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THE EVOLUTION OF WATER-ENTERTAINMENT COMPLEXES: HISTORICAL ANALYSIS AND ARCHITECTURAL FEATURES

Ibragimov Najib Khasanovich[1]
Muhammed Emin Akyurek[2]
Tojiboyev Ulug'bek Irisboyevich[3]
[1] Department of Architecture, Samarkand State Technical University, Samarkand, Uzbekistan
[2] Department of Architecture, Istanbul Sabahattin Zaim University, Istanbul, Türkiye
[3] Department of Architecture, Samarkand State Technical University, Samarkand, Uzbekistan
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Abstract. The article examines the history of the formation of multifunctional water-entertainment recreational facilities on the example of various historical eras. The architectural and typological features of the ancient thermae of Ancient Rome, Greek sports complexes, as well as water structures of the Near and Middle East are analyzed. Special attention is paid to the influence of socio-cultural and climatic factors on the development of these objects. The basic principles of organizing the spatial recreational environment, which formed the basis of modern wellness complexes, are identified. A comparative analysis of the functional purpose of water structures was carried out, which allowed tracing their evolution from antiquity to the present day. The conclusions of the article emphasize the importance of water procedures as an element of health improvement and recreation, as well as their impact on the architectural planning of cities.
Keywords: water-entertainment complexes, baths, hydrotherapy clinics, recreational facilities, thermae, thermal springs, history of architecture.

Introduction. As is known, every nation has its own customs and traditions. Among them, there are those that have developed historically, have been tested over many centuries, and continue to be used to this day.

One of such traditions is the organization of multifunctional water-entertainment centers. The services of such complexes (various types of baths, swimming pools, hydrotherapy, mud-bath therapy, water-entertainment complexes, etc.) are used all over the world; however, the history of their formation, the development of their architecture, and the functions they perform vary among different nations. Accordingly, multifunctional wellness centers have distinct regional names and architectural-typological features, which can be explained by specific conditions such as the way of life, organization of daily routine, climate, the availability of building materials, and the historically established recreational and entertainment traditions of different peoples.

Throughout the history of human development, the functions of recreation have taken various forms. Each era, characterized by specific social relations, gave these forms a special character. Let us focus on the most striking examples of solving the problem of recreation, which found its reflection in the buildings and structures of the eras of ancient Greece, Rome, and Asia. [1]

A vast amount of research is dedicated to the antique period of the history of architecture, philosophy, and art; however, the issues of rest and leisure that interest us from the standpoint of the modern formulation of the problem have not been sufficiently covered in relation to those architectural monuments that served the purposes of recreation.

From the point of view of forecasting, it is interesting to analyze the spatial environment in which recreational processes took place 2000–2500 years ago and to trace the relationship between the phenomena of the highest flourishing of society and the optimal organization of recreation in a

given period. History is studied as an anti-forecast of the future [1].

Despite the significance of water-entertainment structures in a historical context, their evolution and adaptation to modern conditions remain insufficiently studied. In particular, there is a lack of systematic analysis of the influence of climatic, cultural, and social factors on the transformation of these objects. The lack of a comprehensive approach to the study of the architectural solutions of water complexes of the past hinders the use of their principles in modern urban planning projects.

Aim. The aim of the research is to identify the architectural and functional features of water-entertainment complexes of various historical eras and their influence on modern recreational spaces. The study is aimed at analyzing the factors determining the evolution of these structures, as well as defining the principles of their organization that are relevant for modern urban planning. The following types of buildings and structures are considered as objects of study in this work:

- Roman thermae, III-IV centuries AD, the Thermae of Caracalla and the Baths of Diocletian, indoor and outdoor swimming pools, complexes for mass active recreation and sports;
- Bath and wellness complexes, pool complexes for rest and entertainment.

Methods. The methodology is determined by the aim and objectives of the research and includes the study of domestic and foreign literary sources, design and normative-instructional materials, field surveys of water-entertainment structures in the ancient world from antiquity up to our days, as well as the use of the comparative analysis method and the study of archival sources. The research is based on data from archaeological finds, historical chronicles, and modern scientific publications.

Literature Review. The study of the history of water-entertainment facilities is based on the works of domestic and foreign researchers. In particular, studies of Roman thermae are presented in detail in the works of Vitruvius (1st century BC), who described the structural features and functional organization of thermal complexes. In a later period, ancient architecture was addressed by such researchers as R. Banham [2] and D. Clarke [3], who analyzed the influence of Roman engineering on the development of public baths.

Greek water structures, including gymnasia and palaestrae, are explored in the works of Duris [4] and Pausanias [5], whose descriptions allow for the reconstruction of the functional zoning of ancient sports and wellness centers. An important contribution to the study of Eastern water complexes was made by the works of A. Uralov [6], Evliya Çelebi [7], and D. Macdowell [8], who considered the structure of eastern hammams and their impact on the urban environment.

Modern studies, such as the works of A. Uralov [6], N. Ibragimov [9], P. Creighton [10], and T. Harrison [11], examine the influence of historical water complexes on modern recreational zones, identifying sustainable principles of layout and integration with the urban environment. Thus, an analysis of the sources shows that the historical traditions of water-entertainment complexes have had a significant impact on the formation of modern wellness spaces.

Analysis of the Research Subject. Let us consider the regularities of the historical formation of multifunctional wellness complexes on the example of some historical eras.

Our task is to take a comprehensive look at history and philosophy, types of buildings, and structures from the perspective of organizing recreation in the broad, modern understanding of this phenomenon; to identify rational ideas that arose in deep antiquity in order to develop them further when forming modern concepts of recreation and corresponding complexes, and to trace how visionary their creators were when creating architectural works.

The "Golden Age" of Greece was a time of spiritual and physical perfection of free people. In Greek philosophy, man was viewed in direct unity with nature, and the laws of nature were

interpreted by analogy with human life.

In order to familiarize oneself with the lifestyle of a free man as envisioned by the philosophers of the ancient world, it is necessary to recall the views of Plato, expressed by him regarding the "ideal state" in "The Republic" and later in "The Laws."

Plato's ideas demonstrate the place that the science of building the future occupied even in ancient times and the importance attached to correlating utopia with reality. All this remains relevant in modern forecasting. The thoughts expressed by Plato about life processes that bring pleasure to man can be identified with the content that is invested in the modern concept of leisure.

In Socrates' philosophy, happiness (eudaimonism), the integral parts of which were physical and spiritual health and the pursuit of arts and sciences, constituted the goal of life. The life thesis of a free man of the ancient world during its heyday was the comprehensive development of personality, the basis of which was the beauty and aesthetic perfection of man, the spatial environment, and architecture.

Recreation in this period can be classified into three categories: physical culture, intellectual culture, and emotional culture. Rarely did any category act separately; for the most part, each function was an integral element of a single festival or action.

Great importance was attached by society to physical culture and sports. A young man engaged in gymnastics to strengthen his power and develop agility to defend the city and for glory in the stadium; the state demanded that citizens be mighty and agile. The ideal of "kalokagathia" (kalos – beautiful, kai agathos – good/valiant), uniting physical and moral virtues, found expression in the sculptural depiction of a perfect man, similar to a god.

Temples, stadiums, and theaters were among the most significant structures created in Ancient Greece. Architecture was subordinated to expediency. The type of ancient Greek stadium served as the basis for ancient Roman stadiums and circuses; sports complexes were created in Delphi, Olympia, and Epidaurus.

In the classical period, a picturesque understanding of the ensemble, inherent in Greek compositions, developed. When building ensembles, they strove for harmony between the man-made and natural environments; a characteristic feature of Greek architecture was taking the relief into account and preserving the beauty of the landscape.

Country estates were created, where man sought to merge with the eternal world of nature, free from an anxious life. Parks were laid out in the city, serving as prototypes for parks designated for the entertainment and recreation of the urban population, complete with baths, fountains, grottoes, and inns (the park in Daphne had a circumference of 15 km).

In ancient Greece, the essence of recreation was inextricably linked with the concept of a harmoniously developed personality, which reflected many aspects of human life: upbringing, sports, practicing art, in a word—all aspects of culture.

Thus, the unity of theory and practice in the form of philosophical views and actions, framed within the architecture of buildings and structures, created a single spatial living environment for man. The aesthetic category of the beautiful was necessary for man as an integral part of all his purposeful activities.

The spatial environment for recreation was a single whole, consisting of highly artistic ensembles synthesizing all elements of fine arts and architecture and organically connected with nature. Awareness of the phenomenon of the beautiful as the most important factor of the beneficial impact of the human environment made it possible to turn it into the most important basis for recreation.

The history and civilization of Ancient Rome, compared to the history of Greece, represented

a much more complex phenomenon. Wealthy Rome asserted its power through the grandeur and luxury of festivals, spectacles, and structures. The intimacy and simplicity of Ancient Greece were contrasted with colossal and complex forms, and an abundance of decorations. Depending on the social order, the attitude towards the size of buildings and scale changed.

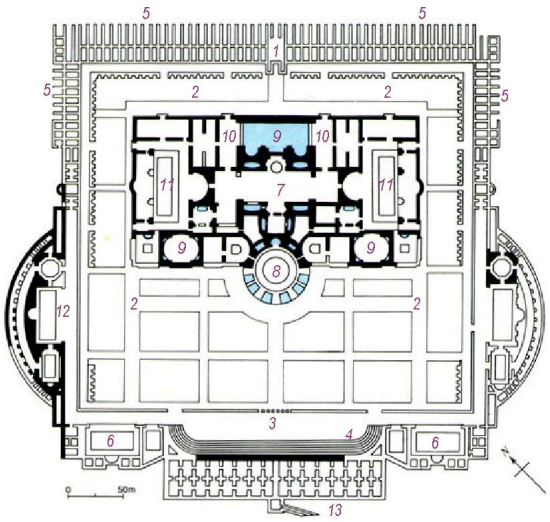
Fundamentally new types of buildings were amphitheaters, forums, and thermae—multifunctional structures characterized by a simultaneous capacity of many thousands, which, although they originated from Greek buildings, reached such perfection that the original source was unrecognizable; they can be attributed to a new stage in the architecture of the spatial recreational environment.

Of all the listed recreational structures, we will focus on the most characteristic complex.

Thermae, inseparable from the Roman way of life, were one of the significant achievements of architecture. The end of the 1st century BC and the beginning of the 1st century AD marked the widespread development of the construction of thermae. In addition to their main purpose—health and hygiene—thermae, usually surrounded by a park with an adjoining stadium, replaced for the citizen a club, a park for walking, the peristyle courtyard of a rich residential building, and a sports ground. They served as a meeting place where private and public affairs were discussed; rest rooms, places for walking in the fresh air, halls for conversation, libraries, and premises for musical and literary performances created conditions for socialization.

In the grandiose imperial thermae, huge masses of people gathered; here a citizen who did not have his own peristyle with a fountain or a villa with a pool could find entertainment. Wealthy Romans preferred small private baths (Fig. 1, A) [1].

In Rome, with a population of 1 million people, there were imperial thermae and 800 small public baths. By the beginning of the empire, there were 170 state and private thermae in Rome, and by the beginning of the 4th century AD—already 1,000. For each of the 14 districts of the city, there were 60–80 thermae.



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B) 

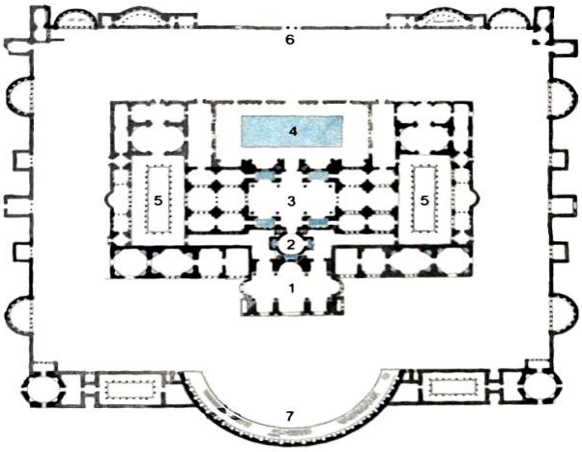
C) 

Fig. 1. Roman thermae, III-IV centuries AD. A - Thermae of Caracalla. B - Interior of the Thermae of Caracalla (drawing); 1 - entrance, 2 - courtyard, 3 - place for competitions, 4 - spectator seats, 5 - cabins, 6 - library halls, 7 - main hall, 8 - caldarium, 9 - halls for rest after baths, 10 - vestibules, 11 - peristyles, 12 - halls for gymnastic exercises, 13 - water reservoirs. C - Baths of Diocletian: 1 - caldarium, 2 - courtyard, 3 - rooms with cold baths, 4 - halls for rest after baths, 5 - peristyles, 6 - entrance, 7 - place for competitions.

The most complex type of Roman architectural complexes are the imperial thermae. The Thermae of Caracalla, occupying an area of 12 hectares, were distinguished by great scale and splendor; their simultaneous capacity was 1,600 visitors. The size of the complex was 450x450 m, with a range from small individual baths for one person or family to huge magnificent halls. The main building (216x112 m) consisted of symmetrically repeating groups of rooms: vestibules, changing rooms, massage rooms, palaestrae, halls for rest, ablution, and steam rooms, and pools of various depths. A rotunda with a diameter of 35 m (a hot pool) was located along the axis of the building. The unpretentiousness of the facades contrasted with the luxury of the interior. The composition was distinguished by simplicity and clarity, helping to quickly navigate the huge complex. The halls of the thermae were flooded with sunlight. Colored marble, mosaics, and sculptures had an emotional impact on the visitor.

In the Baths of Diocletian, 18 thousand visitors could be accommodated simultaneously: there were three thousand individual rooms adapted only for washing (Fig. 1, B) [1].

The creation of thermae predetermined a whole era in the architecture of recreation, opening a new direction in the typology of recreational institutions. The use of a system of water procedures, bathing, and steam rooms in combination with rooms for rest was a reflection of a new approach to strengthening mental and physical health, where a person had the opportunity to restore strength in a short time. Thermae, as a great achievement in the evolution of recreation and in the creation of a fundamentally new type of building, were a significant element in the structure of the city and its architecture. They can be considered the prototype of modern multifunctional wellness centers in the city and suburban environment.

The peoples of Asia have used similar structures since ancient times. An inscription in an ancient Indian temple reads: "The body is purified by water, and the mind by knowledge." The Hindus distinguished 14 types of water (alkaline, sea, etc.), and each had its own medicinal purpose.

Even three thousand years BC, in the ancient Indian city of Mohenjo-Daro, there were excellently equipped public baths and pools, which also included bathing facilities. In Syria and Egypt, ancient baths were part of temples, palaces, fortresses, and castles. [6]

Unlike the complexly designed Roman thermae, the folk water structures of the Near and Middle East had fairly simple solutions. As a rule, they lacked swimming pools, with a few exceptions; instead of gymnasiums for physical hardening, small rooms for various types of massage were occupied here. Eastern hydrotherapy clinics consisted mainly of square-planned rooms designed primarily to carry out a complex of health and hygiene functions: sweating while lying or sitting on marble chairs, body massage, washing in warm and cold water, and resting with tea drinking.

A special group consisted of water structures built on hot mineral springs. Since the water in such structures did not need to be heated, entrance to them was mostly free. The abundance of thermal running water allowed for the arrangement of swimming pools and baths of various sizes in them. The pools usually had a circular shape in plan with stepped descents. Structures on thermal springs served as the prototype of a modern hydrotherapy clinic. The architecture of such structures corresponded to their functional purpose and, as a rule, was distinguished by high artistic and aesthetic expressiveness.

Results. The analysis showed that the development of water-entertainment structures occurred in accordance with the climatic, social, and cultural characteristics of the regions. Antique Roman thermae were multifunctional complexes with baths, gyms, and recreation areas that contributed to the development of urban infrastructure. Greek gymnasia included water zones used for physical training and ablutions. Water-recreational structures of the East had a close connection with religious traditions and climatic conditions, integrating pools and fountains into public spaces.

The history of the formation of multifunctional wellness complexes reflects the evolution of public attitudes towards recreation and its impact on the architectural development of cities. In ancient Greece, recreation was inextricably linked with the harmonious development of personality and included elements of physical, intellectual, and emotional culture. In Rome, public thermae were the center of social life, combining the functions of health improvement, communication, and leisure. In the East, water structures adapted to religious and climatic conditions, remaining an important part of the urban structure.

Discussion. The results obtained confirm the hypothesis that the historical experience of designing water structures can be useful for modern architects. It is important to consider not only functional and aesthetic aspects but also the impact of such complexes on the urban environment and public health. Modern wellness centers and water parks are increasingly using elements of historical architecture, adapting them to modern technologies and comfort requirements. Further research can be directed towards studying the environmental aspects of designing water structures and their impact on the sustainable development of cities.

Conclusions.

1. Throughout all these periods, starting from antiquity up to our days, due to the constant influence of the climatic factor on the nature of human interaction with the external environment, certain therapeutic and hygienic means and architectural and planning methods for designing buildings have historically been developed. These methods help to reduce the negative impacts of climate and utilize favorable natural factors. One of such methods of therapeutic and hygienic healing of the human body was the use of the medicinal and thermal properties of water and various forms of water procedures (bathing and swimming in pools, washing in baths and under the shower, visiting steam rooms, etc.).

2. The intensity and nature of the use of such therapeutic and health-improving means were determined depending on the natural and climatic conditions, since the human body's need for health and hygiene means varied for different climatic conditions. While in hot regions during most of the year, due to the uncomfortable temperature influence of the external environment on the human body, there is an increased need for bathing to cool the body and for water procedures to remove dirt from sweat and cleanse the skin's surface; in cold regions, to neutralize the negative effect of prolonged hypothermia on the human body, procedures were required that promoted short-term strong heating of the body in specially equipped rooms.

3. This general pattern played a significant role in the origin and formation of multifunctional wellness centers for various countries. Therefore, it is no coincidence that since ancient times in hot countries, there has been the appearance of open swimming pools, cold showers, and baths, and in the Middle Ages, warm baths (such as the hammam), the typological features of which were distinguished by the presence of a number of complex rooms in them that have various health and hygiene effects on the human body.

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