THE PREHISTORIC NECROPOLIS OF CERNICA AND ITS PLACE IN THE NEOLITHIC CULTURES OF ROMANIA AND OF EUROPE IN THE LIGHT OF RECENT DISCOVERIES

GH. CANTACUZINO

On the western shore of the lake Cernica, on the territory of the Cernica village in the neighbourhood of Bucharest, the Academy of the Socialist Republic of Romania in co-operation with the Bucharest Museum of History carried out during 1961—1967 archaeological excavations that revealed a settlement and a necropolis belonging to phase I of the Boian culture. On the site of the Neolithic necropolis, in the second millenium B. C., a settlement of the Bronze age was established. Later on, in the 16th and 17th centuries, a medieval settlement and a monastery (Fig. 1) were set up.

The necropolis of Cernica, which constitutes the object of this paper, raises various and complex problems[1] and occupies a particularly important place in the study of the prehistorical cultures of Europe.

Through its extensive area, which in the present stage of investigation exceeds 12,000 m², and the great number of burials (340 discovered graves at the end of 1967) (Fig. 1), this necropolis ranks among the largest and most populated ones in Europe and in the world. Taking into account the fact that over 50 per cent of the whole area has been investigated up to now, it may be inferred that this necropolis surpasses all the cemeteries of the linear ceramic culture and of other Neolithic cultures in Europe due to its extension and number of graves. It is comparable in this respect with some necropolises of the Dnieper-Donetz cultures[2] in the southern part of the USSR, chronologically dated from the end of the 5th millenium to the beginning of the 3rd millenium B.C., and with the necropolis at Cernavoda, of a more recent date (phases II—IV of the Hamangia culture[3]).

The stratigraphy of the promontory where the excavations were carried out presents various aspects, depending on the sites of investigations — upper (western), middle or eastern ones, or the slopes facing the lake Cernica. For the discoveries in the area of the Neolithic necro-

[1] I studied certain problems of the Neolithic necropolis of Cernica in the paper presented at the VIth International Congress of Prehistorical Sciences, Rome, 1962, which was subsequently published in the *Acta* of the Congress, vol. II, Florence, 1965, pp. 238—241; other problems have been dealt with in some studies published in the periodical « Dacia », N. S., VII, 1963, pp. 53—89 and IX, 1965, pp. 45—58. In the first two papers, the discoveries made in the settlement of the Boian culture phase I at Cernica are the work of Sebastian Morintz.

[2] The necropolises of the Dniepr-Donetz cultures in the USSR have been studied in the works of A. D. Stoliar, SA, XXIII, 1955, pp. 16—37. D. Ia. Teleghin discusses the problems of the Dniepr-Donetz Neolithic culture in SA, 1961, 4, pp. 29—40. These form the object of a forthcoming paper that was presented at the VIIth International Congress of Anthropology and Ethnography, Moscow, 1964 : *On the cultural and historical importance of the necropolises of the Dniepr-Donetz type*, Moscow, pp. 1—16.

[3] Studies published by D. Berciu and Sebastian Morintz in « Materiale », III, 1957, pp. 85—89; pp. 99—105; VI, 1959, pp. 95—99; VII, 1961, pp. 49—51; SCIV, V, 1955, 1—2, pp. 152—157; D. Berciu, in *Nouvelles études d'histoire*, Bucharest, 1953, pp. 37—43 and *Cultura Hamangia*, Bucharest, 1965, pp. 81—83.

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polis, the stratigraphy of the trenches opened in the middle and eastern parts of the ground is of special interest (Fig. 1 of the excavation plan). Starting from the bottom the following layers could be observed (Fig. 2 *a—b*) :

1) a layer of blue-yellowish clay with calcareous intrusions ; *2*) a layer of yellow or yellow-brown loess, with variously-sized limestone concretions. Both layers (*1* and *2*) are characterized by a virgin soil, except for the places where the pits of the Neolithic graves have penetrated ; *3*) a layer of brown, sometimes dark-brown loess, which in the upper zone contains pebbles and small Neolithic pieces of mud and ceramics brought in by infiltrations ; the pits of some Neolithic graves have also been dug in this layer ; *4*) a layer of black-brownish earth containing ceramic materials from the Bronze age ; *5*) a layer of black or grey-black earth containing materials from the Middle Ages, composed of one level (*5a*) or two levels *5a* and *5b* respectively, depending on the interval the feudal dwelling located herein was more or less intensely populated.

On the slopes facing the lake Cernica, the first to disappear is the yellow and the brown loess, replaced by a blue-yellowish clay and brown silty clay ; then, even the blue-yellowish clay disappears and the sandy clays, followed by sand and gravel with iron or manganese oxide inclusions, occur. Finally, some fine, pebble-free sands are revealed.

Peculiar to the necropolis of Cernica is the unequal distribution of graves which in the centre form two or three distinct groups separated by empty spaces with isolated graves to the east and west (Fig. 1). It is possible that every burial group in the necropolis was related to a certain social group of the settlement based upon kinship — clan or tribe — characteristic of the primitive commune. Such a distribution was also found in the cemeteries of the linear ceramic culture in Central Europe or in the Aeneolithic ones in Hungary[4].

Quite specific to the necropolis of Cernica are the burial rituals. The graves are exclusively flat, devoid of tumulus. No cremation grave was discovered. The grave pits are rectangular, about 0.60—0.80 cm wide, their length slightly exceeding the height of the corpse. No coffins were found either and the dead were presumably covered with hides or mats.

The vast majority of the corpses lay on their back with their face and feet oriented east, south-east or north-eastwards (Fig. 3/*1—3, 7*). The head is set on the occipital or slightly inclined to the right or to the left (Fig. 3/*1—3, 5*) with the lower limbs stretched out. A small number of skeletons had been set on the right or left side (Fig. 3/*4*), the thighbones and tibias of some being slightly flexed (Fig. 3/*4*). Only four contracted skeletons belong to phase II of the Boian culture, a rather short period in the Cernica complex (Fig. 3/*8*).

The orientation range of the Cernica graves lies between 166° south-south-west and 304° west-north-west, mostly from 224° west-south-west to 290° west-north-westwards. Since orientation is an essential element of burial rituals, in two previous studies I have stated that this variation in the orientation of the Cernica graves may be related to the apparent movement of the sun on the celestial vault in the course of one year and that the burials may, therefore, be indicative of ancient customs that established a certain relationship betwenn the dead and the rising sun[5]. Investigations made by Ion Sîngeorzan, astronomer at the Bucharest Astronomic Observatory, on the orientation of the Cernica graves, have largely contributed to solving this problem. The results obtained are presented in a forthcoming study[6].

[4] For the cemeteries of the linear ceramic culture, D. Kahlke, *Die Bestattungssitten des donauländischen Kulturkreises der jüngeren Steinzeit*, Teil I, *Linienbandkeramik I*, Berlin, 1954, pp. 115, 117—118, 133 ; AusgrF, III, 1958, 4—5, p. 182. Group burials in the Aeneolithic cemetery of Zengővárkony in Hungary : J. Dombay, in « Germania », XXII, pp. 215—218 ; ArchHung, XXIII, 1939, pp. 49, 74 and N. S., XXXVII, 1960, pp. 193—195, 200, 230—231.

[5] « Dacia », N. S., VII, pp. 76—77 ; IX, p. 46.

[6] Ion Corvin Singeorzan, *Problemele orientării mormintelor neolitice de la Cernica*, a study that will be published in another review.

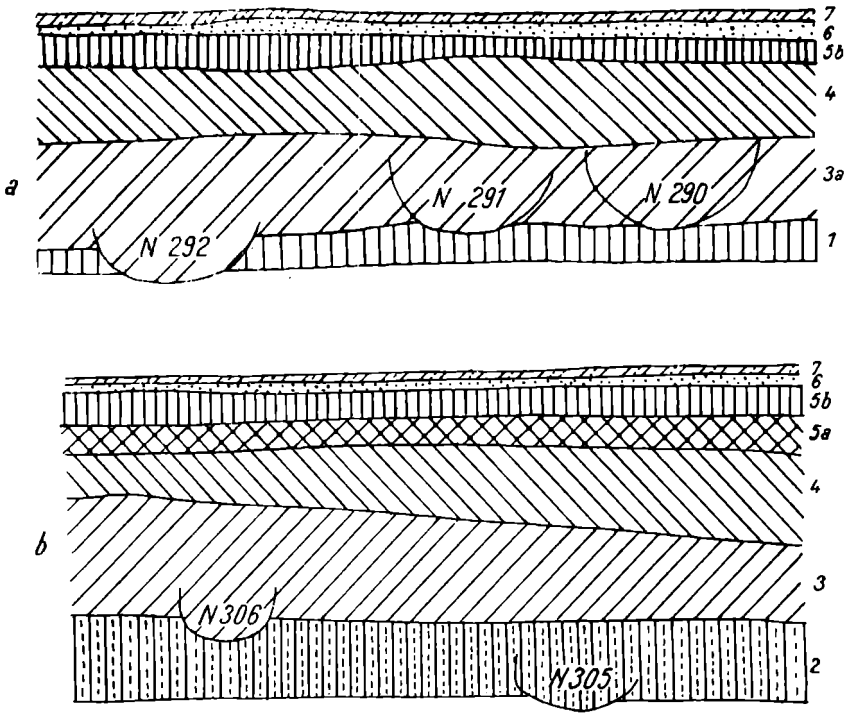

Fig. 2. — Cernica. Neolithic necropolis: *a*) fragment of section XXIV B, east wall stratigraphic profile with the graves 290, 291, 292; *b*) fragment of section XXVIII east wall profile with the graves 305 and 306; layer *1*, greenish-yellowish clay with limestone concretions; layer *2*, yellow loess with limestone concretions; layer 3, brown loess; layer *3 a*, brown loamy clay; layer *4*, black-brown earth with vestiges from the Bronze age; layer *5a*, black earth with Medieval vestiges (XVI—XVII centuries); layer *6*, grey earth at the soil surface; layer *7*, earth carried to level the soil.

Thus, it could be ascertained that the majority of the Neolithic skeletons at Cernica *are oriented towards the eastern sector of the sky, their face and body sunwards. Therefore, we may conclude that the Neolithic population of Cernica believed in the relationship between the dead and the rising sun.* It is quite possible that the heat and light of sun-rays were considered as factors preserving for the dead a certain mode of living, similar or somewhat alike to that on earth. The orientation of the graves of Cernica towards sunrise is thus connected with religious and funerary beliefs related to the sun and to the eastern sector of the sky. *These beliefs involve a feeling of veneration and admiration for the bright heavenly body, which is an early religious form from which the worship of the sun has later evolved, as fully attested in our country in the Bronze age.*

The graves of Cernica emphasize the view that an embryo of this worship might have existed ever since the end of the Old Neolithic and the beginning of the Middle Neolithic Age; this should be admitted at least as a basis of work.

In relation to the Hamangia culture, the phases of which have been somewhat contemporaneous with those of the Boian culture, we have to remind that Prof. Dr. D. Berciu has interpreted the circular stones and idols discovered in the settlements and graves and having oblong throat and head in the shape of a straight column as indications "of a primary, not

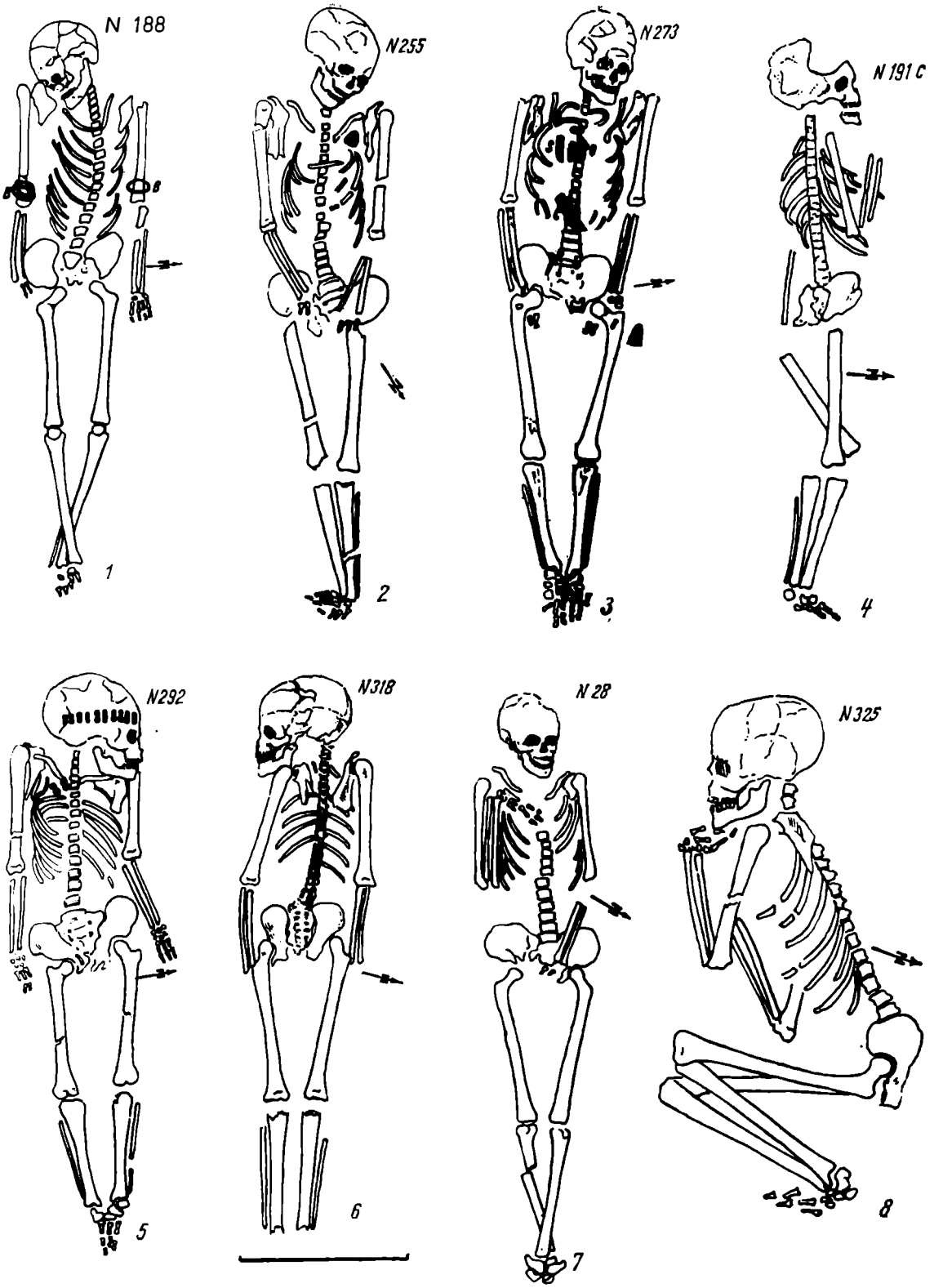

Fig. 3. — Cernica, graves of the Neolithic necropolis containing the following offerings: grave 188, three shell bracelets; grave 255, one horn implement, small chisel and silex; grave 292, shell decorated diadem on the head.

definitely crystallized form of the worship of the sun''[7]. It seems that the latter developed on the territory of this country only in the middle Bronze Age (1600—1300 B.C.)[8].

In the necropolis of Zengövárkony in Hungary, investigated by J. Dombay and dating from the Aeneolithic period, the skeletons lay in a cont racted position by family groups ; some were oriented towards the rising sun[9].

Thus, the investigation of the orientation of the skeletons in the Neolithic necropolis of Cernica brought new evidence on and an interesting contribution to the relationships between the dead and the Sun in the Neolithic.

Another ritual feature of the Neolithic graves of Cernica are the five different positions in which the forearms and hands were set, i.e. (*a*) stretched along the body (Fig. 3/*1*, *5*) ; (*b*) placed on the abdomen (Fig. 3/*2*, *3*) ; (*c*) bent upwards parallel to the arms, between the shoulder blades (Fig. 3/*7*) ; (*d*) raised towards the head (Fig. 3/*4*) ; (*e*) each forearm presents one of the positions mentioned above (Fig. 3/*7*).

The ritual position of the tibias is also important ; the lower ends were sometimes united or crossed (Fig. 3/*1*, *7*) and bound with a simple binding (Fig. 3/*2*) or had a second binding near the knee cap (Fig. 3/*4*). *The lower members were bound at the time of burial.*

The various positions of the limbs, as well as their binding are essential elements of the funerary ritual of the Neolithic period and are closely related to the funerary beliefs of the Boian culture and of other cultures of the time. Besides, the custom of burying the dead on the chest and belly, the face lying on the ground and the back uplifted, a ritual position which up to now has been found only in the graves Nos. 149 and 318, is an important peculiarity of the Neolithic funerary customs (Fig. 3/*6*). In a number of other graves at Cernica, some of the foot bones (calcaneum, tarsus, metatarsus) were found to be mutilated (Fig. 3/*6*). Such funerary practices are attested in graves of the linear ceramic culture and of other Neolithic cultures in Germany[10], Yugoslavia[11], Egypt[12] and the Aeneolithic cultures in Hungary[13]. Burial on the belly, the binding of the limbs, the mutilation of the feet were practices imposed by fear lest some dead, considered as dangerous malefactors, should not come out of the grave and disturb the living people. These funerary beliefs and the corresponding practices as recorded at the Cernica necropolis have been observed

[7] D. Berciu, *Cultura Hamangia*, pp. 78, 87, 94.

[8] *Ist. Rom.*, I, 1960, Bucharest, pp. 102, 105, 125 (Monteoru Culture) ; pp. 108 — 110, 125 (Gîrla Mare Culture) and pp. 112, 125 (Wietenberg Culture).

[9] We mention that in the Aeneolithic necropolis of Zengövárkony in Hungary the graves in which the skeletons lie in a contracted position were situated by family groups ; the face of 71 skeletons was east south-east and east south-westwards oriented, 13 of which were placed on the right side and 58 on the left side. According to Janos Dombay, who conducted the archaeological excavations in the area, these corpses were oriented towards the rising sun,which might indicate the worship of the sun as stated in his work *The prehistoric settlement and cemetery at Zengövárkony*, published in ArchHung., XXIII, 1939, p. 75. In group IV of the Zengövárkony graves, the skeletons were layed around an empty area with their head directed towards the centre of the area and the face oriented towards the rising sun. In his vast and complete work, *Die Siedlung und das Gräberfeld in Zengövárkony*, which was also published in ArchHung, N. S., XXXVII, 1960, p. 196, the same author is no more concerned with graves no. 1—79 investigated in the first work, neither does he bring any modifications to the information and interpretations given on the subject ; he deals with the remaining graves i.e. no. 80 to no 368. We are, therefore, justified in admitting that Janos Dombay has maintained this view on the orientation of some Aeneolithic skeletons at Zengövárkony towards the rising sun and the existence of some incipient form of sun worship.

[10] D. Kahlke, *op. cit.*, p. 23, fig. 6, grave 7 ; p. 29, grave 14 ; p. 32, fig. 14, grave 17 (burial on the belly) ; pp. 122 and 132 (binding of the limbs) ; pp. 131—132 (binding and mutilation of the feet).

[11] M. Garašanin, *Die Bestattungssitten im balkanisch-anatolischen Komplex der jüngeren Steinzeit*, in « Glasnik-Sarajevo », N. S., XI, 1956, p. 235.

[12] Max Ebert in PZ, XIII—XIV, 1921—1923, p . 10.

[13] Numerous burials on the belly and partial mutilations have been observed in the Aeneolithic cemeteries of Zengövárkony, Pusztarstvánháza and Tiszapolgár-Basatanya in Hungary (Ref. to my study in « Dacia », N. S., IX, p. 51, n. 15—17).

both with the prehistoric populations of Europe[14] and with the primitive tribes living in other continents nowadays[15].

By the almost general custom of burying the corpses in an outstretched position, the necropolis of Cernica shows marked similarities with the cemetery of Cernavoda dating from the Hamangia culture[16], and with the cemeteries of Hinkelstein in the Federal Republic of Germany and of Enzheim and Katzenheim in French Alsacia[17], dating from the late phase of linear ceramics, as well as with numerous Neolithic cemeteries on the Dniepr and Donetz in the USSR[18]. However, there are basic differences if compared to most cemeteries in Europe, Asia and Africa as regards the burial position of the dead, which was generally a contracted one. This funerary practice was considerably more extended in the cultures of the Neolithic age[19].

Another particularity of the necropolis of Cernica is its location at barely 80—100 m from the Neolithic settlement of the Boian culture phase I, *as well as the absence of any graves near to or under the dwellings of this settlement and the concentration of all the graves within the necropolis*. This is indicative of the necropolis as being designed as a reservation for the dead, separated from the dwelling area of the living. This reflects a remarkable evolution of funerary concepts and beliefs in the Neolithic age. We would like to point out that a necropolis adjoining a prehistoric settlement has but seldom been attested in the Neolithic age. More often the necropolis has been discovered but the settlement could not be located, and *vice versa*.

Some well or relatively well preserved Neolithic skeletons discovered in the necropolis at Cernica were taken to pieces and sent for study to the Laboratory of Human and Animal Morphology in Jassy, headed by Prof. Olga Necrasov. Three skeletons with perfectly preserved bones, together with their ornaments and earth platform, were placed in boxes and sent to some museums in Bucharest for display[20].

The anthropological data[21] collected from these skeletons indicate a population of average height (between 1.50—1.62 m), almost equally distributed between both sexes. As regards craniometry, the long and medium-sized head prevails; occasionally short-sized forms were also met with. Leptoprosopic faces, generally long and narrow, were commonly encountered; however, a small number of other shapes did exist as well. Mesoconch orbits and mesorrhine noses were prevailing. The bones are generally slender, attesting a Mediterranoid type background. These anthropological features are an indication of the Mediterranean origin of the Boian culture's first phase inhabitants at Cernica, as confirmed by the Mediterranean origin of the shell ornaments discovered in the graves of this necropolis.

[14] G. Wilke: Study in «Mannus», XXIII, 1931, pp. 202—206: the rite of burial on the belly.

[15] Thurnwald in Ebert, RL, XIII, p. 37; G. D.Wilke, *ibidem*, p. 410.

[16] Ref. to note 3.

[17] D. Kahlke, *op. cit.*, p. 101—102: Cemetery of Enzheim; p. 107: Cemetery of Katzenheim — in either cemetery the dead are buried with an extended or contracted position; pp. 118—120, 136: Cemetery of Hinkelstein.

[18] Ref. to note 2, especially to the paper of D. Ia. Teleghin presented at the VIIth International anthropological Congress in Moscow. We mention, however, that the necropolises of the Dniepr-Donetz culture differ from the one at Cernica in that certain graves contain collective burials, the skeletons are often covered with ochre, and according to anthropological evidence the population descended directly from the inhabitants of the Palaeolithic age in the south of the USSR.

[19] My study in «Dacia», N. S., VII, pp. 77—78 with notes no. 68—72.

[20] A Neolithic skeleton (No. 43) from the Cernica necropolis is being kept at the Museum of the Archaeological Institute in Bucharest; the second one (No. 284) is kept at the Village Museum, and the third (No. 98) is exhibited together with its ornaments at the Museum of History of the Bucharest Town (floor I).

[21] An anthropological study on the skeletons of the Cernica necropolis was undertaken by Prof. Olga Necrasov and Maria Cristescu in the following works: *Contributions à l'étude anthropologique des squelettes de la culture Boian* (*Nécropole de Cernica*) in «Analele ştiinţifice ale Universităţii din Iaşi», VIII, 1962, 3; *Étude anthropologique des squelettes de Cernica*, published in the Acta of the VIth Congress for Prehistorical Sciences, Rome, 1962; *Unele probleme ale populaţiei patriei noastre în neolitic* in *Omagiu lui P. Constantinescu-Iaşi*, Bucharest, 1965, pp. 68, 70.

As proved by the findings, a Mediterranoid population had come from the areas of the Mediterranean Sea settling down in the regions north of the Danube long before the Neolithic settlement at Cernica was established. The crossing and mixing up of this Mediterranoid population with other Mediterranoid tribes that had immigrated before them, and with the local proto-Europoid population resulted in half-breeds with various non-homogeneous features as discovered in the graves of Cernica.

Another important trait of the necropolis is the large number of objects deposited as offerings in the graves, according to which, the necropolis is more similar to the graves of the linear ceramic culture of Central Europe[22] than to the cemeteries of the Dniepr and Donetz cultures, which are poor in or totally devoid of offerings[23].

Only a brief description of the objects hoarded in the Cernica graves will be given in the present paper.

First of all, there is an uneven distribution of offerings in the graves viz. the graves located in the southern, central and northern part of the necropolis are rich in important objets, whereas those in the eastern and western part are devoid of objects or contain very few and insignificant ones. A similar situation was found in the cemeteries of the linear ceramic culture, in some of the Aeneolithic cultures in central Europe[24] as well as in some of other primitive populations of Neolithic cultures of nowadays[25].

The graves of Cernica contain the following categories of objects :

Near the head, the pelvis or between thighbones were found intact or broken beverage vases in the shape of a small beaker or of a bitruncated cone with small pleats below the mouth and certain prominences on the belly (Fig. 4/*11*, *12*). Some vases presented incised lines, parallel to the thorn-like side stitches, characteristic of phase I of the Boian culture (Fig. 4/*13*). Ceramics showing such decorations have also been found in the Cernica settlement belonging to this culture.

Other materials hoarded in the grave pits are : a) small axes and chisels, some shoelast-shaped (Fig. 4/*1*, *6*, *9*), others flat, trapezoidal or triangular (Fig. 4/*2*, *3*, *7*, *8*) deposited near the skull, hands or feet ; b) various flint implements, blades, scrapers (Fig. 7/*18—20*, *23—26*, *28* ; Fig. *7/17*, *22*, *27*), trapezoidal arrow tips (Fig. 7/*15—16*), found on the skull, the chest, the pelvis, near the vertebrae or the feet, many of which are microliths ; c) polished boar tusks, used as pendants, on the skull, clavicle or the pelvis and found especially in men's graves (Fig. 5/*34*) ; d) occasionally perforated bone and horn implements (needles, awls, punches, polishing tools) (Fig. 4/*4*, *5*) placed near the pelvis, shoulder-blades and forearms ; e) animal bones, leavings of large pieces of meat brought to feed the dead and deposited near the skull, hands and feet.

A statuette of a woman made of polished bone found near the right forearm in the grave pit 101 (Fig. 5/*30*) is of particular interest. It represents the naked body of a large-bellied, broad-waisted, slightly steatopygic pregnant woman (Fig. 5/*30 a*). The schematized chest looks like a truncated cone tapering off towards the breasts and the schematized back and forms a vertical plane up to the waist (Fig. 5/*30 b*). The lower part is a roughly treated truncated cone, the legs being scarcely separated by a small incised line. The elongated head and neck have

[22] D. Kahlke, *op. cit.*, pp. 18—44 : The necropolis of Sondershausen ; pp. 88—94 : the necropolises of Bischleben, Arnstadt, Erfurt ; pp. 95—99 : the cemeteries at Wachenheim near Worms, at Flomborn, Bischöffingen and Königschaffhausen, all situated in Germany ; pp. 79—81 (graves in Moravia and Bohemia) ; pp. 83—87 (graves in Austria) ; pp. 123—127.

[23] The works mentioned in note 2, especially that of D. Teleghin and his as yet unpublished paper presented at the VII[th] International anthropological Congress in Moscow.

[24] D. Kahlke, *op. cit.*, pp. 117, 133—134 (in the cemeteries of the linear ceramic culture) ; J. Dombay, in ArchHung, XXIII, 1939, p. 79 and N. S., XXXVII, 1960, p. 200 (the Aeneolithic cemetery of Zengóvárkony in Hungary).

[25] E. O. James, *La religion préhistorique*, Paris, 1959, pp. 146—151.

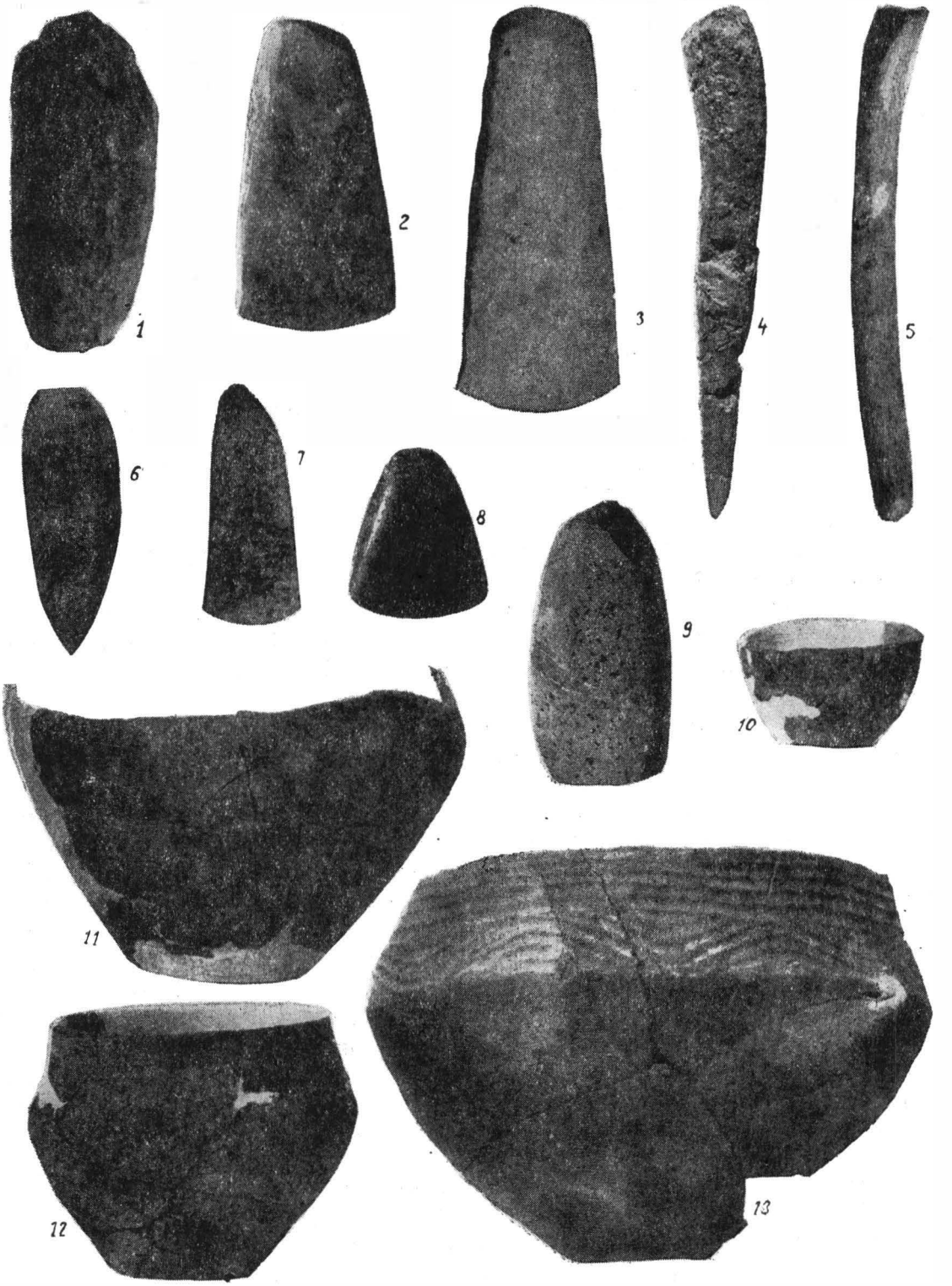

Fig. 4. — Cernica, offerings hoarded in the graves of the Neolithic necropolis : 1, 6, 9, shoelast stone chisels, 3 and 7, flat chisels ; 2, flat chisel from grave 273 ; 8, green basalt flat chisel from grave 255 ; 4, horn implement from grave 273 ; 5, bone tool ; 10, clay beaker-vase ; 11, 12, bitruncated cone-shaped vases ; 13, fine grey paste vase with decorations discovered in the Boian culture settlement of Cernica.

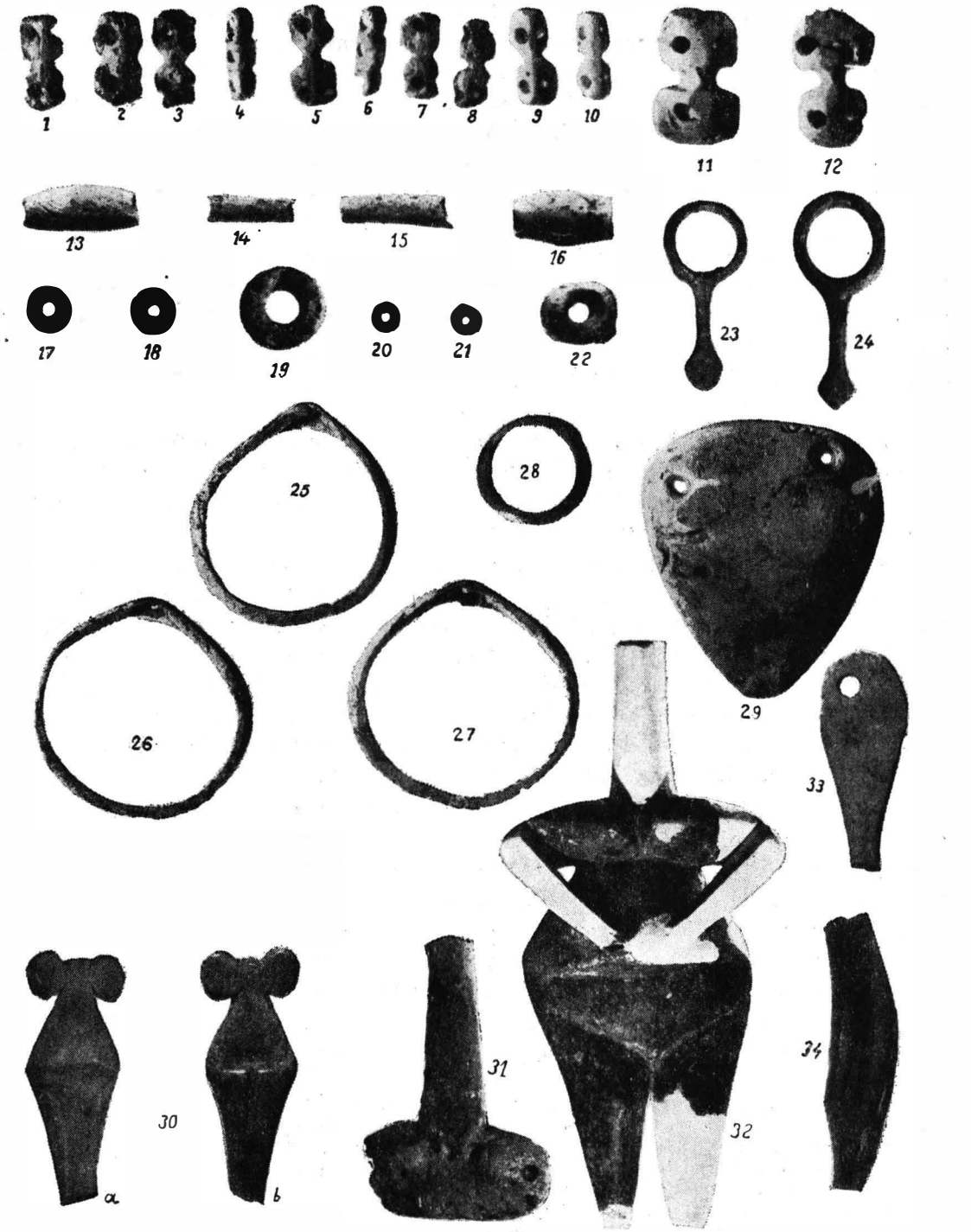

Fig. 5. — Cernica, hoardings in the graves of the Neolithic necropolis : eight shell ornaments with two lobes (1—3, 5, 7—10) and two ornaments with three lobes (4, 6), forming a diadem on the skull of the dead 292 ; 11, 12, shell ornaments with two lobes on the chest of the same dead ; 13—16, variously-shaped shell ornaments ; 17, 18, ring-shaped ornament of volcanic tuff ; 19, 22, marble ornaments ; 20, 21 copper mineral beads ; 23, 24, 33, bone pendants ; 25, 26, 27, *Pectunculus* shell bracelet in the grave 188 ; 28, bone ring ; 29, perforated shell ; bone statuette of a woman as seen *a*) from the front, Fig. 30a (1/1), and *b*) from behind (Fig. 30 b) (1/1) ; Fig. 31, clay statuette of a woman from the Boian settlement of Cernica ; 32, clay statuette of a woman, discovered in the Cernavoda necropolis (Dobrudja) ; 34, boar tusk deposited in grave 250.

disappeared. The aspect of the statuette from Cernica has many features in common with the numerous female statuettes made of clay, marble and more rarely of bone, showing an upright position and extended neck and head vertical column-like, found in the necropolis of Cernavoda and in the settlements of the Hamangia cultures[26], of the Criş culture in Hungary[27] and in the eponymous settlement at Vinča[28] in Yugoslavia, with antecedents in the neolithic settlements of Tzangli and Sesklo in Thessaly[29], and the clay and bone statuettes from the Neolithic settlements of Čatal-Hüyük and Hacilar in Anatolia[30]. *The statuette from Cernica thus attests an Anatolian-Aegean influence exerted on the Boian culture.*

A particular attention should be given to the ornaments found in the grave pits of Cernica. Some of them are made of bone, e.g. finger rings (Fig. 5/*28*) and two types of pendants, deposited near the clavicles and forearms, some of which are trapezoidal-shaped and perforated (Fig. 5/*33*), others being racket-shaped provided with a ring and a straight stem (Fig. 5/*23—24*). *These pendants are specific to phase I of the Boian culture and have been found up to now only at Cernica.*

Most of the variously-shaped ornaments in this necropolis are made of shells belonging to several Mollusca species. On the clavicles, the left shoulder-blade and on the pubis, intact mollusc shells have been found, belonging to the species *Ostrea edulis* and provided with one or several orifices to fasten them on clothes.

Besides, out of the 22 small and large bracelets discovered, twenty are mostly made of living mollusc shells, and only two (grave pits 83 and 141, Fig. 6) are made of fossil valves[31]. The upper part of these 20 bracelets is round, the lower part being oval-concave-shaped ending in a hollow, perforated tip (Fig. 5/*25—27*); they are made from the valves of the mollusc *Pectunculus pilosus* or *Pectunculus bimaculatus*, being beautifully ground and polished. One or several such bracelets were worn either on one or on both arms (Fig. 3/*1*). The bracelets made of incompletely petrified fossil shells have maintained on either side their natural striae and are obviously different from the other samples (Fig. 6/*1—2*).

A large number of variously sized ornaments were part of diadems or necklaces, stringed on one or two threads and worn on the forehead and around the neck or on a waist belt. They were found dispersed on the head, on the chest or on the pelvis. Most necklace ornaments were made from the valves of the species *Spondylus gaederopus*, others from *Ostrea* shells, and some from *Dentalium* shells. Many *Spondylus* ornaments have the aspect of small plates, beautifully polished or preserving their natural striae; they are composed of two or three lobes with 2—4 orifices at the back which served to string them in a necklace (Fig. 5/*1—12*; 7/*4, 5, 6—8*).

Other ornaments have the shape of a cylinder (Fig. 5/*13*; 7/*1*), a barrel (Fig. 7/*9*), a distaff (Fig. 5/*16*; 7/*2—3*) or small rings with central longitudinal perforations (Fig. 5/*17—18*).

[26] D. Berciu, *Problemele neoliticului în România în lumina ultimelor cercetări*, Bucharest, 1961, p. 517, and *Cultura Hamangia*, pp. 87, 88—92, 94, 103, 277—278 and figs. 42, 43, 45; 92/6 (of bone).

[27] Ida Kutzian, *A Köröskultura*, 1944, p. 72. *The Körösculture*, 1947, pp. 8—11, pl. XLIII/7; XLIV/5, 8, 9, and J. Banner, *Das Tisza-, Marosz-, Körösgebiet bis zur Entwicklung der Bronzezeit*, Budapest, 1942, pl. XV/3 a—b and XVII/3, 6, 7; the statuettes of the Criş culture are more steatopygic than those of Cernica.

[28] M. Vassić, *Preistoricka Vinča*, I, 1932, pp. 44—45, pl. XVIII/92 a, b, c; pp. 47—48, pl. XXII/100, a, b, c; II, 1936, pp. 141—142, pl. 296 a, b, c; 297 a, b, c.

[29] Chrestos Tsountas, Αἱ προϊστορικαὶ ἀκροπόλεις Διμηνίου καὶ Σέσκλου, Athens, 1908, p. 295, pl. 34/3, 4, 6, 7; p. 298, plate 35/1, 3, 4, 7, 8a; p. 299, Fig. 225.

[30] James Mellart, in «Anatolian Studies», XI, 1961, pp. 50—53.

[31] We acknowledge the contribution of Alexandru Grossu, professor at the Faculty of Natural Sciences in Bucharest, for the analysis and zoological identification of the sea shell ornaments discovered in the Cernica necropolis.

The bracelets of fossil material found on the arms of skeletons Nos. 83 and 141 were spectrographically and microscopically explored by the palaeontologists Dan Patrulius and Florea Marinescu at the Institute of Geology in Bucharest,

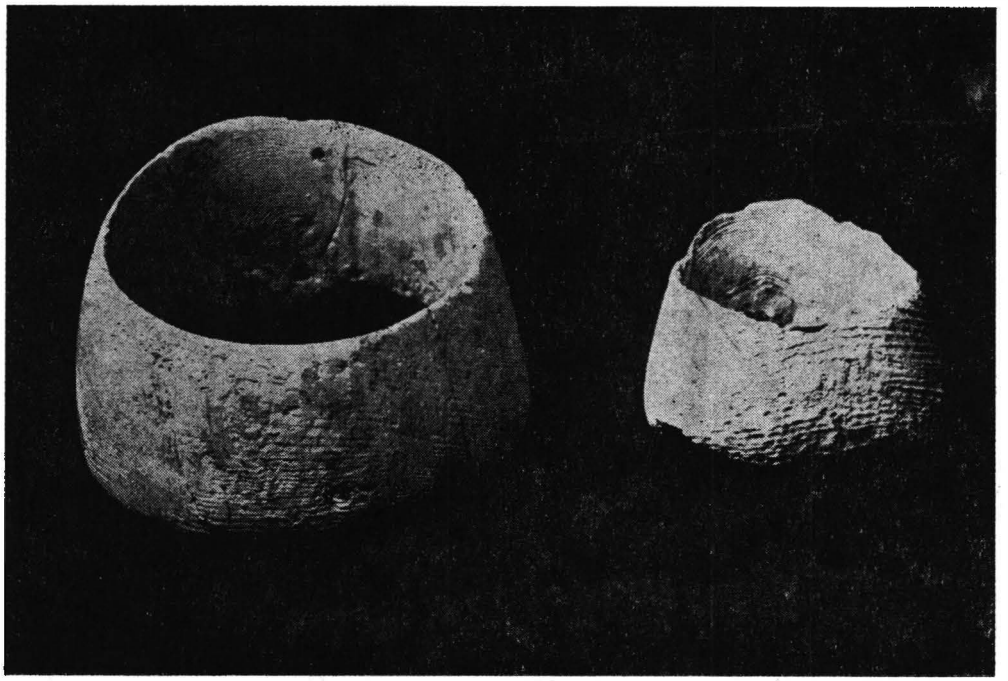

Fig. 6. — Cernica. Neolithic necropolis : two bracelets of fossilized shell.

In several grave pits, ornaments looking like slim, truncated cones made of *Dentalium* shells (Fig. 5/*14—15* ; 7/*11*), perforated at either end have been found. Some of the grave pits contained short cylindric marble beads (Fig. 7/*10*), small and thin rings made of a greenish volcanic rock (Fig. 5/*17—18* ; 7/*14*), perforated animal fangs (Fig. 7/*12*), as well as small plates with 2—3 well ground, polished lobes, made of animal fang (Fig. 7/*7*).

About 80 beads of copper mineral, of spherical or ovoidal shape and dark or light green colour (Fig. 5/*20—21* ; 7/*13*), discovered in 15 graves, are particularly valuable. They are made of a mineral akin to malachite, containing calcium carbonate and small traces of other minerals[32]. This copper-bearing mineral has not undergone a thermic treatment, but was mechanically processed, i.e. underwent cutting, perforation, grinding. *The copper mineral beads from Cernica are among the earliest objects made of this material known in our country and in the Centre and East of Europe. They attest that copper mineral was used for ornaments at the beginning of the Middle Neolithic.*

Bluish copper mineral beads have also been deposited in the Neolithic graves in Anatolia belonging to level VII in Čatal-Hüyük, dating from the VIIth millenium B. C., to the old levels in Hacilar, dating from the VIth millenium B. C. and to the earliest levels in Kazilkaya[33].

The discoveries at Cernica enable a better specification of funerary concepts and burial practices with the corresponding Neolithic population. Certain ritual practices such as : the

[32] A mineralogical and spectrographical analysis was made on the ornaments of marble, volcanic tuff and copper mineral by Dan Giurcă, professor at the Faculty of Geology in Bucharest, corresponding member of the Academy of the Socialist Republic of Romania.

[33] James Mellaart, *Excavations at Čatal-Hüyük* in « Anatolian Studies », XII, 1962, pp. 52 and 55 ; XIII, 1963, p. 44. The copper mineral was brought at Čatal-Hüyük from far off. In the Neolithic settlement of the area, the pendants and wood patera coated with copper sheet are indicative of copper being used for ornaments and valuable objects in these places as early as the VIIth millenium B. C. (*Ibidem*, XIII, 1963, pp. 99 and 103).

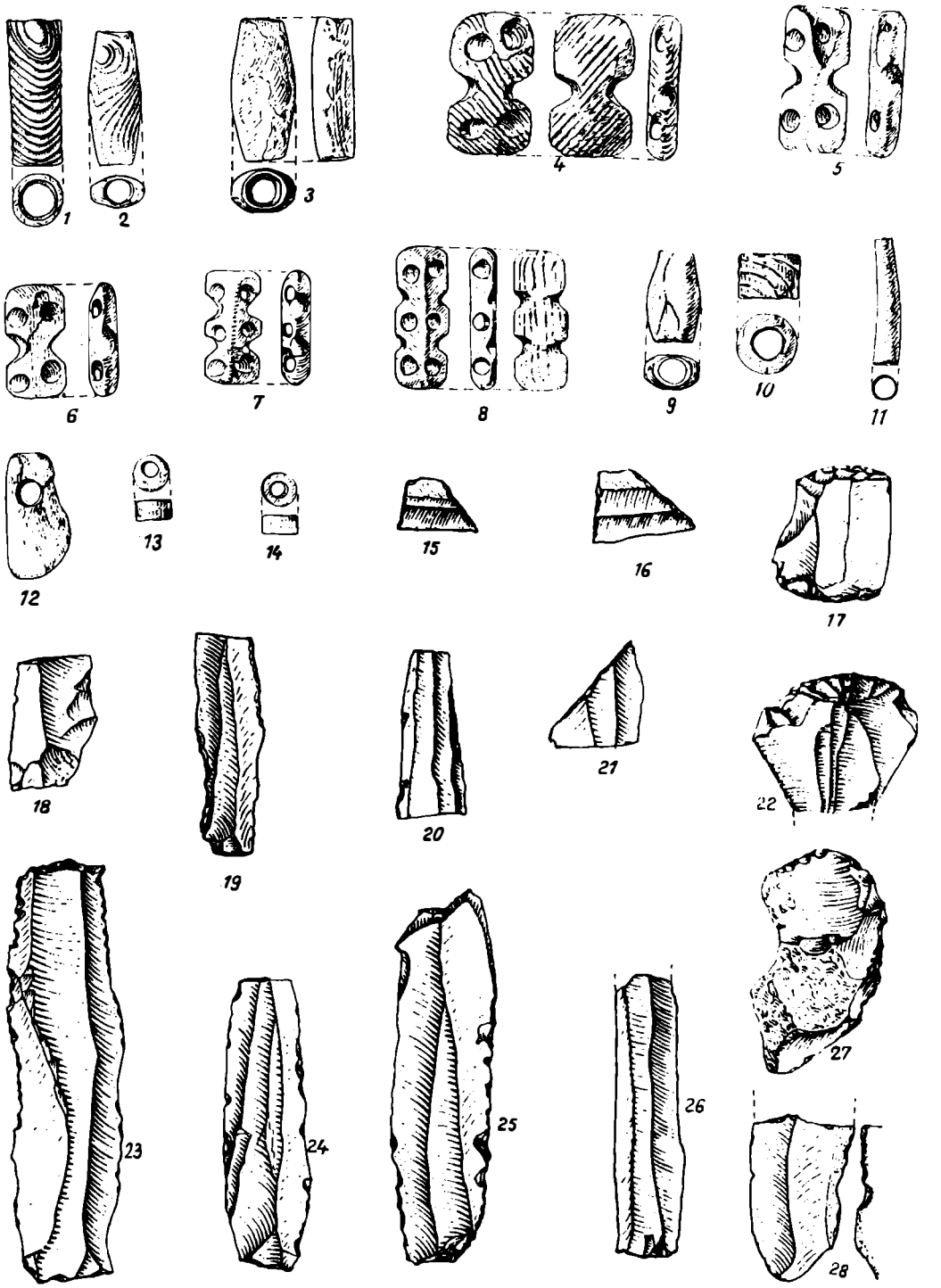

Fig. 7. — Cernica, hoardings in the graves of the Neolithic necropolis : 1—14, plan and profile of the same shell ornaments, i.e. 1, cylinder-shaped ornament with striated sides ; 2, distaff-shaped ornament with striated sides ; 3, distaff-shaped ornament with smooth sides ; 4, ornament with two lobes and striated sides ; 5, ornament with two lobes and smooth sides ; 6, ornament with two lobes made from an animal fang ; 7, ornament with three lobes made from an animal fang ; 8, ornament with three lobes, slightly striated ; 9, distaff-shaped ornament with smcoth sides ; 10, cylindrical ornament from striated marble ; 11, a truncated cone-shaped *Dentalium* shell ornament ; 12, perforated animal fang ; 13, copper bead ; 14, ring-shaped bead of greenish volcanic tuff ; 17—28, silex implements, i.e. : 15, 16, trapezoidal arrow tips ; 17, double microlith scraper ; 18, 20, 24, 26, untouched up blade ; 21, touched up bevelled blade ; 22, 27, chip scraper ; 19, a wide-notched blade ; 23, straight cut blade, touched up, used as scraper ; 24, 25, fine touched up blades with small notches ; 28, bevelled blade used as a sickle.

joining and simple or double binding of the shinbones, the extension of one or both forearms parallel to the arms towards the shoulder-blades, which is also indicative of their having been bound, as well as the corpse laid on the chest and belly with the face to the ground are but *measures taken as to some dead to prevent them from coming out of their graves and perpetrate evil among the living. These beliefs can have no other reasonable explanation than the funerary concept which admitted a further existence of the dead under a certain physical shape similar to that of his life-time.*

The same explanation accounts for the hoarding of food-stuff and vases filled with beverage in the grave pit for the dead to quench his thirst, as well as usual implements for work and ornaments to adorn the body. *All these offerings are closely related to the idea of the preservation of the human shape and to the continuity of man's life in the grave after death, which is now his dwelling. The above-mentioned practices established the relation between the living and the dead*[34]. Offerings and other similar rituals have also been observed in the necropolises of the linear ceramic culture in Europe[35].

The investigation of the various aspects of the necropolis of Cernica proves that according to the rituals and richness of offerings, it approaches the necropolises of Cernavoda, Limanu and Mangalia which belong to the Hamangia culture. A comparison between these necropolises and that of Cernica emphasized the following main similarities : a) the graves are grouped within necropolises in the neighbourhood of settlements ; b) the funerary practice of burying the corpses extended on the back ; c) the position of the hands either alongside the body, or on the pelvis, or each in one of these positions ; d) in several graves, the feet are crossed and bound ; e) the hoarding of various amounts of offerings by the body of the dead[36] ; f) the presence in the graves of female statuettes in an upright position, with prominent breasts, the neck and head elongated in the shape of a vertical column, attesting an influence from the areas of the Aegean Sea and Anatolia[37] ; g) the large number of microlith flint implements such as : blades, simple scrapers on the blade or on slivers, double scrapers, arrow tips, punches used for various purposes, which is indicative of the persistency of certain Mesolithic forms in phase I of the Boian culture and in the lower levels of the Hamangia culture that have been subsequently preserved[38].

However, certain differences between the necropolis of Cernica and those of the Hamangia culture do exist, e.g. : a) while at Cernica the corpses are oriented eastwards with a few south-eastwards or north-eastwards exceptions, in the necropolises of Cernavoda, Limanu and Mangalia the body and the face of the dead are north-westwards oriented[39] ; b) the skeletons are better preserved at Cernica than at Cernavoda ; c) ritual graves containing skulls and fragments of broken human bones, placed next to animal skulls, maxillaries and bones, as well as various objects, were frequently observed in the upper and lower zones of the Cernavoda necropolis[40] ; yet at Cernica they are absent ; d) the inventory of hoards does not include the same categories of offerings as in the graves of Cernica and in those of the Hamangia culture. Thus the display of sea shell ornaments is richer at Cernica ; animal bones left from meat offerings are usually met with at Cernavoda[41] and rather seldom encountered at Cernica.

[34] The funerary concepts and customs of the Neolithic population at Cernica and the significance of offerings have been detailed in my study in « Dacia », N. S., VII, pp. 83–85.

[35] D. Kahlke, *op. cit.*, pp. 123, 124, 133–134.

[36] D. Berciu, *Cultura Hamangia*, p. 82 ; *Nouvelles Études d'Histoire*, p. 37.

[37] D. Berciu, *Cultura Hamangia*, pp. 86–94, 103.

[38] *Ibidem*, p. 60 ; *Nouvelles Études d'Histoire*, pp. 32–33.

[39] *Ibidem*, p. 82.

[40] D. Berciu, *Cultura Hamangia*, p. 83 ; *Nouvelles Études d'Histoire*, p. 39.

[41] D. Berciu, *Cultura Hamangia*, pp. 82–83 ; *Nouvelles Études d'Histoire*, pp. 37–39.

In the cemetery of Cernavoda, burnt or incompletely burnt clay vases, worked either according to a primitive technique without any ornaments, or gracefully ornamented[42], were often found, whereas in the cemetery of Cernica, vases are more scarce and those that do exist belong mainly to the category of fine, scarcely ornamented ceramics. A lot of vases, idols and ornaments (bracelets, pendants, etc.) made of marble, have been discovered in the necropolises of the Hamangia culture[43], whereas at Cernica only small ring-shaped marble beads (Fig. 7/*10*) stringed in necklaces together with beads made of shells and of other materials have been unearthed. Copper mineral beads are rather common in the graves of Cernica, but quite incidental in the cemeteries and settlements of the Hamangia culture[44]; copper implements are absent in both cultures. Furthermore, the graves of Cernavoda contain half-circular or circular diamond-shaped stones, hard rock stones, which according to Prof. D. Berciu might be connected with manifestations of an early cult of the sun[45]; these materials are completely missing at Cernica[46].

Most of the shell ornaments in Romania come from the graves of the Boian culture in Wallachia and of the Hamangia culture in the Dobrudja[47]; some belong to the Vinča culture in Oltenia[48], and a small number of shell ornaments belong to the Cucuteni and Gumelnița cultures[49].

By the number and variety of hoarded ornaments, the necropolis of Cernica, dating from the Boian culture phase I, has surpassed all the other necropolises found on Romanian territory. The various categories of shell ornaments discovered at Cernica include 22 large or small bracelets, 3 decorative valves attached to clothes, 11 complete necklaces and 19 necklace fragments each of them composed of numerous shell beads, accompanied by perforated animal teeth and additional marble beads, greenish, volcanic rock beads and copper mineral beads, all of which form a varied and precious amount including a large number of items. By their value, the diversity of form and material used, as well as by their number, *the Neolithic ornaments from the necropolis of Cernica can readily be comparable to the most remarkable ornaments made of shells or of other materials discovered in the graves of the linear ceramic cultures in Europe.* Thus, they can be compared to the groups of ornamental shells discovered in this culture in Germany, either at Bernburg (2 bracelets, 2 perforated shells and a 2m-long necklace with 178 beads) or at

[42] Ref. to note 36.

[43] D. Berciu, *Cultura Hamangia*, pp. 78–82; pp. 187–188, Fig. 38/3–5; 39/1; 92/18; 93/3,7; p. 231; *Nouvelles Études d'Histoire*, p. 37–38 with Fig. 6.

[44] D. Berciu, *Cultura Hamangia*, pp. 60, 177–186; *Nouvelles Études d'Histoire*, pp. 33 and 41.

[45] D. Berciu, *Cultura Hamangia*, pp. 78, 82, 94.

[46] *Spondylus* ornaments were discovered in the region of Bucharest in the graves of the Boian culture, phase III at Grădiștea Ulmilor near Vărăști (E. Comșa, «Materiale», III, p. 64), at Andolina (E. Comșa, SCIV, 1961, No. 2, pp. 359–362), at Tangîru (Idem, SCIV, 3–4, 1954, p. 383, fragments of bracelets), and at Glina (M. Petrescu-Dîmbovița, in Raport MNA pp. 69–70).

[47] In the necropolises of Cernavoda, Limanu and Mangalia, in the settlements of Hamangia, Geamurlia-de-Jos, Goloviţa, Techirghiol of the Hamangia culture, *spondylus* ornaments have been found as intact bracelets or only fragments, cylindrical or ring-shaped beads). D. Berciu, in *Nouvelles Études d'Histoire*, 1955, p. 37, and *Cultura Hamangia*, pp. 78–81, Figs. 38/1–2; 39/2; 41/2, 4, 5; 92/9; p. 231.

[48] *Spondylus* pendants found at Ostrovul Corbului (Oltenia); one fragment of a black bracelet, probably made of *Tridachna*, and a *spondylus* bracelet discovered in the village of Răcasdia (Banat), all belonging to the Vinča culture (D. Berciu, *Arheologia preistorică a Olteniei*, 1938, pp. 33–34, and in «Balcania», II–III, 1939–1940, pp. 447–448; «Revista Arhivelor», V, 1942, p. 51, no. 400; «Materiale», I, 1953, p. 638, plate III B, Figs. 1–12).

[49] For the Cucuteni culture: Hortensia Dumitrescu in «Materiale», VII, p. 97, Fig. 6/7 (sea shell valve). For the Gumelnița culture: one mollusc valve from the eponyme station (Vl. Dumitrescu, «Dacia», II, 1925, p. 97, (Fig. 66/10); one *spondylus* plate found at Tangîru (D. Berciu in «Balcania», II–III, p. 448); discoidal shell buttons, discovered in the recent excavations at Căscioarele (Oltenița) and shell ornaments at Vidra (neighbourhood of Bucharest). (James Harvey Gaul, *The Neolithic Period in Bulgaria*, in BASPR, 16, 1948, p. 106, with guiding tables).

Flomborn, Rheingewann, Rheindürkheim and Erfurt[50], as well as to the Moravian graves at Moravski-Krumlow (Kromau) and Zabrdovice (Zaberdowitz), which contain bracelets, pendants and necklaces, some of which have up to 90 *Spondylus* beads[51]. The ornaments from Cernica surpass in number and variety those of the linear ceramic culture discovered in Austria at Eggenburg, Emmersdorf, Poysdorf and in other places[52]. The 22 complete bracelets (20 made of living *Pectunculus* shells and 2 of fossil material) found at Cernica, exceed the number of bracelets from the Kozludze deposit, in the Varna region, in Bulgaria[53].

Thus, the ornaments from Cernica should be considered among the most important and remarkable creations of the kind in the Neolithic age.

The shell ornaments from Cernica had been brought as finite forms from the Mediterranean shores; most of them are made of living mollusc shells, as revealed by the structure analysis performed by Alexandru Grossu[54], Professor at the Faculty of Natural Sciences in Bucharest. This finding is in agreement with the observations made on shell ornaments by various scientists in other European countries[55]. A limited number of shell, marble or copper mineral ornaments, were usually brought from the Mediterranean shores or from the Near East through intertribal exchanges[56]; they were luxury items designed for the use of a restricted number of inhabitants, and were not available to the entire Neolithic population. This explains the uneven distribution and deposition of offerings in the Cernica graves.

The rich evidence brought forth by the archaeological excavations in the necropolis of Cernica has contributed to the knowledge of the anthropological features of this Neolithic population, of its funerary rituals and practices, of its burial offerings and of certain aspects of the Boian culture phase I and its relation to the other Neolithic cultures. The discoveries of Cernica rank among the most important ones lately made in Romania and in Europe.

[50] The numerous ornaments made of sea shells, discovered in graves and settlements of the linear ceramic culture in Germany are indicated with the corresponding bibliographical references by Otto Seewald in his study published in WPZ, XXIX, 1942, 1, pp. 12—15 with notes; in W. Butler's work, *Der donauländische und der westliche Kulturkreis der jüngeren Steinzeit*, Berlin, 1938, pp. 36, 88, pl. II, as well as in the study of S. Venčl in AR, XI, 1959, 4, pp. 708—711.

[51] J. Skutil, *Linearkeramische Gräber in Mähren*, published in WPZ, XXVIII, 1941, pp. 25—33; Otto Seewald, *op. cit.*, p. 12 with notes; S. Venčl, *op. cit.*, pp. 700—702 (Bohemia), and pp. 703—705 (Moravia); K. Willvonseeder in « Sudeta », X, 1934, p. 6.

[52] The ornaments made of sea shells and discovered in Austria have been investigated by Otto Seewald, *op. cit.*, pp. 1—11 with notes; by Angela Stifft-Gottlieb in MAGW, LXIX, 1, Vienna, 1939, pp. 150—165, with notes and plates I—III, and by S. Venčl, *op. cit.*, p. 712—718 (list of discovered ornaments).

[53] The group of 20 *spondylus* bracelets found at Kozludze is mentioned by M. Vassić in PZ, II, 1910, p. 34, and by G. Wilke in the papers included in Ebert, RL, II, 1925, p. 206 and XIV, 1929, p. 174.

[54] Analysis indicated in note 31.

[55] Observations ascertained by numerous foreign research workers and mentioned in the study of S. Venčl, *op. cit.*, pp. 732—738, 741 (discussion of the problem) and pp. 738—739 (bibliography).

[56] The problem of shells and of the other materials supplied to the Neolithic population at Cernica by the intertribal exchanges originating in the Mediterranean Sea area has been detailed in my studies published in *Atti del VI Congresso internazionale delle scienze preistoriche*, vol. II, Rome, 1965, pp. 239—241 with notes 9—14, and in « Dacia », N. S., VII, p. 68, n. 51.