

Für die Ökologie sind zwei relevante Arten von Zeichenmodellen, mathematisches und konzeptionelles (Fedorov, 1980), von Bedeutung sind.

Man muss sich der Bedrohung durch methodische Unschärfe und den Verlust der Integrität der Umwelt bewusst sein, was eine vollständig begründete Anforderung gestellt hat, in allen ökologischen Studien gemeinsamer Methodik des Systemansatzes in formalisierter Form folgen. Daher sollte bei der Modellierung von Umweltprozessen ein systematischer Ansatz zur Konstruktion mathematischer Modelle verwendet werden. Der Konstruktionsprozess sollte in formalisierten quantitativen Symbolen unter Berücksichtigung aller Parameter der Systemkomponenten beschrieben werden.

THE SUN AS THE MEANS OF AN ARCHITECTURAL OBJECT FORMATION AND HARMONIZATION

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The harmonization of the architectural environment can be considered as the balance between the nature patterns and the introduction of purely human manifestations of emotionality and intellectual activity. There are two options of this process development. In the first one, an architect is supposed to be a sculptor while in the second option an architect is assumed to be an artist. While in the first case, an architect imparts man-made objects to an existing energy information frame, as if they were some plastic material, in the second one they cut off everything unnecessary and create an artificial environment, leaving the space for natural forces to move. In both cases, the creator should feel and use the natural energy information framework rationally. The issue under consideration has been investigated by a great number of architects. So called 'hidden structural plan' can be traced in many different structures, complexes and cities. The architect P. Portoghesi, researched into this issue and developed his own creative method from the plan. This method was implemented into the design of the Church of St. Mary in Salerno.

One of the most important objects of emotional perception is sunshine and the Sun itself. The location of cities and other architectural structures depend on the position of the Sun in the sky. From the time immemorial, people have watched the sky dome and, with respect to the time of a year or a day, the building of a new structure or even a city started. For example, many megalithic complexes were constructed in the direction of the first or last rays of the Sun on the day of equinox or solstice. The famous Stonehenge built in the southeastern part of England can be a good example. This complex is believed to be an old observatory, because its elements fix the positions from which 15 important

astronomical phenomena can be observed. In particular, its main axis points to the Sun rise on the day of the summer solstice. It seems to be interesting that many cities were built with respect to the Sun movement. A vivid proof can be the city plans of Paris, St. Petersburg and Kyiv. The main axis of Paris, comprising the Louvre and La Defence, stretches close to the azimuth of the rise and the fall of heavenly bodies. In St. Petersburg it is the axis of the Palace Square symmetry, while in Kyiv it is the axis between Saint Sophia and St. Michael's Cathedrals.

The movement of the Sun played a significant role in the construction of individual buildings as well. Some unusual emotional effects can be achieved by use of the Sun rays and rational arrangement of windows. The Sun rays are often used in sacred buildings. In the building of the Pantheon in Rome, which was built on the remnants of Agrippa thermal baths, there is a round hole in the ceiling. Through this hole the sunlight falls into the temple, which is the only source of light in the building. This Sun ray symbolizes the unity of man and God, the unity with the Sun and the sky. Our ancestors also watched the Sun. Almost all temples, cathedrals and temples were built with respect to some significant heavenly 'event'. For example, the chapel in the village of Zekhnovo is confined to the feast of John the Theologian.

The movement of the Sun has made a significant imprint on modern architecture. Evidently, it has a slightly different meaning. Nowadays people are trying to gain more and more benefits from everything, even from the Sun. That is why today it provides us with not only daylight, but also with electric power and many other interesting architectural solutions, such as moving panels. Moving panels perform a function of sunscreens. They are used in Al Bahar towers in Dubai. These towers are covered with a 'blanket' of moving 'cells' which follow the Sun protecting the premises from overheating.

References

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