

Light and Essence

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***Abstract:** Light, the immaterial building tool plays a dominant role in sacral architecture. Since the appearance of Cistercian architecture, the symbolism of natural light is determinant in Christian church architecture. Light helps to understand mystery. As a transmitter medium, light plays a significant role in discovering a communal experience. Compared to previous times, modern architecture has put much bigger emphasis on the appearance of light – the puritan formation and the creation of flowing spaces strengthened the dominance of light. In general, the clear spaces being created in this way were typical of their monochromy. At the turn of the millennium, contemporary architecture tries to get adjusted to the spatial demands and to the needs of visual appearance and for this reason it marks out new spatial roles for natural light. On one hand, the turn up of medial culture can be observed; which trend – as a general architectural course – is usually adapted in church architecture too with the purpose of emphasizing the spatial effects. But at the same time, one can see a significant simplification – deriving from the liturgical interpretation of space. Spaces (close to the approach of early modern) concentrate on essential elements again: placing great emphasis on the marked appearance of natural light and on its role in the representation of the ethereal. Either monochrome, dichrome or polichrome spaces help to personally experience space itself. Our interpretation – along the most prominent international and Hungarian examples – evaluates this special tendency and discovers the sacral understanding of space in terms of the use of light.*

***Keywords:** architecture, sacral, contemporary, space, ethereal, color, pattern, harmony*

1 Light – in the Period Styles of Architecture

The physical medium that determines our human existence is sensible through light. That is why the religions set a high value on natural light since thousands of years. The immaterial substance tightly connected to the material world is an important medium of the perception of space. In sacral architecture the mystery of light is also shown in the religious symbolism. In this overview only the

connections to the Christian church architecture are analyzed through special works from the contemporary architecture, since the foundations of the modernism assigned in the introduction.

The brightness, the enlightenment means the opening of the human mind, obtaining the ability of sight. The assigning role of light (like the heavenly signs on the famous medieval paintings are always illustrated in shininess) is not just the symbol of selection but also of refill. The symbol of the purity of the Immaculate Conception is light; the descending of the Holy Spirit in the scene of the Baptism, the glory at the depicting of the Resurrection of Jesus, the episode of the Transfiguration is all pictured with the help of strong light, like the stigmata of St. Francis of Assisi. At the beginning of the Middle Ages, in the introvert world concentrating on self-analysis the role of the light is less important, the space used by the people is closed by heavy structure of walls, and small openings are applied in church architecture. Naturally there were some structural and formal reasons also, but the short period of only a few decades is remarkable as these turn into disengaged wall-structures. In the Gothic art the building material is still dominant; however, the unbelievable airy lightness shows the tension of experience and idea. In the decades of the transformation another parallel process is observable as the Order of Cistercians built in the conscious usage of natural light in the church building practice. These simple but firmly formulated spaces are the allegoric interpretation of the Cult of Mary. The clear compositions signify honesty and the dominant intermediate media of the sacral space is the light.



Fig. 1. Cistercian Abbey, Le Thoronet, France, 1170-1200.

However, the scientific discoveries and the social changes strongly connected to them resulted in the image of an extrovert, open world. The calculated, geometrically confirmed proportions of spaces transmit the logically built picture of a great system. The humanist world view is formed in human scale while understanding its smallness in the universe. The Renaissance opened up its spaces towards the environment; however, these gestures are in most cases highly controlled in the church architecture. Recognizing this (and the obvious speed of urbanization) the Baroque architecture is newly composing in closed spaces; but

realizing the possibility of modulation with light it emphasizes the temporal and spacial dimensions by designing the intensity of light. The recurring of the forms of the classic architecture shows a balanced relation of the religion of the period. The light is pushed again into the background and the architectonic elements dominate. Only at the appearance of the Modernism is the natural light emphasized again in its plentitude. The cognition based on analysis is exploring the surfaces determining the spacial dimensions. It studies physical and sensual boundaries – so the role of the light visualizing the reality is strengthened again. [1]

The nowadays most cited creator of the modern sacral space is Rudolf Schwarz. [2] His St Fronleichnam Church in Aachen (1928-30) shocked the period with its industrial esthetics. Schwarz, the intellectual partner of Romano Guardini who has been regarded as a leader of the Catholic reform movements starting after World War II, committed himself to an esthetic dimension that is concentrating on the openness with its modesty. The architectural parallel of it is the pure architectural space liberated from all the added details. The form of the cube is representing a puritan world view where people recognized their insignificant situation in the world, from where they can rise due to this undertaken purity becoming part of a high-value category. The order is sincerely transmitted through the black color of the human sphere drawn by the horizon and the light white space rising above it. We can find the beautiful parallel act of this progressive visual world at the Városmajori Church of Budapest where Bertalan Árkay and his father built the space permeated by light as the confidence of the faith in the dynamic development. At the same time it is worthy to compare these abstract space compositions with the St Anna Church in Düren (1951-56) designed by Schwarz after World War II where the mystic treatment of light depicts the motif of the world tree in the perforations of the background of the altar. The church rebuilt from the stones after the bomb damage shows a broken, more accepting approach.

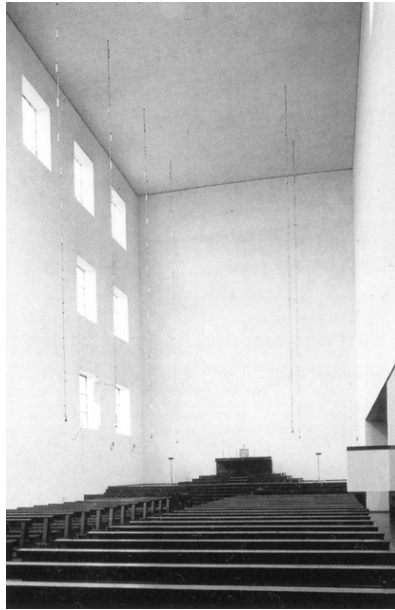


Fig. 2. St Fronleichnam, Aachen, Germany, 1928-30. Architect: Rudolf Schwarz

2 Light – the Media of the Transcription

The architecture is the sensor informing of the place of mankind in the world. [3] The positivism of Modern architecture is broken beyond doubt due to the Second World War. In the process of the rebuilding the style tendencies based on ideology changed in rapid succession – the effect of this only strengthened in the recovering economies few decades later. The small economic crisis only forwarded these monuments and the necessary renewing process of the markets is traceable probably until the last years. Meanwhile also some modest architectural works were born at different points of the world that ignore the glittering values and believe in long-term truth. In this quiet process the emphasis was replaced to the northern countries where the Modernism was continued in revivifying the harmony with nature. [4] The massive brick walls of the churches of Sigurd Lewerentz in Björkhagen (1956) and Klippan (1964) are cut by openings: allowing intense view to the surrounding trees. The fundamentally closed, dense space of brick floor, walls and ceiling is dramatically transformed by these carefully composed windows. At the same time the church of Jørn Utzon in Bagsværd (1974-76) is about the beautiful modulation of the light streaming in – the natural light refracted by the wave-shape arcs creates airy, ethereal space. While the framework structure shows low standards of engineer construction for

the first sight; professional design is discoverable in the details and the plastic usage of reinforced concrete on the ceiling is evidence of a lyric attitude. The clear light spaces of Juha Leiviskä follow the same direction from the Kalevala Church in Tampere (1964-66) till the churches of Myyrmäki in Vantaa (1984) and of Männistö in Kuopio (1992). [5] The enormous wall masses aim high and the light shining through the vertical gaps among them irrationally extends the space. The plastic system of walls draws the image of forest around us. The special value of his late works is that they involve the arts in an even more complex way in the perception of the space. The altar composition in his Church of the Good Shepherd in Pakila (2002) is completed with 200 glass prisms of Markku Pääkkönen that refract the light streaming through the walls and depict the wings of an angel by light.



Fig. 3. Good Shephard Church, Pakila, Finland, 2002. Architect: Juha Leiviskä.

The natural light is appearing free from any manipulation in a common room of an American Shaker community. The construction created by the architect Leslie Elkins is entirely opening the central space to the sky. By moving the roof the thin frame of the ceiling becomes visible revealing the blue sky, the drawing of the clouds and the idyllic still life with the crossing birds. The familiar atmosphere is the opposite of the minor space of Peter Zumthor in the Wachendorf Chapel (2007) [6]. There is only one triangular opening on the volume with irregular pentagon layout that leads to the cave-like soft lined interior. Standing on the leaden floor there is a 12 meters high space towering over us. The tapering tunnel ends in a form of a drop.

The rain that falls into the uncovered space, the draught that becomes stronger while opening of the door, the silence absorbed by the thick walls all focus our interest towards the opening pointing to the sky. The communicative space known from the Pantheon of Rome that is open to all gods is thickening here. And it is concentrating only on the light to the sky [7].



Fig. 4. Bruder Klaus Field Chapel, Wachendorf, Germany, 2007. Architect: Peter Zumthor.

3 Light – to Unify and Structurize

A Benedictine monk, Hans van der Laan tries to describe the order of the world with a mathematical formula system in the privacy of a monastery in South Nederland. [8] With the plastic series (besides the Fibonacci sequence) a deeply believing man and scientist is looking for an abstract solution to understand the matters of the world. [9] At the further construction of the Monastery in Vals (1956-86) he built the every-day territory of the community, the library, the refectory and also the church. The order described by the plastic numbers creates an unusual insecurity with the allocation of the windows. Firstly the system does not look hierarchical. But instead of suddenness it composes an order with many factors referring to eachother. The puritan space presents us a complicated but highly designed order with the light braking through the honest structures. [10] The image, the broken balance of the Millennium, of our contemporary world is depicted in the composition of the windows of a church in Madrid (2006-08). The space composition of Ignacio Vicens and Antonio Ramos directs the attention to the important element with the densifying sequence of windows on the lateral wall towards the altar, as we saw the formula of the barcode well-known from the goods. But the wall behind the altar is drawing a mighty altar-piece. The wall orientated to the north is almost looking for the light, creating a composition from elements that fade in depending on the part of the day to be replaced by another accentuated opening after a few minutes. We are looking at an enormous altar-piece drown by surfaces of light.



Fig. 5. St Monica Church, Rivas-Viciamadrid, Spain, 2006-08. Architects: Vicens & Ramos.

Craig W. Hartman, leader designer of the Skidmore, Owings & Merrill Office creates a united architectural space with an entirely different treatment of light. The Christ the Light Cathedral (2002-08) in Oakland that was destroyed by water has an enormous covered space joining the whole community. From the basis of the walls on an elliptic floor plan a high-tech construction is rising to the sky. The solid shell structure floating above the community is pervaded by the light. The homogenous treatment of light emphasizes the different surfaces at the entrance and at the space of the altar. The Alfa and Omega point of the sacral space is even more accentuated. The light sifting through the perforated plates depicts the image of the Judging Christ. While the American example is composing with concrete visual signs, the church of Neuried (2002-08) emphasizes with the clear accentuating role of the light. In the interest of uniting the white color is dominating the interior. The usage of the grey concrete means just a slight difference in the sacral center. Therefor the enormous openings appear even more effective besides these uniformly worked surfaces that result in the more dynamic look of the space. Here the light is about certitude; even the asymmetry is reflecting this. It emphasizes the role of the hierarchy and the dependence on each other.



Fig. 6. St. Niklaus, Neuried, Germany, 2002-08. Architect: Andreas Meck.

With reference to the international examples besides the appearance of the symbolic meaning of the light we should not forget about a highly important aspect. The light from the point of view of architecture is immaterial substance that makes the building material definable. The thick walls not only exclude the light from the space but almost absorb it. The airy structures pervaded by light take effect like a floating surface at the connection of interior and exterior, at the boundaries. These perceptions significantly influence the revealing of the architectural space. And they transmit the Christian world view at the same time through the approach of space of designer and the developer.

4 Light – Colorful Transcriptions

The church of Béla Pazár in Békásmegyer (1997-2000) is about the light passing through the material and about the strength of the light splitting the building structure. It follows the dramaturgy of the Scandinavian architecture as it creates the space of concentration with a touch of light. The first impression of the puritan brick is a hard shell. But as we look closer, the light is tracing out the incidental small mistakes of the human-built material and it is humanized through tactile perception. The church in Paks of Imre Makovecz (1987-89) is built upon a similar relation but with an entirely different formal approach. The wooden structure inspired by the organic forms of nature opens up to the sky. The light coming through the colored windows of the heart-shaped skylight paint the already intimate space. However, in the chapel of György Csete in Beremend (1996-1998) the flower motif is composed by reinforced concrete walls. The rigid material appears in a fine plastic form and due to the light coming through the

opening ceiling the soft embracing curves become more close to the human. The light of the colored glass windows becomes visible and in this respect it is playing a space constructing role. Some formal characteristics of the Modern architecture are recognizable at the church space of the Piarist High school in Szeged (1999-2000). [11] The great opening of the south wall is constituted of a double glass wall. The planned indoor surface will become a glittering area through the dynamic composition of the colored glass plates. Also the space is vivified with the colorful lights: the game of light takes over the leading role of the puritan white of the background.



Fig. 7. 13 Spanish Piarist Martyrs, Szeged, Hungary, 1999-2000. Architects: János Golda and Attila Madzin.

However, we can already see this living picture in the church of Tamás Nagy in Gödöllő (2001-07). The curved wall of the altar space is perforated with small openings in a rhythmical sequence. The tiny windows arranged in lines actually compose a music sheet. The architect depicted the Gregorian melody of the Kyrie eleison in colors. The transformation of the light multiplies itself. First the substance that is immaterial for the architects becomes visible, materializes itself to be definable as sound, and so it turns into an immaterial dimension again. [12] With that its role in the architectural space is fulfilled. It becomes audible and visible at the same time.

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