

The element of water in the architecture of archaic societies

Abstract

The article studies the historical, cultural and artistic interpretation of the element of water, embodied and visualized in the architectural-artistic images of archaic societies. The analysis of evolutionary and transformational processes have been based on a combination of historical and archaeological reconstructions, cultural, and art-study methods.

Key words: art culture, architecture, art image, archaic society, the element of water

Introduction

Water, the natural and biological factor of life, H₂O – from ancient times belonged to the objects of deification and religious worship of human. Together with the atmosphere and the lithosphere, water forms a hydrosphere – an independent living environment. The unique ability of water is its inexhaustibility and self-renewal, the existence in various forms – vaporous, solid, liquid; water is characterized by high heat capacity and thermal conductivity, solubility. Water is biologically active: life on earth was born in water, and the proportion of water in the human body is 60%. It is inseparable from the technological processes.

Water is also an important social factor. The role of water is exceptionally significant in the civilizational processes. It was a determining factor in primitive human settlements, and, in fact, the main hearth of origin of all civilizations. The creation of artificial reservoirs is one of the most important inventions of the civilization of mankind.

In the vast majority of researches the study of water is taken in the area of industrial, bio-chemical, technical and engineering tasks. However, the element of water has long been the subject of architectural art, historic and cultural figurative incarnations [3]. Consequently, its figurative and content load is important for identifying the place, role and meaning in artistic culture, which “documents” the time in artistic generalizations [6, 14-26].

The analysis of the materials indicates several stages of development of this phenomenon. A significant part of the experience of mankind in this area consists of stages that belong to ancient history, namely, formations, which according to the way of life belong to the archaic ones. These are societies that combine such features as mythical poetic or cult-religious outlook, hierarchical relations between social strata, pre-scientific empiricism, pre-industrial production, state-political styles in the form of despotism, early democracy,

military democracy, oligarchy, monarchy [7, 387-389]. The tradition of deification of water, which carried the awareness of the phenomenon of water as an important natural resource, arose and formed precisely within them.

So the origins of this phenomenon come from the early history of mankind, in the time range from the primitive period to modern times. In a cultural sense, this period of human development is usually divided into several stages: 150 thousand years B. C. – 4 thousand years B. C. (first stage); 4 thousand years B. C. to fifth century A.D. (second stage); V-XVII centuries (the third stage; India and China – since the 3rd century, Europe till XIV-XV centuries); XV-XVI centuries (**the fourth stage**); XVII-XVIII centuries (the fifth stage) [8]. **During the specified time in various state formations there was a significant number of specimens-artifacts related to the theme of water and water elements. In the modern problem of water resources, this human** experience is becoming increasingly valuable. Cultural-artistic analysis of the monuments of Ancient Mesopotamia, Ancient India, China, Egypt, Greece, Rome, Byzantium, Europe, where a prominent place belonged to the element of water, will allow to trace the original content, evolutionary changes and transformations in the content-shaped and compositional-stylistic decisions of architectural structures, tangent to the specified topic.

The objective of this article is to investigate peculiarities of formation of artistic ideas associated with the element of water in early

archaic societies and to trace their imagery and meaningful expression in architecture and art.

The main part

At the early stage of human development (*the first stage*), in the conditions of the emergence of *magical* culture, water was given honor in the form of ceremonies of magic, spells, orders. The main idea was to obtain abundance, security, fertility from the natural elements. There are deers crossing the river are depicted on the bone plate from the Grotto Lorte (France) of the Upper Paleolithic era. Given that the art of this time was exclusively ritual-utilitarian, it can be argued that water (river, stream) in this image carries exactly this content. As further the river/stream is the symbol of time and life, and for civilizations whose livelihood depended on the irrigation of the land with natural water – a symbol of wealth, cleansing, movement, recovery. In magical rituals aimed at bringing rain, pouring/purification was performed to bring rain. In the dance, stamping with feet imitated the sound of falling of drops to the ground, which also was considered a potent spell of rain. Ancient symbols of rain were an axe, a hammer, zigzag (lightning), a serpent (often horned), reptiles, a dragon (in China) [4, 81-82]. The Indian “Rigweed” boasts praise for water as a carrier of all that exists. It was believed that pure water, in particular, rain, has healing properties and is a form of divine mercy, a gift of mother-Earth and heavenly gods.

The emergence of early States (*the second stage*), when the culture began to develop on a rational basis and made a huge step forward in philosophy, mathematics, astronomy, medicine, and other fields of knowledge, in Ancient Egypt, Mesopotamia, India, China, America, Greece, Rome, the element of water remains on the top spot in all philosophical systems. The world outlook of this time, defined as *mythological*, created a mythology where water is recognized as the primary element, an element of *the universe*. In the system of symbolic concepts related to the four (sometimes five) natural substances that are components of the origin and creation of the Universe, water is recognized as a universal symbol of purity and fertility, the source of life. In a general sense, water is the emblem of all liquids in the material world (of blood, plant juice, semen), their solubility, displacement, adhesion, birth and rebirth. Artistic work – architecture, sculpture, bas-relief, which reached the classical forms and perfection, reflected this concept in a number of monuments. In Ancient Egypt, where a significant level of construction and engineering culture reflected in the skills to create irrigation structures, water pools became part of the temple-palace complexes of the pharaohs. Geometric rectangular pools, that were their important part, were used in ceremonies and rituals devoted to the gods of the water element. Thus, there were two artificial lakes in the palace complex Karnaku, in ancient Egypt – Thebes, the main state sanctuary of the New Kingdom on the eastern coast of the Nile. Sacred lake in the shape of the pool of 120 x 77 m in size was intended for rituals of bathing statues of the gods, which have made by the priests and the rituals performed by the Pharaoh. In the sanctuary of the main temple of Luxor was the statue of the God of the Nile

river, which Pharaoh greeted while entering the temple. The ceremony continued with laudatory hymn, sang by all present, standing face to the river. The priests threw a scroll into the water, which counted the flow into the river, because the lake was connected to the Nile with channel. The participants of the festival, captured by the sacrament, raised their branches and lighted torches over their heads. Similarly, the symbols of the water element, associated with mythological representations of the daylight of the Amun-Sun in the boat in the sky and his disappearance in space waters on the evening, played in the appropriate action. On one of the reliefs depicts the boat of Amun, which goes from Karnak to Luxor.

The lake in many legends and myths is a magical place. They were built in other palaces and on the territory of the largest Egyptian temples, but Karnak lake is one of the largest that filled with groundwater. Surrounded by a stone wall with steps leading up to the water, the lake also has a hidden system of tunnels, which drove sacred geese – the birds of Aton to the water, during ritual mysteries.

In the Greek myth of the god Dionysus, he is made through the bottom of the lake to the underworld. The Celts threw trophies into the lakes to coax the spirits of the other world with the gifts, for example, the Lady of the Lake waters. In the legends of King Arthur, the relationship between the Lady of the Lake and Excalibur sword are explained by such beliefs [4, 250].

The divine power of the Rulers of Mesopotamia along with other symbols, was manifested by “bound” water. Streams and waterfalls flowing from the upper terraces of the Babylonian Gardens struck the viewers as a miracle of the world. In fact, it was created by means of a hydraulic system that pumped water from the Euphrates. Simulation of rain – the symbol of fertility in early agricultural cultures was associated with the deification of the fertile forces of nature. The idea that the gods or their earthly governors decided, whether rain will be plentiful or devastating, was conventional. Even in relatively recent times, in Shakespeare’s Comedy “The Merchant of Venice” (1596), the heroine of the play Portia compares rain with charity, as the sign of divine favor. The Aztec Supreme fertility God Tlaloc, the inhabitant of the heavenly peaks (in the Mayan Pantheon – Chaac) is the God of rain, Slavic God of Thunder – Perun, ancient Greek’s Supreme deity of Olympus

Zeus in the form of Golden rain enters the locked tower to meet the beautiful Danae, the ancient Iranian God of rain Tishtrie in the image of a white horse fights against the black horse – the drought, Chinese consider rain as the voice of harmony “Yin-Yang” on a cosmic scale. In China, the water element, comprehended by the teachings of Tao, has become one of the main elements of the philosophy of the Chinese garden. In Taoism, water represents wisdom, its ability to find a way around obstacles is also a symbol of the triumph of apparent weakness over force. Chinese landscape garden/park that was formed over millennia, was created for reflection and solitude. Its idea is to harmoniously combine human and nature. Surrounded by walls, this garden includes one or more ponds, the composition of stones, wood, flowers, halls and pavilions, combined with winding paths and zig-zag galleries. Walking along them allows you to see the new “pictures” of nature.

In Europe water-lifting devices yet in the Roman Empire ensured the development of architectural and engineering structures with the use of water. Based on the engineering ideas of the Greeks, contained in the writings of Aristotle, Archimedes, Pythagoras, Euclid in mathematics and technology, a new structure appeared, through which the water has acquired the art of the incarnation: a Roman engineer and architect Vitruvius and also an engineer and inventor Heron of Alexandria came up with the idea of fountains, providing it with mechanical, hydraulic, pneumatic, and geophysical devices.

The Romans considered water a gift of the gods, and patron of the water springs – Fontus God, the son of Janus, brother of the Tiber. From the Roman myth about the Jupiter the theme of the fountain of youth becomes common in the art. It inherits the Greek Orphic tradition, according to which walking around the water spring of oblivion and drinking from the water spring of memory at the entrance to Hades, gives immortality. The Italian figure, which depicts women swimming in the fountain in the Garden of Youth, created in 15th century. Related topic about the rejuvenating effects of love is reflected in scenes with Cupid, who is standing guard of the water spring [4,43-45]. In 221 BC, near Capitol hill in honor of the Fontus God a temple for religious holidays Fontanile (Fontanalia) in honor of the water springs was erected.

Roman water springs, located along the Capitol Hill, dumped in stone-built quadrangular tanks, creating reserves for the needs of citizens. According to the treatise of the Roman Consul Sextus Giulio Frontino 98 BC, there were 39 water springs and fountains, 590 public pools, imperial baths, private villages, which served nine aqueducts in Rome. Most Roman fountains are known only by references of his contemporaries, although some of them still exist. It is the fountain Ludus Magnus, the water spring in the Roman Forum between the Temple of Castor and the House of the vestal virgins of the end of II. And St. to B. E., fountain of the Flavian – Meta Sudans And the article by Dr. E. on the arena of the Colosseum, the fountain built by Alexander Severus (so called Trophy of Marius), 226 AD, in Piazza Vittorio, the Nymphaeum Septizorio, 203 AD, at the Appian Way [5].

In the middle Ages (*third stage*), with the advent of monotheistic religions — Christianity, Islam, and Buddhism, new cultural centers were formed in Byzantium, Western Europe, Kievan Rus. The Byzantine Empire and China were in the leading cultural position. Religion, which received in this period spiritual and intellectual domination in all spheres of being, during the millennium significantly influenced cultural and artistic processes. However, at the end of the period, the scientific and rational beginning gradually prevailed.

The idea of water as a purifying element is present in all monotheistic teachings – Hindu, Jewish, and Christian. Springs on the territory of Christian monasteries are an illustration of the holy water jets of the paradise, the Eden garden, where according to the Old Testament descriptions, was the oldest garden on earth. The spring of the water that came out of the roots of the World Tree were developed on four rivers in different directions of the world – a metaphor for divine energy and spiritual food which nourishes the Universe [4, 304-305]. In the gospel of John (4:14), Christ says to Samaritans : “But whosoever drinketh of the water that I shall give him shall never thirst”.

Water is a symbol of Christian initiation. Dedication-Baptism, in particular, combined purification and fertility: the rite provided for the washing and “dissolution” of the old life and the birth of a new one. The myths of the flood, in which the sinful mankind died, is an example of symbolic purification and rebirth. Spring – as a symbol of the life force, the cosmic center, the spirit of God, becomes in the Christian religion the further development of the idea of inspiration and knowledge. The folk roots of such representations are seen in the Scandinavian myth of the god Odin, who gave the eye to drink from the spring of knowledge, coming from the earth’s axis, the Yggdrasil tree. *The spring water*, the source that is coming from under the roots of the Tree of Life and gives rise to four rivers of Paradise – the Christian symbol of spiritual wisdom, enlightenment, healing, and salvation. “Pure river of water” (Revelation 22: 1) was equal to the Father and to the Son, so the water spring became a symbol not only of purity, but also of the revelation and release of sins. The theme of “life-giving spring”, in turn, was related to the cult of the virgin. In particular, the Holosiyivska desert in Kyiv, rebuilt in 1910-1912 by the project of the diocesan architect E. F. Yermakov in the form of nine dome tem-

ple with elements of ancient Rus architecture is linked with the legend of the water spring. In Armenia, at the place of the water spring, revered yet in pagan times, the monastery of Geghard was built by Gregory the Enlightener in the 4th century. The church was first carved directly in the rock over the water spring, and later – new churches, chapels that glorified Geghard as the monastery of “seven churches and forty altars.” In the 13th century a spear of St. Longin, called “the spear of fate”, was transferred to a rock monastery. So, the idea of water springs figuratively influenced the planning of Church architecture and the gardens near it.

The Renaissance (*fourth stage*) – the transition to the culture of the New Age, gave the idea of a water element of a new impulse, marked by the energy of revelations, the change of ideals in the direction of humanism of Greek-Roman antiquity, during this period, despite the internal crisis of Christianity, which led to the movement of the Reformation and the emergence of Protestantism, the main ideological core was faith in human, his mind and earthly life. The heyday of art and science, great geographical discoveries, the rise of astronomy, chemistry, biology, and anatomy have been embodied in new projects. Urban construction addresses to the problem of improvement on a rational basis for the barely first time. Small architectural forms of the city, canals, arcades, fountains, paving – everything is taken into account for improvement and aesthetic enrichment of its architectural appearance and individual ensembles. The channels are built not only for irrigation, but also tailored to the needs of defense, water supply, flood protection, for industrial purposes, etc. In Milan they had built an elaborate system that included dams and sluices, in Verona, Mantua, Bologna, Livorno – city defensive objects. But the Renaissance, which returned to the millennial practice of garden and park construction, have invented the new semantic meaning of the water element, where tireless water – the symbol of the flow of life and simultaneously a symbol of contemplation. Humorous waterfowl, borrowed from Heron of Alexandria and allegory of festive fountains with sculptures of mythological heroes and deities became its illustration.

In the 16th century the role of the fountains becomes much more complicated. Their examples are samples of architectural-artistic solutions J.B. da Vignola in Rome, where his projects have appeared in the fountain on the Plaza della Rocca, in Viterbo, in Bagnaia and other places. Diverse in concept and form, new fountains surprise with the subtle contrasting of strictly tectonic composition to the dynamics of running water. Vignola’s fountains masterfully play up the theme of eternal motion, which is especially important for the realization of the idea of rapid anxiety and fast-paced world of the Baroque.

Since that time, the fountains become a place of meetings and visits, a place to make wishes. After all, the gods of lakes and springs – traditionally young, but endowed with the gift of prophecy, according to ancient legends, appealed to the gifts, from here it was customary to throw coins in fountains and make a wish.

The particular importance for realizing the idea of the element of water belongs to the Venice city, which was built

on islands or shallow parts of the lagoon on stilts. Its development began at the end of the 15th century, when effective architecture comes into its own. The unseen beauty of public and private buildings – the palaces of the patricians, trade tycoons, churches, scuolas, procuracies, and libraries is achieved by a decorative richness, diversity forms, color splendor, with use of expensive finishing materials – marble, smalt, gold leaf. Facing the main waterway – the Grand canal or the sea, these buildings represented and continue to represent a grand look of patricians of Venice. The buildings, located closely to each other, faced the channels only with narrow facades. This has affected the desire of architects for decorative effect, almost jewel detailing, the wide application of polychrome marble cladding, small architectural forms of dismemberment. Exceptional ornamental richness differed completed by the architect Antonio Rizzo at the end of the 15th century yard facade of the Doge’s Palace and adjoined Scala dei Giganti, where statues appeared in the 16th century. The domination of Venice in the water space were symbolized by the ceremony of “Betrothed to the sea”, confirmed by the law in 1000 on the occasion of the conquest of Dalmatia by the army of the Doge Pietro II Orseolo. It was performed on the day of the Holy day of the ascension, because on this day the Doge left for the campaign. The rituals of redemption of sins before the marine element, inherited by the Italians from antiquity, consisted of ships and boats entering the Venetian Lagoon and stopping at the temple of the sailors patron St. Nicholas, where church ministers read a prayer, sprinkled the Doge and his companions with holy water, poured the remains of water into the sea and under the sounds of chants, they returned to the shore. In 1177, Pope Alexander III visited Venice for gratitude for the assistance of the Venetians in the fight against Emperor Frederick Barbarossa. During the ceremony of betrothal with sea he took the Doge’s ring from his finger and proposed to throw it into the sea as a sign of eternal triumph of Venice in the Adriatic waters. According to Herodotus, so did Polikrat, a tyrant of Samos, in his time, in order to calm the sea. An ancient tradition turned into an annual ceremony and became a Venetian city holiday.

The theme of water elements are embodied in the Renaissance and in the work of Leonardo da Vinci, who contributed to the building of a maze with “water obstacles” in the Palace

Park of the French king Francis I. A number of ideas taken from the natural Sciences – biology, botany, medicine, and alchemy, embodied in the philosophy of architecture, particularly in the caves, which suggested by the French ceramist and naturalist Bernard Palissy.

In Germany, similar problems for a number of parks were carried out by Albrecht Durer.

From the 17th century to the modern era, inclusive (*the fifth stage*), in the new circumstances of the development of culture the symbolism of the water element has given a new ideological and figurative interpretation. In terms of absolutism in the 17th century, science had acquired a civil significance and had been actively pushing religion, undermining its magic, irrational basis, unfolded the movement of Enlightenment, and the famous philosopher Voltaire published a 70-volumed “Encyclopedia” (1751-1780). Thanks to the success of science, the West is becoming a leader in world history, superior to the traditionalist oriented East. The end of the development of archaic societies were the bourgeois revolutions that took place in Holland and England. The European community moved to a capitalist way of life. A peculiar reflection of the breaking of the epochs was the Baroque culture, which, in complete contradictions of the style, embodied the stormy conflicts of its time.

Palace-park complexes of the 17th – early 18th centuries became the next turn for the disclosure of the theme of the water element. Architectural masterpieces of Italy and France became its samples.

One of the greatest fountains of Rome – the Trevi Fountain (*Fontana di Trevi*), built in 1732-1762 by architect Nicola Salvi at the intersection of three streets. With a height of 25.9 m and a width of 49.8 m, it is adjacent to the facade of the Palazzo Poli. The majestic facade of the Palace and the fountain are skillfully combined into the overall composition. It seems that the Ocean is leaving the central niche of the palace in chariot. A sea-shell, where solemnly sits the master of the water element, is pulled by tritons, the Greek mythical beings, children of Poseidon, the God of Sea, the messengers of the deep, whose trumpet-shells sounds scared off the enemy (the Biblical encyclopedia. M., 1891. pp.182-183) and the hippocampus (hydropus) – in the Greek mythology, the kings of fish, seahorse with a fish tail, on which chariots the sea gods traveled – Poseidon and nereids [1, 20-21]. In the niches near Neptune, there are allegorical figures, above which there is a bas-relief depicting a young girl pointing to the Roman soldiers where the water spring is (right side).

Leading Italian artist of 18th century J. Lorenzo Bernini has also built a series of fountains. It is a fountain “The Four Rivers” (1648–1651) and Maura (1654), on the Piazza Navona, the Triton Fountain (1642) in the Bernini Square, the fountain in the square of St. Peter (1652), which is performed in the expressive style of the Baroque, with its inherent dynamism, sensuality, enthusiasm, a kind of illusionism, theatricality, and scenic fluidity of the masses.

The features of Baroque, Classicism and Rococo are remarkably combined in one of the most famous European palace complexes – the French Versailles, where the element of

water was developed further. Created under request of King Louis XIV, Versailles was a reflection of the new France of the age of absolutism and its main idea – the monarchy as the basis of order, unity, and centralization. Three avenues that led to the castle demonstrated achievements in the development of the transport system of the Kingdom, Mirror gallery – high achievements of the glass industry, fountains – scientific, technical and hydraulic achievements. For the work of its 1,400 fountains a pumping station was built on the Seine River. Built by the architects Louis Le Vau, painter Charles Le Brun, and landscape architect André Le Nôtre, Versailles combined the Palace and other buildings, gardens and parks. Its main idea was the magnificence of the King’s person, which was steadily embodying throughout the construction stages by all architects, artists, decorators and contractors of several construction campaigns. During the first construction campaign (1661-1664 biennium), existing boskets and parteres were expanded, and new ones were created, the Orangerie and the Grotto of Thetis were built. During the second (1664-1668) – fountains, boskets were reconstructed, Bassin de Latone, Bassin d’Apollon, Grotto of Thetis were built. The palace complex was fully completed in the topological and symbolic connection of all the constituent parts.

A key element of artistic visualizations of Palace and gardens was the Grotto of Thetis, located to the North of the Palace. The grotto was an important symbolic and technical object: it symbolized a cave by the nymph Thetis, where Apollo rested after lighting the sky in his chariot. In this way, allegorically and intelligibly, art, depicting Apollo, linked a mythical deity with the real Louis XIV. The grotto was a separate structure, the interior of which, decorated for the image of the sea cave with shellfish products, contained a sculptural group of Martian brothers – “Neraiids serving Apollo” (central group) and “Solar Horses, which are serviced by the servants of Thetis” (two neighboring sculptural groups). These statues were set in three individual niches of the grotto and were surrounded by various fountains and water devices. The installation of sculptures in 1670 summed up the work on construction of the grotto that began in 1664. On the technical side, the Grotto of Thetis had a major importance in the work of the whole hydraulic system, which supplied water for the gardens and park. The roof of the grotto was

supported by the reservoir, in which the water was accumulated from the Calagna pond, and this water filled under pressure fountains below in the garden. The Grotto of Thetis lasted until 1684. It was extremely popular with visitors who admired the game of fountains and the beauty of interior design. Versailles became a model for the creation of analogues in many European cities, particularly in Vienna, Dresden, Düsseldorf, Lisbon, London, Luxembourg, Munich, Petersburg, and Potsdam.

Conclusions

Artistic images, dedicated to the element of water, embodied in the architectural and artistic monuments of the archaic societies are very important as the material and spiritual heritage of humanity. Their cultural and artistic significance consists in the substantive reflection of a number of ideas that played the first priority in social history – from the origin of life – to its preservation, protection, ordering on rational basis, from the supposed possession of elements – to the actual technical capture by the forces of nature. The analysis of evolutionary and transformational processes in relation to this

context shows that humanity is aware of the value of water as a unique natural resource that promotes progress, technical power, and prosperity. The embodiment of the element of water in a variety of form, content, purpose and architectural objects reflected the level of development and ideological priorities of the archaic society.

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