

ABOUT THE PRESENCE OF THE COMPOSITE BOW AT TROPAEUM TRAIANI DURING THE PROTOBYZANTINE PERIOD

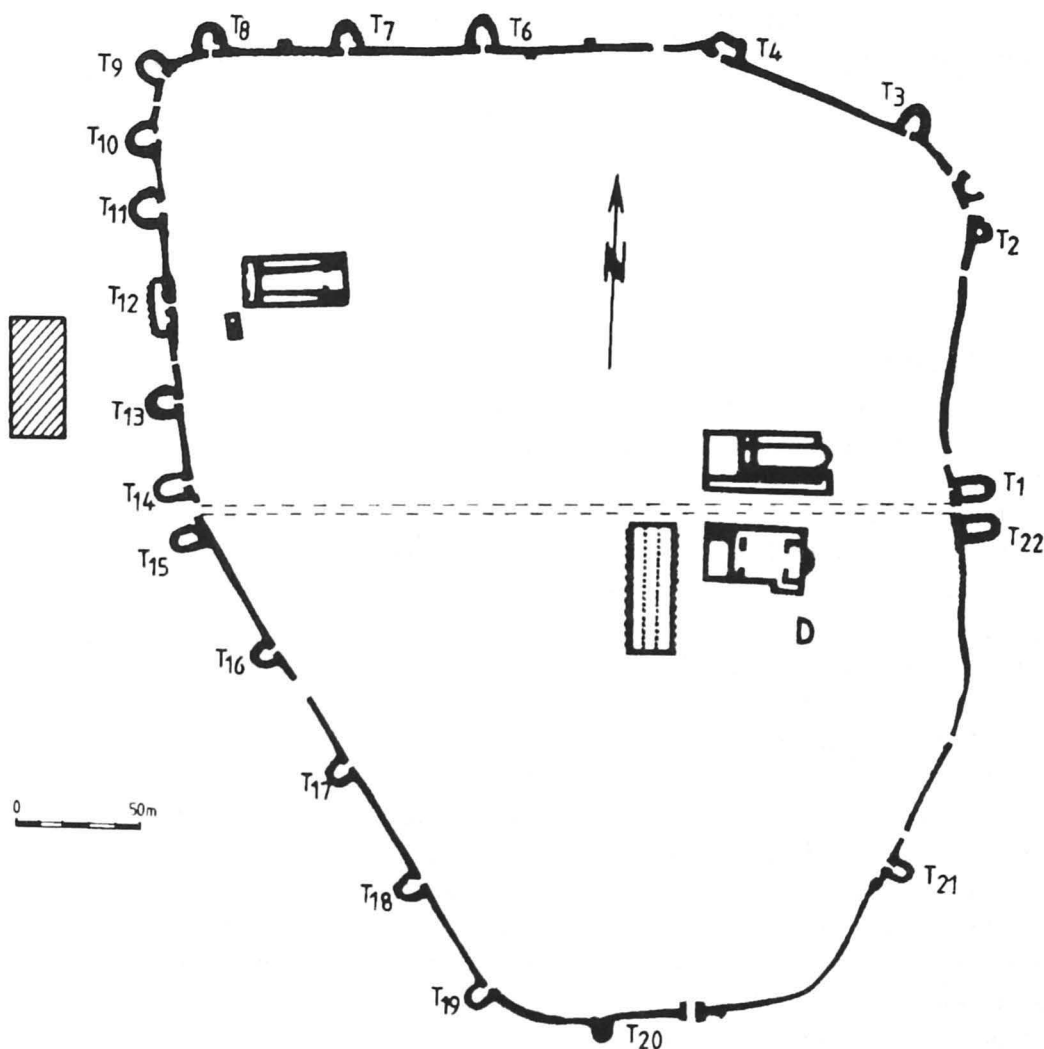
COSTEL CHIRIAC

In 1992 I undertook an archaeological poll on the plateau situated west of the ancient Roman precincts of Tropaeum citadel in the immediate vicinity of a Byzantine basilica recently discovered, which dates from the 6th century¹. The poll had in view the clarification of the stratigraphic situation around the monument already mentioned. The section which we called S/1992 — west had 20 m in length and 2 m in breadth. It was north-south oriented, approximately perpendicular on the axle of the basilica, at about 50 m west from the towers no 12 and 13, near the gateway of the ancient Roman fortification (Pl. 1)². It is remarkable the fact that the basilica is disposed parallel to the road that used to continue the “via principalis” towards west³. For certain objective reasons our poll stopped at 1,10–1,20 m depth. I have noticed the following stratigraphic situation: in the southern extremity of the section I saw, immediately under the vegetal layer (arable), at about 0,40–0,50 m depth, a flooring level, provisory called N1, that corresponds to the phase of function of the basilica, level on which the ruins of the important building (stones, tiles, shingles, bricks etc.) are lying. In the southern part of the section, towards the basilica, I’ve noticed a wall made of rough stone tightened with earth, oriented approximately south-east to north-west. It is possible that this wall, although not too thick, had the role of a *peribol* for the basilica’s building. It is remarkable that in the profile of the section can be noticed the foundation excavations for this wall which afterwards was intentionally demolished, probably because of the agricultural works. The flooring level, which corresponds to the moment when the basilica was functioning, continues uninterrupted by any other building till the northern extremity of the section, being marked by fragments of ancient Roman ceramics: shingles, tiles and stones from the ruins of the basilica spread in the adjacent zone. In the northern extremity of the section, more precisely in the 9th and 10th squares, according to our

¹ The uncovering of this monument takes place beginning with 1987, under the direction of Gh. Papuc, from the National History and Archaeology Museum, Constantza. The observations of my colleague from Constantza were the object of several essays at annual national sessions and reports concerning the archaeological excavations.

² Towers numbering and plannimetrical reference are corresponding to those adopted in the *Tropaeum Monography*. I, pp. 47–77 and fig. 23.

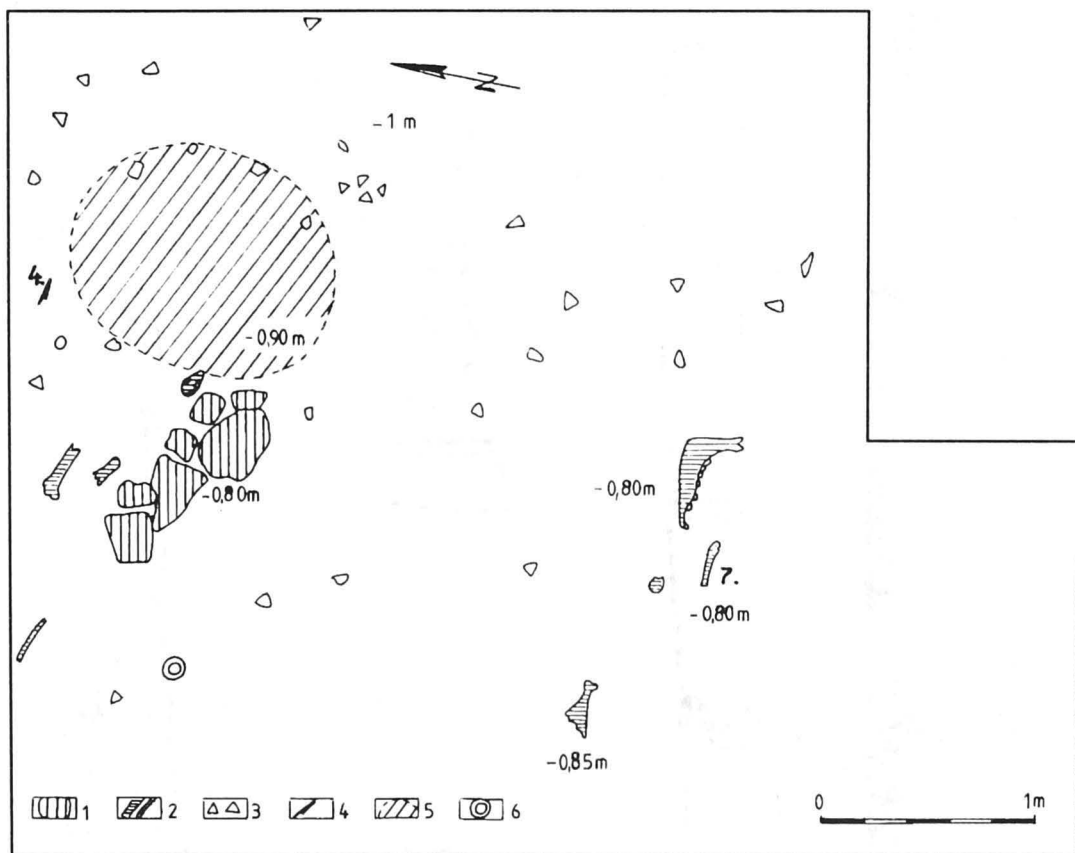
³ Regarding the extra mural living after the building of the Constantinian precincts, see *Tropaeum* I, p. 63.



Pl.1 The plan of Tropaeum fortress with the location of the S/1992 West section (hachured area).

notation (having 2 X 2 m in dimension), after the exterior flooring level of the basilica, there is a grey level layer with stains of yellow earth, stones, bones and Romano - Byzantine and prehistoric ceramic fragments (Hamangia and La Tène)⁴. At the basis of this layer I've noticed another flooring level N2, situated at 0,80 - 1m depth. On this level, in the 9th and 10th squares there were several animal bones, stones, ancient Roman and prehistoric ceramic fragments and the remains of some pits with burning stains. In this area, from the northern extremity of the poll that was enlarged with another case equivalent with two squares (4 X 2 m) towards the east, near a horse

⁴ *Ibidem*, p. 35.



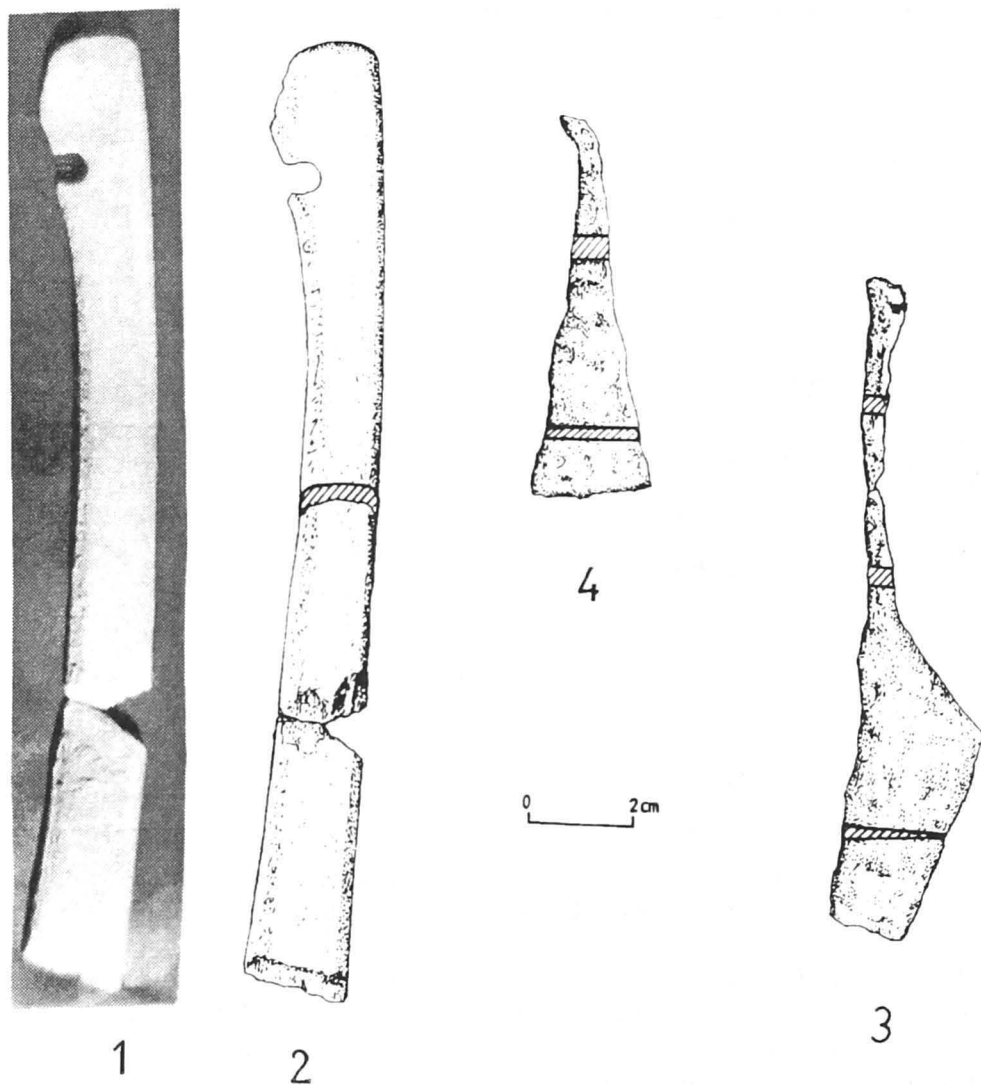
Pl. 2 The northern extremity of the S/1992 West section (plan)

1. stone; 2. bones; 3. ceramics; 4. metal object; 5. pit; 6. amphore; 7. bone plate.

mandible, I found a bone plate that may have been processed⁵. The same zone has revealed a razor made of iron, a little chisel, also made of iron, and numerous fragments of glass and ceramic (see Pl. 2, 3, 4). We consider that it cannot be possible for this to be a settlement or a situation that may confirm, up to present, the existence of a grave or more, the human bones totally lacking and the discovered pits being from another historical horizon. Our observations entitle us to claim that the level N2 (in our provisory notation) was an *extra-muros* flooring level in a zone in which, except the mentioned basilica and another insulated points where ruins and ceramic fragments are observed, we cannot talk about an ancient (4th or 6th centuries), intense or systematic settlement. On the plateau that goes down from the precincts towards west by a slow slope, several Roman époque graves were incidentally discovered, dating from the 3rd–4th centuries⁶. Therefore, we consider that this zone was designated to

⁵ The osteologic rests discovered in S/ 1992 West section were studied by prof. S. Haimovici to whom we bring the acknowledgements he deserves. It is about the domestic animals like: horses, pigs, dogs, goats, sheep, cows, donkeys and about savage animals like the stag (?) and the stork or the eagle.

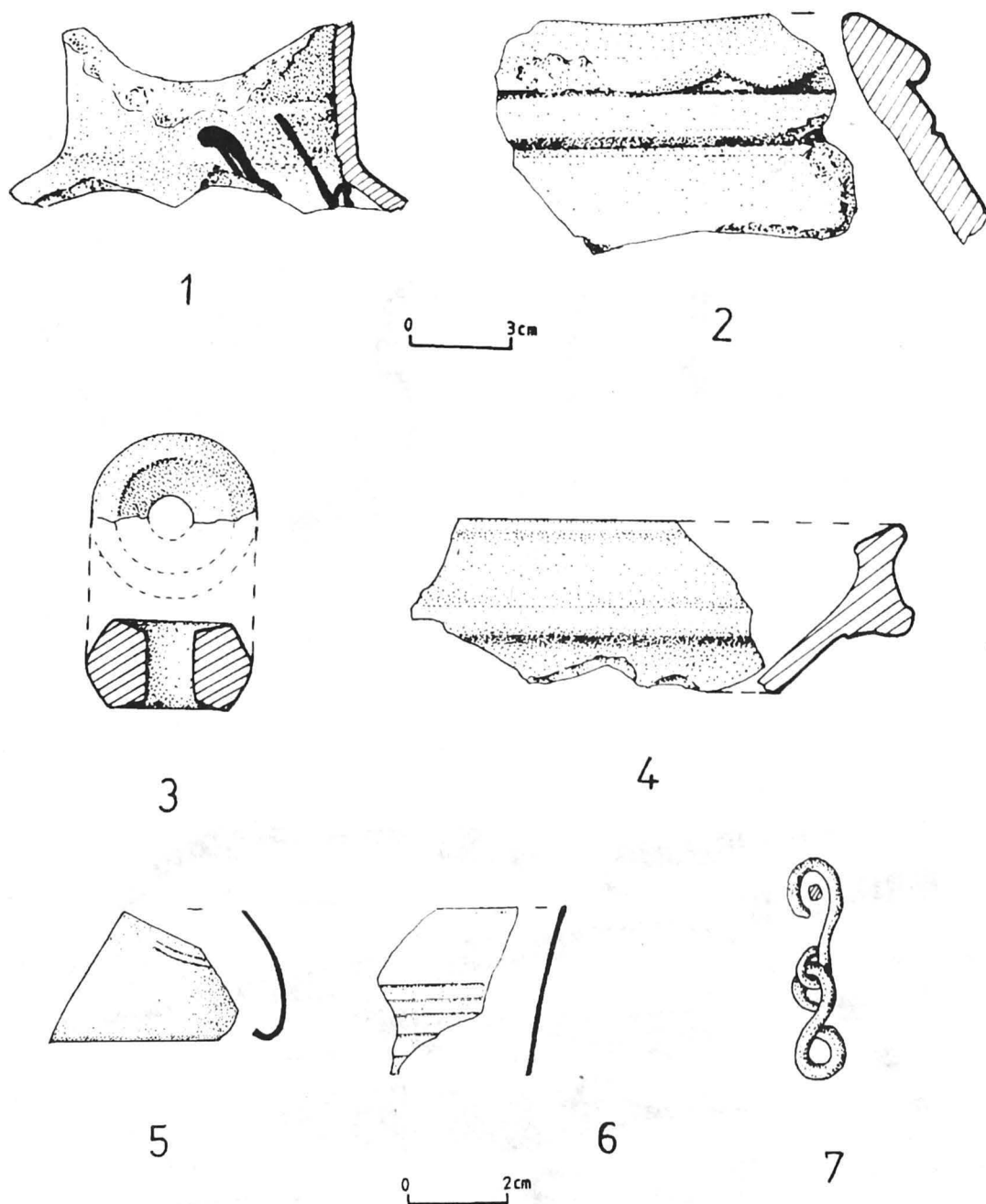
⁶ The information belongs to my colleague, Gh. Papuc.



Pl. 3 Tropaeum Traiani — 1992: 1 and 2 photo and drawing of the bone plate for the composite bow; 3. iron razor; 4. iron chisel.

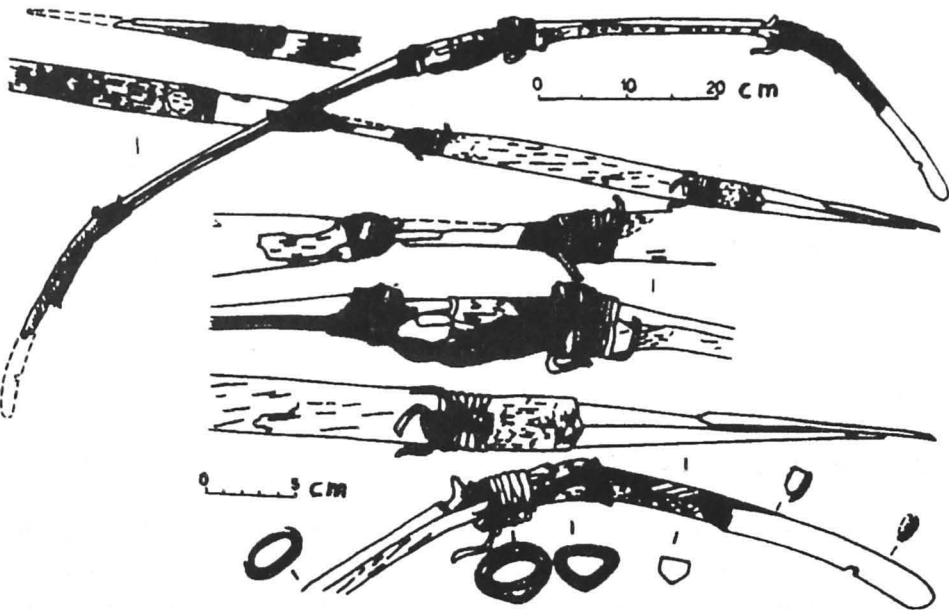
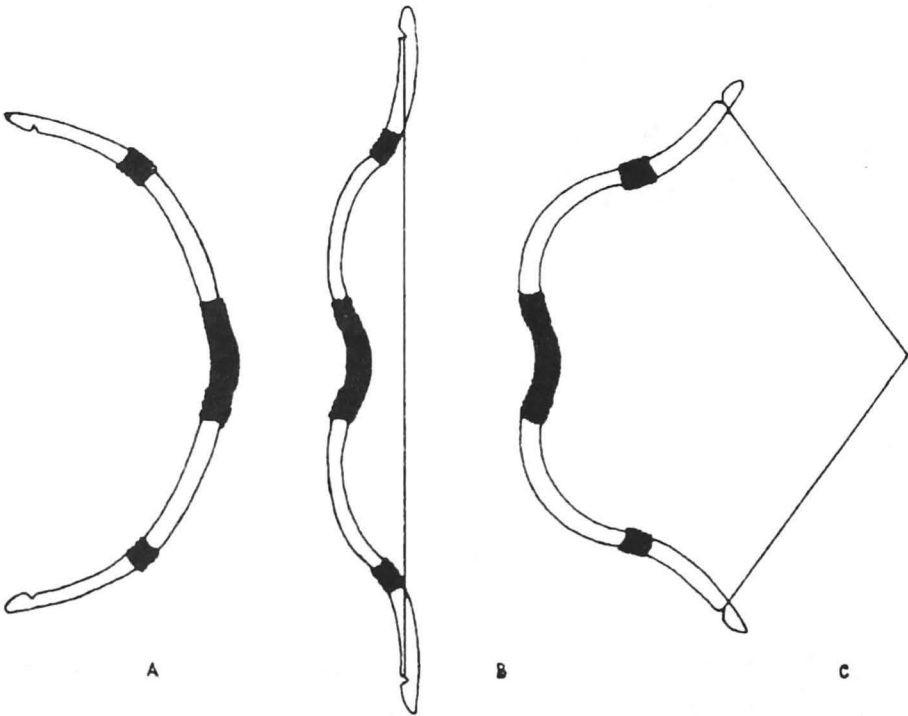
the necropolis up to the 6th century at the latest when it began the construction of the above mentioned extra mural basilica.

In the present article we intend to tackle some aspects concerning the presence within the archaeological material collected with the occasion of our stratigraphic study of an armament piece, to be more specific a bone plate which is a part of an ear - lathe (bow stiffener). The piece was found in the 9th square at 0,80 m depth, near a horse mandible (Pl. 2, no 7). The plate has 18,5 cm length, a breadth between 1,5 and 2 cm and 0,5 cm thickness. Its shape is slightly curved towards the middle, one of the extremities is rounded and has a half circular 0,5 cm breadth notch

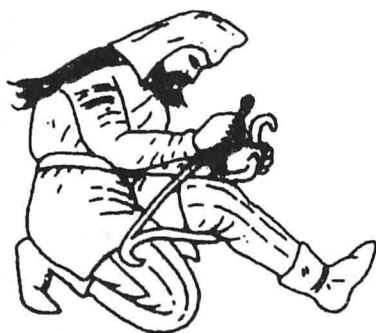
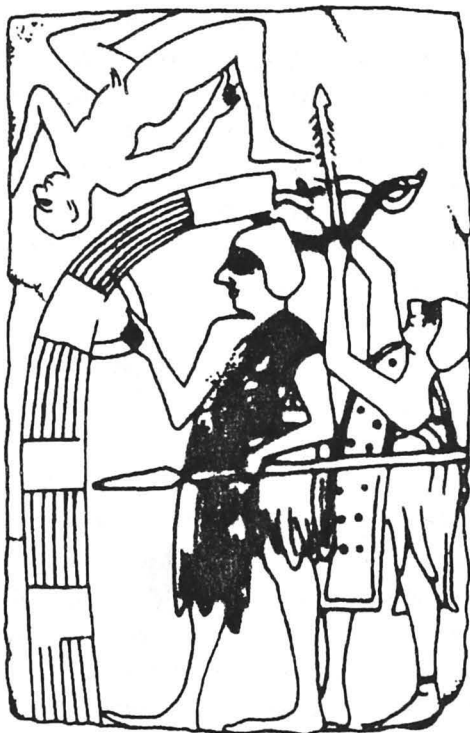


Pl. 4 Tropaeum Traiani — 1992: 1-4 ceramic fragments; 5-6 glass; 7 bronze little chain.

in which the cord of the bow used to be attached. The other extremity of the plate was cut with a sharp instrument (chisel or knife). The superior surface of the plate is well polished and glazed while the bent margin and the inside surface that must have been applied on the bow has oblique and longitudinal striations created with a rough pile



Pl. 5 Graphic reconstitutions of the composite bow, after J. Kovačević (up) and M.P. Grjaznov (down).



Pl. 6 Representations of the composite bows from: Mari (left) and Kul' Oba (right).

in order to improve the adherence. The plate was broken in two fragments during the discovering. In section, the piece is slightly convex (Pl. 3, no 1 and 2).

This kind of discovery proves the existence and the use of the “Hunnish” type bow at Tropaeum in the ancient Roman époque. Bone plates that resemble to the one presented by us were fixed two by two on both sides of the extremities of the bow so as to improve its solidity and elasticity (Pl. 5). Another pair, or even three simple plates, without a notch for fixing the cord, were applied sometimes on both sides of the zone in which the weapon was sustained by the hand (Pl. 5). Unlike the simple one bent bow, the composite bow, double and having the extremities reflected towards the shooting direction, was a complex weapon that requested special acquaintances, while its efficiency was, military speaking, impressive.

A creation of the nomad shepherds and hunters population from the steppes of Central Asia, this dangerous weapon, whose handling requested force and skill, was early took over by other warrior peoples just because of its feared performances. The composite bow used to be made by assembling and sticking together the wooden parts (cornel wood was preferred) after which the wooden or bone plates having the notches pointed towards the shooting direction were fixed. This bow was sometimes carried in a sheath in a relaxed position, having the cord fixed on one extremity only. To tighten the cord, the bow was bent by applying a pressure with one hand on the superior extremity while it was supported with the leg to ensure the stability of the

movement. With the other hand, the cord loop was set through the notch of the superior part of the bow. Such an action is shown on a scene painted on an *electrum* Scythian vessel discovered at Kul'-Oba, near Kerč (Pl. 6)⁷. Because of this tightening action of the composite bow it was sometimes asymmetrical in the sense that one of the two bents was larger, and the extremity and plates that were used to fix the cord by extension were shorter⁸. The older composite bows, of Scythian type, had fixed, at the extremities and in the middle, wooden plates, instead of bone ones, seven in number⁹. The oldest representation of a composite double bent bow is to be found in a siege scene that was carved on a slab discovered in 1971 in a palace dating from the latest phase of the early dynastic period, 3rd millennium BC, at Mari, north-western part of Mesopotamia (Pl. 6)¹⁰. This kind of bow is almost unknown in the Aegean and the Near or Middle Orient art of the Bronze Age and also in the Assyrian and Siro-Hittite art. It becomes frequent only beginning with the 9th century BC. The Assyrians and Akkadians seemed to prefer the simple bow (rounded or angular) because it was easier to manufacture and a lot simple to handle it¹¹. The presence of the composite bow at Mari must be put on account of the military and commercial relationship with Central Asia's populations¹². The Scythian type of bow was discovered in the Southern Siberia and China up to the beginning of the Christian Age¹³. On the Parthian and Northern - Pontic coins from the 3rd-1st centuries BC we find representations of the composite reflex (double curved) bow¹⁴. Representations of bows appear also on the Bactrian coins, but it cannot be sure if this weapon we can speak of local, autochthonous or imitated bow shapes, following the contact with the Sakis¹⁵. In the Scythian art from 7th-3rd centuries BC we also find images of this weapon¹⁶. The "Hunnish" type bow belongs to the Central - Asian bows family, being, as we have already shown, different from the "Scythian" type because of the replacement of the wooden plates (fittings, fixtures) with those made of bones. Generally, the "Hunnish" bow is a little

⁷ *Stepi II*, p. 336, pl. 31, fig. 31; Y. Yadin, *The Earliest Representation of a Siege Scene and a "Scythian Bow" from Mari*, in *IEJ*, 22, 1972, no 2-3, p. 91, fig. 3; *Gold der Skythen. Schätze aus der Staatlichen Ermitage St. Petersburg*, Neumünster, 1993, pp. 111-113.

⁸ J. Werner, *Beiträge zur Archäologie des Attila-Reiches*, München, 1956, p. 47.

⁹ A recent presentation of the "Scythian" type of bow and its manufacturing and using modalities and also concerning the three winged arrows, see Holger Eckhardt, *Der schwirrende Tod-dio Bogenwaffe der Skythen*, in *Gold der Steppe. Archäologie der Ukraine*, Archäologisches Landesmuseum, Schleswig, 1991, pp. 143-149. In the final part of the same paper there is a brief presentation of the armament of the nomad Scythians, Sarmatians, Turanics and Mongols, together with suggestful reconstitutions; R. Kenk, *Das Graberfeld der hunno-sarmatischen Zeit von Kokel', Tuva, Sud-Sibirien*, in *AVA*, 25, 1984, pp. 84-85.

¹⁰ Y. Yadin, *op. cit.*, pp. 89-90, fig. 2 B, pl. 17 A.

¹¹ *Ibidem*, pp. 91-92.

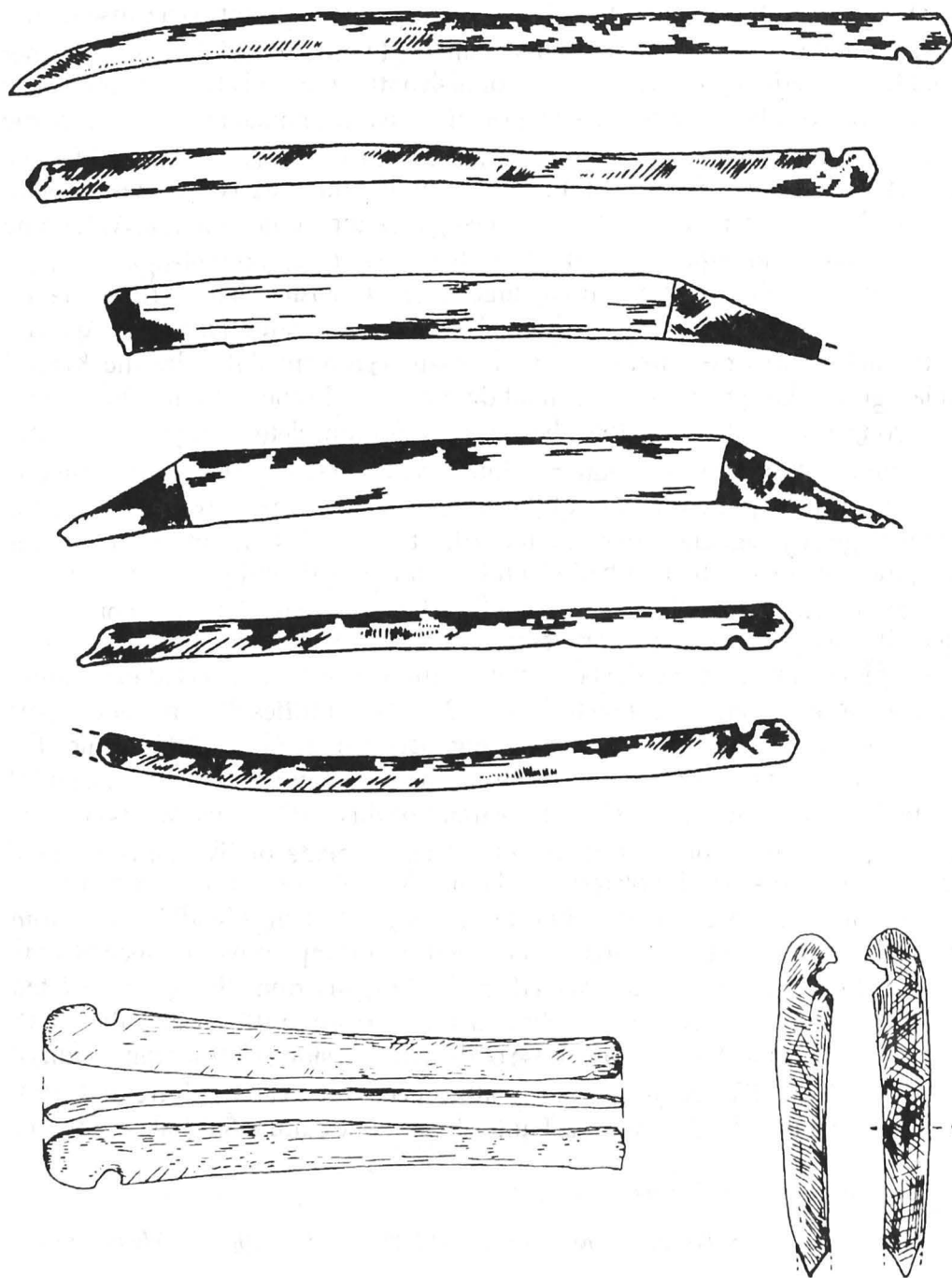
¹² *Ibidem*, p. 91.

¹³ R. Kenk, *op. cit.*, p. 85.

¹⁴ B. Anatol'evič Litvinskij, *Antike und frühmittelalterliche Grabhügel im westlichen Fergana-Becken, Tadžikistan*, in *AVA*, 16, 1986, p. 76, fig. 47; V. A. Anohin, *Monetnoe delo Bospora*, Kiev, 1986, pp. 140-143, no 110, 133, 145-147, 170; A. N. Zograf, *Antičnye monety*, Moskva, 1951, p. 130, no 14-22, pl. XXXII.

¹⁵ B. Anatol'evič Litvinskij, *op. cit.*, pp. 77-78, fig. 49.

¹⁶ *Stepi II*, p. 336, pl. 31.



Pl. 7 Bow plates: 1. from Kokil', Siberia; 2. Corbridge (England); 3. Oberaden (Germany).

longer, as a result of technical necessities. As such, the fixation of the bone plates (fittings) led to an improved rigidity of the wooden frame, imposing as a consequence the enlarging of the dimensions up to a maximal length of 1,20–1,60 m¹⁷. As J. Werner remarked four decades ago, studying the Hunnish antiquities, this type of bow seems to be an invention of the hunters of the taiga settled near the Baikal Lake ever since the 1st millennium BC¹⁸. The oldest rests of “Hunnish” bows, that is the bone stiffeners, were discovered in Trans-Baikal and Mongolia in the funerary complexes of: Noin Ula (the North of Urga), Iljmovaja Padj (on Selenga), in the former Sovietic Autonome Buriato - Mongole Republic and at Nižne-Ivolginsk (also on Selenga)¹⁹. These complexes were attributed to the tribal unions of the Eastern Huns from the 1st century AD, mentioned in Chinese chronicles under the name *hiung-nu*. Another zone with such discoveries is situated in Tiensan region inhabited by the Kenkol Mongolian group that practised the cranial deformation. In the Extreme Orient, in a grave at Pyong Yang (dated from the 4th century AD) a complete fitting of bone plates from a “Hunnish” type bow was found²⁰. More recently, researches revealed valuable information concerning the presence of the composite bows in Central Asia²¹. These are archaeologically signalled here in the 7th–6th centuries BC in several types including the “Scythian” one that had about 0,75 m in length and was very effective. In the second half of the 1st millennium BC, when the defending weapons were perfected, it was pursued the improvement of the launching force of the arrow. This was achieved by attaching the bone plates (fittings) and the reflected extremities like horns towards the shooting direction in the 2nd–1st centuries BC. The central part was made of two very elastic curves, having between them, in the middle, the hilt (Pl. 5). The near perfect form of the “Hunnish” type bow can be met in Central Asia in the 2nd–3rd centuries AD. A later variant of this redoubtable weapon is the “Sassanid” type of bow, of Central -Asian influence, made of five parts²². There are very numerous discoveries of rests of “Hunnish” bow in Central Asia and there are also their artistic representations (mural paintings, drawings, *graffiti* etc.). From the first eight centuries of the Christian era there is an impressive number of bow pieces (including bone plates) discovered in the kurgans from the space situated between the superior courses of the Obi and Enisei rivers, in Altai and the south of Siberia (Pl. 8). The most famous are those of the western side of Tuva, from Kudirgé up to Kokil²³. These discoveries are partly attributed to the early culture of Taštyk type (centuries 1st BC - 1st AD) and the Hunnish-Sarmatic culture Šurmak²⁴. Another

¹⁷ J. Werner, *op. cit.*, p. 47; R. Kenk, *op. cit.*, p. 85.

¹⁸ J. Werner, *op. cit.*, p. 47.

¹⁹ G. Sosnovskij, *Les fouilles d'Iljmovaja Padj*, in SA, VIII, 1946, pp. 51–67, fig. 13; J. Werner, *op. cit.*, p. 47 and map no 4.

²⁰ J. Werner, *op. cit.*, p. 47, map no 4.

²¹ For an ample commentary see B. Anatol'evič Litvinskij, *op. cit.*, pp. 76–82.

²² *Ibidem*, pp. 81–82.

²³ R. Kenk, *Frühmittelalterliche Gräber aus West-Tuva*, in AVA, 4, 1982; *idem*, *Früh-und hochmittelalterliche Gräber von Kudirge im Altai*, in AVA, 3, 1982, *idem*, *op. cit.*, in AVA, 25, 1984.

²⁴ *Idem*, *op. cit.*, in AVA, 25, 1984, pp. 85–86.

area with such discoveries is Tadjikistan, Fergana region, near Syr-Daria river²⁵. Other points with related discoveries are: Ak-Tobe II (Čordara), in the graves from 4th–5th centuries AD, at Sausukum, in the necropolis and Kysart (in Tien-šan), also in the graves etc.²⁶ Some bow fragments have remainders of scenery realized by carving or painting in different colours or even have painted hunting scenes as decor. The preferred colours were red and black²⁷. The most spread ornament for bows seemed to be the zig-zag line. The sheaths were decorated too in a similar manner and painted in the two colours mentioned above, and also the quivers²⁸. The Chinese sources from the 5th–6th centuries AD speak about bows like of very requested products in the trade with the nomads *jou-jan*. There are mentioned bows painted with red and black lacquer which were a part of the gifts brought by a mission between the *jou-jan* nomads and the emperor of China Hsiao-Ming (516–528 AD) in 521 AD. Some of these bows were made of mulberry wood and others were decorated with carves²⁹. Traces and representations of the “Hunnish” type bow are met on the mural paintings of Pendžikent, Varachša and Afrasiab, this fact proving the wide spreading of this weapon in the Central-Asian territories between the 6th and 8th centuries AD. One of the rupestral drawings from Pamir, dated in the 7th–8th centuries AD, is showing the same type of bow whose use was generalized in Asia even from the time of the Arabian conquest³⁰. Assumed by the Turanic and Mongol nomads, the “Hunnish” bow was to be used in Asia and Europe everywhere during the Middle Ages. A little at south from the mentioned areas, the bow pieces are — in a large number — proving the generalized diffusion of the “Hunnish” type bow in the 1st–8th centuries. Therefore, in Pendžikent, at Ghiaur-Kala (ancient Merv) the remains of an workshop for producing bows during the Parthians’ time were discovered³¹. Bone plates are known also in Horezm, Bactriana and western Pamir³². It is interesting to point out an information with an ethnographic character that belonged to some German naturalists from the past century who, doing researches in Siberia, in the region dwelled by Iukaghiri, near the shores of the Arctic Ocean, noticed that this people seldom expressly looked for the fossil rests of mammoths and rhinos to make from bones and teeth plates for their bows. With this purpose they preferred the bones and claws of a huge bird called *Gryphus Antiquitatis Schubert*, after the name of the naturalist who first remarked its

²⁵ B. Anatol’evič Litvinskij, *op. cit.*, in AVA, 16, 1986, pp. 71–82, fig. 41–49.

²⁶ *Ibidem*, p. 79. For Siberia see *Stepi I*, p. 36, fig. 19, no 2, 3, 60, 61, 98; these plates were found in a Türcik environment of the 6th century up to the first half of the 9th century together with quivers, arrows, bits, saddles and harnessment pieces and clothes.

²⁷ B. Anatol’evič Litvinskij, *op. cit.*, pp. 79–80.

²⁸ R. Kenk, *op. cit.*, in AVA, 25, 1984, p. 85.

²⁹ A. Kollautz, H. Miyakawa, *Geschichte und Kultur eines Völkerwanderungszeitlichen Nomadenvolkes. Die Jou-jan der Mongolei und die Awaren in Mitteleuropa*, I–II. Klagenfurt, 1970, pp. 72, 129–130.

³⁰ B. Anatol’evič Litvinskij, *op. cit.*, p. 78.

³¹ *Ibidem*, p. 80.

³² *Ibidem*; S.P. Tolstov, in SA XIX, 1954, pp. 258–261, fig. 16 no 10.



Pl. 8 Representations of the composite bow: silver Sassanid disc (up); Mancurian painture (down).

existence.³³ As far as the artistic representations in which the “Hunnish” type of bow appears are concerned, we are confining ourselves to mention only three of them which are very clear and suggestive. One is on a silver Sassanid disc from the 5th century AD which nowadays belongs to the “Metropolitan Museum of Art”, New York. It is about a hunting scene, probably having the king Peroz-Firuz (458–484)³⁴ as protagonist (Pl. 7). Another apparition of the “Hunnish” type bow is the one present in the hunting scenes from the so-called “dancer grave” in Chi-an, the capital of the

³³ A. Kollautz, H. Miyakawa, *op. cit.*, II, pp. 227–229.

³⁴ *Wealth of the Roman World. Gold and Silver A.D. 300–700* (ed. J. P. C. Kent and K. S. Painter). London, 1977, p. 147, no 308.

Koguryo kingdom (centuries 1–7) on the middle course of the Yalu river, in the present Manchuria. One of the scenes represents a rider with the reflex (composite) bow armed (with the cord tightened) and with the quiver (Pl. 7). In the other one appears the image of some riders who hunt different animals with the same weapon³⁵. At last, another image, this time from the Persian-Arabian world seems to present the caliph Hishman (724–743) in a bow hunting scene on a fresco at Quasr al Hayr al Gharbi³⁶. In all these images it is obvious the presence of the notched plates at the extremities (horns) of the bows³⁷. In the China of the first centuries of the Christian era and a little later in the 6th–7th centuries, this type of weapons used to be manufactured although the crossbow was known here ever since the 4th–3rd centuries BC. This weapon was known by the Chinese garrisons from Eastern Turkestan who used it not against the riders but against the pedestrian troops. It seems that even Romans used it beginning with the 4th century AD³⁸.

As far as the Western spreading of the reflex bows towards the Eastern and Central Europe is concerned, it was noticed that the Sarmatians were the ones who took over this weapon from the Huns, by the aid of the carriers of Šurmak culture, ever since the 1st–2nd centuries AD.³⁹ The bone plates and the three edges iron arrows appear in Salmato-Alanic kurgans on the inferior Volga, at Nižnij-Baskunčak and Kalinovka, in the ancient Roman époque⁴⁰. It was noticed that the extent towards the West of the bone pieces for bows is done at the same time with the practice of intended cranial deformation and with the presence of metallic mirrors in the graves⁴¹. From the Hunnish Empire époque date the fragments of bone plates from the kurgans of Seelmann and Pokrovsk, on Volga, and also those of Novikova on Ufa, in Baškiria⁴². In the north of the Black Sea there are known two points with ancient discoveries, at Tiritaki (Kerč area) and Chersones, in a cisterna dated by its discoverers in the 5th century AD⁴³. In the 6th–10th centuries these bow fittings are well represented in the

³⁵ A. Kollautz, H. Miyakawa, *op. cit.*, I, pp. 175–176, fig. 14, 1–2.

³⁶ A. D. Bivar, *Cavalry Equipment and Tactics on the Euphrates Frontier*, in DOP, 26, 1972, pp. 290, fig. 29.

³⁷ For other representations of the reflex (composite) bows at the Sino - Altaic populations from the 6th–10th centuries, see *Stepi I*, pp. 126–127, fig. 21, 22.

³⁸ A. Kollautz, H. Miyakawa, *op. cit.*, II, p. 39; B. Anatol'evič Litvinskij, *op. cit.*, p. 82.

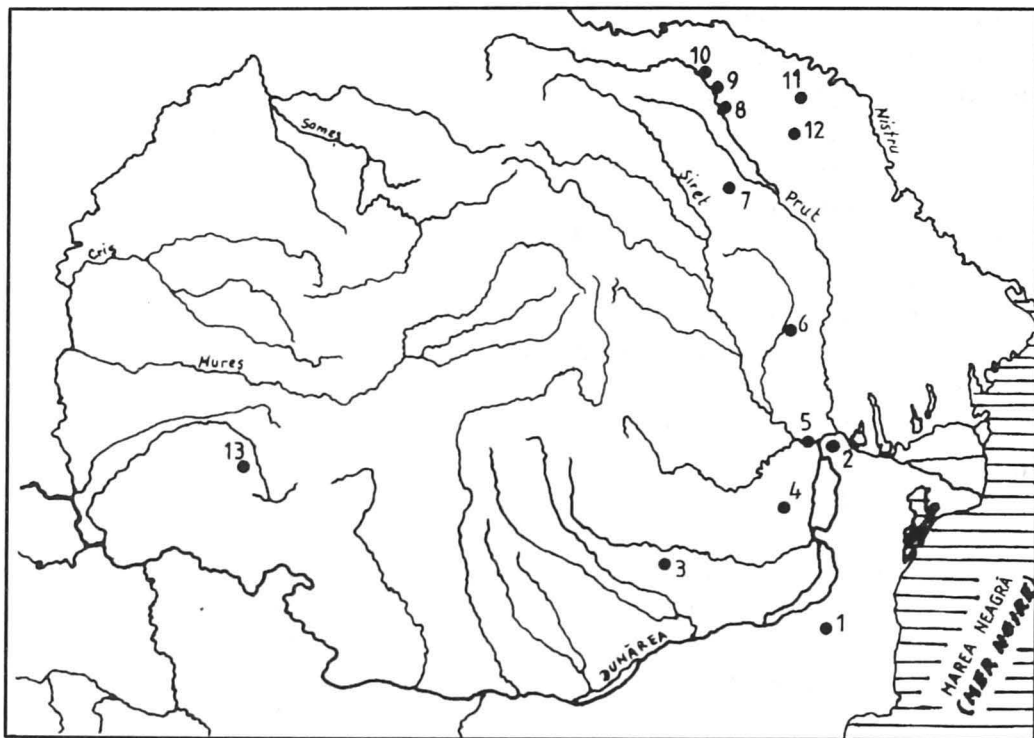
³⁹ In the kurgans from Kokel', in Tuva (the south of Siberia) the bone plates and the wooden remainings from the composite bows, the three edged arrows, the quivers made of birch tree bark etc. are present in a great number in the Hunnish - Sarmatian graves of Šurmak type which, after L.R. Kizlasov, are dating from the 2nd BC–5th AD centuries, see R. Kenk, *op. cit.*, in AVA, 25, 1984, pp. 9–10, 85–86, fig. 20–53; S. I. Bezuglov, *A Late Sarmatian Burial of a Noble Warrior in the Steppe of the Don Basin*, in SA, 1988, p. 105, fig. 2.

⁴⁰ J. Werner, *op. cit.*, p. 48, pl. 37, map no 4; *Stepi II*, p. 197, pl. 81, fig. 30, 31 for the bone plates and pl. 81, fig. 35–41 for the three edged arrows.

⁴¹ J. Werner, *op. cit.*, p. 48.

⁴² *Ibidem*, p. 48, pl. 60 no 5, 10, pl. 25, no 4; I. P. Zassetzkaia, *Chronologie et appartenance culturelle des monuments des steppes de la Russie Meridionale et du Kazakhstan a l'epoque des Huns*, in SA, 1978, no 1, pp. 53–71, at p. 61 no 31, 33, 34 are presented bone plates for bows; *Stepi I*, pp. 16, 98, fig. 4 b, fig. 5, no 26–28, 42 for the 6th and 8th centuries plates from the northern regions on the Don and the Volga.

⁴³ J. Werner, *op. cit.*, p. 48, the author doubts the dating of the two discoveries in the 5th century AD; G. D. Belov, A. L. Jakobson, in MIA, 34, 1953, p. 121, fig. 14, the plate from Chersones, in Crimea.



Pl. 9 The map of the Carpathic—Danubian—Pontic area. Points where bone plates for the composite bow have been discovered: 1. Tropaeum Traiani; 2. Dinogetia; 3. Movilița; 4. Lișcoteanca; 5. Galați; 6. Banca; 7. Holboca; 8. Costești; 9. Cuconești Vechi; 10. Corpaci; 11. Frumușica; 12. Ciocâltești; 13. Tibiscum. The numbers 1–7 and 13 are in Romania; numbers 8–12 are in the Republic of Moldova.

huge area between Arał Lake, Caucas, Caspica, Black Sea and the courses of Kama, Volga and Don, these proving the presence of the Turanic warriors⁴⁴.

In the Carpatho-Danubian regions, the discoveries of bone plates- fittings for the reflex bows, are concentrated towards the East, in Bărăgan and Moldavia (including the north of Bessarabia). Two points with discoveries are situated in Dobrudja at Dinogetia and Tropaeum Traiani (of which we are speaking here). In the end, a last discovery comes from Tibiscum, in Banat (see Pl. 9)⁴⁵. As for the East-Carpathian

⁴⁴ *Stepi I*, p. 28, fig. 10–13, pieces from the first stage of the Karajakupovskaja culture (between Kama and Belaja); Cs. Bálint, *Die Archäologie der Steppe. Steppenvölker zwischen Volga und Donau vom 6 bis zum 10. Jahrhundert*, Wien-Köln, 1989, p. 100; A. T. Siniuk, V. D. Berezutskii, in *SA*, 1991, no 3, pp. 250–261, fig. 7, no 11–13, bone plates and no 9, three edged arrow that could be ascribed, following the authors, to some nomad groups of Bulgarians from Saltovo - Majask cultural area established in the region of the nowadays Voronej during the centuries 8–9. In 1865 a composite bow was discovered near Gogops river (in Caucas), dating from the early Middle Ages, very well conserved regarding the components. This piece gave Mr. M. P. Grjaznov the opportunity to study the manufacturing manner of such weapons and the differences between their ethnical and regional variants (Türck, Hungarian, Alannic, Chazar etc) See: A. M. Savin and A. I. Semenov in *Severnaja Evrazija ot drevnosti do srednevekov'ja*, Sankt-Petersburg, 1992, pp. 201–205.

⁴⁵ D. Benea, P. Bona, *Tibiscum*, București, 1994, fig. 22.

zones, we believe that the fragments of bone plates discovered ten years ago in a tumulus near Galați were part of a composite bow piece. The author of the discovery points out that it is about a secondary interment in the same grave. Therefore, the funerary inventory of the double grave must be considered with some reserves. Although the second skeleton that has been discovered in the grave was a woman, we are not excluding the possibility that the eight fragments of bone plates with traces of finishing (polish) must have been a part of the inventory of the most affected grave (M III) that could be one of a man, maybe Sarmatian too.⁴⁶ The grave is dated on the basis of the inventory, from the 4th century AD⁴⁷. The other points where bow plates have been discovered are as follows (Pl. 9): Two points at Movilița-Urziceni⁴⁸ and Lișcoteanca⁴⁹ are on Ialomița and Călmățui. The third one is at Banca, on Bârlad⁵⁰. Other four are situated in the hydrographic area of the Prut river: Holboca (Iași district)⁵¹, Costești (Râșcani region)⁵², Cuconești Vechi (Edineț region)⁵³ and Corpaci (Edineț region)⁵⁴. Finally, two points are situated near Răut, at Ciocâlneni (Orhei region)⁵⁵ and Frumușica (Florești region)⁵⁶. We are not intending to discuss the problems raised by the presence of these pieces in the above mentioned areas because they are dated in a later period, centuries 10th–13th, than the one which we consider for this paper (we do not take also into account the two simple bone plates from Vârșnad, in the 11th century published by D. Popescu in his work *Materiale și cercetări arheologice* [Archaeological Materials and Researches], II, 1956, pag. 126)⁵⁷. In the south of Danube, at Dinogetia 12 plates are known, complete or fragments, with or without scenery and dated from the 10th–12th centuries. One of them, complete, dates from the second half of the 11th century⁵⁸. As to the plate discovered at Tropaeum, we will speak later about its significance. In the south of the Danube, in the Romano-Byzantine fortress of Golemanovo Kalé (in Bulgaria, near Sadoveč), it is also known a fragmentary plate found in a sector together with several three edges arrows⁵⁹.

⁴⁶ M. Brudiu, *Deux tombes tumulaires de la zone de Galați*, in *Dacia* N.S., XXIII, 1979, pp. 327–331, fig. 4 A, 4 B. (no 3–9) și 5.

⁴⁷ *Ibidem*, pp. 330–331.

⁴⁸ Gh. Diaconu, P. Diaconu, *Un mormânt de călăreț nomad din secolele XI–XII descoperit la Movilița (r. Urziceni, reg. București)*, in *SCIV*, 18, 1967, no 1, pp. 135–140, fig. 3, no 11, 12.

⁴⁹ N. Harțușche, F. Anastasiu, *Morminte de călăreți nomazi descoperite în județul Brăila*, in *Istros*, I, 1980, pp. 267, 269–273, fig. 5, no 8, fig. 6, no 5–7.

⁵⁰ Ruxandra Maxim-Alaiba, *Două morminte turanice târzii de la Banca*, in *ArhMold*, XI, pp. 235–240.

⁵¹ I. Nestor and colab., *Șantierul Valea Jijiei*, in *SCIV*, III, 1952, pp. 96, 108; D. Gh. Teodor, *Teritoriul est-carpatic în veacurile V–XI e.n. Contribuții arheologice și istorice la problema formării poporului român*, Iași, 1978, p. 109, fig. 34, no 10–13; V. Spinei, *Realități etnice și politice în Moldova meridională. Români și turanici*, Iași, 1985, p. 114, fig. 34, no 8, 9, 10, 11.

⁵² V. Spinei, *op. cit.*, p. 112, fig. 35, no 15, 19, 20.

⁵³ *Ibidem*, p. 112, fig. 35, no 18.

⁵⁴ *Ibidem*, p. 112, fig. 35, no 13, 14.

⁵⁵ N. A. Ketraru, V. P. Haheu, *Čokyltjanskije kurgany*, in *Archiss*, 1985, pp. 52, 55, fig. 5, no 1–4, p. 72.

⁵⁶ V. Spinei, *op. cit.*, p. 113, fig. 35, no 36, 37; Cs. Bálint, *op. cit.*, p. 143, fig. 61.

⁵⁷ D. Gh. Teodor, *op. cit.*, p. 109; V. Spinei, *op. cit.*, p. 131; Cs. Bálint, *op. cit.*, p. 143; *Stepi* I, pp. 213–222.

⁵⁸ Gh. Ștefan, I. Barnea, M. Comșa, E. Comșa, *Dinogetia I. Așezarea feudală timpurie de la Bisericiuța-Garvăn*, București, 1967, pp. 341–343, fig. 183, no 17. see also the pieces for arrows and quivers.

⁵⁹ S. Uenze (red.), *Die spätantiken Befestigungen von Sadoveč*, I–II, München, 1992, p. 500, pl. 43, no 4, catalog G 27. A 9.4 cm length plate fragment was discovered in the area of the acces gates towards the

In Central Europe, especially on the Middle Danube and in the Pannonic Plain, the bone fittings for bows became very numerous beginning with the installation of the Avars in this area after 568 AD and are present in most graveyards, both from the early and the late Avaric periods⁶⁰. In a very recent thorough study about the Avaric armament in the neighbourhood of the Carpathians, J. Szentpéteri notices that the bone plates for bows are present in a quarter of the total points with weapons discoveries, more precisely in 156 cases. From these, 70 discoveries (49,5%) are dated from the early Avaric period, 78 (50%) are from the late period and 8 (0,5%) are considered to be from the Avaric period in general⁶¹. It is remarkable the fact that on the Romanian territory it isn't known any bone plate for bow neither from the early Avaric period⁶² nor from the late one⁶³.

In Pannonia, at Intercisa, some bone plates are known dating from the beginning of the 5th century AD⁶⁴.

In the west of Europe the composite bow with bone fittings is early present, during Augustus, in the camp of the Roman legions from Oberaden (Westfalia) and in other Roman military centres situated on the Danube, the Rhine and even in Britannia⁶⁵. J. Werner noticed, several years ago, that this weapon, which is usually associated with the three edges arrows and fixing peduncle, was brought into Europe

"down city". in 1936, without stratigraphical and chronological presentations. Here, at pp. 499 and 500, pl. 41, no 21-47, several three edged arrows are presented too: *Iatrus-Krivina*, V. Berlin, 1995, pl. 1, nr. 28.

⁶⁰ From the very rich literature concerning the Avaric antiquities from Hungary and its neighbours in which we can see bone pieces for bows, we mention only a few more or less new titles: J. Hampel, *Alterthümer des frühen Mittelalters in Ungarn*, I-III, Braunschweig, 1905; A. Marosi, N. Fettich, *Trouvailles avaras de Dunapentele*, in *Arch Hung*, XVIII, 1936; G. Csallány, *Der Völkervanderungszeitliche Grabfund von Szentes-Derekégyháza*, in *Folia Archaeologica* I-II, *Arch Hung*, 1939, pp. 116-120; D. Csallány, *Grabfunde der Früha-warenzeit*, in *Arch Hung*, 1939, pp. 121-180; A. Salamon, *Über die ethnischen und historischen Beziehungen des Gräberfeldes von Környe (VI Jh.)*, in *Acta Arch Hung*, XXI, 1969, 3-4, pp. 273-297, fig. 4, 6, 7, 8; D. Bialeková, *Zur Frage der graven Keramik aus Gräberfeldern der Awarenzeit im Karpatenbecken*, in *Slov Arch*, XVI, 1968, 1, pp. 212-213, fig. 8; Cs. Bálint, *op. cit.*, pp. 151-157, fig. 67, no 1-3; S. László, S. Levente, *Korai avar leletek Dabas (Gyón)-Páphegyriől*, in *Évkönyve*, 2 (1984-1985), Szeged, 1991, pp. 187-203, fig. 4, no 1, 2, 5; G. László, *Előzetes jelentés a Gerjen-varadpusztai avar temető feltárájáról*, in *Évkönyve*, 2, Szeged, 1991, pp. 221-239, pl. III, no 1; *Awaren in Europa. Schätze eines asiatischen Reitervolkes 6-8 Jh.*, Frankfurt am Main-Nürnberg, 1985, pp. 10, 73, catalogue XX, no 10; E. Garam, *Die münzdatierten Gräber der Awarenzeit*, in *Archeologia Austriaca, Monographien*, 1, Wien, 1992, pp. 158-159, pl. 19, no 1-3; E.H. Tóth, *Frühwarenzeitlicher Grabfund in Kecske-mét Sallaistraße*, in *Acta Arch Hung*, XXXII, 1980, 1-4, pp. 117-152, fig. 10, no 1-5; Slavenka Erčegović-Pavlovič, *An Avarian Equestrian Grave from Mandjelos*, in *Sirmium*, IV, (ed. N. Duval, Ed. L. Ochsen-schlager, V. Popović), Beograd, 1982, pp. 49-54, fig. 2, 3; D. Mrkobrad, *Archeološki nalazi scobe naroda u Jugoslaviji*, Beograd, 1980, p. 106, pl. CIII, no 1-11; Gy. László, *L'art des Nomades*, Budapest, 1972, p. 103, fig. 50.

⁶¹ J. Szentpéteri, *Archäologische Studien zur Schicht der Waffenträger des Awarentums im Karpatenbecken*, in *Acta Arch Hung*, XLV, 1993, pp. 196-206, fig. 13, 14, tables 4 a, 4 b, 9, 10.

⁶² *Ibidem*, table 9.

⁶³ *Ibidem*, table 10. For Avaric discoveries in Transylvania see K. Horedt, *Contribuții la istoria Transilvaniei, sec. IV-XIII*, București, 1958, pp. 61-108.

⁶⁴ *Stepi*, I, pp. 15-16, fig. 5, no 8, 9.

⁶⁵ J. Werner, *op. cit.*, pp. 47-48; Gy. László, *The Significance of the Hun Golden Bow*, in *Acta Arch Hung*, I, 1951, 1-2, p. 99; M. Kazanski, *À propos des armes et des éléments de harnachement "orientaux" en Occident à l'époque des Grandes Migrations (IVe-Ve s.)*, in *JRA*, 4, 1991, p. 135.

by the Oriental soldiers from the auxiliary troops of the Roman army. These soldiers would have taken them over from the Parthians ever since the first centuries of the Christian Age⁶⁶. He claimed also that the use of these weapons stopped in the late Roman époque, up to the coming of the Huns towards Europe, a refreshment of the use of the composite bow being on account of the military force of the great empire created by Attila. The author's quotes were based on the fact that at the Sarmatians who dwelled in the actual steppes of Russia, in their graves like those of Borovoje, Šipovo and Hoberdsdorf dated in the period of Attila, although were found packs of three edged arrows, there wasn't signalled any bone plate for bows. This fact would demonstrate that even in the non-Roman east of Europe, the apparition of the "Hunnish" type of composite bow took place in the Alano-Sarmatic environment on the Volga only in the late Sarmatian period under the influence of a first wave of Huns who travelled towards West⁶⁷. Although in certain zones it is not excluded the use of the simple bow or of the wooden "Scythian" type of bow, the recent discovery even in the Western part of the European continent refuted this theory. As such, there are known discoveries of bows with bone plates in the Roman centres from: Caerleon, Waden Hill, Buch, Straubing, Oberaden, Iza and Corbridge (Pl. 8)⁶⁸. J. Werner did not admit even the possibility that the free Germans took over the composite bow from the Roman auxiliary troops stationed on the Rhine or the Danube or even from the soldiers who used this weapon and were from Attila's army. He motivated this fact not by its deliberate rejection as a "foreign" element, but by the incapability and impossibility of the Germans to appropriate a technique well enough complicated for the manufacturing of the composite bow⁶⁹. Regarding the use of three edged arrows closely related with the use of the composite bow, El. Erdmann published in 1976 some considerations concerning their spreading and the chronological assignment in certain zones of the Roman Empire⁷⁰. The presence of these arrows was noticed in the Close and Middle Orient even from the 7th-5th centuries BC and up to the Hellenistic and Roman epoques⁷¹. The most ancient discovery of this type, related with the presence of the Roman army, is at Numantia, in a Scipionic camp. Beginning with the 1st century BC these appear frequently in the Roman camps like: Haltern, Oberaden, Xanten, Krefeld-Gellep, Hofheim, Mainz, Vindonissa, Newstead, Corbridge, Caerleon, Richborough etc. Their series continues up to the 4th century AD and even after the

⁶⁶ J. Werner, *op. cit.*, p. 48.

⁶⁷ *Ibidem*, p. 49; M. Kazanski, *op. cit.*, p. 135.

⁶⁸ *Ibidem*, p. 135 and note 65; A. Sander in *Das Römerlager in Oberaden III* (red. J.S. Kühlborn). Münster, 1992, pp. 142-143, pl. 30, no 36; J. Rajtár, *Das Holz-Erde-Lager aus der Zeit der Markomannerkriege in Iza*, in *Probleme der relativen und absoluten Chronologie ab Latènezeit bis zum Frühmittelalter*, Krakow, 1992, p. 155, fig. 11, 12 (where there are also three winged arrows); M. C. Bishop and J. N. Dore (red.), *Corbridge. Excavations of the Roman fort and town, 1947-1980*, London, 1988, pp. 205-208, fig. 95, no 10, 11 and fig. 96, no 12.

⁶⁹ J. Werner, *op. cit.*, pp. 48-49.

⁷⁰ Elisabeth Erdmann, *Dreiflügelige Pfeilspitzen aus Eisen von der Saalburg*, in *SJB*, XXXIII, 1976, pp. 5-10.

⁷¹ *Ibidem*, pp. 6-7.

disintegration of the Hunnish Empire⁷². J. Werner claimed also, in 1956, that the use of the composite bow and of three edged arrows had a new regressing period after the Hunnish decadence on the half of the 5th century AD and up to the coming of the Avars in Europe a century later when the latter would have actualised them⁷³. This opinion was also refuted by some ancient or recent discoveries like those of Esslingen-Rüdern (bone plates and arrows in the Germanic tombs from the 5th century AD)⁷⁴, Vron and Bulles (in France, arrows from Merovingian and Alamanic tombs before 568)⁷⁵. Although its origin is a Central Asian one, the composite bow could have entered Europe not only through the Orientals of the Roman army, or by assuming it from the Parthians, as Werner claimed, but also through the early contacts of the Roman and Sarmato-Alanic troops around the Black Sea, ever since the early imperial époque, the troops, at their turn, assuming it in the 1st–2nd centuries AD from the Hunnish elements arrived from the East⁷⁶. As such, although the Hunnish contribution in spreading and increasing the importance (in parallel with the role of the cavalry) of the composite bow use cannot be questioned, today we cannot ascribe to them, ethnically speaking, an exclusive role. Discoveries like bone bow stiffeners and three winged arrows must be analysed in the archaeological context in which they appear, without neglecting their possible presence and use by the Roman troops in early Antiquity⁷⁷. If in the first three centuries of the history of the Roman Empire the "Scythian" or "Hunnish" composite bows could have been used and spread by the Oriental soldiers from *cohortes*, *alae* or *numeri*, in the 3rd–4th centuries, during the "barbarization" of the Roman army, it is well known the role of the auxiliaries: Sarmatians, Alans, Huns, Kutrigurs, Utrigurs, Ants and Avars within the cavalry and even in high military positions⁷⁸. In the early Byzantine armies the role of the rider archers was to produce panic and losses within the lines of the enemy even from the

⁷² *Ibidem*, pp. 7–9; see also note 68.

⁷³ J. Werner, *op. cit.*, p. 48.

⁷⁴ R. Christlein, *Waffen aus dem völkerwanderungszeitlichen Grabfund von Esslingen-Rüdern*, in *Germania*, 50, 1972, pp. 261–263, fig. 1, no 3–11; M. Kazanski, *op. cit.*, p. 136.

⁷⁵ *Ibidem*; H. Dannheimer, *Die germanischen Funde der späten Kaiserzeit und des frühen Mittelalters in Mittelfranken*, I–II, Berlin, 1962, pp. 36, 173, pl. 21, no 17, 18; V. Bierbrauer, *Invillino-Ibligo in Friaul, I. Die römische Siedlung und spätantik-frühmittelalterliche Castrum*, München, 1987, p. 170, pl. 59, 11–14 și 67, 18–21, catalogue no 226–229; Vl. Kondić, Vl. Popović, *Čaricin Grad*, Belgrad, 1977, p. 407, fig. 2, no 102, 103 (three edged arrows from the 6th century BC, p. 371).

⁷⁶ See our note 39; M. Kazanski, *op. cit.*, p. 135.

⁷⁷ About the importance and the significance of the bow for the migratory populations of Hunnish type, as hunting and fighting weapon, it is enough to mention the two studies dedicated to the Hunnish "golden bows", signed by: Gy. László, *op. cit.*, pp. 91–106 and J. Harmatta, *The Golden Bow of the Huns*, in *Acta Arch Hung*, I, 1951, 1–2, pp. 107–151.

⁷⁸ E. Stein, *Geschichte des spätrömischen Reiches*, I, Wien, 1928, pp. 76–93; A. H. M. Jones, *The Late Roman Empire 284–602, A Social Economic and Administrative Survey*, I–IV, London, 1964, *passim*; D. van Berchem, *L'armée de Diocletien et la réforme constantinienne*, Paris, 1952, *passim*; D. Hoffmann, *Das spätrömische Bewegungsheer und die Notitia Dignitatum*, Bamberg, 1968; R.T. Ridley, *The Fourth and Fifth Century Civil and Military Hierarchy in Byzantium*, XL (1970), 1971, pp. 91–104; A. D. H. Bivar, *Cavalry Equipment and Tactics on the Euphrates Frontier*, in *DOP*, 26, 1972, pp. 271–292.

beginning of the battle. In the two battle lines of the Romano-Byzantine troops made of *cursores* and *defensores*, as *Strategikon* of *Mauricius* informs us, the auxiliaries composed of Huns and Avars were used as *cursores* and entered first in the battle using especially the bows. A permanent problem of the Byzantine army was to have very efficient archers, especially under the circumstances of a general decline of the Roman military spirit in the late époque. Often, from one line of *cursores* made of eight people, only few of them could handle well the bows, usually the most experienced ones, while the younger soldiers confined themselves to throw spears or light lances⁷⁹. At the same time the archers must have been arranged within the battle in such a formation in which they could not be exposed at the strikes given from the right side by the enemy who would use lances and spears⁸⁰. A lot of elements of tactics and military art have been perpetuated thanks to the speciality manuals of that time, from the ancient Roman époque up to the Middle Age, both in Arabo-Persian and European worlds⁸¹. Even in the Romanian area we keep, thanks to "Vienna Painted Chronicle", an image of the composite bow used by the soldiers of Basarab the Ist against the Hungarian cavalry, in the scene of the Battle of Posada, in 1330⁸².

Coming back to the situation in the Carpatho-Danubian area to the problem that concerns us, we consider that there are necessary some specifications related to the archaeological, epigraphic or historiographic attestation of some elements concerning the use of the composite bow, more or less documented in both parts (north and south) of the Danube, especially in the first six centuries of the Christian Age. In the "Encyclopaedic Dictionary of the Ancient Romanian Art" (in 1980) it was mentioned the absence of clear material proofs concerning the use of the composite bow on our territory⁸³ with one exception, Dinogetia, from where are known the bone plates which we mentioned⁸⁴. East of Carpathians, on the territory of Bessarabia, were discovered, a long time ago, several three edged or three winged arrows, from the Sarmatian area dating from the 1st century BC - 3rd century AD⁸⁵. These are present in the centuries 1st BC - 1st AD in the fortified Geto-Dacian settlements of Poiana (Galați district), Răcătău (Bacău district) and Barboși (Galați)⁸⁶. This type of arrows is well represented on the territory of Roman Dacia in the 2nd-3rd centuries in the

⁷⁹ *Ibidem*. p. 290.

⁸⁰ *Ibidem*.

⁸¹ *Ibidem*. p. 291, the "glossary - appendix", with equivalents of some technical military terms in Greek, Latin and Persian.

⁸² *Cronica pictată de la Viena - Chronicon Pictum Vindobonense*. folio 145, edition prepared by G. Popa-Lisseanu. *Izvoarele istoriei românilor*. XI. București, 1937, pp. 104-105, 110-111, 234-235.

⁸³ R. Florescu. *op. cit.*, pp. 38-39 under the voice "bow".

⁸⁴ See our note 58.

⁸⁵ V. I. Grosu, *Hronologija pămjatnikov sarmatskoj kultury Dnestrovsko-Prutskogo mezhdurečy*. Chișinău, 1990, p. 139, fig. 18. B, 2, fig. 26, no 4. 5.

⁸⁶ Em. Moscalu, *Sur les rites funéraires des géto-daces de la Plaine du Danube*, in *Dacia*. N.S., XXI. 1977, p. 332, fig. 9, no 10, 11; V. Căpitanu, *Unelte și arme de fier descoperite în așezarea geto-dacică de la Răcătău, com. Horgești, jud. Bacău*, in *Carpica*, XVII. 1985, p. 54, tipul 2 a și b, fig. 16, no 1-6, fig. 16, no 8; S. Sanie, Ș. Sanie, *Cetățuia geto-dacică de la Barboși (III)*, in *Arh Mold*. XIV, 1991, p. 45.

Roman camps of Buciumi, Jidava, Răcari etc.⁸⁷. From the post-Roman Dacia we also know three edged or three winged arrowheads dating from the 4th–6th centuries at Bratei, Padea and Mediaș⁸⁸. For the territory of Roman Dacia we cannot lose sight the epigraphic information regarding the presence of the Oriental auxiliary troops who could have transmitted and used in this province the composite bow and the three edged arrows, weapons that they assumed in the recruiting or stationing places⁸⁹. Between the troops of Orientals that stood more or less in Dacia are: *Cohors I Flavia Commagenorum*, *Cohors II Flavia Commagenorum*, *Ala I Augusta Ituraeorum sagittariorum*, *Numerus Palmirenorum Tibiscensium*, *Numerus Surorum sagittariorum* etc.⁹⁰

From the Romanian territories situated east and south of the Carpathians we notice the existence of at least two bow representations. One of them is on a silver cup from the treasure of Muncelul de Sus (Iași district), in a scene that represents an *Eros* shooting with a composite double bent bow (2nd century AD)⁹¹. Another bow image that appears well enough conventional dates from the period of the late migrations (after the 10th century AD) and is carved beside the images of a lance and a sword on a slab with an undeciphered Runic inscription discovered at Herla

⁸⁷ N. Gudea, *Römische Waffen aus den Kastellen des westlichen "Limes" von Dacia Porolissensis*, in EN, I, 1991, p. 6, types S A. B. II and S A. B. III, fig. 4; D. Tudor, *Oltenia romană* (ed. 4), București, 1978, p. 294, fig. 85, no 16–18; Idem, *Castra Daciae Inferioris (VII)*, in *Apulum*, V, 1965, p. 241, no 5, fig. 3, no 16–19; C. M. Vlădescu, *Armata romană în Dacia Inferior*, București, 1983, pp. 177–178, fig. 113, no 12.

⁸⁸ L. Bârzu, *Continuitatea populației autohtone în Transilvania în secolele IV–V. Cimitirul 1 de la Bratei*, București, 1973, pp. 58–59, pl. XXIV, fig. 15; O. Toropu, *Romanitatea târzie și străromânii în Dacia traiană sud-carpatică*, Craiova, 1976, pl. 19, no 5–8 (no 8 an Avaric type arrow); D. Botezatu, M. Blăjan, *Mormântul prefeudal (sec. VI e.n.) de la Mediaș (jud. Sibiu). Studiu arheologic și antropologic*, in *Apulum*, XXVI, 1989, p. 348, fig. 1, no 2–4. From Moldavia, at Siret (Suceava district) it is known a three winged arrowhead discovered accidentally in 1992 and dated from the 5th–6th centuries. We owe this information to our colleague C. Asăvoaie, to whom we are grateful. From Transylvania we know the Avaric arrows published some time ago by K. Horedt, *op. cit.*, București, 1958, p. 61.

⁸⁹ E. Erdmann, *op. cit.*, p. 9, where the author points out that although some troops do not have denominations to show the Oriental ethnical origin of the soldiers, these were displaced or recruited soldiers from the Orient, this fact leaving unchanged the terms of our discussion. This way can be explained why the three winged or three edged arrows appear also in other Roman military centers beside those in which we expressly know that had stationed troops with Oriental soldiers (see also M. Kazanski, *op. cit.*, p. 135).

⁹⁰ For the Oriental troops of the province Dacia see: N. Gostar, *Unitățile militare din castrul roman de la Tibiscum*, in AMN, V, 1968, pp. 471–477; I. I. Russu, *Elemente syriene în Dacia carpatică și rolul lor în "colonizarea" și romanizarea provinciei*, in AMN, VI, 1969, pp. 167–186; M. Macrea, *Viața în Dacia romană*, București, 1969, p. 211, where 14 units are mentioned; D. Tudor, *Sirienii în Dacia Inferioară*, in *Apulum*, IX, 1971, pp. 659–664; D. Benea, *Numerus Palmyrenorum Tibiscensium. Contribuții la istoria trupelor de palmyreni din Dacia*, in *Apulum*, XVIII, 1980, pp. 131–140; S. Sanie, *Culte orientale în Dacia romană*, București, 1981, pp. 27–28; D. Tudor, *Oltenia romană*, București, 1978, pp. 330–342; C. M. Vlădescu, *Armata romană în Dacia Inferior*, București, 1983, pp. 35–36, 41; M. G. Jarret, *Thracian Units in the Roman Army*, in IEJ, 19, 1969, no 4, p. 219; Y. Aharoni, *Expedition B*, in IEJ, 11, 1961, no 1–2, p. 20, pl. 9 A, B, C, three winged arrows from the 3rd century AD.

⁹¹ V. Mihăilescu-Bîrliaba, I. Mitrea, *Le Trésor de vases romains de Muscelul de Sus (com. Mogoșești-Siret, jud. Iași)*, in *Dacia*, N.S., 1978, p. 205, fig. 2, no 1–4, fig. 4, no 1; S. Sanie, *Civilizația romană la est de Carpați și romanitatea pe teritoriul Moldovei (sec. II î.e.n. - III e.n.)*, Iași, 1981, p. 178, pl. 56, fig. 9.

(Slatina commune, Suceava district)⁹². Avaric arrows have been discovered in the necropolis of Sărata-Monteoru⁹³. At Dulceanca, in the Romanian Plain, in the settlement dated from the 6th–7th centuries there were discovered three edged arrows with pedunculus or gloving tubes⁹⁴. In the south of the Danube, in settlements and necropolises from the second half of the first millennium AD are also known the three winged arrows⁹⁵.

As regards the territory of Dobrudja, we can claim with certitude that the composite bow was known by the Getians, probably took over from Schythians ever since the 5th–4th centuries BC, as it is proved by its image on a silver cnemide from the treasure of Agighiol (Tulcea district)⁹⁶. Such representations were very frequent in the 4th century, too, on the silver Callatian coins, having on the obverse the Heracles' head⁹⁷ as on the Greek amphoric seals discovered in a great number, both in the towns on the shore and in the Getian settlements on the Danube valley⁹⁸. From Callatis comes also a fragment of a marbled Hellenistic frieze representing the goddess Artemis at hunting with a composite double bent bow⁹⁹. The poet Publius Ovidius Naso speaks about the use of the bow, quiver and poisoned arrows in the vicinity of Tomis (*Tristia*, V, 7)¹⁰⁰. At the same time with the installation of the Roman domination in this area, between the Danube and Pontus Euxinus, in the 1st century AD, in the defensive system of the new province of Moesia, later Moesia Inferior, were moved different auxiliary units, some of which being composed of Oriental soldiers or soldiers who had stood in the Orient, where from they could have brought the composite bow as a

⁹² N. Ursulescu, *Inscripția cu semne runice de la Herla (com. Slatina, jud. Suceava)*, in ASUI. History series (1991–1992), 1994 (under printing).

⁹³ I. Nestor, E. Zaharia, *Săpăturile de la Sărata-Monteoru din 1955*, in MCA. IV, 1957, fig. 1 and 3.

⁹⁴ Suzana Dolinescu-Ferche, *Habitats des VI et VII siècles de notre ère a Dulceanca IV*, in *Dacia*, N. S., XXXVI, 1992, p. 172, fig. 29 no 2, fig. 33 no 7, 14, 15, fig. 34 no 8, 20. For aspects concerning the stage of the Romanian archaeological research about the early period of the migrations see, in the same volume, the study signed by R. Harhoiu, *Forschungsgeschichte und Forschungsstand der frühen Völkerwanderungszeit in Rumänien*, pp. 99–114.

⁹⁵ Such pieces were discovered in the Romano - Byzantine fortress from Novae, see: S. Parnicki-Pudelko, *Brama zachodnia-odcinek V*, in *Novae-Sektor zachodni*, 1970, Poznan, 1973, p. 38, fig. 34. For the arrows discovered in Bulgarian necropolises see: Uwe Fiedler, *Studien zu Gräberfeldern des 6. bis 9. Jahrhunderts an der unteren Donau*, 1–2, Bonn, 1982, pp. 216–217, pl. 65, no 3, pl. 89, no 4 from Razdelna-Varna. In Bulgaria there are known several graffities with representations of composite bows from the early medieval age, these were published by D. Ovčarov, *Medieval Bulgarian Graffiti Drawings*, Sofia, 1982, pl. I, L, CXXXII; *Iatrus-Krivina*, V, Berlin, 1995, pl. 1, nr. 28.

⁹⁶ The first cnemide, on which is represented a rider keeping in his right hand a double curved composite bow, of "Scythian" type, D. Berciu, *Arta traco-getică*, București, 1969, p. 45, fig. 13; Vl. Dumitrescu, Al. Vulpe, *Dacia înainte de Dromihete*, București, 1988, p. 168, fig. 34.

⁹⁷ C. Preda, *Callatis*, Editura Meridiane, București, 1968, fig. 26; Z. Covacef, *Contribuții privind cultul lui Hercule în Scythia Minor*, in *Pontica*, 8, 1975, p. 400, fig. 1.

⁹⁸ V. Canarache, *Importul amforelor ștampilate la Istria*, București, 1957, p. 45, fig. 17, p. 47, fig. 23, p. 53, fig. 41; p. 75, fig. 122, 123, p. 77, fig. 135; A. Rădulescu, M. Bărbulescu, L. Buzoianu, N. Cheluță-Georgescu, *Importuri amforice la Albești (jud. Constanța): Sinope*, in *Pontica*, 21–22, 1988–1989, p. 45, pl. I, no 18; V. Sîrbu, *Ștampile de pe amforele grecești din colecțiile Muzeului Brăilei*, in *Istros*, 1, 1980, p. 144, no 7, pl. II, fig. 7.

⁹⁹ C. Preda, op. cit., fig. 14.

¹⁰⁰ Gr. Sălceanu, *De la „Metamorfoze” la „Triste” și „Pontice”*, in *Pontica*, 4, 1971, p. 230.

weapon they were accustomed to. We are not intending to make a special incursion in the military history of the new Roman province, but we can notice the existence of the Oriental troops, one of them even made of archers, in the Roman fortifications of Dobrudja, proved by military diplomas and inscriptions in the period between the centuries 1st–4th AD. The Dacian wars, through their echo in the art of the imperial époque, left posterity monuments like the Trajanic Column and Adamclisi Tropaeum. Thus, the XXXVIIth scene on the column represents the retreating scene of a group of *catafractars* (probably Sarmatians allied with Decebal) followed by the Roman cavalry. One of the Sarmatians shoots the followers with a composite double bent bow.¹⁰¹ The same weapon, but conventionally presented perhaps because of the depreciation of the stone, is on the XXXIst metope of the triumphal monument of Adamclisi¹⁰², but it doesn't appear on the great frieze of the weapons¹⁰³. Between the auxiliary Roman troops that had stationed, even episodic, in Moesia Inferior and which, in one way or another, had direct relations with the Oriental provinces we mention: *Cohors I Chalcidenorum*, *Cohors I Cilicum milliaria equitata sagittariorum*, *Cohors I Flavia Commagenorum*, *Cohors I Claudia Sugambrorum veterana equitata*, *Cohors I Tyrionum sagittariorum*, *Cohors II Chalcidenorum sagittariorum* and *Cohors I Thracum Syriaca*.¹⁰⁴

On the other hand, it must not be neglected the eventual role of the Sarmatian elements from the auxiliary Roman troops or from those colonized in Dobrudja as *foederati* in the use and spread of the composite bows with bone stiffeners¹⁰⁵. The remains of such Sarmatian ethnic elements were archaeologically traced in the necropoles of some fortresses of Scythia Minor¹⁰⁶. There are also known discoveries of three edged or winged arrows at Tomis, Ibida (Slava Rusă, Tulcea district), Babadag-Topraichioi (Tulcea district) dated between 4th–6th centuries AD¹⁰⁷. To the end of the 4th century AD and during the following one in the Lower Danube begins to be felt

¹⁰¹ R. Vulpe, DID, II, pp. 88–89, fig. 11; F. Bobu Florescu, *Monumentul de la Adamklissi, Tropaeum Traiani*, București, 1959, p. 510 and fig. 288.

¹⁰² F. Bobu Florescu, *op. cit.*, p. 305, fig. 62, pp. 332, 472–473, 510; DID II, p. 324, fig. 35.

¹⁰³ On the “weapon frieze” and on the XXXVIIth metope appears the quiver, see F. Bobu Florescu, *op. cit.*, pp. 472–473, fig. 85, 168 a,b and 265.

¹⁰⁴ A. Aricescu, *Armata în Dobrogea romană*, București, 1977, pp. 57, 65; Al. Suceveanu, Al. Barnea, *La Dobroudja romaine*, București, 1991, pp. 61–66; M. Irimia, *O nouă unitate militară romană în sud-vestul Dobrogei*, in *Pontica*, 21–22, 1988–1989, pp. 113–121.

¹⁰⁵ See our note 101; Al. Suceveanu, Al. Barnea, *op. cit.*, pp. 38, 157.

¹⁰⁶ For the Sarmatian problem in the Lower Danube (including Dobrudja) see: Gh. Bichir, *Sarmații la Dunărea de Jos în lumina ultimelor cercetări*, in *Pontica*, 5, 1972, pp. 137–176; M. Comșa, *Elemente “barbare” în zona limes-ului Dunării inferioare în secolele al III-lea și al IV-lea*, in *Pontica*, 5, 1972, pp. 223–234; A. Petre, *La romanité en Scythie Mineure (Ile–VIIe siècles de notre ère)*, București, 1987, p. 110; R. Harhoiu, “Tezaurul” de la Buzău — 1941, in *SCIVA*, 44, 1993, no 1, pp. 47–50; Gh. Bichir, *Date noi cu privire la pătrunderea sarmaților în teritoriul geto-dacic (I)*, in *SCIVA*, 44, 1993, no 2, pp. 135–169.

¹⁰⁷ M. Bucovăla, C. Pașca, *Descoperiri recente în necropolele de epocă romană și romano-bizantină*, in *Pontica*, 21–22, 1988–1989, p. 157, pl. 14, g (sec. IV d.H.); A. Opaiț, *O săpătură de salvare în orașul antic Ibida*, in *SCIVA*, 42, 1991, 1–2, p. 41, no 5–8, fig. 14; M. Zahariade, *Fortificația și așezarea romană târzie de la Babadag-Topraichioi*, in *Peuce*, X, 1991, p. 325, no 19, fig. 83, no 7.

the military force of the powerful Hunnish Empire that had the centre in the Pannonic Plain¹⁰⁸. The literary sources from the 5th–6th centuries frequently reminds the Huns as being in conflict with the Roman army even in the vicinity or on the territory of Schytia Minor¹⁰⁹. A funerary inscription discovered at Tomis, dated by the most researchers from the 5th–6th centuries, reminds the name of “Atala, the son of Tzeiuk”, personage that was from a *σαγιτταριοι* unit, maybe the same with *Sagittarii iuniores* from another Tomitan inscription¹¹⁰. About Tzeiuk and Atala several opinions were issued concerning their ethnic origin. Some researchers consider that they were Christian Huns, others believe that they were Germanics or Turanic Protobulgarians¹¹¹. As far as the *sagittarii* unit from Tomis is concerned, it was identified most often with a *vexillatio comitatensis* separated from *Equites sagittarii iuniores* mentioned in *Notitia Dignitatum* (Or., 8, 31) as it activated in **Thracia** Diocese¹¹².

Regarding the significance of the composite bow stiffener discovered at Tropaeum Traiani, it cannot be but a concrete proof of the existence and use of this weapon on the territory of Dobrudja in the Roman époque. Any ethnic assessment seems to be venturesome as it is the case with the very restrained chronological framing of the piece in discussion, because the lack of sure elements for dating. An *ante quem* term could be considered the moment of the construction of the basilica (probably the beginning of the 6th century)¹¹³.

¹⁰⁸ E. Stein, *op. cit.*, I, pp. 289–290, 434–440; G. Ostrogorsky, *History of the Byzantine State*, New Brunswick-New Jersey, 1957, pp. 48, 52–53; C. D. Gordon, *The Age of Attila. Fifth-Century Byzantium and the Barbarians*, The University of Michigan, 1972, pp. 57–111; I. Barnea, *DID*, II, pp. 406–409; Al. Suceveanu, Al. Barnea, *op. cit.*, pp. 166–171. From the archaeological standpoint, for the “Hunnish” époque discoveries see: M. Parducz, *Die ethnischen Probleme der Hunnenzeit in Ungarn*, in *Studia Archaeologica*, I, Budapest, 1963; R. Harhoiu, *Tezaurul de la Pietroasa în lumina noilor cercetări*, in Al. Odobescu, *Opere* IV, București, 1976, pp. 1011–1054; K. Horedt, *Siebenbürgen in spätrömischer Zeit*, Bukarest, 1982, *passim*; Em. Zaharia, *Les necropoles des IVe–Ve siècles de Botoșani — Dealul Căramidăriei*, in *Dacia*, N.S., XIX, 1975, pp. 201–226; J. Werner, *op. cit.*, pp. 82–95; D. Tudor, *Oltenia romană*, ed. 4, București, 1978, pp. 453–456; I. T. Dragomir, *Descoperiri hunice la Bălteni în nord-estul Câmpiei Române*, in *SCIV*, 17, 1966, pp. 181–188.

¹⁰⁹ Sozomenos, VII, 26, 6 (FHDR, II, p. 229) Priscus Panites, *Excerpta de legationibus*, 1, (FHDR, II, p. 249); Zosimos, IV, 34, (FHDR, II, p. 313); Procopius Caes., *De bellis*, V, 27, 2 (FHDR, II, p. 437); Iordanes, *Getica*, 260–263 (FHDR, II, pp. 429–430). For sources and comments about the “late” Huns from the 6th century, see Gy. Moravcsik, *Byzantinoturcica*, I–II, Berlin, 1958, pp. 56–69 (vol. I), pp. 231–234 (vol. II); D. Simonyi, *Die Bulgaren des 5. Jahrhunderts im Karpatenbecken*, in *Acta Arch Hung*, X, 1959, 3–4, pp. 227–250; Vl. Popovič, *La descente des Koutrigours, des Slaves et des Avars vers la Mer Egée: le témoignage de l'archéologie*, in *CRAI*, juillet-octobre 1978, pp. 595–648; Al. Suceveanu, Al. Barnea, *op. cit.*, 167–171, 183; I. Ioniță, *Din istoria și civilizația dacilor liberi*, Iași, 1982, pp. 113–117; I. Barnea, *DID* II, pp. 406–409.

¹¹⁰ See discussions at Em. Popescu, *IGLR*, no 30 și 41.

¹¹¹ V. Pârvan, *Contribuții epigrafice la istoria creștinismului daco-roman*, București, 1911, p. 63; D. M. Teodorescu, *BCMI*, 7, 1914, pp. 189–192; V. Beșevliev, *Zwei altchristliche Inschriften*, in *Jahrbuch des Bulgarischen Archäologischen Nationalmuseum*, no 7, Sofia, 1942–1943, pp. 232–234; I. Barnea, *op. cit.*, p. 424; Gy. Moravcsik, *Byzantinoturcica*, II, Berlin, 1958, p. 311; Al. Suceveanu, Al. Barnea, *op. cit.*, 217–218; A. Aricescu, *op. cit.*, p. 124.

¹¹² Em. Popescu, *op. cit.*, pp. 66, 78; D. Hoffmann, *Das spätrömische Bewegungsheer und die Notitia Dignitatum*, II, Düsseldorf, 1969, p. 109, no 591; A. Aricescu, *op. cit.*, p. 124; M. Zahariade, *Moesia Secunda, Scythia și Notitia Dignitatum*, București, 1988, p. 95; Al. Suceveanu, Al. Barnea, *op. cit.*, p. 217.

¹¹³ See note 1.

Taking into account the ceramic material discovered and the few metal objects from the same flooring level¹¹⁴, we suppose that the bow stiffener can be ascribed to the large chronological interval between the 3rd–5th centuries AD. The bow from which the plate originates could have been possibly a part from the armament of a soldier of the auxiliary Roman troops as it is the case with the sample from Tibiscum¹¹⁵.

ABBREVIATIONS

1. Acta Arch Hung = Acta Archaeologica Academiae Scientiarum Hungaricae, Budapest.
2. AMN = Acta Musei Napocensis, Cluj (Napoca).
3. Arch Hung = Archaeologia Hungarica, Budapest.
4. Archiss = Archaeologiceskie issledovanija v Moldavii, Chişinău.
5. ASUI = Analele ştiinţifice ale Universităţii "Al. I. Cuza" în Iaşi.
6. AVA = Materialien zur Allgemeinen und Vergleichenden Archäologie, München.
7. BCMI = Buletinul Comisiunii Monumentelor Istorice, Bucureşti.
8. Byzantion = Byzantion, Revue Internationale des Études Byzantines, Paris-Bruxelles.
9. Carpica = Carpica. Muzeul de Istorie şi Artă, Bacău.
10. CRAI = Academie des Inscriptions et Belles-Lettres. Comptes rendus, Paris.
11. Dacia N. S. = Revue d'archeologie et d'histoire ancienne, Bucureşti.
12. DID = R. Vulpe, I. Barnea, *Din Istoria Dobrogei*, II, Bucureşti, 1968.
13. DOP = Dumbarton Oaks Papers, Washington, D. C.
14. EN = Ephemeris Napocensis, Institutul de Arheologie şi Istoria Artei, Cluj.
15. Fontes II = *Fontes Historiae Daco-Romanae*, II, Bucureşti, 1970.
16. Germania = Germania. Anzeiger der Römisch-Germanischen Kommission des Deutches Archäologischen Instituts, Berlin.
17. IEJ = Israel Exploration Journal, Ierusalim.
18. IGLR = Em. Popescu, *Inscripţiile greceşti şi latine din secolele IV–XIII descoperite în România*, Bucureşti, 1976.
19. Istros = Istros. Muzeul judeţean de istorie, Brăila.
20. JRA = Journal of Roman Archaeology, London.
21. MCA = Materiale şi cercetări arheologice, Bucureşti.
22. MIA = Materialy i issledovanija po arheologija SSSR, Moskva.
23. Peuce = Muzeul "Delta Dunării", Tulcea.
24. Pontica = Pontica. Muzeul de Istorie Naţională şi Arheologie, Constanţa.
25. SA = Sovetskaja arheologija, Moskva.
26. SCIV (A) = Studii şi cercetări de istorie veche (şi arheologie), Bucureşti.
27. SJB = Saalsburg Jahrbuck. Bericht des Saalsburg Museums, Berlin-New York.
28. Slov Arch = Slovenska Archeologia, Bratislava.

¹¹⁴ See Pl. 3 and 4.

¹¹⁵ See note 45.

29. Stepī I = *Stepi Evrazii v epohu srednevekov'ja* (red. S.A. Pletneva, Arheologija SSSR, Moskva, 1981).
30. Stepī II = *Stepi evropejskoj casti SSSR v skifo-sarmatskoe vremja* (red. A.I. Meljukova), Arheologija SSSR, Moskva, 1989.
31. Tropaeum I = Al. Barnea, I. Barnea (coordinators), I. Bogdan-Cătaniciu, M. Mărgineanu-Cârstoiu, Gh. Papuc, *Tropaeum Traiani, I, Cetatea*, București, 1979.
32. Völker = *Die Völker Südosteuropas in 6 bis 8 Jahrhundert* (red. B. Hänsel), Südosteuropa Jahrbuch, Band 17, Berlin, 1987.