Rotunda churches of the Urals as an integral part of the world architectural heritage

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Abstract. The article deals with rotunda churches of the Urals geographical region (Russia) identified during a comprehensive study of the rotunda church architecture in the history of world and Russian architecture. It gives information on the time, geography, historical context, and project owners for the construction of the Ural rotunda churches. It analyses space-planning and compositional solutions of the rotunda churches of the Urals by their types in the context of the author’s typology. The article considers monuments of the rotunda church architecture of Russia, which are analogous to the Ural rotunda churches. It reveals the features of the Ural rotunda churches linked with the regional traditions of church architecture and the identity of construction project owners. It solves the problem of attributing the Ural rotunda churches based on the analysis of the collected graphic and factual material. Possible authorship is determined by the stylistic analysis method. The master’s handwriting is revealed by comparison with several other already known buildings. In the absence of direct analogues, we determine a circle of architects whose projects could be used in the construction of the Ural rotunda churches.

1. Introduction

The rotunda church, as an architectural type, aroused interest among architects and builders throughout the history of mankind. The most active periods of the design and construction of such churches are associated with the periods of the development of humanism ideas and interest in the historical architectural heritage. As technically and artistically advanced structures, rotunda churches today attract the attention of researchers, art historians, and architects. Ancient Greek and Roman rotunda churches, as well as magnificent rotunda churches and architectural theories of the great Italian Renaissance architects, are famous all over the world. Russian rotunda churches are of great interest. They resulted from the creative development of images of Western European rotunda churches based on the Russian church building traditions [1]. A brief typological review of the identified rotunda churches gives an idea of the types of such churches formed in the history of world and Russian architecture, their space-planning and compositional features, periods and places of construction [2].

According to the literature covering the history of Russian architecture [3-11], one might get the impression that throughout Russia, rotunda churches were built only in Moscow, St. Petersburg and their environs. However, the Urals became the region located remotely not only from Europe but also from Moscow, where several rotunda churches were built in the first half of the XIX century [12-14].

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Professional handwriting, high artistic merits, and interesting space-planning solutions place the Ural rotunda churches on a par with the world’s rotunda architectural heritage.

Based on the administrative structure which existed during the construction of the rotunda churches in the Urals, they were located in Orenburg and Perm provinces of the Russian Empire. Currently, this is the territory of Kurgan, Perm, Sverdlovsk, and Chelyabinsk regions of the Russian Federation. By their purpose and the nature of the order, the Ural rotunda churches can be attributed to factory churches (the Church of the Transfiguration in Verkhny Ufaley, the Church in honor of the Entry into the Church of the Holy Mother in Minyar, the Church in honor of the Presentation of the Lord in the village of Ilek), cemetery churches (the Church of All Saints in Perm) and parish churches (St. Nicholas Church in Usolye, the Church of St. Nicholas the Wonderworker in the village of Klenovskoe, the Church of the Exaltation of the Holy Cross in the village of Zverinogolovskoe). We will also consider the unfulfilled project of a rotunda church for Nizhny Tagil.

2. Rotunda churches with a three-part axial ‘nave’ plan
The earliest project of a rotunda church in the Urals was a project of a church for Nizhny Tagil - the center of the mining district of the largest Demidov plant owners. Based on the analysis of analogues, it can be dated to the beginning of the XIX century. This project is the closest to the Peter and Paul Church built in 1805–1812 as a tomb to Demidovs in their Petrovskoye estate located near Moscow. [15, p.237–238] Researchers attribute it to ‘Kazakov’s school, although the authorship of the great Russian architect M.F. Kazakov is neither excluded. Both churches have a classic three-part axial ‘nave’ plan. The rotunda with two tiers of windows is covered by a spherical dome and complemented by a rotunda altar apse. A rectangular (almost square) refectory without side-altars connects the church rotunda with a three-tier bell tower. The corners of the refectory are cut off in the Peter and Paul Church and rounded in the design for Nizhny Tagil. A stylistic analysis shows that both churches have a common origin.

Although the project of the rotunda church with the ‘nave’ plan layout was not implemented in Nizhny Tagil, several rotunda churches of this typological group were built in the south of the mountain part of the Urals. These are factory churches: of Verkhny Ufaley plant of Mikhail Gubin, Minyar and Ilek factories of Irina Beketova. All three churches were built according to the inherent patterns of Kazakov’s churches with a consistent combination of self-sufficient and, at the same time, interconnected volumes: a bell tower, a refectory with side-altars and the main part of the church - the rotunda. Their domed rotundas do not have an altar apse. The lowered wide refectories with two side-altars connect the rotunda of the church with the bell tower, thus creating a rich multi-volume composition. The absolute integrity of the cylindrical space of the main church and the rounded walls of the refectory side-altars are a characteristic technique of Moscow mature classicism.

The Church of the Transfiguration of the Saviour in the city of V. Ufaley, which was exploded in 1940, was a direct analogue of the Moscow church - the Church of the Ascension built by M.F. Kazakov in the early 1790s for the Demidovs on the Gorokhovo field in Moscow [16, p. 60, 61, 297–300]. The Ufaley church similar in size is somewhat more modest than the Moscow one. However, everything points to the authorship of M.F. Kazakov: the arrangement of the building, characteristic parts (for example, a spire crowning the bell tower), and a round belvedere with an onion-shaped dome completing the dome of the rotunda. These parts make the church building particularly refined and light.

The Minyar and Ilek rotundas are similar to the aforesaid Ufaley and the Moscow ones. Both churches were designed by the Moscow architect, assistant and student of M.F. Kazakov - E.G. Malyutin. The Church in honor of the Entry into the Church of the Holy Mother in Minyar is especially beautiful. It is distinguished by its plastic abundance and laconicism of the used shapes, as well as the absence of small parts. The only exceptions are cast-iron consoles under the ledge of the drum of the head crowning the refectory, and cast-iron consoles supporting the apple of its cross. This is easily explainable. Iron casting could not repeat the shapes of all other stone parts. The two-tier composition of the Minyar rotunda in the domestic church architecture has no analogues. Each of its
tiers is cut by window openings at two levels, so the colonnade spanning the first tier is a colossal order of paired three-quarter columns. ‘Kazakov’s handwriting’ was manifested especially vividly in the details of this church. So, the upper-tier of the bell tower almost completely reproduces the characteristic shapes of the dome lantern of the Moscow Church of Cosmas and Damian in Maroseyka street built according to the project of M.F. Kazakov in 1803. However, it is impossible to assume direct borrowing in the case of the Minyar church. The nature of its architecture does not repeat any of the famous rotunda churches in Russia.

The Church of the Presentation of the Lord in the village of Ilek with its significant changes in the upper-tier repeats the main features of the Minyar church: it has the same plan and compositional solution. At the same time, the replacement of three-quarter columns of the lower-tier of the rotunda with wall piers flattened the facade. The lowered first tier of the bell tower violated the holistic composition of the church. The completion of the bell tower is simpler, without a figured drum, which would be evidently inappropriate when the rest of the shapes were simplified. Although the Church of the Presentation of the Lord in Ilek is somewhat simpler and drier in its ornamental decoration, this is undoubtedly an architectural monument with high artistic merits.

3. Rotunda churches with a symmetrical axial plan

Later, three rotunda churches with a symmetrical axial plan were built geographically much more northward: in Usolye, Klenovskoe, and Perm. These churches are devoid of refectories, and their bell towers are arranged above the western narthex equal in size to the altar apse.

The authorship of the project of the St. Nicholas Church in Usolye is allegedly attributed to the architect A.N. Voronikhin [17–19]. New studies do not confirm his authorship. One cannot find any close analogues among the capital’s churches. We believe that the most convincing is the authorship of the student and assistant of A.N. Voronikhin - I.M. Podyachev. This is most clearly evidenced by the plan and constructive solution of the rotunda itself, as well as the voluminous composition of the church. The plan of the church is cruciform and elongated along the east-west longitudinal axis. The bell tower and the apse rectangular in plan are adjacent to the main church volume round in plan from the east and west. Risalits with piazzas adjoin the church rotunda from the north and south. This creates the shape of a cross developed along the west-east axis, where the rotunda itself takes the place of the crossing. The peculiarity of the Klenovskoe church is that its rotunda is solved in the form of a cross not only outside but also inside. The system of wall-mounted pylons with arches creates the shape of a cross with chamfered corners inscribed in a circle in the interior. Being an example of Podyachev’s churches in the Kama lands of the Stroganovs, Shuvalovs, Butero and Lazarevs, this church is among the best rotunda churches in Russia.

The Church of All Saints was built later than the rest of the Ural rotunda churches at the ‘Novoe’ cemetery in Perm under the project of architect I.I. Sviyazev, which is documented. The Church of All Saints is primarily similar in its volumetric plan to the Klenovskoe Church: the church rotunda, the
equivalent apse and the western narthex, the bell tower above the narthex violating the facade symmetry, the side entrances to the church decorated with four-column piazzas. However, there are also clearly visible differences in the design of the rotunda itself - it is ideally round inside in the plan. The Church of All Saints was not preserved in its original form. In 1879, the governor approved the project of an annex to the narthex, and then a new bell tower was built above it, the old one was dismantled. This changed the original appearance of the church and violated the symmetrical proportions of the plan, on which I.I. Sviyazev insisted. The Church of All Saints is the most rigorous classical building of all the Ural rotunda churches, with enlarged simple shapes, almost devoid of decorative elements. Its inherent stylistic features are attributable both to the construction time associated with the new stage in the development of classicism, and its author - the heir to the St. Petersburg academic architectural school.

4. Rotunda churches with a “hidden rotunda” plan

The Church of the Exaltation of the Holy Cross in the village of Zverinogolovskoe belongs to a rare type of ‘hidden rotunda’ churches by its space-planning decision. It already belongs to ‘Bazhenov’s’ circle of churches. This is the only rotunda church in the Urals which has a two-tower composition, and one of the three two-tower rotunda churches of Russia attributed to V.I. Bazhenov [20]. The main church is designed in the form of a rotunda, enclosed in the massive walls of the quadrangular frames and ‘deeply hidden’ between the rectangular premises of the narthex, aisles and apse. In the exterior of the church, the rotunda is perceived as a three-stage low drum of a massive dome. There are two three-tier bell towers flanking the porch and the narthex from the west along the axes of the aisles. At first sight, the church impresses by its rich, plastically designed, multi-stage plan. We cannot find direct analogues of the Zverinogolovskoe church, and the originality of the plan indicates that the project of the outstanding architect could be possibly used.

5. Conclusion

The appearance of new materials and the development of building technologies in the XX century made it possible to build rotunda dome structures of almost any size. That is why the chronological framework of our study is limited to the XIX century. The rotunda churches of the studied period are usually small in size and crowned with a stone dome resting directly (without transition elements) on the inner ring of supports or external walls. Such a constructive solution required an architectural genius in the design and exceptional skills of a bricklayer in construction. The combination of high artistic merits and technical solutions in advance of their time arouse undoubted interest in rotunda churches and the admiration of their creators. Rotunda churches are architectural monuments of a rare type, and the XIX century became the final period of the formation of such churches. The Ural rotunda churches became the final stage in the formation of the diverse types of rotunda churches in Russian architecture. The rotunda churches of this region are one of the brightest pages of church architecture, without which the architectural view of the world cannot be complete. The Moscow architectural school and the academic school of St. Petersburg are represented in the Ural rotunda churches. This is evidenced both by their space-planning and stylistic decisions. However, the revealed compositional features of the Ural rotunda churches do not indicate direct borrowing, but the continuation and development of the types of rotunda churches developed in the capital’s architectural schools. Table 1 shows the plans of the Ural rotunda churches according to their typological affiliation.
Table 1. Rotunda churches of the Urals.

Rotunda churches with a three-part axial ‘nave’ plan

| A project of a church for Nizhny Tagil (the beginning of the XIX century) | Church of the Transfiguration of the Saviour in the city of Verkhny Ufaley (1816–1819) |
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| Church in honor of the Entry into the Church of the Holy Mother in Minyar (1797–1819) | Church of the Presentation of the Lord in the village of Ilek (1817–1820) |

Rotunda churches with a symmetrical axial plan

| St. Nicholas Church in Usolye (1813–1820) | Church of St. Nicholas the Wonderworker in Klenovskoe (1822–1842) | Church of All Saints in Perm (1832–1837) |
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Rotunda churches with a “hidden rotunda” plan

| Church of the Exaltation of the Holy Cross in the village of Zverinogolovskoe (until 1826) |  |  |
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Acknowledgements

The work was supported by Act 211 Government of the Russian Federation, contract № 02.A03.21.0011.