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In the Xth — XIth c., as it is known, two main occupations of the inhabitants from the Lower Danube sites were hunting and cattle breeding <sup>1</sup>. A well-known literary source, the chronicle of Skylitzes-Cedren, shows that in the period of their invasions in 1048 <sup>2</sup>, the Petschenegs found in the south-danubian regions a great number of cattle <sup>3</sup>. The information of the chronicler is confirmed by the archaeological researches carried out on the sites of Dobrudja. On this occasion, domestic animal bones and large quantities of wild animal bones (stag, boar, hare, etc.) have been found together, meaning that in the Xth — XIth c. the hunting — as an occupation — was almost equally developed as the cattle breeding.

Part of the animal bones was used as raw material for manufacturing of some tools, house-keeping utensils, even jewelry. The discovery of some bones or antlers which were being processed as well as the finite objects prove that this craft was practised at Păcuiul lui Soare. Most objects are made of antler, others of bone, usually of sheep, goats and cattle <sup>3</sup>.

In our report we shall present only some of the bone and antler pieces — those belonging to the early medieval levels (Xth — XIth c.). The objects will be shown not in the order of their discovery, but within the category they belong to. The problems involved being very important we shall have to insist upon their description.

## ARMS

1. Arrow head made of antler, 0.065 m long; the tang has an orifice in which the rod of the arrow was fixed. The diameter of the orifice, 0.09 m. Its main point has four facets, so it presents a romboidal form in its section (pl. I, 1; III, 1).

2. Arrow head made of antler, similar to the former piece, 0.064 m long. The diameter of the orifice, 0.010 m. We can distinguish on its facets an ornament made by very fine pricks and notches (pl. I, 2; III, 4).

3. Arrow head made of antler. The orifice for the rod is obtained by the enlargement of the medular channel. The opposite end is edged by three facets. The piece is 0.05 m. long (pl. I, 3; III, 5).

<sup>1</sup> Together with hunting the fishing also represented an important occupation.

<sup>2</sup> According to certain researches these invasions took place between 1046—1047. See A. D. Kajdan, *Иоанн Мавропод: Печенеги и Русские середине XI в.*, ZPBN

(Mélanges G. Ostrogorsky), 8, 1963, 1, p. 180—182; cf. Petre Diaconu, *Les Petchénegues au Bas-Danube*, Bucarest, coll. B.H.R., 1970, p. 62.

<sup>3</sup> Skylitzes-Cedren, *Hist. Comp.*, 100, Bonn, 1839, p. 586.

Arrow heads made of antler have also appeared in the early feudal levels from Dinogetia-Garvan<sup>4</sup>. It is to be noted that most of the pieces of Dinogetia (a total number of 20) are circular in their section. They are widespread in the east half of Europe and in the south parts of the Soviet Union being known at Staraia Riazan<sup>5</sup>, Sarkel<sup>6</sup>, Bolgary<sup>7</sup>, Novgorod<sup>8</sup>, in Wolina<sup>9</sup>, at Echimăuți<sup>10</sup> on the Dniester. The piece which was discovered at Echimăuți is decorated on its facets with incised lines disposed in a network. An analogy can also be made with the piece discovered in Bulgaria, at Preslav<sup>11</sup>.

4. Knout handle made of antler, slightly curved, 0.127 m. long. Circular in its section. The diameter of one end, 0.02 m. ; of the other, 0.03 m. On the narrow end the handle has a longitudinal perforation, 0.05 m. dep. At a 0.02 m. distance from the same end there is another transversal perforation (diameter, 0.006 m). On the thick end it has a conic hollow, 0.013 m. dep. It is quite possible this orifice was the place of an ornamental button. Through the orifices belonging to the narrow end the straps of the knout were probably passed. The body of the handle is covered with six rings slightly embossed through the carving and polishing of the piece, their purpose being a better handling of the knout.

5. Another handle made of a slightly flattened antler, 0.015 m. long. Width of the thick end, 0.05 m and of the narrow one, 0.027 m. The orifices the straps pass through are at the thinner end (pl. I, 8).

6. A third handle made also of an antler, 0.012 m. long, is cut straight on both ends ; each are provided with an orifice. The piece was left unfinished (pl. I, 9).

The closest analogies to the handles from Păcuiul lui Soare are offered by some pieces discovered at Dinogetia-Garvăn<sup>12</sup>. We shall mention here that at the end of the knout straps there was a bone or a metal bowl. Such pieces have appeared at Dinogetia<sup>13</sup> as well as at Păcuiul lui Soare.

#### TOOLS AND HOUSEHOLD UTENSILS

7. Antler handle, 0.10 m. long, with a smooth slightly polished surface. The thick end is rounded. The other one is thinner than the former (diameter, 0.009 m.) and was not longitudinally perforated. The piece was being processed, following probably to become the handle of an awl (pl. I, 6). Such handles were also found at Dinogetia-Garvăn<sup>14</sup> and Novgorod<sup>15</sup>.

8. Antler handle with a rectangular section, 0.085 m. long. At one end an orifice was begun, the piece being only half finished. According to the shape it seems to have been also an awl handle (pl. I, 5).

9. Tool, made of an antler with a small hollow at the thicker end. Length, 0.16 m. The antler has been flattened through a slanting cut. It was probably meant for the polishing of pottery or other objects (pl. I, 10).

<sup>4</sup> I. Barnea, *Dinogetia*, 1 chap., *Așezarea feudală timpurie de la Dinogetia-Garvăn*, Bucurest, 1967, p. 339, fig. 182, 37—50 ; I. Barnea and Șt. Ștefănescu, *Din istoria Dobrogei*, III, Bucurest, 1971, p. 295, fig. 100, 3.

<sup>5</sup> A. L. Mongait, *Старая Рязань*, MIA, 49, 1955, p. 134, fig. 97, 14.

<sup>6</sup> M. II. Artamonov, *Саркел-Белая Вежа*, MIA, 62, 1958, 1, p. 39, fig. 25, 5.

<sup>7</sup> A. M. Tallgren, *Coll. Zauussailov*, Helsinki, 1918, fig. 33 ; pl. VI, 31.

<sup>8</sup> A. F. Medvedev, *Оружие Новгорода Великого*, MIA, 65, 1959, 2, p. 151, fig. 12, 14 ; pl. XIII, 60—64.

<sup>9</sup> Eug. Cnotliwy, *Wczesnosredniowieczne przedmioty z rogu i kosci z Wolina ze snanowiska*, in *Materiały zachodnio pomorskie*, 4, 1958, p. 234, pl. V, 4.

<sup>10</sup> G. B. Feodorov, *Городище Екимайцы*, KS, 50, 1953, p. 124, fig. 53, 5.

<sup>11</sup> T. Totev, *За обработката на кост в средновековна България*, Археология, 5, 1963, p. 85, fig. 2, k, l, m.

<sup>12</sup> I. Barnea, *Dinogetia*, I, Bucurest, 1967, p. 85, fig. 43, 19 ; fig. 44, 1, 2, 7, 16, comt. p. 86, 88.

<sup>13</sup> *Ibidem*, p. 339, fig. 182, 1—2.

<sup>14</sup> *Ibidem*, p. 85, fig. 43, 3, 8.

<sup>15</sup> B. A. Kolcin, *Железообрабатывающее ремесло Новгорода Великого*, MIA, 65, 1959, 3, p. 65, fig. 50, 6. It seems that those from Novgorod are of wood.

10. Bone knife handle(?) only one half preserved, 0.103 m. long. Initially it was tube-shaped. It has two orifices at each end. Towards its wider end it has a decoration of thinly incised lines disposed in an angle (pl. III, 11).

11. Bone knife-handle having seven orifices out of which six are disposed opposite one another. The seventh is placed at the end of the handle, where the maker has carved a protruding end. The ornament is represented by two parallel lines recoiled in the shape of the number eight. The in-between field is also decorated with a file of dots. Preserved length, 0.07 m. (pl. I, 7; III, 7).



Plate I. — 1 — 13. Objects of bone and antler from Păcuiul lui Soare.

12. Knife handle slightly curved with one zoomorphic end. Provided with six holes for the insertion of rivets. Length, 0.12 m. maximum width, 0.27 m (pl. I, 11). A somewhat close similarity may be found at a quiver part <sup>16</sup> as well as at a branch of bit <sup>17</sup>, both from Dinogetia.

13. Bone knife handle. Length, 0.108 m. width, 0.018 m. Thickness of both sides of the handle, 0.008 m. They have been put up together with four iron rivets, so far preserved. A 0.013 m. fragment of the knife blade was also kept. Both faces of the handle are ornamented with six circlets with a dot in the middle. In-between the circlets there are two pairs of winding intersected lines, very finely incised (pl. II, 1; III, 10).

14. Bone spoon with a handle torn in the old times. The bowl is 0.07 m. long and 0.059 m. wide (pl. II, 2; III, 9).

15. Bone spoon whose handle was also torn in the old times. Somewhat smaller than the previous one. Its bowl is 0.051 m. long and 0.043 m. wide. The handle was decorated on the outer side with a longitudinal embossed vein (pl. II, 3; III, 3).

Both spoons were made out of a cattle femur. The bowls were carved from the round end of the bone. So far as we know, nowhere have ever appeared any similar bone spoons, dated in the Xth — XIth c. Those belonging to Dinogetia <sup>18</sup> and Capidava are carved out of wood.

16. Bone needle, 0.115 m. long, with the point torn in the old times. The end with the hole for the thread is slightly flattened. The piece is not quite smooth being rather negligently worked (pl. II, 4). Such needles has been probably used for making fishnets. We find analogies at Preslav <sup>19</sup> in Bulgaria and Kruszwica <sup>20</sup> in Poland.

17. Shuttle (?) made of an antler. Length, 0.05 m. One of the ends was pointed, the other was cut straight and longitudinally perforated. Towards the pointed end the piece has an orifice disposed on one side (diameter, 0.004 m.) and worn out because of the friction of the thread (pl. II, 8).

#### QUIVER ELEMENTS

18. Quiver element, only half preserved. For that reason we cannot establish its proper length. Maximum width, 0.02 m. There is an orifice of 0.005 m. diameter on the preserved end (pl. II, 7).

Quiver elements with the same function as the piece previously presented have also been found in Dobrudja at Dinogetia <sup>21</sup>, in Bulgaria at Preslav <sup>22</sup>, in many sites localised in the northern-pontic steppes <sup>23</sup> as well as at Novgorod <sup>24</sup>, in the Soviet Union. Such pieces are gener-

<sup>16</sup> I. Barnea, *op. cit.*, p. 342, fig. 183, 4.

<sup>17</sup> *Ibidem*, fig. 183, 5.

<sup>18</sup> *Ibidem*, p. 82, fig. 42, 16 — 17; p. 85, fig. 43, 20.

<sup>19</sup> T. Totev, *op. cit.*, p. 89, fig. 6, d; other examples see at Kr. Miatev, *Разкопки в Преслав през 1930 г.* TNM, 1930, fig. 125, footnotes 3. T. Totev, *op. cit.*, p. 85.

<sup>20</sup> W. Hensel and A. Bronewska, *Starodawna Kruszwica*, Wrocław, p. 64, fig. 43, A; T. Totev, *op. cit.*, p. 87, footnote 7. Numerous needles have been discovered at Novgorod, see V. A. Kolcin, *op. cit.*, p. 66, fig. 51 — 52. We must mention that most of them are of wood.

<sup>21</sup> I. Barnea, *op. cit.*, p. 342, fig. 183, 7, 10, 12 — 14, 16, 19; the closest analogy is offered by the object presented in fig. 183, 18. This piece has a "back" very similar to that of our piece, but being more prominent. We may add that the central orifice has a similar contour with the piece described by us. For comparison see I. Barnea and Șt. Ștefănescu, *op. cit.*, p. 295, fig. 100, 4, 11.

<sup>22</sup> The pieces from Preslav Museum are not yet published.

<sup>23</sup> S. A. Pletneva, *Кочевнический могильник близ Саркела-Белой Вежи*, MIA, 109, 1963, p. 245, fig. 19, 1 — 2; *idem*, *Печенеги, торки и половцы в южно-русских степях*, MIA, 62, 1958, 1, p. 168, fig. 8, 1; p. 169, fig. 9, 1; p. 171 fig. 1 — 4; I. Synitsyn, *Археологические исследования в Нижнем Поволжье и Западном Казахстане* KS, 37, 1951, p. 102, fig. 36, 3; *idem*, *Древние памятники в низовьях Еруслана*, MIA, 78, p. 117, fig. 44, 13; *apud* E. N. Cerepanova and A. A. Tsepinski, *Погребения поздних кочевников в степном Крыму, Археологические исследования средневекового Крыма*, Kiev, 1968, p. 183, footnote 1; see the same work, p. 182, fig. 1, 1 — 8; A. M. Tallgren, *Coll. Zaoussailov*, Helsinki, 1918, pl. VI, 8.

<sup>24</sup> A. F. Medvedev, *op. cit.*, MIA, 65, 1959, 2, p. 146, fig. 11, 5 — 8.

ally assigned to the "nomad riders". They are more numerous in the XIIth c. and for this reason it is to be supposed that these objects were more frequent with the Koumans <sup>25</sup>.

19. Two quiver elements of an elicoid form. Length, 0.15 m. width at the ends, 0.009 m., and in the middle 0.02 m. In their section they have a concave form. Both pieces are decorated with parallel lines disposed in zigzag. There is a small carved sign on the face of one piece, probably two letters (H I) (pl. II, 9, 10). Certain analogies can be established with some pieces from Movilița <sup>26</sup> and Dinogetia <sup>27</sup>. Similar objects have also been discovered on the archaeological sites localised in the south-eastern parts of the Soviet Union <sup>28</sup>.

20. Half of a piece, made of an antler which was cut in the place where it was forked, with three holes symmetrically disposed in a triangle. On its polished face we can see an ornament clumsily worked, consisting of some intersected straight broken or sinuous lines. Similar pieces were found in our country at Dinogetia <sup>29</sup> and in the Soviet Union at Sarkel <sup>30</sup> and Saltovo <sup>31</sup>. A few pieces have also been found in Czechoslovakia <sup>32</sup>. Some archaeologists consider that they were used as recipients <sup>33</sup>, others regard them as quiver necks <sup>34</sup>.

#### ACCESSORIES FOR CLOTHES

21. Buckle of bone, in a good state of preservation, without pin. Length, 0.07 m. It has a rectangular "body" and a lyre-shaped "head". The "body" is provided with three circular orifices, disposed at an equal distance. On the surfaces between the orifices one can distinguish two pin engraved small crosses. It is to be noted that the lyre-shaped part imitates a certain type of bronze buckle, known at Dinogetia <sup>35</sup>, at Samborzec <sup>36</sup> in Poland, at Novgorod <sup>37</sup> and Sarkel <sup>38</sup>. Bone buckles of other type, were found in Dobrudja, at Dinogetia <sup>29</sup> and Capidava <sup>40</sup> (pl. II, 6; III, 2).

22. Piece of a truncated-cone-shape (diameter, 0.026 m.), with a small central perforation. Decorated on its upper straight face with eight circlets having a dot in the center, disposed as a rosette. On the slanting face we can distinguish fifteen pairs of short skew lines (pl. II, 16; III, 6).

To the object presented above we can find a certain analogy with a piece discovered at Dinogetia-Garvăn <sup>41</sup>. Another one, decorated with little circles each with a central dot, was found at Sarkel-Belaia Veja <sup>42</sup>. The ornament of the latter has several parallel lines reproducing a cross. I. Barnea referring to the way they were executed accepts the Kostrizewski <sup>43</sup> and

<sup>25</sup> I. Barnea *op. cit.*, p. 343 and encicl. bibliography.

<sup>26</sup> Gh. Diaconu and Petre Diaconu, *Un mormint de călăreț nomad din sec. XI — XIII descoperit la Movilița*, SCIV, 18, 1967, 1, p. 137, fig. 3 — 11 — 12. We mention that the pieces of Movilița have a rectangular form.

<sup>27</sup> I. Barnea, *op. cit.*, p. 97, fig. 44, 18.

<sup>28</sup> S. A. Pletneva, *Кочевнических могильник ...* p. 244, dig. 18, 1 — 3; *idem*, *Печенеги, торки ...* p. 168, 4. Cf. M. I. Artamonov, *Саркел-Белая Вежа*, MIA, 62, 1958, 1, p. 39, fig. 25, 10, 13.

<sup>29</sup> I. Barnea, *op. cit.*, p. 97, fig. 44, 19.

<sup>30</sup> S. A. Pletneva, *От кочевий к городам. Салтово-Маянская культура*, Moscow, 1967, p. 154, fig. 42, 10.

<sup>31</sup> *Ibidem*, fig. 42, 11.

<sup>32</sup> V. Hruby, *Die slawischen Beigegenstände und ihre Erzeugung in Mahren*, PA, 48, 1957, p. 214, fig. 1 — 2; *Slovenské kostené predmety a jejich Vyroba na Morave*, PA, 48, 1957, p. 19, fig. 1, 8.

<sup>33</sup> I. Barnea *op. cit.*, p. 92.

<sup>34</sup> S. A. Pletneva, *op. cit.*, loc. cit.

<sup>35</sup> I. Barnea, *op. cit.*, p. 295, fig. 173, 10.

<sup>36</sup> Helena Zoll-Adamikowa, *Weczesnéśredniowieczne cmentarzyska szkieletowe Malopolski, cz. I. Z rodla, Wrocław-Warszawa-Krakow*, 1966, p. 177, fig. 1.

<sup>37</sup> M. V. Sedova, *Ювелирные изделия Древнего Новгорода (X — XV вв.)*, MIA, 2, 1959, 65, p. 243, fig. 7, 11.

<sup>38</sup> M. I. Artamonov, *Саркел-Белая Вежа*, MIA, 62, 1958, 1, fig. 25, 2; O. A. Artamonova, *Могильник Саркел-Белой Вежи*, MIA, 1963, 3, p. 80, fig. 60, at the extreme right.

<sup>39</sup> I. Barnea, *Dinogetia*, I, 1967, p. 90, fig. 46, 18.

<sup>40</sup> Petre Diaconu, *Capidava*, I, 1958, p. 236, fig. 119, 3.

<sup>41</sup> I. Barnea, *op. cit.*, p. 87, fig. 44, 13; I. Barnea and St. Ștefănescu, *op. cit.*, p. 292, fig. 98, 7 — 8.

<sup>42</sup> M. I. Artamonov, *Саркел-Белая Вежа*, MIA, 62, 1958, 1, p. 71, fig. 49, upper right. Such pieces have been published in Coll. Zaoussailov, by A. M. Tallgren, pl. VI, fig. 18; see also E. A. Davidovici, *Разкопки замка Калау Боло*, MIA, 66, 1958, 3, p. 88, fig. 14, 8 — 9.

<sup>43</sup> I. Kostrizewski, *Les origines de la civilisation polonaise*, Paris, 1949, p. 401 — 402.

Rybacov's <sup>44</sup> views, namely that such objects were worked "on a special wheel or on the lathe" <sup>45</sup>. It is difficult to specify their use. Some researches consider them to be spindle-whorls <sup>46</sup>. According to our opinion they were rather used as buttons.

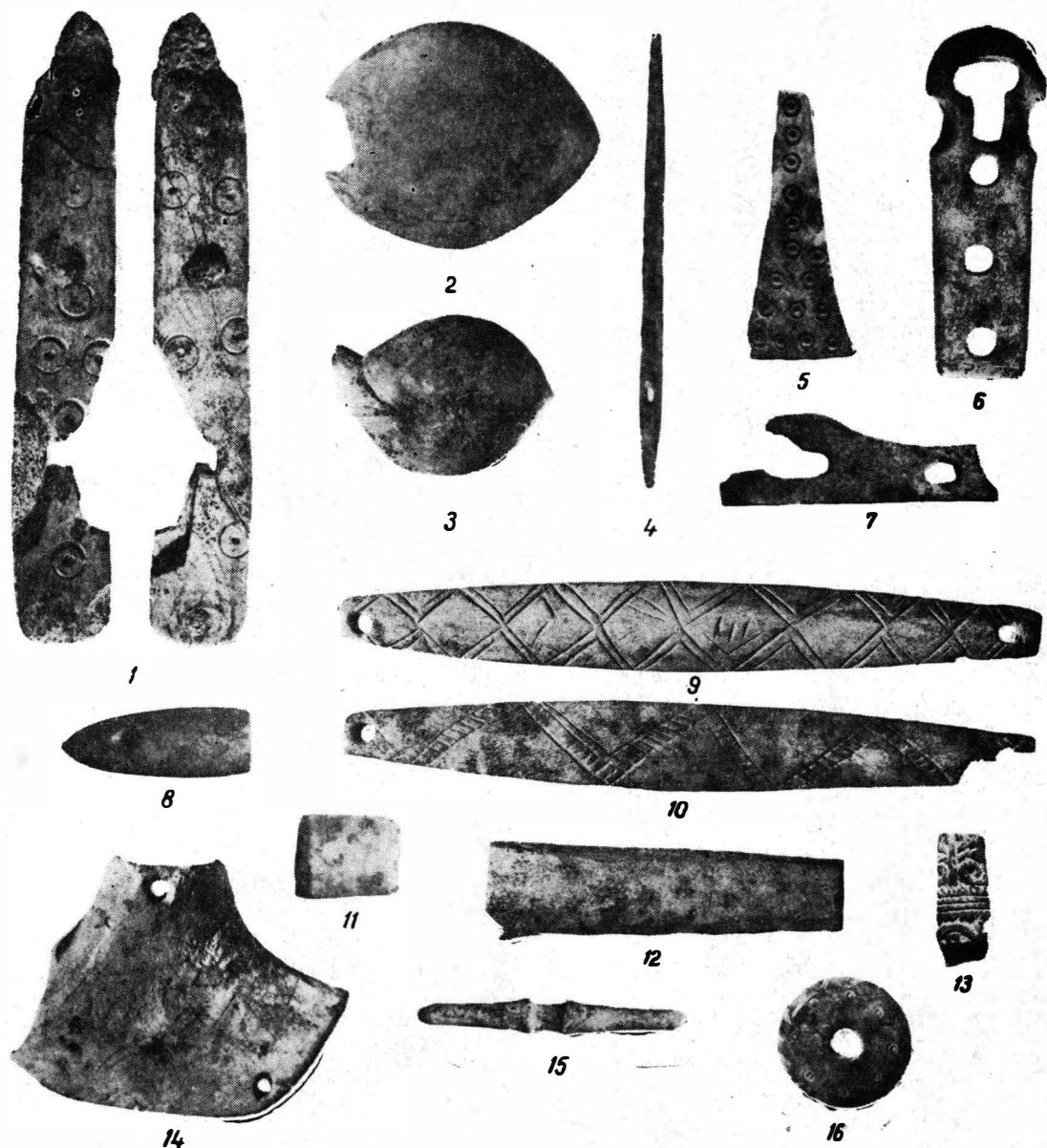


Plate II. — 1 — 16. Objects of bone and antler from Păcuiul lui Soare.

23. Bone object with elongated ends and with a medium groove 0.005 m. wide. Length, 0.53 m; maximum diameter 0.007 m. (pl. II, 15). Similar bone buttons have also been found in other parts of the Black Sea area, as for example Dinogetia <sup>47</sup> and Sarkel-Belaia-Veja <sup>48</sup>. A

<sup>44</sup> B. A. Rybacov, *Ремесло Древней Руси*, Moscow, 1948, p. 415 — 416.

<sup>45</sup> I. Barnea, *op. cit.*, p. 86.

<sup>46</sup> Ibidem.

<sup>47</sup> I. Barnea, *op. cit.*, p. 90, fig. 46, 20.

<sup>48</sup> M. I. Artamonov, *op. cit.*, p. 39, fig. 25, 8; p. 40, fig. 26 on the right.

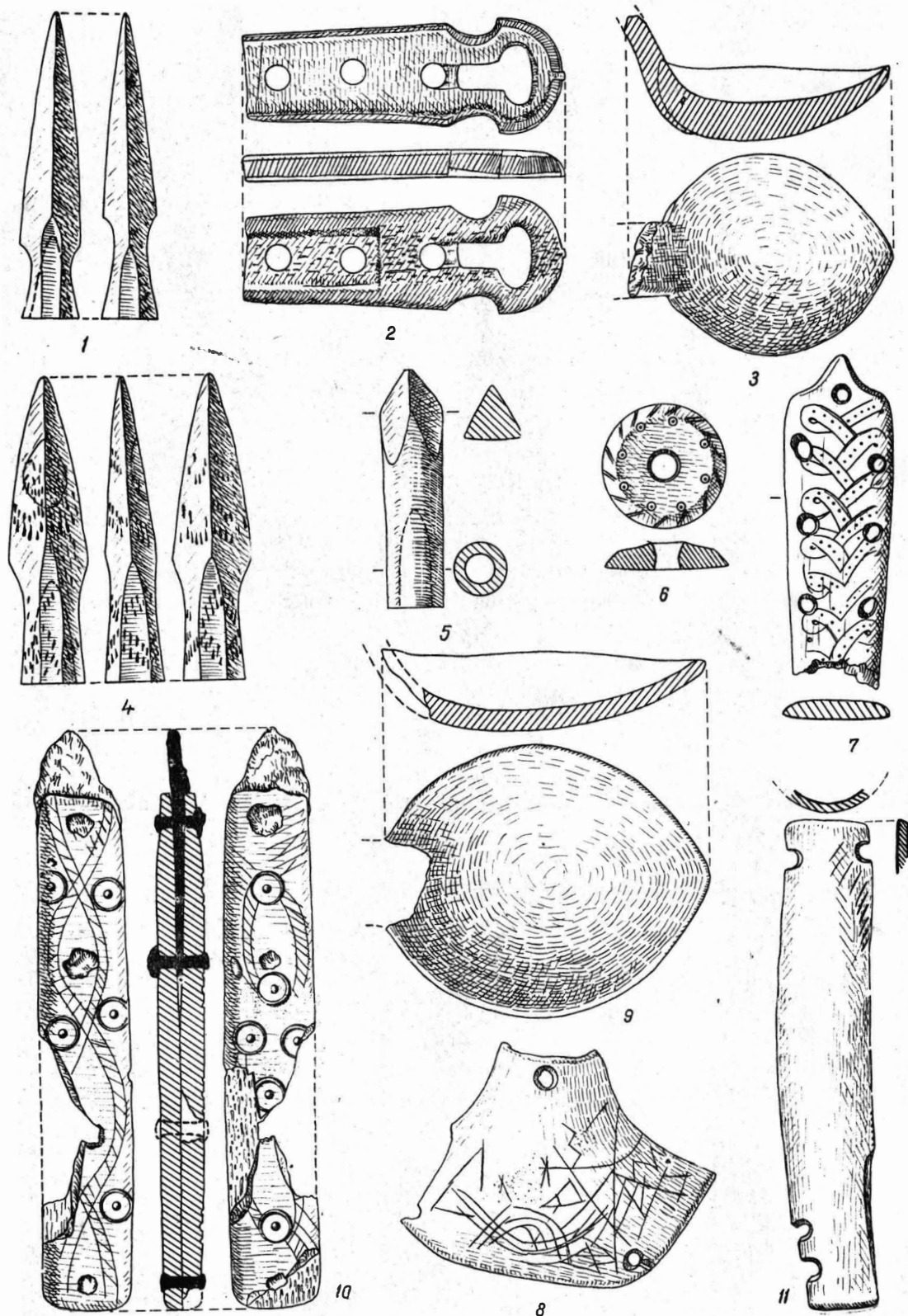


Plate III. — 1 — 11. Objects of bone and antler from Păcuil lui Soare.

bronze piece dating from a former period (VIIth-VIIIthc.) was discovered in the Novi Pazar necropolis (Bulgaria)<sup>49</sup>.

#### JEWELRY

24. Pendant (?) made of a small bone slate. Length, 0.57 m.; base width, 0.026 m.; upper part width, 0.007 m. The object is decorated with little circles with a central dot (pl. II, 5). Similar in shape a bronze pendant decorated with volutes discovered at Dinogetia has been published by I. Barnea<sup>50</sup>.

#### OTHER OBJECTS

25. Tube 0.025 m. long; diameter 0.021 m.; plain (pl. II, 11).

26. Fragment of a tube similar with the first one, but ornamented with incisions and excisions. Length, 0.027 m. (pl. II, 13).

Pieces like the first one, discovered in Czechoslovakia<sup>51</sup> are considered to be hunting whistles. A fragmentary piece, richly decorated was discovered at Bolgary<sup>52</sup> and another plain one, at Selište<sup>53</sup>, in the Soviet Union.

27. Piece worked out of a thin antler, all cut in facets, 0.07 m. long, with a longitudinal orifice. Its ends were cut straight. It is difficult to specify its use (pl. II, 12).

28. Antlers in process of being manufactured. Their length vary between 0.14 — 0.16 m. (pl. I, 12, 13).

The bone and antler manufacturing craft require a preliminary preparation<sup>54</sup>. Afterwards, the carving process was carried out with the chisel, knife or file and sometimes with a red-hot iron. For the decoration of the pieces the point of needle was also used; the little circles, sometimes quite perfect, were obtained by means of a compass. The ornamentation is based upon three main patterns: a) circlets with a central dot; b) lines disposed in zigzag; c) sinuous intersected lines. We also meet various combinations of this main elements as for example circlets disposed on the field between pairs of intersected lines, short notches or a file of dots filling up the field between the parallel lines. etc. As a general remark may we also pointed out that the ornamentation of the pieces is executed by a very fine incision, sometimes hardly noticed.

Most of the objects here reviewed have found analogies at Dinogetia, a site localised in the same geographical area as Păcuil lui Soare.

The pieces belonging to the Xth c. are less numerous than those from the XIth c. That could explain the relative scarcity of bone objects of the Dridu type sites in Wallachia and Moldavia, sites which ceased to exist round the year 1000<sup>55</sup>. The increase in number of the bone pieces in the XIth c. sites of Dobrudja is concurrent with the settlement of some groups of turanian peoples in the south-danubian regions. These peoples showed a particular prefe-

<sup>49</sup> St. Stancev (Vaklinov), *Некрополът до Нови Пазар*, Sofia, 1958, pl. XXIII, 5. Other similar pieces see at S. A. Pletneva, *op. cit.*, p. 139, pl. IV and A. L. Mongait, *Старая Рязань*, MIA, 49, 1955, p. 134, fig. 97, 3.

<sup>50</sup> I. Barnea *op. cit.*, p. 283, fig. 169, 26.

<sup>51</sup> V. Hruby, *op. cit.*, p. 151, fig. 17, 13 — 15.

<sup>52</sup> M. A. Tallgren, Coll. Zaoussailov, pl. VI, 17.

<sup>53</sup> I. A. Rafalovici, *Раскопки раннеславянского погребения VI—VII вв. н.э. у села Селиште*, Археологические

исследования в Молдавии, Chişinău, 1972, p. 130, fig. 6, 6.

<sup>54</sup> I. Barnea, *Dinogetia*, I, Bucureşti, 1967, p. 86 and the indicated bibliography.

<sup>55</sup> Petre Diaconu, *Les Petchénègues*... p. 38; Silvia Baraschi is of a different point of view that the Dridu culture existed even in the XIth c.



rence for the bone manufacturing craft. We do not try however to assert, by putting these facts together, that the bone pieces must be attributed exclusively to the turanian peoples. On the contrary, we think that many of them reflect a certain degree of development of this craft, which has its origins in an old local tradition. Nevertheless, some objects such as the arrow-heads and quiver elements must be connected with the presence of some turanian peoples here. At the present stage of the researches it is however difficult to specify which pieces belong to the Petschenegs and which to the Koumans. We can only suppose that the latter have used on a larger scale some of bone or antler objects, these being more numerous in the XIIth c. sites than in those belonging to the XIth c.