

NATURAL CONSTRUCTION STONE AND ARCHITECTURAL EXPRESSIVENESS

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Role of natural construction material - stone in the architecture is reviewed. The stone is silent when one does not observe its surface, when one does not read the information kept by the nature on its surface or inside it. If going deeper and reading it, one will understand what kind of phenomena caused its creation, its structure will start to verbalize, its texture will fascinate you and it will dictate an architectural form itself. Based on the example of Jvarimonastery in Mtskheta, the group of authors have imagined the dialogue between the rock on which the monastery has been built and the stone with which the structure has been constructed in a very interesting way. This is exactly the piece of art which is defining the architect's talent.

Key words: *architectural expressiveness, stone's "brilliance", speechless shell, shell and "impressionism", stone's harmony, golden "prism", extinct "brilliance", rock and sandstone, clear space.*

This modest article, as it is clear from its name, describes the role (active and passive) of the natural construction stone in the architecture.

At a glance the issue seems quite simple since everybody seems to be aware of the fact that architectural monumentalism (in most cases) is made from the natural stone. Seems like there is not much left to be reviewed and considered, but number of issues, if we name the "problems" even in a simple way, will not seem to be simple any more. Let us list many features of the architectural mass:

1. Shell and "impressionism" in Georgian architecture – Gudarekhi (XIV century) (pic 1), Tsugrugasheni (XIII century) (pic 2), Svetitskhoveli (later, XV century, shell) (pic 3) etc.
2. Stone's "brilliance" in Antique Epoch Georgia (white limestone) (pic 4)
3. Golden "prism" – Savane, XI century, yellow brilliance of the stone (pic 5)
4. Extinct "brilliance" – grey tuff
5. Stone's harmony in Greek architecture
6. Stone's harmony as an independent contemplative value (for example Bagrati Temple before restoration in Kutaisi,) (pic 6) or Gurjaani Koveladtsminda (pic 7), etc.
7. Rock and sandstone, unity and dialogue between given (rock) and structure (architectural mass made by human beings) (pic 8)
8. Shell as an active player in a creative "game" (Tiri Church)
9. Shell's "passiveness" in work's proportion system (Magalaant Church)

10. Unity of load, relief and lightness, three areas of stone's expressiveness (Palacio Medici – Florence, 1444-1452, architect Michelozzo) (pic 10)
11. Stone as a hidden secret – secret shell (Hagia Sophia), speechless shell and clear space (pic 11, 12), etc.

It is obvious that one work which is more introduction allowing us to understand the role of stone's plasticity in the psychology of the architecture, originates an unlimited space of perception which is demonstrated in the "infinity". Let's specify what we mean under "infinity". First of all this is the dialogue between human being and architectural work. Degree of their agreement which never stops and the moment of "boredom" never occurs.

Is it possible for one to get tired of looking at Mtskheta Jvari, if it is not, then this is a constant dialogue between human being and a piece of work, and if we miss it, we are dealing with the other category i.e. with "independent contemplation value". This means that we should miss the piece of work we see at least once and we should long to see it again.

We will present the relation of architectural mass (stone structure) and the space in order to be generally informed about it. The architectural mass is responsible for the space as much as the latter is responsible for harmonious image of the mass. However, there are only three basic categories defining the mass:

1. Mass elements should be split. At the same time the mass shell should prepare us to percept the space even with simple hints. In order to better understand this, at least at an initial stage, we should review Mtskheta Jvari Monastery and its mass.
2. Splitting should occur in an inoffensive way.
3. The mass elements should be potentially concentrated again.

The mass shell should prepare us to percept the space – micro-space (pic 13). Isn't it true that the architecture, as a phenomenon, started when the human being detached his/her own space from the macro-space, i.e. from the given, and since that moment up to-date and in future it will by all means try to develop spatial thinking of the human being.

In order to understand the above better, let's take as an example the well-known Saint Nino's Cross (Jvari) Monastery (which is known as Mtskheta Jvari Monastery) and its architectural mass.

It is clear that splitting will be inoffensive here if we detach the angle compartments from the main bodies of the monastery. We can continue the process if we still detach the three-fourths shape circular marks from the base of the dome's drum (pic 14), etc. In this case, since these elements are still potentially concentrated against each other, we get the space which thanks to the mass system is perceptive in our imagination beforehand (pic 15).

Of course there is the possibility for the comparison, so let's compare or, to be more accurate, let's reconcile it with Russian architectural monument – "kizhi". This wooden architectural mass makes an incredible impression. The monument is more wooden harmony (pic 16) rather than the stone one. This is a "wicker" of the dominants developing from the bottom to the top, i.e. it is a "river" of onion domes flowing to the heaven. Although the elements of its mass are concentrated from one another, it is not possible to split them inoffensively because its main axis fails and its mass is totally irresponsible for the space and this can be very clearly seen on the illustration (pic 17). Here, indeed, we should also take into consideration an extremely conservative tectonic nature of wood as a construction material.

We would like to restrain from logical continuation and want to draw your attention to totally different architectural phenomenon, and the monument we would like to discuss is again MtskhetaJvari Monastery.

Here the dialogue is held between the rock on which JvariMonastery was constructed and the stone with which the structure was built, and the boundaries between the rock and the structure are eliminated. Piece of art as something unified and complete is formed. This happened due to an architect looking at the rock as an independent architectural detail and at the same time part of something complete. Such cases are very rare in the history of architecture and here we are dealing with the talent of the creator which is the topic of a separate discussion.

The stone's harmony as an independent perceptive value is most of all comprehended in Greek architecture (perhaps only here) and this is because the architecture at a greater extent is conditioned by its psychological and, if you like, its philosophical formulation as well. This formulation is still influential up-to-date, we mean the formula – “from origin to-date” i.e. continuous life of this architecture as a reality. This is the reality which apparently keeps affecting us - the people of 21st century. This is the philosophy of this architecture. Even the ruins of Greek temple should belong to the category of beauty.

You would probably agree that Roman ruins regardless of their antiquity do not relate to the category of beauty at all, but they indeed make an impression of grandiosity.

We used to own “antiquity” in form of the ruins of Bagrati temple regardless of the fact that neither chronologically nor typically it had nothing to do with Greek architecture since complete harmony of the stone was felt in the destroyed temple (pic 6) as an aesthetic category, as classical architectural formulation: “The destroyed temple should be as fascinating as the standing one”.

The stone can also be silent but even the silence is expressive and serves for something special, particularly it serves for specification of the new spatial world beyond the real world.

We should gradually answer these questions or address the problems arising as a result of this narration. The main purpose of this work is to arise questions especially amongst young generation. This work is just an introduction for thinking. We should perceive the fact that we should create a new harmonious world with the architecture as with universal phenomena, we will not be able to create any new world unless we perceive its origin (source) and without the origin we will be unable to perceive any phenomena of the world.



Pic. 1 Gudarekhi, view from north-west



Pic. 2. Tsugrugasheni, dome's neck



Pic. 3. Svetitskhoveli, upper structure of the dome's neck



Pic. 4. White lime Corinthian capital, II century BC, Vani Nakalakari



Pic. 5. Yellow (golden) sandstone cornice



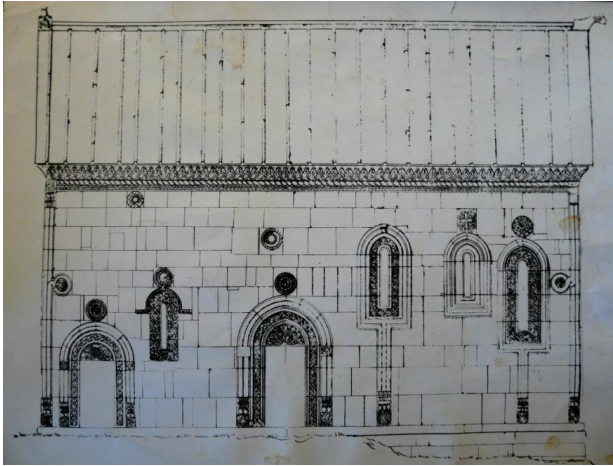
Pic. 6. Bagrati Temple interior, early XI century



Pic. 7. Gurjaani Kovladtsminda (All Saints) (VI century)



Pic. 8. General image from Mtkvari and Aragviconfluence of MtskhetaJvari Monastery



Pic. 9. General image from Mtkvari and Aragviconfluence of MtskhetaJvari Monastery



Pic. 10. Medici Palace, Florence



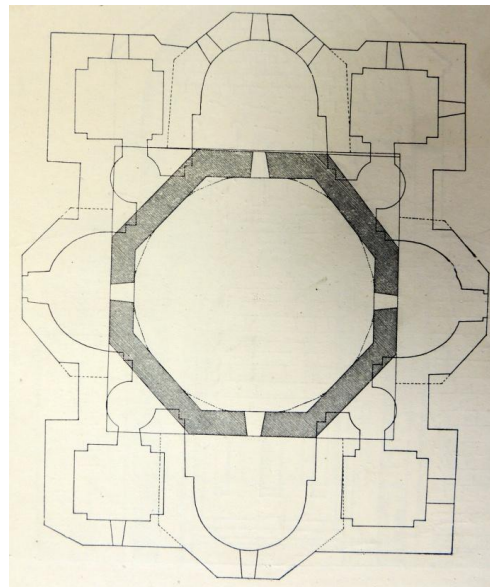
Pic. 11. Hagia Sophia, exterior



Pic. 12. Hagia Sophia, Interior



Pic. 13. Jvari Monastery, image from the helicopter



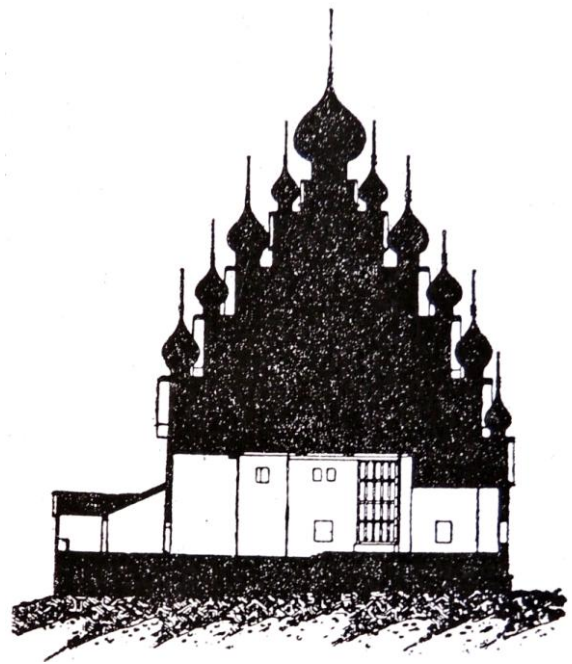
Pic. 14. Jvari Monastery, section on the dome's neck



Pic. 15. Jvari Monastery, interior



Pic. 16. Kizhi, Pericvaleba Temple, year 1713



Pic. 17. Kizhi, the temple's section