The settlement “Kartal” (“Eagle” in English) can be considered as one of the most interesting archaeological sites in the Northwest Pontic region. For a long time it has been known mainly among specialists in the Classic archaeology and history owing to remains of a Roman fortress, which had been excavated there. During field campaigns in 2001-2002 carried out by the Odessa Archaeological Museum (the Ukraine), Institute of Thracology (Bucharest, Romania) and High Anthropological School (Kishinev, Moldova) a rich prehistoric layer was revealed at the site. According to its peculiar traits it can be regarded as a real archaeological discovery, which significantly changes traditional notions concerning the historic-cultural situation in the region in the Copper Age.

The site is located about 1.5 km west of the village of Orlovka (former Kartal), Reni district of Odessa county, on the end of a low cape stretched from east to west. The distance to the left bank of the Danube is approximately 2 kilometers. The site consists of two areas: a fortified part or citadel situated on the top of a high hill with local name “Stone Hill” (“Kamennaya Gora”) and rural settlement that adjoins the fort from the east. The both parts are divided by a deep ravine.

In archaeological literature the fort is usually mentioned as Orlovka I whereas the rural settlement was named as Orlovka II although initially they were designated as “Kartal”. That is why the old name “Kartal” is used in present work. Additionally the both areas represent a united cultural complex and provide virtually the same material from prehistory to the Middle Ages.

The excavations in 2001-2002 were concentrated on the territory of the rural settlement, about 25 meters northeast of the citadel (fig. 1). The investigated surface slightly exceeded 250 square meters. The thickness of cultural deposits reaches more than six meters at the highest eastern wall of the excavation area while in the western part the deposits almost disappear because of the steep slope of relief.

**STRATIGRAPHY OF THE SITE**

There were traced several separate cultural layers. The lowest one, about 1,5 m thick, is related to the Copper Age. Above it the layers of the Late Bronze Age and Early Iron Age are evidenced. Two other layers belong to the Antic time and include the material of the Classic Greek and Roman periods. The most upper layer contains the material of the 16th century AD. Owing to intensive occupational activities during the Roman period all earlier cultural layers are seriously damaged by different intrusions and their material is frequently very mixed. Nevertheless some sections preserved intact and gave remarkable prehistoric finds including a number of various structures as well as stone, bone, metal and clay artifacts.

According to stratigraphic observations the layer of the Copper Age can be divided in two independent cultural horizons, which are designated Ia and Ib. The lower horizon Ia is related to the local variant of the Gumelnita culture that is known under the name Stoicani-Aldeni or Bolgrad-Aldeni culture (Dragomir 1983; Subbotin 1983). The second horizon Ib is represented by the remains the Cernavoda I culture. Settlements of this culture were unknown in the Northwest Pontic region so far. Unlike many other synchronous settlements, the line of ancient surface at “Kartal” is well visible because of yellow clay, which was dug out from a prehistoric defensive ditch and was scattered around the surface with a thickness of 20-30 cm. This circumstance permits to trace clearly interrelation between different prehistoric horizons and isolated structures.

**THE HORIZON OF THE BOLGRAD-ALDENI CULTURE**

The horizon of the Bolgrad-Aldeni culture did not have any large substantial structures which are characteristic of other sites of the same culture distributed in the south of Rumanian Moldova and in the area of the Danubian lakes. There were revealed several circular pits with the diameter of 1.0-2.5 m, which contained quite ordinary Bolgard-Aldeni material consisting mostly of pottery and animal bones.

The ceramic assemblage can be easily divided in two main technological categories. The vessels of the fine ware category (so-called “table” pottery) were manufactured of well-purified clay sometimes with insignificant insertions of tiny pieces of chamotte (fig. 2). Their surface is always well smoothed and frequently perfectly burnished. The repertoire of shapes includes various bowls mainly with a sinuous profile and sometimes with small handles, small beakers, cups and jugs. There are several kinds of decoration: the painted ornament of narrow white lines covering the upper part of the body, rectilinear and curvilinear incised designs, horizontal channels in combination with the chain of small circular pricks.

The second technological category is represented by coarse ware or so-called “kitchen” pottery (fig. 3). It is made of clay tempered mostly with chamotte and more rare with sand and chaff. The external surface of vessels as a rule is rough and has traces of finger or grass smoothing. The most frequent morphological types are various pots, cauldrons and jugs with large vertical handles. The vessels are usually decorated with horizontal ridges with fingerprints or incisions under the neck and conical bosses on the belly.

Unlike the pottery other artifacts of the Bolgrad-Aldeni culture are not clearly detectable. A rare exception is the lower part of a feminine figurine that has obvious parallels in the anthropomorphic sculpture of the Gumelnita culture as a whole (fig. 7.1). Additionally some flint or bone objects with insecure stratigraphic position can belong to it although most of them are certainly connected with the next
horizon of the Cernavoda I culture. The absence of any substantial structures and quite insignificant amount of material seem to evidence for relatively short-term period of occupation of this place by the bearers of the Bolgrad-Aldeni culture. At the same time the both parts of the site were probably settled at that stage since similar ceramic material had been gathered on the top of the “Stone Hill” too. The character and duration of the Bolgrad-Aldeni settlement should be clarified by further excavation.

THE HORIZON OF THE CERNAVODA I CULTURE

It is still precisely not determined how long a temporal interval between the Bolgrad-Aldeni and Cernavoda I cultures was at the site. There is yet no sufficient stratigraphic data, which could resolve this problem. It can be supposed that stretch of time was long enough because according to material no apparent contacts are observed between the both cultures. Nevertheless certain similarity between them still can be traced although only on a general level.

It can be admitted that, unlike the Bolgrad-Aldeni culture, the occupation of this place by the bearers of the Cernavoda I culture continued much longer and was distinguished by very intensive settlement activities. Diversified features and abundant archaeological material can support such a statement. Conditionally the horizon of the Cernavoda I culture can be divided in two chronological phases, which are characterized by different types of structures and some distinctions in material. The earlier phase (horizon Ib1) of the settlement is exemplified by a deep defensive ditch and probably manufacturing complex consisting of several small circular ovens whereas the second one (horizon Ib2) is represented by pisé houses erected above the ditch (fig. 1).

The ditch was dug out from the ancient surface that is well seen in stratigraphic profiles. In the period of the Cernavoda I culture it separated the end of the cape with the “Stone Hill” from open field. It is probable that the initial Cernavoda I settlement was localized inside the fortified part. In its section the ditch has the trapeziform outlines (fig. 4). Four-five steps were made in the upper part on both sides of the ditch whereas lower parts of walls were absolutely even. The ditch is to 3,5 m deep from ancient surface. Its width is above 3 m in the upper part and 0.5-0.6 m in the bottom.

The filling of the ditch consisted of numerous thin strata of soil and some of them were particularly saturated by various cultural remains in form of tools, arms, pottery, animal and fish bones, charcoal, ashes, etc. Sometimes the fish bones and scales could form separate layers. The quantity of animal bones is especially large and they constitute up to 70% in relation to other categories of finds.

Additionally two human sculls colored with red ocher and disarticulated human bones were found in the filling of the ditch being accompanied with a great amount of animal bones and horns of aurochs. One more incomplete human skeleton was found at the eastern edge of the ditch. Only upper part of the skeleton preserved which lay in prone position. The back of the head was also painted with red ocher.

According to the character of the contents of the ditch it can be supposed that it was filled deliberately for a long period. At the same time lower strata of the filling are denser then upper ones and contain much fewer cultural remains. It is apparent that they were formed due to natural soil erosion. The material of the Cernavoda I culture starts to occur from the bottom of the ditch that permits sufficiently accurate dating of the structure. The upper layers of the ditch consist of mellow soil separated in some places by narrow strips of yellow and green clay and are especially rich with finds. At that time the ditch was apparently used as a refuse pit and lost its significance as a defensive structure. At can be supposed that in Roman period or a little earlier at least part of the ancient fortification closer to the citadel was
reconstructed and the modern ravine virtually represents remains of a renewed ditch.

Very interesting manufacturing (?) complex was uncovered 6-7 meters east of the ditch (fig. 1). It included 7 pisé dome-shaped one-chambered ovens dug into the soil. According to preliminary interpretation of stratigraphic data the ovens seemed to be built either simultaneously with the ditch or a little later. The walls and bottom of the ovens are just slightly burnt or have no traces of fire. At the same time some structures are completely filled with the Cernavoda I ceramics. It is an impression that the ovens almost were not in use and were left soon after their constructing. Later they had been utilized as refuse pits.

In the latest phase of its existence the settlement of the Cernavoda I culture was extended beyond the fortified part, and substantial houses were built directly above the ditch. At least remains of two pisé houses were found (fig. 1). They represent irregular accumulations of large and small adobes 20-40 cm thick severely damaged by features of the Roman period. That is why for rare exception no possibility is to detect any constructive details of the buildings. The remains of the first house had traces of thermal influence resembling well-known ruins of the Cucuteni or Gumelnita dwellings while those of the second house were not burnt. In both cases the adobes had very hard structure. The preserved surface of the house N 2 is approximately 40 square meters and house N 1 roughly 20-28 square meters.

The only relatively well-preserved structure in the house N 2 was a circular hearth of the semi-open type 1.7 m in diameter. It had low but clearly discernible walls along its perimeter. The sole of the hearth was deeply calcined. Several trapezoidal “firedogs” with concave upper part were scattered around the hearth. Similar objects were found in the house N 1.

At least two deep round pits with diameters 1.0 and 2.0 meters can be supposedly related to the latest horizon lb2 of the Cernavoda I culture. They were situated about 2-3 meters west of the house N 1 and were partially destroyed by later intrusions. The pits contained mixed material of different epochs in upper part but finds of the Cernavoda I culture certainly predominated.

Most of material of the Cernavoda I culture was found in the ditch, inside dwellings and in vicinity of them. The ratio between different categories of finds is very unequal. For instance stone tools are represented just by a few items of the Balkan “honey” flint. They consist mainly of middle blades (fig. 5.4-7) and more rare tools on flakes are present (fig. 5.1-3). Quite seldom find of utilized blade-sickle deserves particular attention (fig. 5.6).

It is probable that the shortage of flint tools to large extent was compensated by extremely numerous and very diversified bone artifacts. They include different punches, awls, large and smaller needles, hoes, spatulas, etc. (fig. 6.1-6). It is in the category of weapons that the extended series of typologically homogeneous battle hammers made of antlers is present (fig. 6.9-11). They were mostly encountered in the filling of the ditch. A great number of bone objects at “Kartal” far exceeds qualitative indices for similar items in other Copper Age sites in Southeast Europe.

Only two metal artifacts were found for the whole period of excavation. The first of them is the fragment of a bronze (?) single-edged knife which derives from secure stratigraphic conditions and can be certainly connected with the Cernavoda I culture (fig. 6.8). The second is a bronze (?) awl with rectangular section whose stratigraphic context is not clear completely (fig. 6.7).

The category of clay tools includes numerous spindle-whorls (figs. 7.2-6; 8.2-10). They are very different from their size and cross-sections. The sections are segment-like, oval, rhombic or elliptical. Some objects were made of a sherd. Such a variety and quantity of spindle-whorls obviously indicates to intensive spinning and weaving practiced by the settlers of the Cernavoda I culture.

The ceramic assemblage of the Cernavoda I culture at “Kartal” to some extent resembles pottery from other sites of Muntenia and Dobrudzha. Preliminary, the whole amount of material can be divided in two major technological categories. They differ from each other according to the quality of burning, composition of clay paste and treatment of the vessel surface. Independently on its technological attribution all pottery of the Cernavoda I culture at “Kartal” is flat-bottomed.

The fine ware category consists of well-burnt vessels manufactured of well-kneaded homogeneous clay with inclusions of small grains of chamotte and more infrequently with very insignificant crushed shell admixture. The surface of vessels is coated with thin slip and is usually well smoothed and burnedish. Brownish, yellowish and gray tints predominate in the color range of the surface whereas dark-gray and black colors are encountered more rare.

There are several distinctive morphological groups related to the fine ware category. The most numerous group is represented by various bowls, which are divided in several basic types. The first type embraces different variants of bowls with sinuous profile. Among them S-profiled vessels with a sharp or soft shoulders definitely predominate (figs. 9.4-6; 10.1-5; 9; 12.1,2). Another type includes wide-open bowls with accentuated middle rib or without it (figs. 10.6-8; 11.1,2). One more separate type represented by semi-spherical and conical bowls is present in small number (fig. 9.1).

The second group of the category in question is exemplified by vessels with squat softly rounded body and cylindrical or conical neck. One can discern relatively large pots of such type (fig. 13.2,4,5,7,8) and smaller beakers (fig. 13.1,3). It is often that the neck of vessels is separated from shoulders by shallow and wide horizontal channel (fig. 13.1.2,7). Usually, the surface of this type of wares is gray or dark-gray unlike bowls, which have brownish or yellowish color.

A separate morphological group is formed by various milk-jugs, which considerably vary in shape and smaller traits. There are vessels with a rounded body and high or low cylindrical neck with horizontal tunnel handles under the rim (fig. 14.4). Additionally, there are wide-open jugs with slightly marked shoulders, conical body and horizontal handles (fig. 14.5). A vessel with tunnel vertical handles is the only find in the settlement (fig. 14.1).

The pottery of the first category has almost no decoration. The most frequent elements are conical or oblong bosses disposed horizontally or vertically. As a rule they are situated on the shoulders of vessels or in the middle of the body (figs. 9.5,6; 10.4,7; 12.2). Less frequently perforated bosses, horizontal incised lines and other ornamental elements occur (figs. 9.4; 10.3,8).

It is worth noting that according to its attributes, especially technological and morphological, the fine ceramics of the Cernavoda I culture do not differ dramatically from the pottery of the preceding Gumelnita culture. Sometimes their similarity is such strong that it is difficult to distinguish one material from another.

The pottery of the second category or coarse ware is much more diversified according to its technological, morphological and stylistic attributes. Preliminary, three main technological groups can be singled out among material of this category.

The first group consists of vessels made of clay paste with abundant crushed shell admixture and sometimes with insignificant chamotte inclusions. The structure of sherd is often flaky and some-
times fragile because of numerous shell pieces although normally the pottery is well burnt. The surface of vessels of dark colors is usually even but rough. Among morphological types oblong and squat pots with a high cylindrical neck and softly rounded shoulders predominate (figs. 11.3-5; 14.3,6-9,13; 15:1,3,7,8,14; 16.1). One can come across globular amphorae with large vertical handles on the middle of the body (fig. 17.7-10). It is still difficult to classify all morphological types because of very fragmentary material.

It is frequently that the neck and body of vessels have vertical and oblique combed smoothing, which from time to time constitute a kind of ornamental compositions (figs. 9.2,3; 12.5,10-12; 14.2,10,12; 16.8,9). In separate cases the combed lines are so thoroughly made that remind narrow channels (fig. 15.2).

The pottery of this sort has the richest decoration among other technological groups. The most widespread type of ornament is cord imprints of three variants. The first variant includes short impressions of so-called “false” cord, which are designated in archaeological literature as “caterpillar” and “larva”. They are disposed under the rim or on the shoulders of pots (figs. 11.3; 13.6; 14.3,8,13; 15.8,11; 16.11). It was the only fragment of a vessel where the “caterpillar” imprints were posed on the rim (fig. 14.11).

The second variant, which is extremely rare at “Kartal”, embraces different kinds of “real” cord imprints. There are single or multiple corded lines which horizontally engird the base of the neck of vessels (fig. 14.9). Sometimes they are combined with short corded impressions in form of “sickles” (fig.15.14). One can encounter also a “parquet” design composed of stray short imprints (fig. 15.12).

The third variant consists of designs of so-called “knotted” cord that leaves lines of small double impressions. They are situated under the rim and on shoulders of vessels (figs. 11.4,5; 15.1).

The relief decoration is one of the most characteristic traits of the pottery of the first group. It is mostly represented by simple or figured oblong protuberances vertically disposed below the rim of vessels. Normally, this kind of decoration is associated with wide-open pots with high cylindrical neck (fig. 12.3,4,6-9; 16.1).

The stamp decoration occurs at “Kartal” only in isolated cases. It consists of ranges of relatively large oval or semi-oval impressions horizontally or vertically situated on the body of vessels (fig. 15.4,5,7).

The second group of the coarse ware category is represented by large vessels with thick walls, which are fashioned from chamotte-tempered clay. In separate cases insignificant amount of crushed shells is also present. The surface of vessels usually has brownish or yellowish color. As a rule it is carelessly treated and is uneven and rough. According to technological attributes the pottery of the second group significantly differ from the first one.

Certain differences between them are observed in morphological traits as well. The most characteristic morphological type of the second group is large wide-open pots with short funnel-like neck (figs. 16.2-6; 17.1,3,4). The vessels of the second group have almost no decoration except rare of “false” cord. According to quantitative indices this kind of pottery is quite numerous in the ceramic assemblage of the “Kartal” settlement.

The third group of pottery within the category of course ware is the smallest in number. It consists of thin-walled vessels made of chaff-tempered clay with occasional admixture of crushed shell. The brown surface of pots is porous, uneven and sometimes has traces of combed smoothing. The main shapes are wide-open pots with high cylindrical neck ornamented by impressions, “false” cord and bosses (fig. 15. 9,10). According to their technological traits this ceramics partially resembles the pottery of the category “C” of the later Cucuteni culture.

It is possible to determine certain differences in the stratigraphic distribution of material. It is in the lowest strata of the ditch that almost solely the fine dark-burnished beakers and high-necked pots of the first category occur while the shell-tempered ceramics (the 1st group of the 2nd category) and corded decoration are completely missing. At the same time all ceramic groups are present in the upper layers of the ditch and within the horizon of the houses whereas the dark-burnished pottery from the bottom of the ditch is not evidenced. Beyond any doubts this observation has a preliminary character and it will be verified in the course of further excavations.

THE MATERIAL OF THE CUCUTENI-TRIPOLYE CULTURE

The material of the latest Cucuteni-Tripolye at “Kartal” is very insignificant and includes about twenty ceramic fragments. It is still unclear whether this material constitutes a separate stratigraphic horizon or is associated with the latest Cernavoda I horizon. So far no reliable structures related to the Cucuteni culture have been detected. The sherds were found in different parts of the excavation area but most of them had been dispersed around the house N 1. The only fragment of a semi-spherical bowl comes from the middle of ditch filling (fig. A.4).

All fragments belong to the Cucuteni category of fine ware manufactured of well-kneaded clay paste and well burnt (fig. A.1-6). The surface of vessels is yellowish or reddish and finely burnished. The most frequent shape is small wide-open pots with a short neck and globular belly. Almost all potsherds are painted by dark-brown dye. The decoration consists mainly of geometric compositions arranged of parallel thin and thick lines. According to morphological and stylistic traits the pottery can be dated from the Usatovo period.

THE POSITION OF THE “KARTAL” SETTLEMENT IN THE CULTURAL CONTEXT OF THE LOWER DANUBE REGION

The prehistoric material from the “Kartal” settlement is not equal in terms of its significance. On the one hand ceramic finds of the Bolgrad-Aldeni culture do not possess obvious peculiarity and have numerous parallels in other sites of the same culture located nearby. On the other hand the discovery of the long-term settlement of the Cernavoda I culture in south of Bessarabia can be considered as a real event, which should give a possibility to clarify some obscure questions of prehistoric cultural evolution in the Lower Danube region.

First of all now it becomes clear that at least a large part of the northwest Pontic region can be included into the area of the Cernavoda I culture as it was suggested earlier (Roman 1982: 40; Manzura 1994: 95-99). Besides the site under consideration such a conclusion is supported by a series of barrow graves whose cultural attribution has not been precisely determined although their relation to the Cernavoda I culture had not been excluded (Manzura 1999: 115-120). In some of these graves the pottery is documented, which finds evident analogies in the ceramics of the “Kartal” settlement.

According to its character and material the site in question stands close to such settlements as Cernavoda-Dealul Sofia and Hârsova in Dobrudzha (Morintz & Roman 1968; Hasotti & Dragomir 1992; Roman 2002). All of them are situated in naturally defended conditions: at “Kartal” the initial settlement was on the top of a high hill.
and at Cernavoda and Hârsova they occupied the edge of a high cape. Additionally both at “Kartal” and in Cernavoda the settlements were protected by artificial fortifications which were abandoned in later phases. All sites belong to the type of long-term residential places with substantial houses with open hearths and other structures.

Especially close links are observed between the material of the “Kartal” and Hârsova settlements. Unfortunately the complete data from the Cernavoda-Dealul Sofia settlement still are not published so it is difficult to attract reliable parallels from there. Both at “Kartal” and Hârsova were uncovered trapezoidal “firedogs”, numerous spindle-whorls and very similar ceramics. One can come across actually the same morphological and stylistic attributes of the pottery including numerous bowls with sinuos profile, wide-open pots with high cylindrical neck, “milk-jugs” with tunnel handles, large amphorae with vertical handles, oblong protruberences under the rim and on the body of vessels, different kinds of corded decoration, etc.

Nevertheless there are apparent distinctions between the two sites. For instance at Hârsova the tradition of combed smoothing of the surface seems to be completely missing as well as the decoration of “knotted” cord. However such traits occur further to the west, at such sites of the Cernavoda I culture as Chirnogi, Cacsioarele, Ulmeni, etc. Quite unique phenomenon appears to be a specific dark-burnished pottery from the bottom of the ditch at “Kartal”, which is not mentioned for other Cernavoda I sites in Muntenia and Dobrudzha. Another particular trait of the “Kartal” pottery is the lack of cups with loope-like handles and horizontal fluted ornament, which are widespread in other parts of the Cernavoda I area. The absence of these attributes at “Kartal” can signify that they were really borrowed from the Khotnitsa culture in the northwest Bulgaria and did not reach the northwest Pontic because of great distance. This suggestion once again can support the idea that Cernavoda I and Khotnitsa cultures are totally different phenomena and are not connected genetically (Manzura 2003)  

It is still impossible to determine precise chronological position of the Cernavoda I settlement at “Kartal”. The existence at least two stratigraphic horizons speack in favor of fairly long period of occupation but due to insufficient data it is difficult to establish when exactly it started and finished in terms of relative chronology. One can expect that the lower chronological border of the Cernavoda I settlement should be synchronous to the end of the Cucuteni AB or the beginning of the Cucuteni B periods whereas the upper border could be contemporary to the final of Cucuteni B. However answers to this and other questions can be obtained only after further excavation.

REFERENCES


Fig. A. Ceramics of the Cucuteni-Tripolye culture.
Fig. 2. Fine ware of the Bolgrad-Aldeni culture.
Fig. 3. Coarse ware of the Bolgrad-Aldeni culture.
Fig. 4. Section of the defensive ditch of the Cernavoda I culture.
Fig. 5. Flint tools of the Cernavoda I culture.
Fig. 6. Finds of the Cernavoda I culture: 1-6 - bone, 7,8 - bronze (?), 9-11 - antler.
Fig. 7. Finds from the “kartal” settlement: 1 - fragment of female figurine of the Bolgrade-Aldeni culture, 2-6 - clay spindle-whorls.
Fig. 8. Finds of the Cernavoda I culture: 1 - fragment of female figurine, 2-10 - clay spindle-whorls.
Fig. 9. Ceramics of the Cernavoda I culture: 1,4-6 - fine ware category, 2,3 - the second group of the coarse ware category (chamotte-tempered vessels).
Fig. 10. Fine ware category of the Cernavoda I culture.
Fig. 11. Ceramics of the Cernavoda I culture: 1,2 - fine ware category, 3-5 - the first group of the coarse ware category (shell-tempered vessels).
Fig. 12. Ceramics of the Cernavoda I culture: 1, 2 - fine ware category, 3, 4, 6-9 - the first group of the coarse ware category (shell-tempered vessels), 5, 10-12 - the second group of the coarse ware category (chamotte-tempered vessels).
Fig. 13. Ceramics of the Cernavoda I culture: 1-5,7,8 - fine ware category, 6 - the first group of the coarse ware category (shell-tempered vessels).
Fig. 14. Ceramics of the Cernavoda I culture: 1,4,5 - fine ware category, 3,6,9,11,13 - the first group of the coarse ware category (shell-tempered vessels), 2,10,12 - the second group of the coarse ware category (chamotte-tempered vessels).
Fig. 15. Ceramics of the Cernavoda I culture: 1,3,4,7,8,11-14 - the first group of the coarse ware category (shell-tempered vessels), 2,6 - the second group of the coarse ware category (chamotte-tempered vessels), 5,9,10 - the third group of the coarse ware category (chaff-tempered vessels).
Fig. 16. Ceramics of the Cernavoda I culture: 1-10, 12 - the second group of the coarse ware category (chamotte-tempered vessels), 11 - the first group of the coarse ware category (shell-tempered vessels).
Fig. 17. The second group of the coarse ware category (chamotte-tempered vessels).