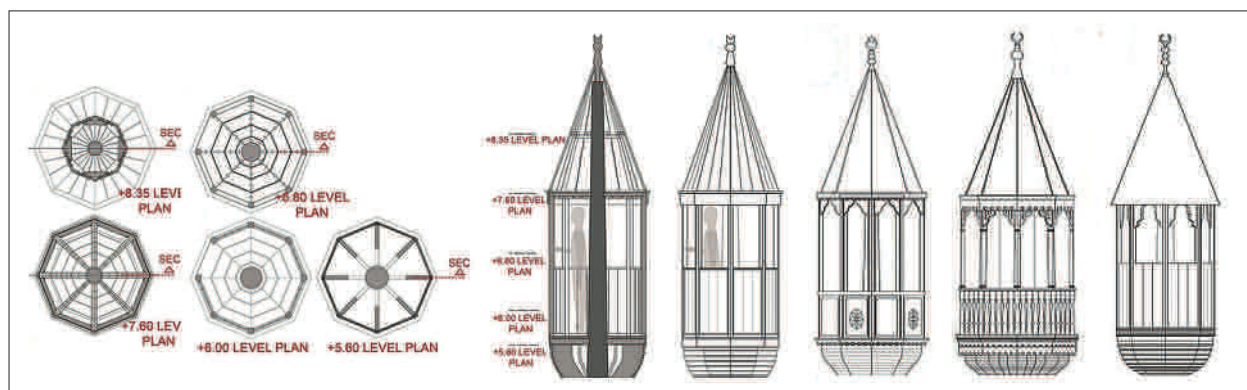


ILLUSTRATION ~ Different constructive values of wooden minarets. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA ~ Različite konstruktivne vrijednosti drvenih munara.

ILLUSTRATION LEFT ~ Figure 14. The wooden minaret of the Djindia Mosque in Tuzla (Source: Edin Jahić/M. Terzić)

Figure 15. The wooden minaret of the Mejdan Mosque in Tuzla (Source: Edin Jahić/M. Terzić)

Figure 16. The wooden minaret of the Konatur mosque in Travnik (Archives of Akšamija Sa/BiH)

Mutual relations of the cultures of minaret building

The vocabulary of the ontological unity of the exterior appearance of the physique of the minaret “houses” the metaphysical context of thought about perfectly expressed language of form, while the iconic-canonical intention of interior architecture (functional natively-immanent proportion of details) consists of contrasting ornament-motifs.

Ontological urban settings of the kulliye – complexes of minaret mosques – make up the perfect sight – vedutas of Islamic urban architecture and encounter between two cultures of minaret: Mamluk complex of the Rafai minaret in Cairo and the outstanding Ottoman complex of works by Koča Mimar Sinan in Istanbul (Figure 17 and Figure 18).

³ Monumental *jum'ah*-mosques with the minaret were built of stone (limestone, sandstone, tufa, travertine or of brick). *Masjids* with wooden minarets were built by local population. If they were separated from the main building, the base was built of stone.



ILLUSTRATION – A view of the minarets from a frog's perspective, Çamlıca Mosque in Istanbul. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA – Pogled na munare iz žablje perspektive, Çamlıca džamija u Istanbulu.

ILLUSTRATION LEFT ~ Figure 17. Complex Sultan Hasan iand the Rafai Mosque, Cairo (1356-1362; 1869-1912) (Source: Mozzati, 2010: 153)
Figure 18. Panorama of the Şahzade minaret and the Sulejmanija Mosque, Istanbul (Source: Günay, 2007: 63)

Building-artistic ornamentation of the minaret

It is a craft style of the architect builder-empirist and an *unwritten* structural ornamentation of the decorative motifs of the minaret – a space of *augmented* value of the work and, if it is ornamented, one cannot distinguish between *sacred* and *profane* in the traditional decor (this phenomenon is embellished by transcendental spirit, religious code).

Awareness of the *beautiful minaret* is reflected by the proportion of its vertical and levelled decor of the building's embodiment (Figure 19, Figure 20, Figure 21 and Figure 22). Ancient masters thus showed a refined taste in shaping the minaret, which is particularly noticeable in Persian building of the Džam Firuskuh minaret (Figure 9) and *pagoda-like*⁴ minaret after the model of the autochthonous *Indian-Buddhist-Chinese* type of building called *Ta* with several levels of overhangs. The taken idea of the minaret interprets the Eastern notion of axis which connects the *gnomon* point with the ground! The decorative style is known by the *varying patterns* of rosettes, palmettes and china *tanga* decor.

Even if we think that it is beautiful(!) and if it is beautiful, the minaret is not *beauty* in copying forms, nor is it something eternal, but rather a creative principle, a *process of knowing something beautiful*, and therefore

⁴ *Pagoda-like* minaret is the Indian version of vernacular Moghul interpretation of the *egg*, as well as the autochthonous Hindu-Chinese-Buddhist type of the vertical of pagoda *Ti* of wood. By origin, pagoda-like minaret belongs to the evolution from stupa to tower. The variation of the original is an *invisible egg* (c.f. Crouch et al, 2001: 353).

the essence of its aesthetic norm is the shape which is three-dimensionally synchronous, mastering of the *inner* measuring canon – comprehensible creation directly adjusted to the “spiritual function” of the piece. Such a definition of the aesthetic classifies the formula *beautiful figure* (the simplest artistic expression) into the *principled*, and thus the empirical value of the piece is the masterable *design-style* of the minaret artistry. Therefore, the distinctive nature of the aesthetic norm should be viewed dually: as the internal formal physical appearance of the structure and metaphysical *reading* of mathematical transcendence of its form and as an external articulated reflection of the appearance of its figure.

The formed(!) aesthetic judgement as a criterion of beauty is in the emergence of minimalist design, multiplication of *muqarnas*, and the example of it is decoration of the minaret of Sultan al-Nasir Muhamed (1292-1304) madrasa and the oldest minaret of the al-Azhar Mosque (970) in Cairo. Such a network architecture of the complex of minarets can be seen in the courtyard of the Al-Azhar Mosque and the Rifai Mosque (1356-1362-1869-1912) of Sultan Hasan in Cairo.

The expressed technical-aesthetic norm – a beautiful *figure* of the minaret – includes the traditionally compact *valuable* – *religious* norm of the *beautiful* form of the structure of artistry. On the expositionally suitable surfaces of the minaret, ancient artists used the media of *stone, earth, brick, wood and pottery* to decorate admirable varieties of motifs. Some made geometrical compositions of brick, others carved the ornament of stone, still others laid traditional faience tiles and achieved *beautiful* appearance of *national* ornament by means of autochthonous shades of colors.



ILLUSTRATION – Ceramic tiles - Details of the top of a minaret tower in Ulugh Beg Madrasah in the Registan, Samarkand, Uzbekistan. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA – Keramičke pločice - detalji vrha tornja munare u medresi Ulugh Beg u Registanu, Samarkand, Uzbekistan.

ILLUSTRATION LEFT ~ 19. Decor of the motif of minaret of the Great Damghan Mosque, Iran. (Source: Michell, 1995: 148)

Figure 20. Glazed pottery – lining of the Yeşil Türbe minaret, Bursa. (Source: Michell, 1995: 117)

Figure 21. Detail of the rectangular minaret Al-Ḥasan, Rabat, Morocco. (Source: Mozzati, 2010: 139)

Figure 22. Detail of the decor of the minaret of Jam (1179-1194), Afghanistan. (Source: Hattstein, 2010: 337)

Here, the aesthetic share – *beautiful* – consists of the proportion of the slender vertical and robust dimensions of the mosque building. The illustrated iconographic drawings conceal the canonic norm of *beauty* which is characterized by monotonous rhythm of a series of same geometric motifs, curled vertical stripes of *hanè*-cannelures (shift-foils – motif-model), visibly harmonious style of decor and the nature of the stone color as a repeating arabesque (the read decor of canonic-religious theme). In this way, what is immanently *invisible* is summarized into unity of contents and shapes in a hiatus-like transience, repeated by means of *spiral-circular* series of sequences and articulates *emanation* of God, since in this way the Idea is aligned, which is here tangibly conceived and executed.

Everything points to *virtuosity* of articulating the builder's *idea* of an extraordinary source of geometric decor of the work, which was achieved by Koça Mimar Sinan on the example of twinned minaret of the Şahzade (1543-48) and Sulejmanija (1550-57) mosques in Istanbul, with a total of four minarets and ten *shurafā's* (tur. şerefe ← arap. *shurafā'*) (Figure 18). The procedure of decorating minaret is *dematerialization* of the form of the construction material by embedding calligraphic tiles in its body of stone. The principle of *hidden beauty* is shaping according to *spiral articulation* and emanates the spiritual state (Figure 23). In parallel to such an idea of shaping beauty, the minaret also carries a symbolic message and aesthetic value, both *restrained* in its architecture.

Besides, the evolving frontal appearances of minarets is related to square bases and to *pre-Islamic pagan-Christian* models (Tunisian mosque in Kaïouran) or harmoniously circular (Egyptian Al-Hakim Mosque in Cairo), as well as those combined with the square-octagonal tube-*kaca* and cylindrical top.

A separate kind includes twinned minarets – Anatolian type *çifte* (double) (Figure 24 and Figure 25) and the Quwwat ul-Islam Kutb minaret in Delhi (Figure 13).



ILLUSTRATION – Double minaret of the Imam (of the Shah) Mosque in the Naghsh-i Jahan Square, Isfahan (17th-century). (Archives of Akšamija Sa/BiH)

ILUSTRACIJA – Udvojne munare Imam (šahove) džamije na trgu Naghsh-i Jahan, Isfahan (17. vijek).

ILLUSTRATION LEFT – 23. Minaret of the Uç Şerefe Mosque (1438-1447) with three small serefes, Edirne. (Source: Mozzati, 2010: 225)

Figure 24. Çifte – Sivas double minaret of the Minareli Madrasah. (Archives of Akšamija Sa/BiH)

Figure 25. Çifte – unfinished twinned minarets (1253), Erzurum. (Archives of Akšamija Sa/BiH)



ILUSTRACIJA - Ferhad-pašina džamija u Banjoj Luci je izgrađena oko 1570. Porušena je 1993., a restauracijom obnovljena 2016. godine.
 ILLUSTRATION - Ferhad Pasha's mosque in Banja Luka was built around 1570. It was demolished in 1993 and restored in 2016.



ILLUSTRATION ~ **top right:** Reisu-l-ulema (Grand Mufti) Mustafa Cerić, PhD in the presence of the chief architect for the reconstruction of the mosque, Muhamed Hamidović, places a '*alam*' on the dome of the mosque.

ILUSTRACIJA ~ gore desno: Reisu-l-ulema dr. Mustafa ef. Cerić u prisustvu glavnog arhitekta za obnovu džamije Muhameda Hamidovića postavlja alem na kupoli džamije.

2. Studija slučaja

Hermeneutika supstance arhitektonske strukture munare

Ovdje raspoložemo građevinom, *gradiranom* estetskom normom, *obnovljenom* znakovno klasičnim manirom arhitekture kasnog srednjeg vijeka. Munara Ferhadije džamije^{*8} je bila ozidana kamenom *travertin*, visine 42,30 m (potvrđuju fotogrametrijski snimci iz 1983. godine, prije zemljotresa) i pokrivena olovnom limom. Arheološkim sondiranjem, rekognosciranjem odloženih artefakata i obradom ruktivnih empirijsko-oblikovano-konstitucionih *fragmenata* ustanovljeno je, konstelacijom njene geometrije, *atipičnost odslika* tlocrtne osnove mase kamena gdje se očitava drevna ideja stabilnosti visokih munara. Kodovi mudrosti stabiliteta građevine su postavljeni u tlo, iznad šipova od drveta.

Prije rušenja, bila je ispred naših očiju izgledno-zagonetna monumentalna munara(!) skladne proporcije, ozidana u Bosni *iskustvom* drevnih neimara. Projekat je, kao izvor *hermeneutike*, vjerovatno, *zaturen* u turbulentnom historijskom prostoru Balkana. *Slučaj munara* otkriva usložnjeno stanje urušene strukture čiji je izvor *smisla ideje građenja* obrađen historiografsko-arheološki (otkrivenim artefaktima) i pojašnjena matičnost dijelova cjeline (funkcijom strukture tijela figure). Osnovni modul munare, po brojnom s'razmjerju dijelova-kodova, nalikuje antičkom modeliranju stubova. Ovdje je metrika modula *prevedena* u aršin-*ayak* (tvorno antropološko-metrično dimenzioniranje) i podređena je harmoniji *samonošenja* nekog uradka.

Vizualno proporcionalno učešće *prakse* drevnih neimara je spoznato *lijepo* (nedovoljno iskazivo, iako je „jedino“ *lijepo*) koje, stanjem objekta, klasificira dostignuti *legimitet* – saznanje o genezi. To je transcendentno-kontemplativni *činilac ljepote* prisutnog bitka – *idiom* – svestremani doseg, opće umijeće, *ljepota*.

⁸ Tarih iznad ulaza u džamiju bilježi da je izgradnja započela 974. hidžretske godine (1575. g.n.e.) i završena oko 987. hidžretske godine (1587. g.n.e.). Ferhad-paša Sokolović ju je uvakufio oko 1570. godine. Porušena je 1993., a restauracijom obnovljena 2016. godine. Arhitektonika objekta podsjeća na otomanske džamije Skoplja, Soluna, na džamiju Mehmeda II Fatiha u Prištini (bez tetima), Hadum džamiju u Đakovici, Molla Çelebi u Istanbulu (bez unutarnjih stubova i željeznih zatega) i na brojne džamije Koça Mimar Sinana. Osnovni gabarit džamije čine: *centralna kupola*, *polukupola*, *lučne tetime*, *sofa* i *munara*. Proporcionalno skladan odnos čini visina potkupolnog dijela, (1) i (2) dijela munare (prema Al-Khwarizmijevim načelima aritmetike). Harem džamije sadrži: glavni korpus objekta, ulaz s abdesthanom i šadrvanom, cvijetnjak – *ružičnjak*, tri *turbeta* i malo greblje. „Portret“ džamije denotira svrhu funkcije, hronologijom njene arhitekture, enkodiranjem konvencionalnog protouzora *otomanske* provenijencije portretom *izvana i iznutra* – volumen u obuhvatu kamenog зида, munare i svodova, kupole od tuge i slikarsko-kaligrafska umijeća iluminativom kaligrama kur'anskog *logosa*. Tipološko određenje voluminoznog oblika Ferhadija džamija je *osmanski potkupolni tip* građevine, *mediteransko-regionalne* izvedbe – *mletačko-bizantske* matično izvedene građevine dalmatinskih kamenjara, islamskim mišljenjem artikuliran bitak pridošlih sufija.

2. Case study

Hermeneutics of the substance of architectural structure of the minaret

here, we have a building *graded* by aesthetic norm, *renewed* in the classical manner of architecture of the late Middle Ages. Minaret of the Ferhadija Mosque⁵ was walled by *travertin* stone, 42.30 m high (as confirmed by photogrammetric shots from 1983, before the earthquake) and is covered with the lead sheet. By means of archeological probing, recognizing disposed artefacts and processing the empirically-formed-constitutive *fragments* the *atypical figure* of the ground plan of the basic mass of stone, which reveals the ancient idea of the stability of high minarets. Codes of wisdom of the building stability are laid into the ground, above wooden pillars.

Before destruction, we could observe a monumental minaret(!) of mysterious appearance, harmonious proportion, built in Bosnia with the *experience* of ancient builders. As the source of *hermeneutics*, the project has probably been misplaced in the turbulent historical space of the Balkans. The case of *minaret* reveals the complex condition of the collapsed structure; its source of *the meaning of the idea of building* has been historiographically and archeologically processed (using discovered artefacts) and parentage of parts of the whole has been clarified (using the function of the structure of figure body). The basic module of the minaret, by numerous proportions of parts-codes, resembled the ancient modelling of pillars. Metrics of modules is here translated into yardstick-*ayak* (tur. *arşın* - *formative anthropological-metric dimensioning*) and is subordinated to the harmony of *self-support* of a piece of work.

The visually proportionate participation of *practice* of ancient builders is the known *beautiful* (insufficiently expressible, although it is “only” *beautiful*) which, by the condition of the building, classifies the achieved *legitimacy* cognition of genesis. It is a transcendental-contemplative *factor of beauty* of the present being – *an idiom* – a timeless reach, general artistry, *beauty*.

⁵ Chronogram (tur. *tarih*, ar. *tārīkh*) above the entrance to the mosque records that construction began in 974 Hijri year (1575 A.D.) and ended in about 987 Hijri year (1587 A.D.). Ferhad-paša Sokolović endowed it in about 1570. It was razed in 1993, and restored in 2016. Architecture of the building reminds of Ottoman mosques in Skopje, Solun, of the Mehmed II Fatih Mosque in Priština (without the tetims), the Hadum Mosque in Đakovica, Molla Çelebi in Istanbul (without interior pillars and iron braces) and of numerous mosques built by Koça Mimar Sinan. The basic outline of the mosque is made up of: *central dome*, *semidome*, *arched tetims*, *porch* and *minaret*. The proportionally harmonious relations consist of the height of the section under the dome, (1) and (2) parts of the minaret (according to Al-Khwarizmi's principle or arithmetics). The mosque courtyard is composed of: the main *body* of the building, entrance with *abdesthanas* and *shadirvani*, flower garden – *rose garden*, three mausoleums (tur. *türbe*, ar. *turbah*) and a small graveyard. The “portrait” of the mosque signifies the purpose of the function, by chronology of its architecture, encoding the conventional prototype of Ottoman provenance in terms of the portrait *from the outside* and *from the inside* – volume in the coverage of stone walls, minaret and vaults, dome made of adobe brick and figural-calligraphic artistry of illuminative calligram of the Qur'anic logos. Typological determinant of the voluminous shape of the Ferhadija Mosque is *Ottoman domed type* of the building, of *Mediterranean-regional* construction – *Venetian-Byzantine* originally constructed buildings of Dalmatian rocky grounds, the being of newly-arrived *Sūfis* articulated by Islamic thinking.t



ILUSTRACIJA ~ Pronađeni ostaci Ferhad-pašine džamije na gradskoj deponiji u Banja Luci.

Tokom rata 1992-'95 u Bosni, Ferhad-pašina džamija je djelimično bila uništena eksplozivom 7. maja 1993. godine od srpskih ekstremista potpomaganih od tadašnje vlasti bh. entiteta Republika Srpska. Nakon prvog rušenja, te iste vlasti su organizirale potpuno rušenje i čišćenje terena na kojem se nalazio cjelokupni kompleks džamije. **DOLJE:** Fotodokumenti o prvoj fazi rušenja.

ILLUSTRATION ~ The remains of Ferhad Pasha's mosque were found at the city landfill in Banja Luka. (Archives of Akšamija Sa/BiH)

During the 1992-'95 war in Bosnia, Ferhad Pasha's mosque was partially destroyed with explosives on May 7, 1993 by Serbian extremists supported by the then government of the BiH entity Republika Srpska. After the first demolition, the same authorities organized the complete demolition and cleaning of the area where the entire mosque complex was located. **BELOW:** Photo documents about the first phase of demolition.

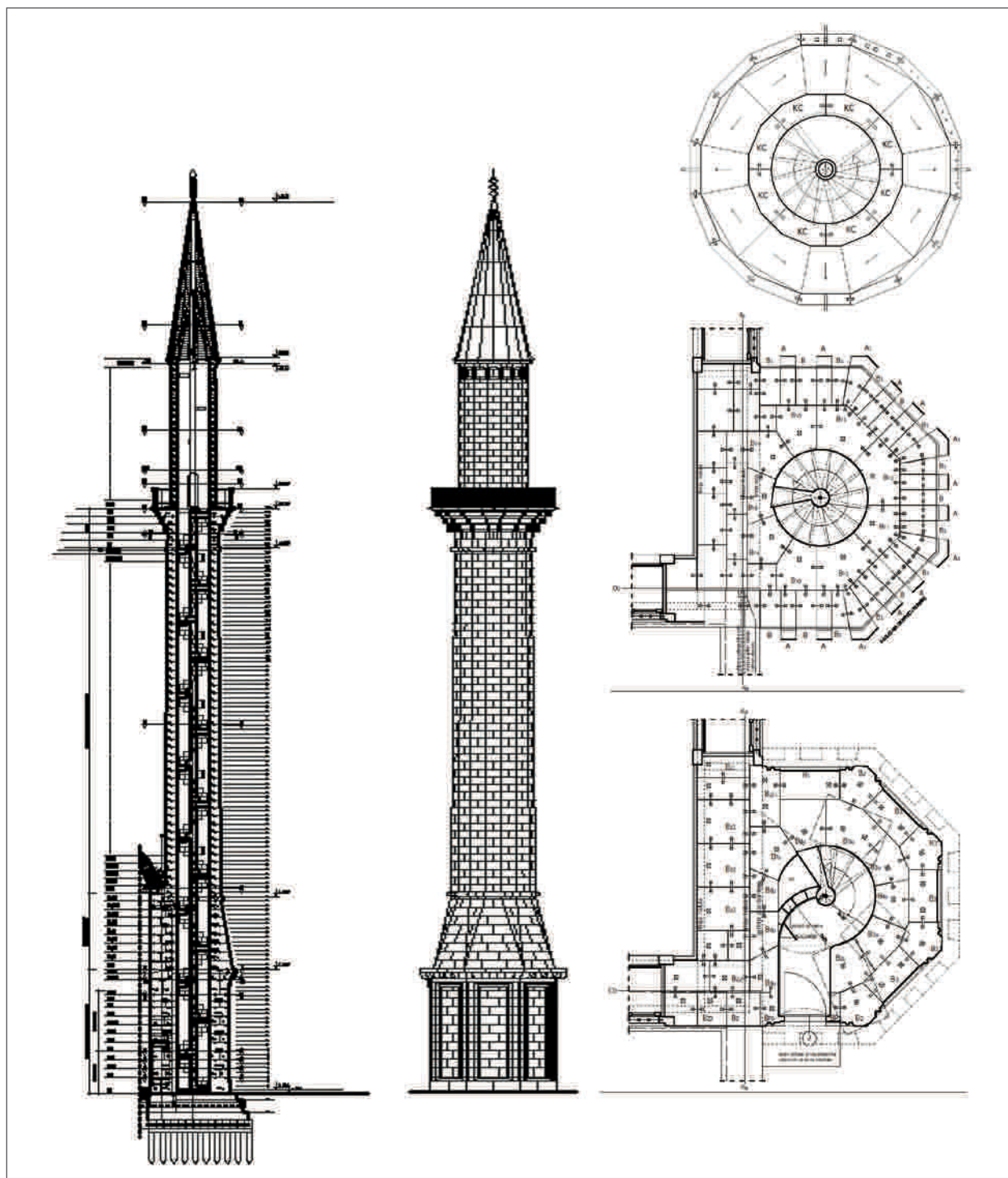


ILLUSTRATION ~ Figure 26. Sketch-crosssection of the project of building the stone minaret of the Ferhatija Mosque; Figure 27. Sketch of the lateral view of the minaret; Figure 28. Basic design sketches of the base, cylinder and *şerefe* (fully).

ILUSTRACIJA ~ Slika 26. Skica-presjek projekta zidanja kamene munare Ferhadije džamije; Slika 27. Skica bočnog izgleda munare; Slika 28. Osnovne projektne skice osnova baze, cilindra i šerefe (realizirano u cjelini).

Prema određenju Studije slučaja (*Hermeneutika tragova građenja munare Ferhadije džamije u Banja Luci*) potrebno je razotkriti *arheološki fizis munare*, uslijeden specifičnim razotkrivanjem prvobitne kamene strukture da orijentiranjem označi islamsku tradiciju umjetničkog stvaralaštva, i prepoznati ljepotu. Propitivani *uklonjeni artefakti* (1993) strukture munare predstavljali su dokumente za *proces rekonstruiranja* i obnove fizisa, reartikuliranja semantički *sličnim* sadržajem *plana figure: kubusa baze, samostojeće kamene kace, šerefe i pokrova*, da se ustanove graditeljski stratumi koji munaru čine cjelinom (slika 26, slika 27 i slika 28).

Restauratorsko-empirijskim razhermetiziranjem pronađenih originala *artefakt-fraktala* i uporedbom s tlocrtnim planom (što je hipotetsko-empirijski kontekst rekonstrukcije strukture objekta) – metodom kompariranja supstitutivnih dijelova munare: materijala, oblika i *duhovne* supstance svrhe s foliziranim *drum-halkama*⁹ – uočeni su činioći procesa artikuliranja izgleda cilindra *kace* (prstenasto *poslojene* višestране osnove tijela figure) i modeliran je šesnaestostrani vanjski izgled kanelura-*šaft-haneta* munare.

Osnovni cilj *Studije slučaja* je da, analitički opaženo, empirijski, ustanovi svrhovitost *sinhrono-trojno-ontičnog* ustrojstva munare i *zaboravljeni „prodor“* – da razhermetizira drevnu tehnologiju i definira:

- *Antičku inženjersku gradbenu empiriju* – kamenorezački radijalno-koncentrični *opus distonus* tip zidanja nadzemnog podnožja munare,
- Ontološki prisutnu *Jednost ideje* (eshatološka *vertikala*) i „plan duha supstance“ i
- Muvekitsko-vernakularni vremenomjer *vertikale* munare.

Razhermetiziranje stanja modul-uradka pojašnjava tehnički polučen *neviljivi proces* uzidiivanja (*skriveno* i izučeno) *duhovno-kreativno* artikuliranje osobine strukture (duhovnu supstancu koju karakterizira pojava cjeline umijeća) i ono što karakteriziraju volumeni sekvenci bitka munare. Dobivenu, *mutaqārib* raščlanjenu, metriku cjeline pojašnjava unutarnja struktura model-munare, odnosno *višestruko* usmjereno ekvilibriranje *višeznačnim* načinom konteksta (iskustvom građenja – duhovno-kanonskim regulama). Strukturaliziranu *mutaqārib* metriku *održavali* su vješti neimari (*skriveno, holističkim mišljenjem* dijalektičke logike) u posjedu svrhe, kontekstom *tajne*.

⁹ Naziv „drum“ je antičko-grčkog porijekla. Formirana kamena oblica, valjak – *drum* – služila je za slojno polaganje kamena stuba. Centriranje se postizalo drvenim „trnom“ (tvrdim okruglim komadom drveta česmina, mediteranskog porijekla) koji usmjerava, centralnim položajem, vertikalni položaj stuba. U našem slučaju, munara posjeduje pločaste spiralne stepenice koje naliježu jedna na drugu i razupiru s 2/3 svoje strane obodni prsten *kace*-cilindra i time formiraju zatvorenu prstenastu cjelinu. Cilindar-*kaca* munare Ferhadije džamije čini 86 *drumova*, pljosnato nalegnutih halki dimenzije 31-75-31/30 cm, polaganih u 86 slojeva do šerefe. Radijalni isječci stepenišnih ploča su ugrađeni od dna postamenta do podnice šerefe u 128 visina. Posebni elementi tijela munare: baza 4,5x4,5 m, visina 6,0 m i prelazni ozidani trokutasti oktaedar 3,5 m sa integirajućom strehom.

According to the definition of the Case Study (*Hermeneutics of the traces of building the minaret of the Ferhadija Mosque in Banja Luka*) it is necessary to uncover the *archeological fizis of the minaret*, by means of distinctive uncovering the original stone structure to use orientation to label the Islamic tradition of artistic creation and recognize beauty. The examined *removed artefacts* (1993) of the minaret structure were documents for the *process of reconstructing* and renewing the *fizis*, rearticulating with semantically *similar* content of the *plan* of the figure: *cube of the base, self-supporting stone kacas, şerefe and covering*, to determine bulding layers which make the minaret a whole (Figure 26, Figure 27 and Figure 28).

Restorative-empirical de-hermeticizing of the found originals – *artefact-fractals* and comparison to the ground plan (which is the hypothetical-empirical context of the reconstruction of the building's structure) – the method of comparing the substitutive parts of the minaret: materials, shapes and *spiritual substance* of the purpose to foil-covered *drum-rings*⁶ – revealed factors of the process of articulating the appearance of the cylinder of the *kaca* (annularly *layered* polygonal bases of the figure body) and the sixteen-sided exterior appearance of *cannelures-shaft-hanet* (tur. *şaft*: tech. axle, back; tur. *hanet*: geometry-the shapes of triangles and squares) of the minaret was modelled.

Tha basic aim of the *Case Study* is to analytically, empirically, establish the purposefulness of the *synchronous-triple-ontic* structutre of the minaret and the forgotten “penetration” – to de-hermeticize the ancient technology and define:

- *Ancient civil engieering empirics* – the stonemasons' radial-concentric opus distonus type of building the surface footing of the minaret,
- Ontologically present *Oneness of the idea* (eschatologic vertical) and the “plan of the substance spirit” and
- Muwaqqit-vernacular chronometer of the minaret's vertical.

De-hermeticization of the conditions of the module-work clarifies a technically obtained *invisible process* of building in (*concealed* and studied) the *spiritual-creative* articulation of the characteristic of the structure (spiritual substance which is characterized by the emergence of the wholeness of artistry) and what is characterized by volumes of the sequences of minaret's being. The obtained, *mutaqārib* broken down metrics of the whole is clarified by the interior structure of the model-minaret, i.e. the *multiply* directed equilibration with a *multifaceted* way of the context (building experience – spiritual-canonc regulations). The structured *mutaqārib* metrics was *maintained* by skilful builders (hidden, by *holistic thinking* of dialectic logic) in the possession of the purpose, in the context of the *secret*.

⁶ The term 'drum' is of ancient Greek origin. The formed stone cylinder – *drum* – served for layered laying of the stone pillar. Centering was achieved by means of wooden “spool” (a hard round piece of the *česmina* wood - lat. *Quercus ilex* - of Mediterranean origin) which directed, by its central position, the vertical position of the pillar. In our case, the minaret has slabbed spiral stairs which rest one upon the other and brace, with 2/3 of its side, the fringe ring of the *kaca*-cylinder and thus form a closed annular whole. The cylinder-*kaca* of the minaret of the Ferhadija Mosque consists of 86 *drums*, with flatly resting rings with dimensions of 31-75-31/30 cm, laid in 86 layers to the *serefe*. Radial clips of stair slabs are built from the bottom of the base to the floor of the *serefe* in 128 heights. The separate elements of the minaret body: base 4,5x4,5 m, height 6,0 m and transition walled triangular octahedron 3,5 m with integrating canopy.



ILUSTRACIJA – Fotodokumentacija dijela rekonstrukcije objekta sa početkom zidanja munare. Detalj šerefeta i izidane munare.

ILLUSTRATION ABOVE – Photo documentation of part of the reconstruction of the building with the beginning of the construction of the minaret.
Detail of *şerefet* and the minaret. (Archives of Akšamija Sa/BiH)

06.07.2013.



(Archives of Akšamija Sa / BiH)

ILLUSTRATION – Ferhadija mosque in Banja Luka, after the completion of conservation and restoration works on the building's renovation.

ILUSTRACIJA – Ferhadija džamija u Banjoj Luci, po okončanju konzervatorskih i restauratorskih radova na obnovi objekta.

This architectural-building process of gestalt context, *insufficiently* known to the *culture of remembrance*, with the features of *proportion, symmetry, quality* of the structure of the minaret footing – a whole – should be subjected to the detection of building material, its purpose and to the analysis of the general conditions of the building, artefacts and the decor. Since, a mosque is articulated by its *perceived vertical*, minaret-*veduta* as a physical-spiritual model-sign of Islam in urban landscape. Walls of the mosque structure conceal metaphysical *messages* of ancient builders: stability of the foundation and buttresses, domed-arched constitution of the loft *tightened* with adobe brick and the common lead covering. All these pertain to the Qur'anic teaching and the *spiritual* Principle of Unity of the meaning which are owned by patterns of creating memory and “the sacred in Islamic art and architecture” (Seyyed, 2005: 58).

Key to the *stability* of postament – base of the minaret

Hypothetically de-hermeticized cubus of the hexagonal base; rectangularly polygonal neoplastic-rustic-carved appearance of sides and profiled covering base – *indula* – small corbels (Lat. *cyma recta* – ancient technical terms for a short canopy) with doubly twined, aslant walled, pyramidal-triangular transition (upper *octahedron of the base*) as a double-layered hexaedron of the determined form of the *kaca*-cylinder with built-aesthetic decoration – *beautiful figure* – of linear ornament and *sideways* twisted entasis⁷ – *hanet* of the minaret – and *muqarnas şerefe*-balcony(!) with the corbet protrusion walled by stone slabs (relief-articulated foils with linear-net geometric ornament); *şerefe*-balcony, walled above and with cascade *nef*-composition of the cuboid of *muqarnas* segments, extended height of the body of *kaca*-minaret with circular *cone* of the truss and built-in gilded copper alam on the top of minaret and the written word-name *Allah* on the *vine-leaf* (Figure 28).

Builders preserved the custom of *Sūfis* (tur. *sofi* ← ar. *sūfī*) – indigenous-vernacular principle of representing a symbolic contact of a *sacral object* with the cosmos(!). In the interpretation with the same philosophy, shaping of the artistry of minaret is a *beautiful manner of work* by stonemasons. The vertical composition of the structure of minaret figure, with eight laid three-sided stone blocks and sixteen-sided metric rings – *drum-halkas* (tur. ← ar. *ḥalqa*: hoop, ring), is a shaped and *reocgnized* *veduta* of Islamic architecture.

The relationship between proportions of the domed building and height of the minaret is (*approximately*) 1:2.5 and, according to the *hypothetically* modular reconstruction, the plan-design of *apparent Oneness of idea* was *traditionally-palliatively* prepared (by means of the usual palliative proportional divider – *mizrak*-spear, yardstick-*ayaka*) and Ottoman architecture marked with *metrics*.

⁷ The term *entasis* is of ancient origin. It *links* strivings to use *profiled* dimensioning of the architecture of pillar-and-wall to articulate a *beautiful modular relationship* (ambivalently: the lower outer *radius*-module, here the footing– *kaca* of the minaret, with a proportionate diminishment of the top *radius*-module by cca 12.5 cm) which optically demonstrates the ancient interpretation of experience. It is authentically *beautiful*, viewed from the position of observer, dignified proportionate relations between elements of the architecture of form.



ILLUSTRATION ~ An example of the continuation of ancient stonemasonry - *opus distonus* - stone processing, ontologically present Oneness.

ILUSTRACIJA ~ Primjer nastavka antičkog klesarstva - *opus distonus* - obrada kamena, ontološki prisutna Jednost.

According to artefact-fractals, archeological traces served for *restruction* of the foundation and base of the square basis (dimensions 4.5x4.5 m, height 6.0 m above the flooring of the courtyard-*ṣaḥn* (cloister is its equivalent in European medieval architecture) and the foundation buried at 3.5 m, which is included in the minaret design). The minaret whole consists of a massive *cubus* of the base, filled with stone blocks and *twin concentric untied rings* (according to the ancient *tube-into-tube* principle for the purpose of establishing stability, it is a self-supporting “corbel-figure” with dilatating *anchor-tubes*), then an opening- access, entrance, and spiral stairs (with five openings directed toward Qibla). The cubic mass of the base takes the load (receives twisting under the pressure of wind and usual shifts of seismic challenges) and, with the sixteen-sided carved stone tube-*kaca* of the minaret, stabilizes its *slender* body. *Twinned built-in stone blocks, tube-into-tube of the base center*, with their inner structure and anchored stairs of the minaret *kaca*, lower the load of *vibration forces* and construction in curves or spirals, and *alleviate* a possible damage by horizontal-rotating vibrating shift of the minaret. The left side of the base is an integral part of the space of *orta* (central mosque space). At the same time, the *leaning* sides of the porch window and the outer side wall are connected to the minaret base with *pressing* top casings connected to the base of the minaret. Semiologically, the *archeology of the minaret structure* shows an independent share and a priority course of building a facility.

Medieval builders knew whims of earthquake, and in this respect we find testing of seismologists at the Material Testing Institute in Skopje useful. By means of experiments and scientific observation of the model of a church, they detected directions (cracks) of the construction – discernible *yield* of mass of the material caused by mechanical shaking of the base-platform. Thus, through the synergy of constructive builders' experience in shaping (of hard material)

stone, building skill of the *Antiquity*, and contemporary (static formulae) calculation of stability in the *motion of vertical facilities*, the configuration of persistently-stable condition of the minaret was executed.

The multifunctional body of the minaret building is a timelessly simple idea of purpose – a role model for *new* building structures of contemporary architecture.



ILLUSTRATION ~ Persistence-stable condition of the minaret - photo documentation from 1898 to 1940. (Archives of Akšamija Sa/BiH)

ILUSTRACIJA ~ Istrajno-stabilno stanja munare - fotodokumentacija od 1898. do 1940. godine.

Ontological reflection – “Oneness” of the *minaret*

This timelessly frequent building volume, a *city veduta* (vertical *kaca*-cylinder) is an aesthetic semiological figure-sign, the *vertical of the religion of Islam* – an architectural facility – cosmological gnomon, a *cult*, shaped by *taṣawwuf* teaching (education of the soul and purification of the heart), of differently conceived matrix basis of ideas and is a distinctive cosmogony, *perrennis universalis* which, as Burkhardt (1424/2003) says, watches the universe.

The analytical aesthetics has rarely studied the *dual purpose* of minaret architecture. Here, the *tafsīr* canonically reads access to Islam, where protocolar customs require believers to emphasize the role of metaphysical-eschatological-mathematical aspect of minaret building, indirectly related to topos – the site of founding a mosque.

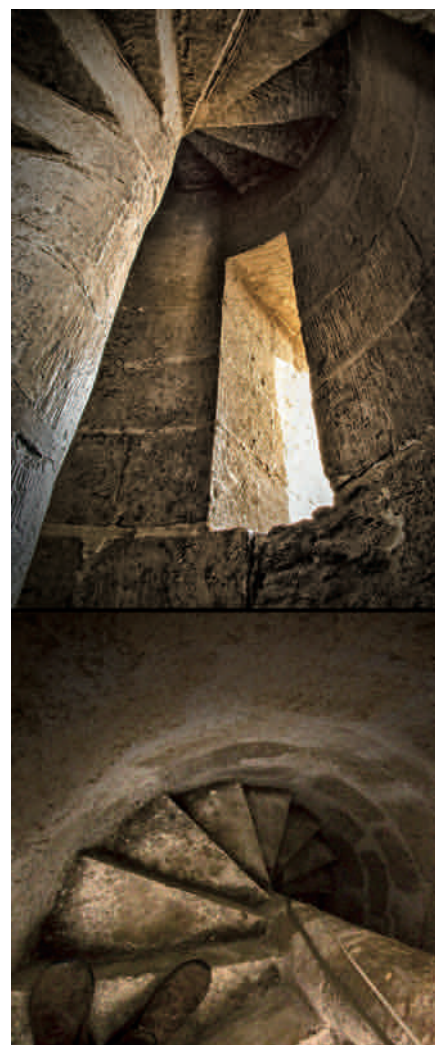
Ontological reflection of “oneness” in the design should be understood only by individuals: muwaqitts, calligraphers, Bilal's descendant, serving muezzin, and someone who has devoted his life to islamology and gnoseology.

The calligrapher is assigned to formally-creatively express the figure, and he uses the *language of hand* to imbue spirit to the artistry of (religious) architecture of Islam when he draws the blackness of ink on the paper with reed stylo and opens unsaid Messages. Uncovering the hermetized shape – initial sign '*Alif* – symbolizes numerical value, which is One – '1'⁸. For *mu'addīn* (tur. müezzin ← ar. *mu'addīn*: one who recites the call to prayer ← Arabic. *ādān*: revelation) the spirally laid interior stairs of the minaret with 128 heights and the *spiral walk* resemble, as *darvīshes* see (tur. *dervīş* ← perz. *derwīš*) when they pray, the route of *bee's flight*, which is an additional role of the *devout* vertical spiral as ascending-descending (*ibadet*, tur. *ibadet* ← ar. *ʿibāda*: to worship) movement of the *mu'addīn* when he repeats words of *sūrat* 16. – *al-Naḥl* – bee – and while praying passes from the threshold

⁸ '1' symbolizes Oneness and obviously belongs to the inner dimension of “Islamic Revelation” (Leaman, 2005: 53). This *idea-relationship* is a “result of insistence on unity and identity – *al-'aql* – on the one hand and the primordial nature of Islamic spirituality on the other” (Ibid: 57) and indicates the basic aesthetic principle of design of the whole where the mentioned example belongs. Symbol '1' – Oneness, '*Alif*' evokes (mystical) “Divine letter” (Schimmel, 2014) *par excellence* which is defined by seven proportionately laid rhomboid *aymaeayan* calligraphic items. One, as a number (1), symbolizes the One, obviously from the *inner* dimension of Islam. Thus, the “letter (*harf*) with its verticality itself, also symbolizes Divine Greatness and Transcendental Principle from which it flows and originates” (Seyyed, 2005: 39). In his *Philosophy of Symbolic Forms* Ernst Cassirer (1955: 118) “equilibrated” *mythical thinking and life of the form*.

ILLUSTRATION – The staircase in the minaret before the demolition of the mosque building.

ILUSTRACIJA – Stepenište u munari prije rušenja objekta džamije 1993. godine.



(Archives of Akšamija Sa/BiH)

of the entrance to minaret, up the stairs to the door of *Qibla* – *şerefe*-balcony to make the Call-Voice with Words that belong to Him. For the *gnoseologist*-thinker, focused on transcendental teaching, the power „organizes intangible to the mind” (quwwa nazarī, Mousawi, 2011: 86) as a course of cognition.

Substantiveness offered by the minaret is the cause to use it to “constitute something, though not in the way to be part of it” (object), Mousawi (Ibid: 50) clarifies interpretation of Ibn Sina’s *On Substance and Accident* (*jawhar wa 'araḍ*).

Yes, both for the calligrapher and for the *mu'adhdhin* the interpretative field of conceiving is thus directly related to the contact with the tangible (minaret), while the philosopher uses the *Theory of Emanation* to conceive the ontological code of minaret.

*Muwaqqit's chronometer*⁹ gnomon*

Semiologically, the minaret seems *manifested*, with the autonomy of symbol-sign, or as an associative factor of the mosque building – *non-artistic* sense-conviction, sensation of time, counterpoint, landmark-starting point, its spot, *aymaeyn* scale of a calligrapher about permanent value of the idea of prototype, sacral substance of anthropological-mimetic-gnoseological figure-geometry – point of departure unrelated to the minaret in the sphere of ancient *agrimensor/geomant* – astronomist *muwaqqit* (i.e. the timekeeper – tur. *muvakkīt* ← ar. *muwaqqit* ← *waqt*: meaning time).

Measuring the *prayer* time in the early Middle Ages in the regions of Islamic world, on the sunny soil of Africa, Arabia and Asia, was *intuitively* determined by *watching shadow and the sky*. *Muwaqqit(s)* are to be credited for more accurately determining the *vernacular-visual* daily time devoted to *waqt-namaz* (tur. ← perz. *namāz*: hour of prayer) in our regions.

Inspection of the text *Islamski kalendar i astronomija* (“Islamic Calendar and Astronomy”), by Enes Kujundžić (1991), of astronomic heritage in Arabic mathematical disciplines of Egyptian *muwaqqits*, as well as “theoretical” interpolation, allow the assumption that it is possible to use geometrical-mathematical teaching to articulate the function of artefact-findings and hypothetically prove that there is a similar formal motive here and the need for measuring pre-Islamic time, i.e. an ancient chronometer articulated by the geometrical creation of basic design of the minaret of the Ferhadija Mosque in Banja Luka.

Geometrical study of *hanèt*-cannelures of the sixteen-sided basis of the minaret of the Ferhadija Mosque is related to the original alchemic *holy skill* of shaping its figure. It is believed, according to writing by Titus Burchardt (1424/2003:7), that alchemy is the “crystalization of spirit and form of Islamic Revelation cloaked in the attire of perfection, which is not of this world of perishability and mortality” and that it equilibrates the *true art of alchemists*

⁹ The sundial shows shadows of *drum-halka* – cannelure of the minaret cylinder.

following their interests. Later on, this role was taken by learned mathematicians-astronomers-muwaqqits who, upon arriving in Bosnia, transferred experiences in determining the direction of Qibla (Figure 29 and 30).

It is likely that mathematical solutions of muwaqqits and skilful drafts of calligraphers ("of Egyptian school"!), using the figure of the Al'Azhar Mosque in Cairo, were used to "make" a copy of the base of the treated minaret.*¹⁰

The forgotten solar chronometer – a clock – with its purpose expresses the simple reflection of the position of the angle of sunlight on the minaret body.

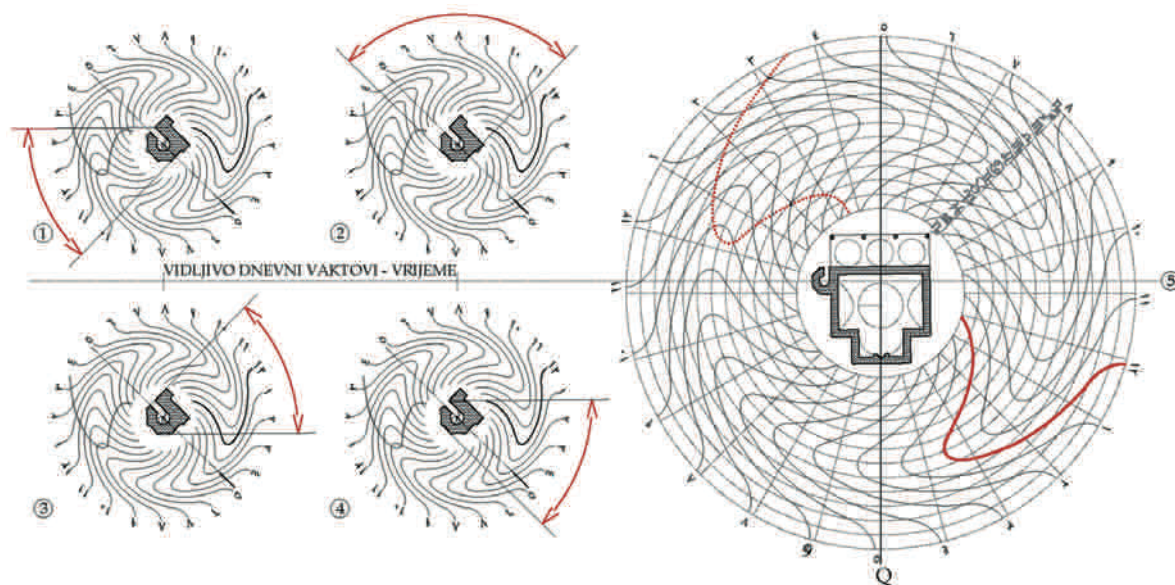


ILLUSTRATION ~ Figure 30. An example of horizontal-vertical reflection (shadow catcher – lit-and-shadow) – temporal chronometer using outer edges of minaret cloak and hypothetical geographic planning of polis – gnomon method of determining azimuth, translated horizontal projection – cloak of summer solstice – marginally lit by sun rays; It is possible that insolation on the sixteen-sided exposition body of the minaret is read visually and points to the hours of prayer (which is the typical medieval means of orientation – “insolated” chronometer) or it is here for the benefit of *muwaqqit* – a cosmological gnomon (observed astrologically or by *muwaqqit*) *taṣawwuf* cult - skilfully interpreted (with temporally unique *halat*) and reminds of the daily hour of prayer (when the position of sun shadow is reflected on the cylindrical body – *kaca* – movement of the sunlight along the *minaret*).

(Source: Hamidović, 2014. graphic interpretation: Armin Hodo)

Legend: <> = angular, intensive intrusion of sunlight shadows-lighting of *hatta*-edges – cannellure (*hanéta*) of the minaret; 1, 2, 3, 4 – visibility of the time of prayer; 5 – permanent position of the mosque relative to solstices (at a given latitude)

ILUSTRACIJA ~ Slika 30. Primjer horizontalno-vertikalne refleksije (lovac sjene – osvjetljeno-i-sjena) – temporalni vremenomjer vanjskim bridovima plašta munare i hipotetičko geografsko uplanjenje polisa – gnomonska metoda određivanja azimuta, prevedena horizontalna projekcija – plašt ljetnog solsticija – rubno osvjetljenje sunčevim zracima. Moguće je da se osunčanje na šesnaestostranom ekspozicionom tijelu munare vizualno očitava i upire na vakat-vrijeme molitve (što je srednjovjekovno uobičajeno sredstvo orijentacije – „osunčani“ vremenomjer) il' je ovdje u korist *muvekitu* – kosmološki gnomon (astrološko-muvekitski uočen) *teṣawwuf*-učanjem kult – vješto protumačen (temporalno unikatanim *halatom*) te podsjeća na dnevni vakat-namaz (kad se oslikava položaj sunčeve sjene na cilindričnom tijelu – *kaci* – *hodom* sunčeva svjetla po munari).

(Izvor: Hamidović, 2014., grafička interpretacija: Armin Hodo)

Legenda: <> = ugaoni, intenzivan upad sjena sunčevih zraka – osvjetljenje *hatta*-rubova – kanelure (*hanéte*) munare; 1, 2, 3, 4 – vidljivost vakta-vremena namaza-molitve; 5 – trajna pozicija džamije u odnosu na solsticije (određene geografske širine)

¹⁰ There is a hypothesis that muwaqqits of Egyptian school (upon their arrival in Bosnia), after the Cairo model, used part of the design to build the *minaret* and the *mihrāb* of the Ferhadija Mosque and participated in their artistic shaping. Semiological similarity between *Egyptian canon of form* is prominent in the treatment of frontal appearance, creative composition and form of *mihrāb*.



ILLUSTRATION 32. Gradačac *muwaqqit* with rub'taht (horary-quadrant) or astrolabe in the time of *aksham* (tur. *akşam* ← pers. *aḥšām* - Muslim prayer during the time from sunset to complete darkness). (Archives of Akšamija Sa/BiH)

ILUSTRACIJA ~ Slika 32. Gradačaćki *muvekit* s rub'tahtom ili astrolabom u doba akšama.

3. Conclusion

The essay-study investigates courses of overtaken artistic creations of our civilization and the destiny of Islamic thinking in the medieval culture. The text about the essence of being of the religious building's past separately interprets *ontological-epistemological* (unreal) state of the original sense of (invisible) substance, i.e., in Ibn Sina's opinion: "although (*substance*, author's note) is not a body nor part of it, (...) its being is inevitable" (Mousawi, 2011: 49). With the same starting thought, it is joined by the procedure of articulating the minaret, (artistically shaped) origin of creative invention – a curio – a national monument of culture (the Ferhadija Mosque in Banja Luka).

A lack of *records* pertaining to the aesthetics of technology of building a religious facility in the early Middle Ages, although it is an unknown of interpretation, spurs the distinctive about Islamic discipline of the purpose of ancient culture of artistry and archeological imagination about the destroyed architecture of temples.

A lack of archival-archeological material is particularly evident during the academic research *engagement of invisible history* of building technology.

Thus, the *cult* minaret is articulated by two individually achieved functions: *religion* and *object-means*.

The *geomantic spirit* of the design by muwaqqit and calligrapher yielded the craft manner of painter to, using geometrically timeless shapes of *square* and *circular* ground plans, outline the structure of minaret and its function in the mosque which we experience – the *evolved facility of light* resembles the image of *Roman Pharos* or *Zarathushtra hearthstone Ataşgaha(!)*.

Methodological attitude in the paper encompassed (a) *comparative thinking* – the process of *establishing* balance in the value of the culture of our civilization and (b) *grammar of harmony* – bond-thinking – *paused* culture (destruction and culturocide) of *turbulent* rhetorics of ignorance of the present establishment.

Result of the comparative research *questions* the pacified explication of works and perceives that the existing Euroasian code of thinking, the Oriental*¹¹ *experience* of shapes and spaces is evidently ignored, while Western academic curriculum of the Theory and cultural history of art (based on Greek-Roman philosophy of culture) are *preferred* and proves inappropriate non-scientific rhetorics(!) and corresponding practices.

Consequently, the essay-case study methodologically compares *ontologically* and *epistemologically* done thinking, with the sense of ancient *téhnē* of minaret, and comes close to the acquired Islamic, *Oriental thinking*, knowledge of shaping the artistry of religious architecture.

The ample list of artistic-craft experience of Islamic-Oriental building architecture of twinned works indicates the aesthetic phenomenon of hovering of the beautiful(!) within anthropological questioning as well. Model-types of minarets are characterized by *close* European-Mediterranean regional representation of Arabic-Maghreb, Levantine, Seljuk, Moorish, Indian-Islamic and Indo-moghul, as well as Chinese principles of building and formative decor.

Discovery and *cognition* of the creative *meaningfulness* of minaret structures (relatively *neglected* form of building style) allowed a constitutive-visual articulation of figure. This formatively-building, autonomously self-supporting entity, *semiotically* defined, *expressed* in the language of Islam, rich with the experience of artistry, *evolves* calligraphic spirit – the *Qur'anic aesthetic appearance*.

Structurally-processed investigated aesthetic-historical (hermeneutically reasonable) mark clarifies the *permanently functional* minaret by applying building – *mutakārib* component of artefact-fractals (*disjoint* structure) which articulates esoterica of the building.

We respect the aesthetic norm on the code of thinking of Mukaržovski (1971: 23), who says that building aesthetics is *commensurate to religious cult* and that, as a rule, the cult (author's note) “contains a significant dose of *elements of religions*”, and that “aesthetization of cult is so powerful that art becomes its integral part”.

Thus, the motive for de-hermeticizing – pursuit of *cognition* of the structure of minaret body and metaphysics of the *content* of substance in Islamic conception – is deduction of the aesthetic and ontological fractalized context of reconstruction.

¹¹ Edward W. Said (1999: 16) clarifies the role of *Orientalism* and says that “(...) meaning of Orientalism is the academic one (...) since because of excessive obscurity and generality (...) the term connotes with haughty executive viewpoint of colonialism (...) The emphasis is on the fact (...) that Orientalism no longer survives as it used to, it continues to live academically through its teachings and theses about Orient and the Oriental.”

Principles of structuring artefact-fractals used a designed adjustment to renew the *sacral* image and rearticulated the minaret. Generically, images of *findings* structurally united works (*by case method*). With semiologically *autonomous* symbolics, uncovering of the appearance of the minaret revealed empirically de-hermeticized, multiple building enabled by masons which is an *associative factor* whose value is connected by a sign-based work of art. "Thanks to" a *blessing in disguise*(!) and the fact of the destruction of the Ferhadija Mosque (1993), architecture of the building has been *operatively-empirically* and methodologically renewed. Establishment of a distinctive *process* of de-hermeticization the unrecorded original manner of constructing the building structure has been uncovered, with the participation of artefact-fractals.

Ontological being of minaret is related to theology, since contingency (removal) is necessary *per se*. The described *Oneness* is implication of Him, and truth (*ḥaqq*) "is what whose being appeals to himself" (Mousawi, 2011: 53-54). Constellation of theological ontology, here with artefact-fractals, reaches less-known ancient building technologies, which clarified the *case* of de-hermeticization of the sample.

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