

## ANNOTATION

**To the Dissertation of Kurmaniyazov Yslam Serikovich on the topic  
«Geoarchaeological and cultural-typological characteristics of the monuments  
of the North-Eastern Aral sea region of the late stone age and bronze age»**

**Submitted for the degree of Doctor of Philosophy (PhD) in the  
Specialty 6D020800-Archeology and Ethnology**

**Dissertation description.** The dissertation work is devoted to the identification of cultural-typological basis with the description of the features of the Late Stone Age (Neolithic and Chalcolithic) and Bronze Age in the North-Eastern Aral Sea area. Archaeologists, geographers, geologists, etc. works made in collaboration with specialists are rarely exposed. In this region there is a need to differentiate the results of research work of complex archaeological expeditions that conducted field surveys, in comparison with newly discovered monuments to expand their geography and determine the results of the studied actions of past years.

**Relevance of the topic.** The relevance of the research topic is based on the interconnected consideration of the data obtained in the previous and subsequent years on geoarchaeological objects dating from the middle Holocene of the North-Eastern Aral Sea, that is, solving the problems of the methods of studying monuments, considering them comprehensively with geological and geomorphological research, differentiating sediments using climatological data, to the people of the primitive society. Stone tools, ceramic vessels, bone and bronze materials reflect the spatial position of mankind in the paleometallic era, provide opportunities for visual transition to its times, and help clarify the formation and development of the social structure of the communities of that time.

**The object of the research** Archaeological monuments and materials (site, settlement, source of raw materials, artifacts, etc.) found in the vicinity of the Aral Sea region since ancient times due to anthropogenic activity of the people of the first communities are distinctive features of the transformation of the ecosystem during the Holocene.

**The subject of research** is the diverse cultural layers formed in the archaeological monuments of the Eneolithic and Bronze Ages in the vicinity of North-Eastern Aral.

**The aim and tasks of the research.** The main goal of the thesis work is restore the climate of the North-Eastern Aral region, the economic activities of the first communities, the environment and sources of life on the basis of geoarchaeological methods on the archaeological materials of the Copper-Stone and Bronze Age.

The following scientific tasks were set for the realization of the intended goal:

- Studying the peculiarities of the natural, climatic and ecological conditions of the Holocene period of the Aral;
- Identification of the main sources of raw materials consumed in the household of the Stone and Bronze Ages of the Aral Sea region;

- To systematize the history of archaeological research work covering the territory of South-West Kazakhstan and generalize the basic scientific-theoretical methodology used in historical and cultural reconstructions on phenomena and processes, cultural-typological characteristics and economic-cultural types of the Paleometallic epoch;

- To carry out source analysis of monuments of the Late Stone Age (Eneolithic) and Bronze Age in the North-Eastern Aral area and to estimate their cultural and typological characteristics;

- Periodization of Late Stone Age (Eneolithic) and Bronze Age monuments in the North-Eastern Aral, definition of geochronology, paleogeography, correlation and zoning;

- Clarifying the technology of stone tools and pottery made by ancient communities and further distinguishing their function, as well as considering their interaction with other cultures that influenced the development of labor tools;

- To reveal the formation, development, decline and connection of the historical and genetic unity of cultures of the North-Eastern Aral Eneolithic and Bronze epochs with the subsequent cultural and historical periods.

**Territorial area of dissertation work.** It is determined by the borders of the North-Eastern Aral region. From the administrative-territorial point of view, it includes the North-East Aral region - Kyzylorda region - the territory of Aral and Kazaly districts, as well as Yrgyz and Shalkar districts of Aktobe region.

**Chronical period of the research.** The Late Stone Age of the studied historical and geographical region, that is, the Eneolithic period and the Bronze Age, to be more precise, includes the VI-I millennia BC.

**Research methods and methodology.** The dissertation search is built within the framework of the geoarchaeological position based on the historical principle and combines various methods and approaches of natural sciences, such as theoretical morphology, stratigraphy, geology, paleontology, palynology, planigraphy, appliqué, etc. The leading role in solving the tasks was played by morpho-typological and chronostratigraphic methods. Morpho-typological and chronostratigraphic methods played a leading role in solving the tasks set. Historical-archaeological, descriptive, comparative-historical analysis, technical-typological, methods of similarity and correlation, universality, versatility, special field, chamber and other methods were used in the study of archaeological sites and artifacts derived from them.

**Scientific novelty of the work.** For the first time, the influence of geoecological factors on the archaeological monuments of the North-Eastern Aral is considered, and the cultural and historical periods that occurred in the paleometallic epoch of the second half of the Holocene and the changes that occurred in the natural environment are analyzed.

- For the first time on the basis of geochemical, archaeological and landscape data geo-environmental factors affecting historical sites of settlements, burial grounds, ritual objects, burial sites, rock paintings, etc. have been identified.

- The natural-climatic and ecological conditions of the region from the middle Holocene of the Aral Sea region, the main sources of raw materials

consumed in the household of the Stone and Bronze Ages, cultural-typological examination of the means of labor were revealed for the first time;

- For the first time the functions in the technology of stone tools and ceramics that determine the geochronology, paleogeography, correlation and zoning of Late Stone Age (Eneolithic) and Bronze Age monuments in the North-Eastern Aral Sea region have been estimated;

- Typological models of production weapons of the Eneolithic and Early Bronze Age have been developed and chronologically revised;

- A number of Stone Age and Bronze Age monuments in the region were re-examined, new monuments were re-examined and mapped, and necessary materials were collected from the surface;

- Typological models of production weapons of the Eneolithic and Early Bronze Age were developed and chronologically revised;

- A number of stone and bronze age monuments in the region were re-examined, new monuments were re-examined, mapped, and necessary materials were collected from the surface layer;

- To clarify the age of the monument from settlements without cultural layer of dune sands on the laboratory level was carried out expertise and analysis, the age of monuments was clarified;

- According to the location of the Late Stone Age and Bronze Age monuments of the northeastern Aral Sea region were singled out into several groups, the life and significance of local sources of stone tools were determined.

#### **Statements proposed for defense:**

1. The specificity of the Aral Sea natural and climatic factors allowed the formation of various economic and cultural types (hunter, farmers, fishermen, shepherds, etc.) in the cultural and historical periods of the Chalcolithic and Bronze Age. The historical-cultural economy in the region can be characterized as a complex economy of hunters and fishermen.

2. Archaeological monuments identified in the vicinity of the Aral area, including the North-Eastern Aral, can increase the requisite fund, informative potential of various branches of science. Previous and modern geochronological and paleogeographic data from archaeological sites of the region clearly show the stages of development of weather conditions in the region, the influence of natural changes that occurred in certain epochs on the construction of monuments and erected objects (sites, settlements, shelters, economic objects, etc.).

3. The materials of Neolithic, Chalcolithic and Bronze Age monuments are distinguished by stone tools. As a rule, chronology, periodization, correlation of monuments, etc. are determined on the basis of these tools. They are of great importance as historical sources. When studying these artifacts, domestic specialists mainly use the typological method, but in recent years technological and traceological analyses have become increasingly widespread. Studies in this direction clarify that stone remained one of the main raw materials around the Aral Sea region during the Chalcolithic and Bronze Age. Local quartzite with various additives was found to be particularly widely used. However, the local quartzite did not fully satisfy the domestic demand. Petrographic studies on them show that the

sources of raw materials were two areas. The first was from Central Kazakhstan and the second from the Ural area.

4. Ancient Aral communities in the integrated study of geoarchaeological and pottery technologies contribute to the reconstruction of cultural and historical processes in the region. Jars created in the cultural and historical periods of Neolithic, Chalcolithic and Bronze Age caused more diverse styles of decoration than geoarchaeological, changed morphology of vessels. Ceramics is considered one of the main markers in determining the culture of monuments. With the help of such a universal historical source it is possible to determine what archaeological cultures lived in the vicinity of the North-Eastern Aral, to whom certain micro-regions belonged.

5. The study of problems of Middle Holocene paleogeography (geomorphological and soil-forming processes, formation and change of flora, change of hydrological units, etc.) should be based on physical methods of reconstruction of paleoclimatic conditions and all of them should be compared with archaeological sites. Then geoarchaeological results can be fully achieved.

6. Reconstructing the climate of past epochs is one of the most difficult problems. The archaeological method is used for its realization. On the basis of palynological data the flora was studied, the state of archaeological monuments of the boreal-sub-Atlantic period was clarified. It has been established geoarchaeologically that many cultural complexes date back to the Meso-Neolithic, Bronze Age.

7. Paleozoans and anthropogenic periods of the North-Eastern Aral had a mutual historical and genetic relationship according to the data of palynological, climatological and other fields of science. Daily economy of action, animal husbandry and farming, fishing, pottery, weaving, etc. occupational branches made the community members widely respond to natural conditions, environment and surroundings.

**The sources of the research** consists of written and archeological excavation materials. Written props include scientific reports, drawings, cartographic materials, etc. covering various fields of science related to the topic, archaeological excavation materials include tools, museum collections, artifacts from Stone Age and Bronze Age monuments, etc.

**The level of study of the topic** from the second half of the 19<sup>th</sup> century to the beginning of the 20<sup>th</sup> century (in different years) some specialists conducted regular studies in the vicinity of the Aral Sea region. In this regard, it can be said that each specialist contributed to the formation of national geoarchaeology with his research. To date, many cultural-historical and scientific sources have been accumulated throughout the North-Eastern Aral.

This can be explained by the extensive research of the Khorezm Archaeological and Ethnographic Expedition of the Academy of Sciences of the USSR, which began in 1946. For several years, the expedition teams conducted field searches in the territory of a number of southern regions of Kazakhstan, except for the North-Eastern Aral Sea. In different years S.P. Tolstov, A.L. Yanshin, A. B. Vinogradov, B. V. Andrianov under the guidance of B. I. Vainberg,

M. A. Itina and other scientists are worked in this expedition. In addition, a great contribution was also made by individual specialists.

During the years of independence, several joint archaeological expeditions with foreign partners were established. The Russian-Kazakhstani joint archaeological expedition led by Academician of the Russian Academy of Sciences A. P. Derevyanko in 1992-2003 should be noted. Units of this expedition organized complex searches for monuments of the Central Asian Stone Age, successfully worked with the involvement of specialists of natural science sphere - soil scientists, hydrologists, geomorphologists, paleozoologists, cartographers, mineralogists, paleobotanists and others.

Archaeological research was also intensively carried out in a number of areas around the Aral Sea and in the Syr Darya basin. Thus, in 2004-2009, within the framework of the state program "Cultural Heritage", research work on the ancient canals of the Syr Darya was intensified by the Chirik Rabat Archaeological Expedition (ShRAE). The expedition's route detachment traveled thousands of kilometers to massively study and map known and newly discovered monuments.

**The practical significance and results of the research work** can be used in the further development of modern conception of history of Kazakhstan and writing of archeology studies on steppe and semi-desert regions of Eurasia.

**Approbation of work results.** The results of the dissertation research were published in 20 scientific articles, including 11 articles in journals on the list of scientific publications presented by the Quality Assurance Committee in the field of Education and Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan. 3 articles were published in Scopus and Web of Science databases.

**The structure of the dissertation.** The dissertation consists of an introduction, three chapters, a conclusion and 3 illustrative appendices.