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On the uniqueness of the Dongal type sites

To solve a number of problems in the ancient history of not only Kazakhstan, but also the adjacent regions, it is extremely important to study the sites of the period of transition from the Bronze Age to the Early Iron Age. The range of such sites includes the settlement of Dongal, located 208 km southeast of the city of Karaganda (Karkaraly district, Karaganda region), which was explored by an archaeological expedition of the Karagandy University of the name academician E.A. Buketov. Excavations have revealed the preserved lower parts of the walls of the dwellings, formed by horizontal laying of flat stones. Due to this, it was established that the dwellings had a rectangular shape, the walls were lined with stone slabs from the inside. In the center of each building was a hearth, which was a pit surrounded by stone blocks along the perimeter. Utility and pillar pits were located on the floor. The entrances to the dwellings were in the form of an L-shaped corridor. The discovered inventory includes various stone (pestles, graters, polishers, scrapers), bone (scutchers) and bronze (rivets, a fragment of a knife) tools. An archaeozoological analysis of the found animal bones showed that horse breeding was the leading branch of the economy of the inhabitants of the settlement. In the second place was the breeding of cattle, in the third — sheep breeding. Ceramics and the inventory of the settlement have analogies in the settlements of the Sargary-Alekseevsk culture of the Late Bronze Age. At the same time, the essential distinctive features of housebuilding and the ceramic complex allowed the author to single out sites like Dongal into a special type related to the common steppe cultures during the transition from the Final Bronze Age to the Early Iron Age. It is possible that it is on the basis of this community that the cultures of the Scythian-Saka world develop.

Keywords: Bronze Age, Early Iron Age, transition period, Sargary-Alekseevsk culture, ceramics, Dongal type, settlement, dwelling.

Introduction

With a thorough elaboration of the problems of archeology of the Bronze and Early Iron Ages, the absence of special studies on the transition period between these eras is a serious obstacle in the study of the ancient history of Kazakhstan. Meanwhile, the transition from the Bronze Age to the Iron Age was a period of rapid socio-economic and technological changes — everywhere there is a transition to a nomadic type of economy, which coincided with the development of a new metal, iron, and was accompanied by an intensification of migration processes, frequent conflicts, and a restructuring of the social structure of society, and a radical change in the worldview system. Progress in the study of this important historical stage is hindered by an acute shortage of materials. Studies of the sites of the period of transition from the Bronze Age to the Early Iron Age seem to be extremely important and promising for solving a number of problems in the ancient history not only of Kazakhstan, but also adjacent regions. The range of such sites includes the settlement of Dongal, explored by the archaeological expedition of the KarU of the name of academician E.A. Buketov.

Materials and methods

The site is located 208 km southeast of the city of Karaganda, 1 km southeast of the village of Kent (Karaganda region, Karkaraly district). The settlement is located on the left bank of the river Kyzylkenysh at the foot of a rocky hill, at the entrance to the Kyzylkent gorge (Kent mountain range) (Figure 1).

Depressions of about 10 structures were visually recorded on the modern surface. In the early 1980s, an archaeological expedition of KarSU explored 4 dwellings [1; 453; 2; 507–508; 3].

Dwelling 1 had a rectangular plan and was oriented along the south-west-north-east line. The dimensions of the inner part of the dwelling are 10.2 by 7.2 m. From the side of the western transverse wall the remains of the entrance were recorded in the form of a laying of massive stone slabs adjacent to it at a right angle.

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The surviving part of the walls after clearing consisted of stone blockages to 3 m wide, 0.3–0.5 m high. It was established that the walls were built using masonry from stone slabs. Inside the dwelling, the walls were lined with slabs placed vertically. An ash layer was added near the walls. The narrow space between the walls of the dwellings was covered with ash mixed with bones and fragments of ceramics.

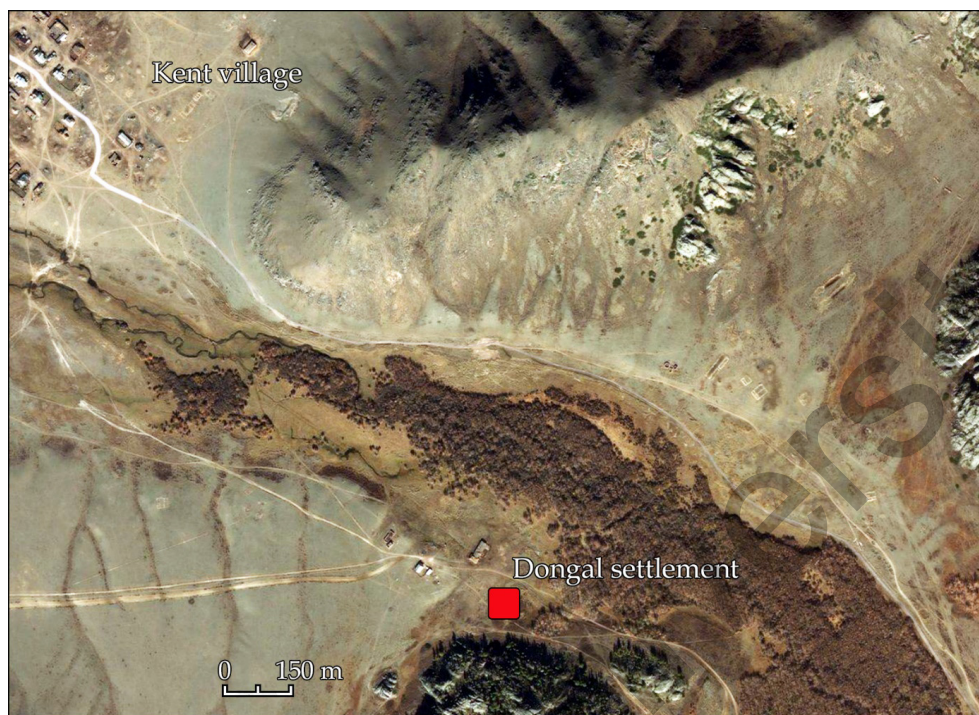


Figure 1. Location of the Dongal settlement

On the floor of the dwelling, a hearth, 16 utility pits and 44 pillar pits were recorded. The hearth was located at the center of the dwelling and was a round pit with burnt walls. Utility pits are located mainly along the perimeter of the central part of the dwelling, around the hearth and near the walls. In the filling of half of the pits, animal bones were noted, in four pits — fragments of ceramics and bones, in pit № X fragments of ceramics, bones, fragments of quartz, rock crystal, fluorite, pieces of ocher were discovered. In pit № I there was a ceramic vessel with several bones lying next to it. The pillar pits are rounded (0.05–0.4 m in diameter) in plan, in the section — cauldron-like and cone-shaped.

Fragments of pottery were found in the dwelling, as well as a stone fragments of a grater, a hoe, two polishers, two disc-shaped side-scrapers, two scrapers from animal jaws, and a bronze rivet. To the west and north of dwelling 1, fragments of various tools were collected, two stone pestles, a disc-shaped scraper, and a bone scutcher.

Dwelling 2 adjoins dwelling 1 on the eastern side and has a common wall with it, its internal dimensions are 10.2 by 7.8 m. The walls are similar in design to the walls of dwelling 1. The entrance to the dwelling was presumably from the eastern wall.

At the bottom of the pit, the depth of which is 0.4 m, there is a hearth, 13 utility and 50 pillar pits. The hearth is located in the central part of the dwelling. The hearth pit is lined with stone slabs along the perimeter, forming a pentagon in the plan, measuring 1.1 by 1.1 m along the axial lines.

In the filling of ten utility pits, animal bones and fragments of ceramics were noted, burnt walls and ash were recorded in pits № IV, V, in pits № X, XI there are no finds, but a burnt filling was discovered. In pit № XIII there was a small ceramic vessel.

Items from dwelling 2 are represented by the following: a ceramic disc, three bone awls, a bone scutcher, a stone disc-shaped scraper, fragments of indeterminate stone and bone tools. In addition, on the outer side of the northern wall of the dwelling, there was a ceramic vessel ornamented along the shoulder with triangles. A fragment of a flint arrowhead and two bone scutchers were found near the dwelling.

Dwelling 3 also has a common wall with dwelling 1, located to the south of it, and partly a common part of the wall on the east side with dwelling 2. Part of the southern wall has been destroyed. The construc-

tion of the walls is similar to the construction of the walls of dwellings 1, 2. The internal dimensions of the dwelling are 11.7 by 5.7 m. The L-shaped entrance opens to the south and adjoins the western wall at an angle. The entrance is formed by vertically dug stone slabs.

On the floor of the dwelling, there is a hearth, 7 utility pits and 53 pillar pits. The hearth is located in the central part of the dwelling, it is a structure in the form of a pentagon of six stone slabs dug along the edges of the hearth pit. Utility pits are grouped in the northwestern and northeastern corners of the dwelling. In pits № I, III, located not far from the entrance, there was a ceramic vessel. Animal bones were filling other pits.

The cultural layer of dwelling 3 contained fragments of ceramics, two fragments of stone pestles, a stone hammer, two polishers, a disc-shaped scraper, fragments of stone and bone objects, including fragments of two stone vessels with handles found at the entrance. Three disc-shaped stone side-scrappers and fragments of two pestles were found near the dwelling.

Dwelling 4 is located 13 m south-west of dwelling 3. The pit of the dwelling is sub-rectangular in plan, 9.3 by 8.4 m, oriented along the north-south line. The entrance to the dwelling is attached to the northern wall and is an L-shaped structure of vertically dug-in slabs that form a corridor and a vestibule with an exit to the east.

On the floor of the dwelling, there is a hearth and 19 pillar pits. The hearth is located in the southern half of the dwelling. The hearth pit is lined with stone slabs forming a pentagon 0.8–0.9 m in size.

Pillar pits are rounded in plan, with a diameter of 0.1–0.3 m, in the section of a cauldron-like, rectangular and saucer-shaped, with a depth of 0.04–0.4 m. Seven pits, 0.2–0.3 m in diameter, formed two rows parallel to the walls in the central part of the dwelling. Apparently, these pits belonged to the pillars of the roof.

On the eastern side, the dwelling pit is cut by an ashery, on top of which a cultural layer was formed outside the dwelling, that is, the dwelling was built later than dwellings 1–3.

A stone pestle and a fragment of a grater, fragments of rims from ceramic vessels were found in the dwelling. Near the southeastern corner of the dwelling, from the outside, five disc-shaped stone side-scrappers and a fragment of the sixth were found. One similar scraper was found south of the dwelling and another one was found in an asher to the east of it. In addition, the following items were collected around dwelling 4: a stone polish, a hammer, a ceramic disc, a fragment of a bronze knife blade, and several stone items of unclear purpose.

During the dismantling of the wall between dwellings 1 and 3, two stone side-scrappers, two graters, a quartzite ball, a bone scatcher and a dice — a ram astragalus with a through hole and a piece of bronze embedded in the surface — were found.

From the surviving stone remains one can imagine the construction of the foundations of the walls of the settlement's dwellings. It was formed by a two-row masonry of stone slabs with filling the inner space with earth mixed with small stones.

The pottery of the settlement was ornamented with inclined and intersecting lines, horizontal zigzags, horizontal lines, triangles, rows of impressions. Ornament technique — tracing, pectinated stamp, smooth stamp. One of the most common techniques was fingertips. Many vessels had a molded roll. Obliquely segments of the rolls are located on the body of some vessels.

Pot-shaped vessels with an expanded body and a well-defined neck predominate. Cup vessels were also found in insignificant quantities. The rims of the vessels are rounded, flattened and pointed. Among them are rims with cornices, thickened rims, and rims with «collars».

The collection of ceramics of the settlement (Figure 2) was distinguished by the author [4] into the Dongal type, which has a certain morphological similarity with the ceramics of the Sargary-Alekseevsk culture, but differs from it in a number of significant features: 1) the placement of the roller in the overwhelming majority of cases under the very rim of the vessel, whereas the Sargary-Alekseevsk rollers were more often located at the base of the neck; 2) the presence of rollers with narrow, rectangular or triangular section; 3) decoration of vessels with obliquely supplied rollers; 4) the presence among the decorative elements of a large number of impressions made with nails or fingertips.

At the same time, the existing analogies with the Sargary-Alekseevsk ceramics in the elements of ornament and technological traditions [5; 6], show that the Dongal pottery is the result of the evolution of the Sargary-Alekseevsk pottery.

A surprising similarity in almost all the features noted is observed with ceramics of the type of the Obitochnaya-12 settlement, which at one time was identified by O.A. Krivtsova-Grakova in the Azov region and the North-Western Black Sea region [7], dating it to the 7th century BC. Proceeding from her periodization, she pointed out that the Obitochnaya ceramics are closer to those of the Sabatinovo ones. Obitochnaya

ceramics are associated with Sabatinovo ceramics mainly due to the high located roller. However, the bulk of Sabatinovo utensils are cup-shaped, but at the settlement of Obitochnaya-12 the majority were pots. O.A. Krivtsova-Grakova nevertheless made the main emphasis on the differences between Obitochnaya ceramics and Sabatinovo ones, highlighting in it features that were developed in Scythian dishes. As for the high-located roller, it is found not only on the Sabatinovo, but also on the Scythian ceramics.

It should be noted that the ceramic complex of the Dongal settlement contains fragments of vessels with ornamental compositions typical of the Irmen ceramics of Western Siberia in the 9th-8th centuries BC. Vessels decorated with inclined rollers are also found in pre-Scythian assemblages. There is a similarity of the Dongal type with the Nur ceramics of the Lower Volga region, attributed to the period of the transition from the Bronze Age to the Early Iron Age [8].

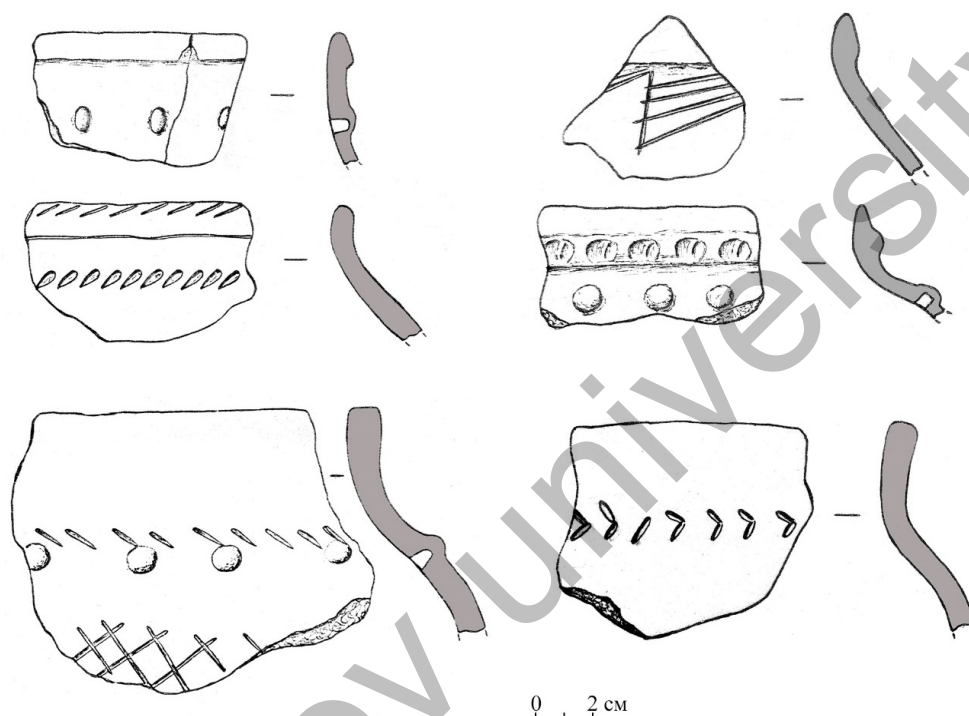


Figure 2. Pottery of the Dongal settlement

The bones of animals found at the settlement were subjected to archaeo-zoological analysis [9], as a result of which it was found that domestic species in general provided 92.7 % of meat production. The share of farmed ungulates, traditional suppliers of livestock meat products, was 92.6 %. Among them, the leading place was occupied by horse meat (48.3 %), the second — beef (32 %), the share of mutton was 9.6 %.

In the group of wild animals, which provided 7.2% of meat food in general, the kulan is clearly dominant. The share of other species does not exceed a fraction of a percent. It is obvious that the economy of the ancient inhabitants of the Dongal settlement was based on animal husbandry.

Horse breeding was the leading industry. The second place was occupied by cattle breeding, the third — sheep breeding. With regard to specialized goat breeding, one cannot definitely judge on the basis of the available materials. Camel breeding was absent, and the slaughtered individuals probably came with caravans.

Hunting prey diversified the food ration, bringing more than 7% of meat food. Hunting was carried out both for meat species of wild animals, and for fur, but the share of the latter is less significant.

Results

The performed technological analysis of ceramics showed that the cultural traditions of the Sargary-Alekseevsk and Dongal potters, formed during the selection of raw materials and the compilation of pastes, did not differ in principle [5; 6]. Thus, the assumption of a genetic link between the one and the other pottery has received strong evidence in its favor. The hypothesis of the Barnaul archaeologists about the emergence

of the Dongal type of ceramics as a result of the movement of certain groups of the population from Altai or from East Kazakhstan to Central Kazakhstan [10; 123], as it seems, does not yet have sufficient grounds.

The time of the existence of sites with Dongal pottery was determined by analogies in ceramics and on the basis of the stratigraphy of the Kent settlement [13] in the 8th century BC [4; 128], or even VIII — early VII century BC [12; 66, 14; 102]. Of course, this date should be considered, in general, conditional, since we have not yet received a single chronologically determining thing.

Sites of the Dongal type have other cultural features in addition to ceramics. So, we can already talk about the originality of the Dongal house-building in comparison, for example, with the Sargary-Alekseevsk [15]:

1. the area of the Sargary-Alekseevsk dwellings is 200–400 m², Dongal — 60–80 m²;
2. the walls of the first are wooden or lath fence, the second were formed by masonry from stone slabs;
3. Sargary-Alekseevsk hearths are in the form of burnt spots and platforms of clay and stone, in pits or on the floor, and the Dongal ones are a pentagon of low stone slabs dug into the edge;
4. in contrast to the multi-chamber Sargary-Alekseevsk dwellings, the Dongal ones are isolated from each other, although they are located very close, at a distance of 0.5–0.8 m.

At the same time, some common features should be noted, which may serve as additional evidence in favor of the origin of the Dongal sites from the Sargary-Alekseevsk ones: internal facing of the walls with stone slabs; rectangular shape; corridor-shaped exits (although the Dongal ones also have a vestibule, perpendicular to the main corridor).

Conclusion

Apparently, the sites with the Dongal type ceramic, allocated by V.V. Evdokimov [14] to the Dongal culture, if the date proposed for them is confirmed, were included in the community of cultures of the time transition from the Late Bronze Age to the Early Iron Age. The western border of this community is marked by sites with ceramics of the Obitochnaya type (Priazovye), which is almost a complete analogue of the Dongal one [7:151–154, fig. 37], the eastern part — by some settlements of the Trushnikov stage [17, tab. XXX — 7, 10, XLI — 15, 16; LVI — 3; LVIII — 2, 3; LX -3] (East Kazakhstan) and reached the Kulunda steppe [18; 19]. The southern limits of its own or the limits of the distribution of its connections are marked by the Kaindy sites in Northern Kyrgyzstan, with the discovery of ceramics [20, tab. XXX, 2, 3, 5; tab. XXXI, 5, 6; tab. XXXII] similar to Dongal.

This community is most likely the result of the evolution of the community of the Late Bronze Age Rolled Pottery cultures, and it is possible that it is on its basis some of the cultures of the Scythian-Siberian world, the area in which the indicated territory was included, developed. Thus, studies of the Dongal settlement seem to be extremely important and promising for solving a number of problems in the ancient history of not only Kazakhstan, but also adjacent regions. Its materials will help to clarify the origins of the subsequent Scythian-Saka civilization.

This research has been funded by the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan (Grant No. AP09261083 «Transcultural communications in the Late Bronze Age (Western Siberia — Kazakhstan — Central Asia»).

References

- 1 Евдокимов В.В. Работы Талдинского отряда / В.В. Евдокимов // Археологические открытия. — 1982. — М.: Наука, 1984. — С. 453, 454.
- 2 Евдокимов В.В. Исследования в Карагандинской области / В.В. Евдокимов // Археологические открытия. — 1983. — М.: Наука, 1985. — С. 507, 508.
- 3 Ломан В.Г. Новое поселение эпохи поздней бронзы в горах Кент / В.Г. Ломан // Тез. докл. науч. конф. мол. учен. ун-та. — Караганда: Изд-во КарГУ, 1984. — С. 56–58.
- 4 Ломан В.Г. Донгальский тип керамики / В.Г. Ломан // Вопросы периодизации археологических памятников Центрального и Северного Казахстана. — Караганда: Изд-во КарГУ, 1987. — С. 115–129.
- 5 Ломан В.Г. Об эволюции валиковой керамики Центрального Казахстана (по данным гончарной технологии) / В.Г. Ломан // Актуальные проблемы методики западно-сибирской археологии. — Новосибирск: Изд-во ТюмГУ, 1989. — С. 78–80.
- 6 Ломан В.Г. Особенности гончарной технологии эпохи поздней бронзы Центрального Казахстана / В.Г. Ломан // Краткие сообщения Института археологии. — 1991. — Вып. 203. — С. 47–53.

- 7 Кривцова-Гракова О.А. Степное Поволжье и Причерноморье в эпоху поздней бронзы / О.А. Кривцова-Гракова // *Материалы и исследования по археологии СССР*. — 1955. — № 46. — 166 с.
- 8 Качалова Н.К. О заключительном периоде бронзового века на территории Нижнего Поволжья (к постановке проблемы) / Н.К. Качалова // *Советская археология*. — 1989. — № 1. — С. 33–47.
- 9 Гайдученко Л.Л. Фаунистический комплекс поселения Донгал в Центральном Казахстане / Л.Л. Гайдученко, В.Г. Ломан // *Археология Западной Сибири и Алтая: опыт междисциплинарных исследований*. — Барнаул: Изд-во АлтГУ, 2015. — С. 200–204.
- 10 Кирюшин Ю.Ф. Новые материалы эпохи поздней бронзы степного Алтая / Ю.Ф. Кирюшин, Г.Е. Иванов, В.С. Удодов // *Проблемы археологии и этнографии Южной Сибири*. — Барнаул: Изд-во АлтГУ, 1990. — С. 104–128.
- 11 Евдокимов В.В. Отчет об исследованиях Павлодарского археологического отряда в 1982 г. / В.В. Евдокимов // *Архив САИ КарУ*. — Караганда, 1982.
- 12 Варфоломеев В.В. Относительная хронология керамических комплексов поселения Кент / В.В. Варфоломеев // *Вопросы периодизации археологических памятников Центрального и Северного Казахстана*. — Караганда: Изд-во КарГУ, 1987. — С. 56–68.
- 13 Варфоломеев В.В. Кент — город бронзового века в центре казахских степей / В.В. Варфоломеев, В.Г. Ломан, В.В. Евдокимов. — Астана: Изд-во КазНИИ культуры, 2017. — 338 с.
- 14 Евдокимов В.В. О выделении донгальской культуры переходного периода от эпохи бронзы к раннему железному веку в Центральном Казахстане / В.В. Евдокимов // *Проблемы археологии Степной Евразии*. — Кемерово: Изд-во КемГУ, 1988. — С. 101–103.
- 15 Зданович С.Я. Поселения и жилища саргаринской культуры / С.Я. Зданович // *Поселения и жилища древних племен Южного Урала*. — Уфа: Изд-во БФ АН СССР, 1983. — С. 59–76.
- 16 Маргулан А.Х. Бегазы-дандыбаевская культура Центрального Казахстана / А.Х. Маргулан. — Алма-Ата: Наука АН КазССР, 1979. — 360 с.
- 17 Черников С.С. Восточный Казахстан в эпоху бронзы / С.С. Черников // *Материалы и исследования по археологии СССР*. — 1960. — № 88. — 272 с.
- 18 Папин Д.В. О своеобразии памятников финальной бронзы степного Алтая / Д.В. Папин, А.С. Федорук // *Экология древних и традиционных обществ*. — Вып. 3. — Тюмень: Вектор Бук, 2007. — С. 121–124.
- 19 Ситников С.М. Культура саргаринско-алексеевского населения лесостепного и степного Алтая / С.М. Ситников. — Барнаул: Изд-во АлтГПУ, 2015. — 254 с.
- 20 Труды Семиреченской археологической экспедиции // *Материалы и исследования по археологии СССР*. — 1950. — № 14. — С. 84–143.

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Доңғал типіндегі ескерткіштердің өзіндік ерекшелігі туралы

Қазақстанның ғана емес, сонымен қатар оған іргелес аймақтардың ежелгі тарихындағы бірқатар мәселелерді шешу үшін қола дәуірінен ерте темір дәуіріне өту кезеңінің ескерткіштерін зерттеу өте маңызды. Мұндай ескерткіштердің қатарына Қарағанды қаласынан оңтүстік-шығысқа қарай 208 км қашықтықта (Қарағанды облысы, Қарқаралы ауданы) орналасқан және Академик Е.А. Бөкетов атындағы Қарағанды университетінің археологиялық экспедициясы зерттеген Доңғал елді мекені кіреді. Жүргізілген қазбалардан тегіс тастардың көлденең қалауынан пайда болған тұрғын үйлер қабырғаларының сақталған төменгі бөліктері анықталды. Осыған байланысты, тұрғын үйлер жоспар бойынша тікбұрышты, қабырғалары ішкі жағынан плиталармен қапталғаны анықталды. Әр құрылымның ортасында периметрі бойынша тас блоктармен қапталған шұңқыр ошақ болған. Еденнен тұрмыстық және тіректі шұңқырлар табылды. Тұрғын үйлерге кіреберістер «Г» пішінді дәлізге ұқсайды. Табылған заттардың ішінде әртүрлі тас (тастарды ұсату, үккіштер, жылтырататын тастар, қырғыштар), сүйек (қырғыштар) және қола (тойғармалар, пышақ сынықтары) т.б. еңбек құралдары бар. Табылған жануарлардың сүйектеріне жүргізілген археозологиялық талдау жылқы өсіру елді мекен тұрғындарының экономикасының жетекші саласы болғандығын көрсетті. Екінші орында ірі қара, үшінші орында қой шаруашылығы болды. Қоныстың керамикасы мен құрал-жабдығының соңғы қола дәуіріндегі Сарғары-Алексеев мәдениеті қоныстарында ұқсастықтары бар. Сонымен қатар, үй құрылысы мен керамика кешенінің елеулі ерекшеліктері авторға Доңғал сияқты ескерткіштерді соңғы қола дәуірінен ерте темір дәуіріне өту кезіндегі дала мәдениетінің ортақтығына жататын ерекше түрге бөлуге мүмкіндік берді. Мүмкін дәл осы қоғамдастық негізінде скиф-сак әлемінің мәдениеттері дамыған шығар.

Кілт сөздер: қола дәуірі, ерте темір дәуірі, өтпелі кезең, Сарғары-Алексеев мәдениеті, керамика, Доңғал типі, қонысы, тұрғын үй.

В.Г. Ломан

О своеобразии памятников донгальского типа

Для решения целого ряда проблем древнейшей истории не только Казахстана, но и прилегающих регионов чрезвычайно важным является изучение памятников периода перехода от эпохи бронзы к раннему железному веку. К кругу таких памятников относится поселение Донгал, находящееся в 208 км к юго-востоку от г. Караганды (Каркаралинский район, Карагандинская область) и исследованное археологической экспедицией Карагандинского университета им. академика Е.А. Букетова. Раскопками выявлены сохранившиеся нижние части стен жилищ, образованные горизонтальной кладкой из плоских камней. Благодаря этому было установлено, что жилища имели в плане прямоугольную форму, стены изнутри были облицованы каменными плитами. В центре каждого сооружения располагался очаг, представлявший собой яму, обставленную по периметру каменными брусками. На полу были зафиксированы хозяйственные и столбовые ямы. Входы в жилища имели вид «Г»-образного коридора. Обнаруженный вещевой инвентарь включал различные каменные (песты, тёрочки, ложила, скрёбла), костяные (трепала) и бронзовые (заклёпка, обломок ножа) орудия. Проведенный археозоологический анализ найденных костей животных показал, что ведущей отраслью хозяйства жителей поселения было коневодство. На втором месте располагалось разведение крупного рогатого скота, на третьем — овцеводство. Керамика и инвентарь поселения имеют аналогии в поселениях саргаринско-алексеевской культуры эпохи поздней бронзы. Вместе с тем существенные отличительные особенности домостроительства и керамического комплекса позволили автору выделить памятники, подобные Донгалу, в особый тип, относящийся к общности степных культур времени перехода от эпохи финальной бронзы к раннему железному веку. Не исключено, что именно на основе данной общности развиваются культуры скифо-сакского мира.

Ключевые слова: эпоха бронзы, эпоха раннего железа, переходный период, саргаринско-алексеевская культура, керамика, донгальский тип, поселение, жилище.

References

- 1 Evdokimov, V.V. (1984). *Raboty Taldinskogo otriada [Works of the Taldinsky detachment]* // *Arkheologicheskie otkrytiia*. — 1982. Moscow: Nauka, 453–454 [in Russian].
- 2 Evdokimov, V.V. (1985). *Issledovaniia v Karagandinskoj oblasti [Research in the Karaganda region]* // *Arkheologicheskie otkrytiia*. — 1983. Moscow: Nauka, 507–508 [in Russian].
- 3 Loman, V.G. (1984). *Novoe poselenie epokhi pozdnei bronzy v gorakh Kent [New Late Bronze Age settlement in the Kent Mountains]* // *Tezisy dokladov nauchnoi konferentsii molodykh uchenykh universiteta*. Karaganda: Izdatelstvo Karagandinskogo gosudarstvennogo universiteta, 56–58 [in Russian].
- 4 Loman, V.G. (1987). *Dongalskii tip keramiki [Dongal type of pottery]* // *Voprosy periodizatsii arkheologicheskikh pamiatnikov Tsentralnogo i Severnogo Kazakhstana*. Karaganda: Izdatelstvo Karagandinskogo gosudarstvennogo universiteta, 115–129 [in Russian].
- 5 Loman, V.G. (1989). *Ob evoliutsii valikovo keramiki Tsentralnogo Kazakhstana (po dannym goncharnoi tekhnologii) [On the evolution of roller ceramics in Central Kazakhstan (according to pottery technology)]* // *Aktualnye problemy metodiki zapadno-sibirskoi arkheologii*. Novosibirsk: Izdatelstvo Tiimenskogo gosudarstvennogo universiteta, 78–80 [in Russian].
- 6 Loman, V.G. (1991). *Osobennosti goncharnoi tekhnologii epokhi pozdnei bronzy Tsentralnogo Kazakhstana [Features of pottery technology of the Late Bronze Age in Central Kazakhstan]* // *Kratkie soobshcheniia Instituta arkheologii*, 203, 47–53 [in Russian].
- 7 Krivcova-Grakova, O.A. (1955). *Stepnoe Povolzhe i Prichernomore v epokhu pozdnei bronzy [Steppe Volga and Black Sea regions in the Late Bronze Age]* // *Materialy i issledovaniia po arkheologii SSSR*, 46 [in Russian].
- 8 Kachalova, N.K. (1989). *O zakliuchitelnom periode bronzovogo veka na territorii Nizhnego Povolzhia (k postanovke problemy) [About the final period of the Bronze Age on the territory of the Lower Volga region (to the formulation of the problem)]* // *Sovetskaiia arkheologiia*, 1, 33–47 [in Russian].
- 9 Gajduchenko, L.L., & Loman, V.G. (2015). *Faunisticheskii kompleks poseleniia Dongal v Tsentralnom Kazakhstane [Faunistic complex of the Dongal settlement in Central Kazakhstan]* // *Arkheologiia Zapadnoi Sibiri i Altaia: opyt mezhdistsiplinarnykh issledovaniia*. Barnaul: Izdatelstvo Altaiskogo gosudarstvennogo universiteta, 200–204 [in Russian].
- 10 Kiryushin, Yu.F., Ivanov, G.E., & Udodov, V.S. (1990). *Novye materialy epokhi pozdnei bronzy stepnogo Altaia [New materials of the Late Bronze Age of the steppe Altai]* // *Problemy arkheologii i etnografii Yuzhnoi Sibiri*. Barnaul: Izdatelstvo Altaiskogo gosudarstvennogo universiteta, 104–128 [in Russian].
- 11 Evdokimov, V.V. (1982). *Otchet ob issledovaniakh Pavlodarskogo arkheologicheskogo otriada v 1982 g. [Report on the research of the Pavlodar archaeological detachment in 1982]* // *Arkhiv SAI Karagandinskogo universiteta*. Karaganda [in Russian].
- 12 Varfolomeev, V.V. (1987). *Otnositelnaia khronologiia keramicheskikh kompleksov poseleniia Kent [Relative chronology of ceramic complexes of the Kent settlement]* // *Voprosy periodizatsii arkheologicheskikh pamiatnikov Tsentralnogo i Severnogo Kazakhstana*. Karaganda: Izdatelstvo Karagandinskogo gosudarstvennogo universiteta, 56–68 [in Russian].
- 13 Varfolomeev, V.V., Loman, V.G., & Evdokimov, V.V. (2017). *Kent — gorod bronzovogo veka v tsentre kazakhskikh stepei [Kent — a city of the Bronze Age in the center of the Kazakh steppes]*. Astana: Izdatelstvo Kazakhskogo nauchno-issledovatel'skogo instituta kultury [in Russian].

14 Evdokimov, V.V. (1988). *O vydelenii dongalskoi kultury perekhodnogo perioda ot epokhi bronzy k rannemu zheleznomu veku v Tsentralnom Kazakhstane* [On the allocation of the Dongal culture of the transitional period from the Bronze Age to the Early Iron Age in Central Kazakhstan] // Problemy arkheologii Stepnoi Evrazii. Kemerovo: Izdatelstvo Kemerovskogo gosudarstvennogo universiteta, 101–103 [in Russian].

15 Zdanovich, S.Ya. (1983). *Poseleniia i zhilishcha sargarinskoi kultury* [Settlements and dwellings of the Sargarin culture] // Poseleniia i zhilishcha drevnikh plemen Yuzhnogo Urala. Ufa: Izdatelstvo BF AN SSSR, 59–76 [in Russian].

16 Margulan, A.Kh. (1979). *Begazy-dandybaevskaia kultura Tsentralnogo Kazakhstana* [Begazy-dandybaevskaya culture of Central Kazakhstan]. Alma-Ata: Nauka AN KazSSR [in Russian].

17 Chernikov, S.S. (1960). *Vostochnyi Kazakhstan v epokhu bronzy* [East Kazakhstan in the Bronze Age] // Materialy i issledovaniia po arkheologii SSSR, 88 [in Russian].

18 Papin, D.V., & Fedoruk, A.S. (2007). *O svoeobrazii pamiatnikov finalnoi bronzy stepnogo Altaia* [About the originality of the monuments of the final bronze of the steppe Altai] // Ekologiya drevnikh i traditsionnykh obshchestv, 3, Tiumen: Vektor Buk, 121–124 [in Russian].

19 Sitnikov, S.M. (2015). *Kultura sargarinsko-alekseevskogo naseleniia lesostepnogo i stepnogo Altaia* [Culture of the Sargarin-Alekseevsky population of the forest-steppe and steppe Altai]. Barnaul: Izdatelstvo Altaiskogo gosudarstvennogo pedagogicheskogo universiteta [in Russian].

20 *Trudy Semirechenskoi arkheologicheskoi ekspeditsii (1950)*. [Proceedings of the Semirechensk archaeological expedition] // Materialy i issledovaniia po arkheologii SSSR, 14, 84–143 [in Russian].