

KORNĚL BAKAY



# Scythian Rattles in the Carpathian Basin and their Eastern Connections

KORNÉL BAKAY

SCYTHIAN RATTLES IN  
THE CARPATHIAN BASIN  
AND THEIR EASTERN  
CONNECTIONS

The type of object discussed in this book had a very special place in the Scythian culture which flourished in the 6th—3rd centuries B.C. Its author, an expert archeologist who has studied the history of Eastern equestrian peoples for nearly a decade, investigates in the first place those Scythian rattles and pole-ends which came to light in the Carpathian Basin. His conclusion, the result of several years' research and a complex analysis which includes, besides the traditional methods of archeology, also spectro-analytical and musical examinations, is contrary to earlier hypotheses: these objects have a ritual significance, and are material evidences of Scythian shamanism. This is corroborated by a thorough survey of finds of this type from the territory of the Soviet Union, based on the author's own collection of material and on the complete Russian and Soviet literature. The book contains several photographs and graphic illustrations as well as a detailed bibliography of the subject.



AKADÉMIAI KIADÓ

PUBLISHING HOUSE OF THE  
HUNGARIAN ACADEMY OF SCIENCES

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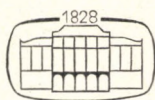
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AKADÉMIAI KIADÓ, BUDAPEST 1971



Translated by  
GÉZA DEDINSZKY

Joint edition published by Akadémiai Kiadó, Budapest  
and Adolf M. Hakkert Publisher, Amsterdam

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Printed in Hungary



*To the Memory  
of my Father and Brother*





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## INTRODUCTION

The Carpathian Basin and, within it, Hungary occupy a special place in the history of nomadic peoples. From prehistoric times to the Middle Ages this westernmost island of the vast grass-grown plains stretching over Eurasia was inhabited by a multitude of peoples moving from east to west. The presence of Scythians, Huns, Avars, Magyars and Cumanians in this area is not only mentioned by written sources, but it is also proved unequivocally by archeological evidence. Among a number of very important finds excavated in Hungary in the past few years, the finds of Szurdokpüspöki and in particular those of Nagytarcsa deserve to be placed at the top of the list. It was in connection with their study that this book was born. Some of the finds described in it have already been published by Hungarian or foreign experts of archeology. These, however, also had to be taken into consideration, partly because earlier publications do not in every respect meet the present requirements and, partly, because I have attempted to extend my examinations to the entire material pertaining to the subject.

I have collected, as far as possible, also the Russian material relating to the topic. I am aware of the shortcomings of my work in this respect, as in most cases it has not been possible to carry out detailed analyses.

The book is centred on Scythian rattles, therefore it must be accurately specified why the word "rattle" has been chosen to denominate this particular object. The expressions themselves that are commonly used in the literature (standard, pole-end, Stangenaufsatz, Навершие) indicate that research has not yet been able to clarify unequivocally the purpose of these objects. In the course of my analyses it has become clear that the objects with a rattle body must be separated from those without such a body. For the determination of the latter the widely accepted expression "pole-end" seems to be appropriate, but those instruments that are suitable also for producing sound must have a name of their own that expresses their essence.

The majority of the Scythian rattles found in Hungary are kept in the Hungarian National Museum. The material of one site is exhibited in the Balaton Museum in Keszthely, and an intact rattle and some fragments are in the National Museum of Bucharest.

The graphic illustrations in the book are the work of the artist Károly Árpás, the photographs have been made by László Susits. The map was designed by Ernő Nagy. The book has been rendered into English by Géza Dedinszky. Here, too, I wish to express my gratitude for their valuable work.

The book has been read and criticized by Dr. Mihály Párducz. The manuscript was completed on December 18, 1969.







## SCYTHIAN RATTLES AND BELLS IN THE CARPATHIAN BASIN

*Group 1*

## 1. ASZÓD (Pest county)

The associated finds including pieces of bronze rattles and a bronze bell were brought to the Hungarian National Museum in 1875. The circumstances of their discovery are unknown.<sup>1</sup>

The length of the cylindrical socket of the rattle cast in bronze (inv. No. HNM 78/1875. 13-14) is 126 mm. It was completely deformed by fire. The present size of its lower part is 16-20 mm × 54 mm. Originally its lower diameter may have been 35-40 mm. Wall thickness 55 mm. The upper end of the socket has a transversal hole the size of which is 16 × 12 mm and 21 × 12.5 mm respectively. The socket below the hole is 31 × 30 mm in diameter. The inside of the socket is open up to the hole. Weight 440 gr. (The socket is covered by a thick layer of verdigris.)

The body of the rattle is missing. It has been reconstructed into a cone-frustum-type body by Mihály Párducz.<sup>2</sup> On the upper rim of the socket the 6-7 mm end of the wall of the rattle body is easily discernible. The top of the rattle is decorated with animal figures the execution of which is perfunctory.

The animal in the middle has an angular body, its short tail is separated by a carved line. The long, pointed ears of the animal stick together. The curve of the right hinder thigh shows the typical semicircular depression which, however, does not occur again elsewhere. The shaping of the smaller animals clinging closely to this animal from both sides is of a similar nature. The animal group is separated from the body of the rattle by a dented line. The full height of the group of animals is 55 mm — measured to the line indicating the base on which the animal is standing. It now weighs 223 grams but its total weight may have been 750 grams. It is cast in one piece, which is also proved by the fact that between the body of the rattle and the animal figures there is a hole inside. It is characteristic of the rough execution that between the trunk and the legs of the animal on the left there is only a dent; it is, therefore, not open like with the two other animals. Both the socket and the fragment of the animal figure show rough fractures. It should be noted that traces of burning can be observed in one place only, otherwise traces of forcible breaking resulting from a mechanical force are visible. This may also be indicated by the fact that the animal figures are bent both at the heads and tails (Fig. 2).

The height of the bronze bell (inv. No. HNM 78/1875), cast in one piece, is 85 mm; width of ear 20 mm, thickness 5-6 mm, inside diameter 10 mm, it shows no trace of wear. The hole serving for the fixing of the tongue is at right angles

<sup>1</sup> Párducz 1950: 61-66, Pls IX-X; Párducz 1959: 37-38.

<sup>2</sup> Párducz 1959: Fig. 10 1.



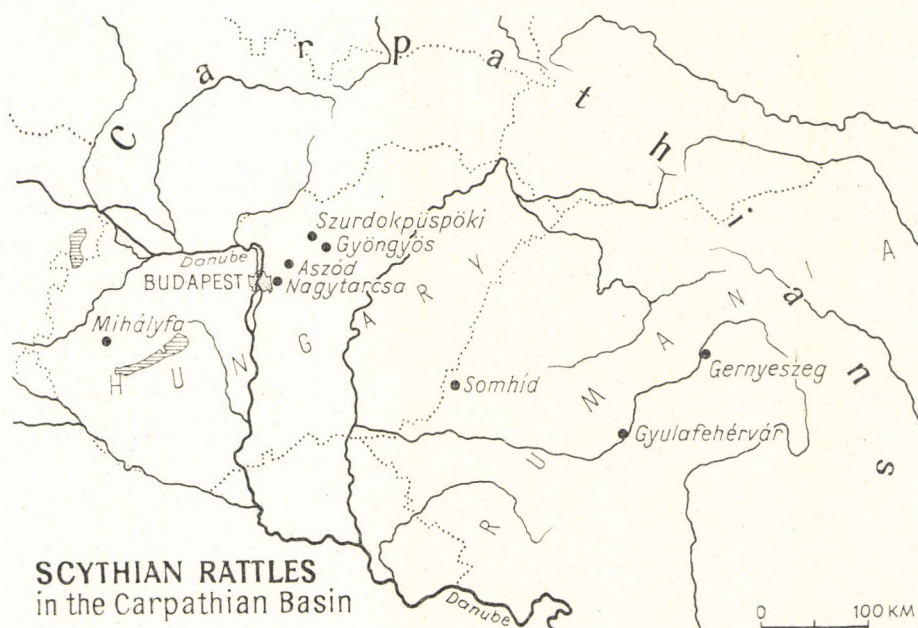


Fig. 1

to the plane of the ear and is more well-worn. The form of the hole suggests that the end of the tongue may have curved in two directions, like that of the Gyöngyös bells. The mantle of the bell is open over a length of 52 mm. Wall thickness 4–5 mm. Weight 121 grams. Five bronze phalerae and some bronze fragments also belong to the associated finds.

## 2. GYÖNGYÖS (Heves county)

Finds were discovered in the course of earth-work in April 1907. They include 6 bronze rattles, 5 bronze bells, 2 iron bits with psalia (cheek pieces), and numerous other iron, bronze, gold, and clay objects. According to the statement of the finders these finds were brought to light from a mound.

Excavations were carried out there by Lajos Márton, in a 160 m<sup>2</sup> area which yielded 11 urn graves. The owner of the land reported that at least 60 urns had been previously thrown away. A particularly large number of urn graves may have been destroyed in the course of the deforestation operations between 1840 and 1850. In the adjoining fields sherds had been thrown away all the time. In the turned-up area, beside bronze and iron objects and vessel fragments, also burnt human bones were lying about. The data, therefore, indicate an urn cemetery with a large number of graves. "In some places, spots of contrasting colours strewn with ashes, soot and bone fragments were visible..." Particularly con-

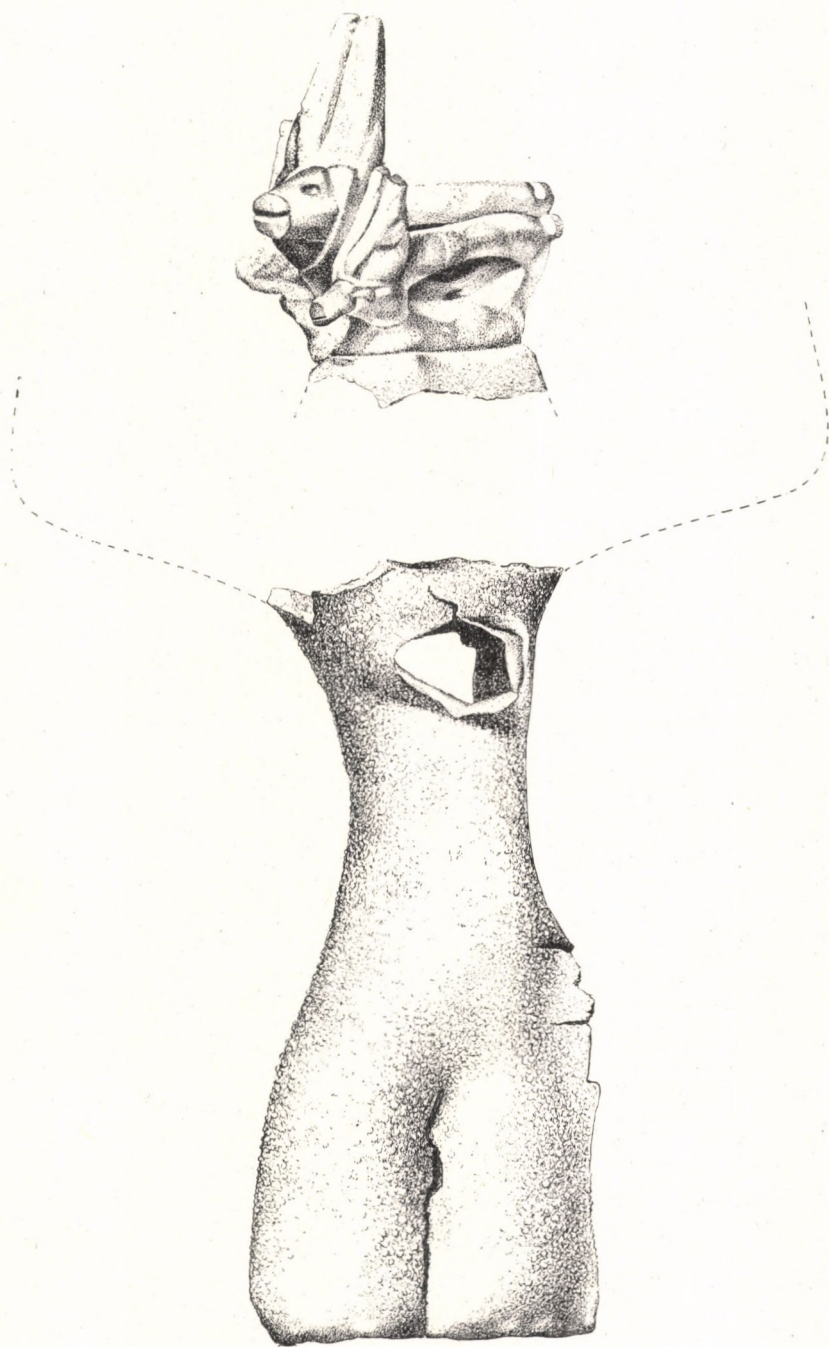


Fig. 2. Scythian rattle from Aszód, Hungary (original size)



spicuous were two larger spots, and — according to the landowner's contention — the bulk of the finds to be discussed came to light from one of these.

The urns were at different distances from one another, at a depth of 40–50 cm. Some of the urn graves uncovered by Lajos Márton yielded furniture, too. In grave 5 a curved iron knife, in grave 7 an iron dagger were found. In some of the urns clay whorls and iron knives were discovered.<sup>3</sup>

Among the finds excavated the 6 bronze rattles, 5 bronze bells, the bronze phalera fragment (Márton: 1908 Pl. I, Fig. 7) and two iron bits can positively be identified as Scythian pieces.

The two iron spears (Márton: 1908, Pl. II, Figs 3–4) which some research workers definitely consider as Scythian,<sup>4</sup> the iron dagger which undoubtedly shows Scythic marks, and the iron fittings which are called yoke and carriage fittings in the literature, can also be attributed to the Scythian Age<sup>5</sup> (Márton: 1908, Pl. III and Pl. IV, Figs 5, 9).

More uncertain is the age of the grooved bronze armlets (Márton: 1908, Pl. I, Figs 8–9), the iron chisel (Márton 1908: Pl. II, Fig. 1), the socketed iron object (Márton 1908, Pl. II, Fig. 2), the cone-shaped bent iron nail (Márton: 1908, Pl. II, Fig. 10), the clay whorl (Márton: 1908, Pl. IV, Fig. 8), and the iron skimming-ladle (Márton: 1908, Fig. 7).

The Gyöngyös finds were determined by research workers as coming from a horse interment cremation grave with rich furniture.<sup>6</sup> The pieces still kept at the Hungarian National Museum and regarded as carriage fittings can be divided into four groups:

1. Long, curved pontils of quadrangular cross-section, bent back in a loop at one end: 7 pieces (inv. No. HNM 64/1907. 36, 37, 35 and Márton: 1908, Pl. III, Figs 14, 16, 17) 413 mm, 775 mm and 600 mm resp. in length, and 4 smaller fragments. The inside length of the looped ears is 9 mm.

2. Question-mark-shaped pontils bent back in a loop at their lower ends; inner diameter of looped ear 5 mm. Their other ends are hammered flat and bent back in a hook. Into these hooks iron rings were clamped (Márton: 1908, Pl. III, Figs 7, 9). Average height 205 mm. Altogether seven pieces (Márton: 1908, Pl. III, Figs 6–12).

3. Pontils of rhombic cross-section with end bent back; height 330 mm, full length 570 mm. One end is bent back in a hook, the inside diameter of the ear is 7 mm. The other end is 5.3 mm in length and hammered into the shape of a

<sup>3</sup> Pásztor–Stiller 1908: 25–37; Márton 1908: 37–54.

<sup>4</sup> Pásztor–Stiller 1908: 32; Márton 1908: 39. Fettich 1931: 516. All the three authors consider the longer spear to be of Scythian character. Márton 1908: Pl. II 1. On the basis of the similar Pilin piece Pál Patay ranked also the shorter iron spear among the Scythian relics. Patay 1955: 71.

<sup>5</sup> Pásztor–Stiller 1908: 33; Márton 1908: 50; Fettich 1931: 516. All the three authors mention it without certainty and only with a question mark, although earlier Nándor Fettich made a more definite statement. Fettich 1927: 139. Mihály Párducz holds a similar view. Párducz 1952: 161; Párducz 1953: 30.

<sup>6</sup> Márton 1908: 49; Fettich 1927: 139; Párducz 1953: 39–40.



lamella, 30 mm wide, with two holes at its end, each 6 mm in diameter (inv. No. HNM 64/1907. 12 and Márton: 1908, Pl. III, Fig. 13). Round pontil slightly bent back, 520 mm in length, 5.5 mm in diameter.

4. Iron bands. Iron band bulging outward and only very slightly bent; length 198 mm, width 25 mm. Small holes in its middle axis; hole diameter 5 mm. Considered as pole fittings<sup>7</sup> (inv. No. HNM 64/1907. 41, Márton: 1908, Pl. III, Fig. 5). Seven fragments (inv. No. HNM 64/1907. 42), length 295 mm in two pieces, width 31 mm; length 480 mm, in three pieces, width 350 mm; length 255 mm, in three pieces, width 395 mm. On the middle axis, about 55 mm apart from each other, there are holes, 6–8 mm in diameter. The bands are straight! On one band the 32 mm long nail has remained in its place (inv. No. 66/1907. 14 and Márton: 1908, Pl. III, Fig. 2). On another a 83 mm long nail has got rusted in (Márton: 1908, Pl. IV, Fig. 5).

In the Scythian Age material in Hungary we know of one waggon burial authentically excavated at Szentes-Vekerzug.<sup>8</sup> Knowing the structure of the Vekerzug waggon and of many others, the question arises whether the objects mentioned above were carriage fittings. In other words, is such a nomadic waggon conceivable on which these fittings and pontils may have an organic place?

Before going into a detailed analysis of the structure of the different types of waggons, I should like to refer only to the fittings of the waggon excavated at the Krasnokutsk kurgan,<sup>9</sup> the exact metallographic data of which are known.<sup>10</sup> The examination revealed that the wheels had been of different sizes and that they were made of wood with fittings on the outside and with 18 spokes in each wheel. The tires were fastened to the 6.8 cm thick wooden wheels with angular-, rhombic- or square-headed nails (length 0.7 cm). The solid wooden axle was 8.8 cm in diameter. Thus, by their width, the Gyöngyös iron bands (group 4) could have been wheel tires, an assumption sustained — at first sight — by the nails and holes in them. However, the Gyöngyös bands are not curved and, in addition, the distances between the holes are very small (5.5 cm). If we consider, for instance, that in each wheel (about 110 cm in diameter) of the two-wheeled waggon of kurgan 11 from the 13th century B.C., excavated in the village of Lchashen near the Lake Sevan, we find 28 spokes,<sup>11</sup> that is to say that the distance between two spokes was 12.3 cm, the above mentioned distance of 5.5 cm is indeed very small.

In the wheels of the waggon excavated in kurgan 5 of Pazyryk (160 cm in diameter) there were 34 spokes<sup>12</sup> placed at distances of about 15 cm. The tire theory becomes even more untenable if from the length of the nails (7.3 cm, 8.3 cm and 9.9 cm) found in some of the bands, we tried to draw a conclusion on the thickness of the wooden wheel. This would mean that the wooden wheel was only 8–9 cm

<sup>7</sup> Fettich: 1931: 516.

<sup>8</sup> Párducz 1953: 53, Pl. III 9–12.

<sup>9</sup> Semionov-Zuser 1939.

<sup>10</sup> Shramko-Solntsev-Fomin 1963: 45–47, Fig. 4 19–21.

<sup>11</sup> Mnatsakanjan 1960: 143, 147, Fig. 13.

<sup>12</sup> Rudenko 1960: 233 Pl. LII.



thick and 3–4 cm wide, whereas the wheel of the waggon of Kurgan 5 of Pazyryk was 5.6 cm thick and 7 cm wide!<sup>13</sup>

Could the carriage-pole fitting have been the iron strap under inv. No. 64/1907. 41 (Márton: 1908, Pl. III, Fig. 5)? The width of the strap (2.5 cm) contradicts this assumption as the diameter of the ancient carriage-poles was at least 4 cm. This thickness had to be ensured also for the fixing of the yoke.<sup>14</sup>

Among Hungarian researchers it was Károly Gaul who declared that although the objects in question may have been parts of a waggon, it was not possible to form an opinion of its shape. The more so as the individual objects cannot be placed in the structure of the waggon.<sup>15</sup>

According to Lajos Márton, Nándor Fettich and Mihály Párducz the Gyöngyös finds had been in a Scythian cremation grave.<sup>16</sup>

Nándor Fettich accepts Lajos Márton's assumption according to which most of the finds "can indeed be identified as the furniture of a rich Scythian grave",<sup>17</sup> although he doubts that all the associated finds come indeed from one grave.<sup>18</sup> The definition of a "Scythian cremation grave"<sup>19</sup> is strongly supported by the fact — to which particular attention was called by Nándor Fettich<sup>20</sup> — that the bronze bells show marked traces of burning. Since such traces cannot be found on the rattles, the above contention cannot in the least be considered as proved.

#### Rattles (Pl. II)

1. Double cone-frustum-type rattle body on cylindrical socket, with animal figure on top (Márton: 1908, Pl. I, Fig. 13, inv. No. HNM 65/1907. 1). The socket, into which a 52 mm square-cut nail is inserted, is 16 mm in length. Each side of the nail is 5 mm wide, its end is pointed. The total height of the rattle, including the iron extension, is 177 mm, the height of the rattle body is 125 mm. In the larger upper part of the rattle body 3 swallow-tail-shaped openings are visible,

<sup>13</sup> Rudenko 1960: 233.

<sup>14</sup> Rudenko 1960: 232–233, Fig. 123; Mnatsakanjan 1960: 141, Figs 4, 144.

<sup>15</sup> Márton 1908: 51.

<sup>16</sup> Question-mark-shaped iron objects came to light from the 12th Szentés-Vekerzug grave. Párducz 1952: Pl. XLII 5; Párducz 1953: 22, Pl. II and Pl. IV 1–4. According to Párducz these objects are "fittings of harnesses by which the horses pulled the waggon". This assumption is confirmed by the ring-like manner in which the non-hooked end is bent back, similarly to the Gyöngyös pieces. "The two ends of a rope of adequate length were each fastened to the ring-shaped ends of a hooked pontil. One of the hooked pontils may have been fixed to the yoke (?) round the horse's neck, the other to the end of the waggon, and therefore played the role of traces" (*op. cit.* 36–37). The exact sizes of the hooked iron objects from Vekerzug are unfortunately not mentioned by Mihály Párducz, so we do not know how big the ring-shaped ends of the cca. 26 cm long pontils (1–1.2 cm in diameter) were. The inner diameter of the looped ears of the undoubtedly very similar Gyöngyös pieces was only 0.5 cm, therefore not very suitable for putting a rope through them. On the other hand we do not know about traces in that period.

<sup>17</sup> Márton 1908: 49.

<sup>18</sup> Fettich 1931: 516.

<sup>19</sup> Fettich 1934: 40; Párducz 1953: 40, 43.

<sup>20</sup> Fettich 1928: 20.



length 23.5–27 mm, width 13–16 mm. On the right side of one of the openings a 9 mm cavity can be seen, with a crack running from its end to the next opening. In the lower part of the rattle body 3 more triangular openings can be found, length 6 mm and width 16 mm. The largest diameter of the rattle body is 41.5 mm. There is gravel ("brook stones") in the rattle.

The animal figure is not "cut out of a sheet"<sup>21</sup> but cast, and was made together with the rattle. The maximum height of the animal is 36 mm, its length 55 mm, and the body of the animal is 6 mm thick. The shaping of the animal figure is primitive and flat. The details of the body of the watching deer (?), with legs bent underneath, are not elaborated. Only the ears, the mouth-line and the tail are proportioned more distinctly. Cast in one piece, weight 710 grams.

2. Double cone-frustum-type rattle body on a cylindrical socket, with animal figure on top (Márton: 1908, Pl. I, Fig. 12, inv. No. 65/1907.2). The socket is 14 mm long and 13 mm in diameter. A cylindrical iron nail 25 mm in length and 5 mm in diameter is inserted into the socket. Its end is broken off. The full height of the rattle is 142 mm, the height of the bronze body 82 mm. In the larger upper part of the rattle body 3 swallow-tail-shaped openings can be seen, 20–25 mm long and 12 mm wide. The largest diameter of the rattle body is 41 mm. Inside the rattle body gravel is moving. The animal figure is 37.5 mm high, 52 mm long, and 6 mm thick. The body of the crouching deer (?), is roughly shaped. The part between the legs is coarsely shaped, unproportional, and shows several defects in casting. The mouth-line is indicated by sharp carving, but the tail is hardly separated from the body. Cast in one piece, weight 680 grams.

3. Double cone-frustum-type rattle body on cylindrical socket, with animal figure on top (Márton: 1908, Pl. V, Fig. 1, inv. No. HNM 98/1907.1). The cylindrical socket is 14 mm long and 12.5 mm in diameter. A quadrangular iron nail is fixed into the socket. The nail is 50.5 mm long, sides 5 mm wide, its end flattened out but its point is broken off. Full height of rattle 175 mm, length of bronze body 88 mm. In the upper part of the rattle body, 3 swallow-tail-shaped openings are visible, 26–29 mm long and 10–11 mm wide each. A crack runs between the front opening and the opening to its left. In the lower part of the rattle body 3 reversed triangular openings can be seen, 8 mm high and 12 mm wide. Inside the rattle gravel is moving. The execution of the animal is somewhat more careful than that of the previous ones. It is 35 mm high, 57 mm long, and 6 mm thick. The legs, bent underneath, merge into each other featurelessly. In this respect it differs from the others. The shaping of the head, body and tail corresponds to that of the previous one. Cast in one piece, weight 600 grams (Fig. 3 1).

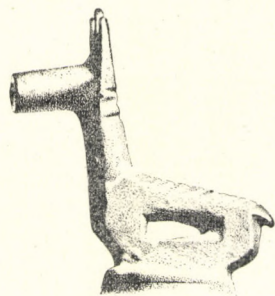
4. Double cone-frustum-type rattle body on cylindrical socket, with animal figure on top. (Márton: 1908, Pl. V, Fig. 2 a–b, inv. No. HNM 99/1907.1). The broken and incomplete socket is 6.5 mm in length and 15 mm in diameter. The iron nail is missing from it. Full height of the rattle 114 mm. In the upper part of the rattle body 3 swallow-tail-shaped openings are visible, 25–33 mm in length. The body is slightly deformed, also the openings are perfunctory and roughly

<sup>21</sup> Márton 1908: 41.

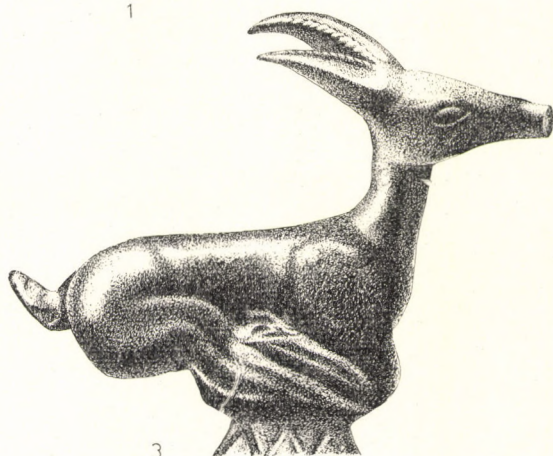




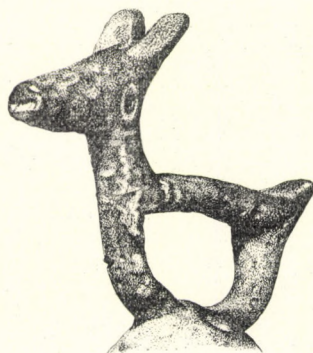
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2



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4



5



6

Fig. 3. Animal figures from (1) the Gyöngyös rattle, (2) the Mihályfa rattle, (3) the Budapest rattle, (4) the Somhid rattle, (5) the Gernyeszeg rattle, (6) the rattle in the Bucharest Museum (original size)



shaped. The defective casting of the rattle is also proved by the fact that only one triangular opening can be seen below. Inside the rattle there is gravel. The animal figure (deer?) is 59 mm long and 7 mm thick. The head, tail and legs are better articulated. Cast in one piece, weight 690 grams.

5. Double cone-frustum-type rattle body on large cylindrical socket narrowing upward, with animal figure on top. Length of socket 38 mm and 43.5 mm respectively, i.e. its lower plane is not straight. Its lower diameter is  $24 \times 26$  mm outside and  $20 \times 22$  mm inside. Wall thickness 3.5–4 mm. At the back, near the rim of the socket, a hole,  $5 \times 8$  mm in diameter, can be seen. The largest diameter of the rattle body, 74.5 mm in height, is 40 mm. In the upper part of the rattle body 3 swallow-tail-shaped openings are visible, length 29–30 mm, width 10–13.5 mm. The animal figure is bulkier than that of the former, but its execution is perfunctory. The tail is not separated from the body, and on the left side, the space below the body got partly clogged up in casting. The animal (roe-deer?) is 52 mm long and 9.6 mm thick. Full height of the rattle 150 mm. Cast in one piece, weight 930 grams.

6. Specimen similar to rattle No. 5. Outside the socket there is a triangular ear (Márton: 1908, Pl. I, Fig. 11). As the piece is not at the Hungarian National Museum, I am unable to offer a detailed description of it.

#### Bells (Pl. III)

1. Bronze bell, cast in one piece. Total height 77 mm (Márton: 1908, Pl. I, Fig. 1, inv. No. HNM 64/1907.4). On top a horseshoe-shaped loop, 5 mm in diameter. Lower measurements of cone-frustum-type mantle: full length  $69 \times 50$  mm, width 38 mm, diameter below the ear 21 mm. The mantle is indented at right angles to the plane of the loop and bent apart. Length of indent 30 mm, aperture angle  $60^\circ$ . Wall thickness 2.5–3 mm. Length of round-cut iron tongue 78 mm, diameter 9 mm. Two-pronged on top, curving through the hole below the ear to the upper rim of the bell. Swinging direction of the tongue corresponding to plane of ear. The upper rim of the bell is worn out on both sides by the outward-curving prongs of the tongue, to a depth of 1–1.5 mm. Weight of bell 120 grams.

2. Shattered bronze bell (Márton: 1908, Pl. I, Fig. 2, inv. No. HNM 66/1907.3). The mantle is almost completely flattened out. Height, without the loop, 81.1 mm. The round loop is 6.5 mm in diameter, its height 21 mm. 13 mm below the ear a scar resulting from burning can be seen. The bronze surface, melted secondarily, is 20 mm in length. On the inside, in the same place, a  $30 \times 20$  mm piece of mantle got soldered to the mantle. In the middle of the bell a small hole is visible. Wall thickness 29–35 mm, weight 143 grams.

3. Bronze bell, cast in one piece (Márton: 1908, Pl. I, Fig. 3, inv. No. HNM 64/1907.5). Full height 70 mm, lower diameter about 55 mm. Below the loop, 4.5 mm in diameter, the diameter of the bell is 21 mm. On the mantle — here, too, at right angles to the plane of the ear — a triangular opening can be seen, about 30 mm in height, and with an aperture angle of  $55^\circ$ . A piece is broken off from the lower part of the bell. Weight 111 grams.

The conical end and the two outcurved prongs of the iron tongue (Márton: 1908, Fig. 12) are bronze-plated. Length 63 mm, width 8 mm. The swinging direc-



tion of the tongue corresponds to the place of the loop. The upper rim is worn to a depth of 1.5 and 0.4 mm, respectively. Weight of tongue 17 grams.

4. Bronze bell, cast in one piece (Márton: 1908, Pl. I, Fig. 4, inv. No. HNM 64/1907.3). Full height 84 mm, lower diameter 45 mm. Slightly fractured. It differs from the other bells both in shape and structure. Its strong, almost round-shaped loop is 21 mm wide, 10 mm in diameter, and 7 mm thick. In the lower third of the mantle a 15 mm high and 6 mm wide triangular cut is visible. The tongue is missing, but its fixing differed from that of the previous ones. On the rim of the 66 mm wide aperture below the ear traces of wear are visible, so that the tongue may have been a simple pontil with a slightly bent end. Weight 82 grams.

5. Fragment of an extremely thin-walled bell (Márton: 1908, Pl. I, Fig. 5, inv. No. HNM 66/1907.2). Full height 55 mm. Its round loop is 17.5 mm wide and 4.5 mm in diameter. A 12 mm long crack runs below one end of the ear. A small bronze lamella was soldered under the crack, possibly in order to repair this defect. A large part of the mantle is broken off. Originally there was a triangular cut on it, too, at right angles to the plane of the ear. The swinging direction corresponds to that of the tongues of the bells mentioned above, and the out-curving prongs of the tongue have worn out the upper rim to a depth of 2–4 mm. The tongue is missing. Weight 24 grams. The fragments of the two iron bits with psalia resemble the Nagytarcsa specimens.

### 3. NAGYTARCSA (Pest county)

#### Circumstances of discovery

North-east of Budapest, in a valley in the range of the Gödöllő downs, lies the village of Nagytarcsa (Pest county, Gödöllő district). On the eastern side of the Szilas brook running through the village, in a ditch dug out for the watermain of a new surgery under construction three Scythian bronze rattles, eight bronze bells and four iron bits with psalia were found, lying in a heap at a depth of 60–70 cm, on June 7, 1964.<sup>22</sup> The workers digging the ditch unfortunately failed to note the exact place of the finds, they only remembered that all the objects had been lying in a heap without any particular order.

In the eastern and southern parts of the 3 × 5 m section drawn on the occasion of the brief authenticating excavations I found deep pits (180–210 cm) in which there were ashy spots and animal bones. Apart from the bones of cattle, pigs, and dogs found in the pits, also scattered horse bones came to light. The animal bones were without exception of a later period, but in any case from the time after the 14th century.<sup>23</sup> The age of the traces of the settlement found in the central part of the section — on the basis of the fragments of vessels found there — can be put at the time of the Neolithic linear pottery culture.<sup>24</sup> Fragments of

<sup>22</sup> The finds were saved and passed on to the author by Lajos Molnár and his wife, the leaders of the Nagytarcsa Museum of Local History.

<sup>23</sup> Definition by Sándor Bökönyi.

<sup>24</sup> Definition by Nándor Kalicz.



vessels from the same period were also found at other points of the section. The iron objects revealed in the upper layers (clasp, knife-blade, fire striker) belong to the later Middle Ages and to modern times.

## Description of finds

### Rattles (Pls I, IV–V)

1. Cone-frustum-type rattle body on cylindrical socket, with animal figure on top. Length of socket (left-side view) 72 mm, (front view) 74.5 mm, thus the lower plane of the socket is not straight. Lower diameter 35 mm, upper diameter 24 mm, wall thickness 4.5 mm. Two holes in the lower part of the socket. One has a regular, circular form, 6 mm in diameter, the other — owing to a defect in casting — is irregular, 14 × 6 mm. The holes lie in a line at right angles to the longitudinal axis of the animal figure.

Height of cone-frustum-type rattle body 93 mm, lower diameter 60 × 59 mm, upper diameter 18.5 mm. Four triangular openings lie at right angles to the cone-frustum-type rattle body. Their measurements are: the front-view opening is 60 mm in length, lower diameter 13 mm; the second opening to the right is 61 mm long and 13 mm wide; the third is 53 mm in length and 13 mm wide; the fourth is 57 mm in length, lower width 11 mm. At the bottom of the openings semi-circular depressions can be seen in several places. This might have been made deliberately.

The animal figure stands on an oblong socle, 30 mm and 10 mm wide. Its zoological characteristics are unquestionably those of horned cattle. Strong, curved horns, big projecting ears, protruding eyes and powerful muzzle. The horns are 16.5 mm in length, the head is 21 mm long and 9 mm wide, 22 mm wide at the ears. The head is short (8 mm) and is fitted to a strong, oval neck (12 × 8.5 mm) which continues in a long, cylindrical trunk.

The roughly executed, featureless legs, composed of planes, are rigidly stretched. The front legs are 37 mm long and 9 mm wide, the hind legs 38 mm long and 10 mm wide. The thighs of both the front and hind legs are shaped in the same way; they curve band-like over the trunk and are sharply separated from it. The thigh-curve of the front legs shows a triangular shape, 3.5 mm wide and 3 mm deep. The hinder thigh-curve shows semi-circular depressions on both sides. It is 4–5 mm wide and 2–3 mm deep. The hinder thighs continue in a rigid tail, with its end sticking to the legs.

In the cone-frustum-type rattle body an iron ball is moving, about 16 mm in diameter. The material of the rattle is bronze, it weighs 520 grams. It was cast in one piece, by lost wax process. This is proved by the fact that no casting can be seen on the object. After casting it was shaped with chisel and file. The mouth-line of the animal, the little lines imitating the claws on the front legs, and the side-walls of the triangular perforations were executed with this method.

Inside the socket the raised rim of the hole, resulting from casting, is distinctly visible. The object shows hardly any trace of wear, so it is only little used (Fig. 4 6, Pls I 1, IV).



2. Cone-frustum-type rattle body on cylindrical socket, with animal figure on top. Length of socket 66 mm, lower diameter  $40.4 \times 38$  mm (not circular!), upper diameter 26 mm. Wall thickness 3 mm. At a height of 10 and 14 mm respectively from the lower rim of the socket — at right angles to the axis of the animal — 2 holes can be seen, 6 mm in diameter each.

Height of rattle body 115 mm, lower diameter  $67 \times 69$  mm, upper diameter  $20 \times 15$  mm. On the body, in a symmetrical pattern, three triangular openings and several holes can be seen. The holes were possibly planned in a sunken form, below and in the middle, that is to say in the form of a forked swallow-tail which, however, was distorted in casting. Measurements of openings: front view length 30.5 mm, width (greatest) 6.5 mm; the second one to the right is 30.5 mm long and 17 mm wide; the third is 32 mm long and 9.5 mm wide. The right rim of the second opening is broken off. The legs of the animal, bent underneath, form the base, which is 29.5 mm long and 12 mm wide. Its zoological character: cattle (bull). Strong, curved horns, big projecting ears, protruding eyes. Length of horns 19 mm. The head is 20.5 mm long and 7.5 mm wide, at the ears 19 mm wide. The carriage of the head corresponds to the position of the legs. This is emphasized by the stretched neck, which is 14 mm long and  $95 \times 7$  mm in diameter, therefore oval. All these are characteristic of the posture of the resting animal. The neck continues in a straight, long (52 mm), cylindrical trunk. Both the legs and the trunk are composed of planes. The shape of the front legs corresponds to that of rattle No. 1. The hind legs, however, differ inasmuch as the thigh-line rises only slightly from the trunk. The sturdy tail (21 mm), too, hangs down loosely. The hinder thigh-line shows the characteristic semicircular depression which is 3.5 mm wide and 4 mm deep. In the rattle body an iron ball is moving, 16 mm in diameter. The material of the rattle is bronze, its weight 760 grams. The technique of its manufacture corresponds to that of rattle No. 1. The legs of the animal are less distinctly shaped, particularly the backside of the front legs. There is a hole between the socket and the body, and inside the socket the welding seams are distinctly visible. It is a hardly used specimen. Some of the holes visible on the body seem to have been made deliberately. (Fig. 4 7, Pls I 3, V).

3. Cone-frustum-type rattle body on cylindrical socket, its end is broken off. The socket is 74 mm and 67.5 mm in length, so that its lower plane is not straight. Lower diameter  $36.5 \times 35$  mm, upper diameter 20 mm. Wall thickness 2.5 mm. Two regular holes, 6 mm in diameter, can be seen 15 mm above the rim of the socket, and, in addition, 4 other larger, irregular holes resulting, in all probability, from defective casting. Height of cone-frustum-type rattle body 94 mm, lower diameter  $62 \times 60$  mm, upper diameter 20 mm. It has four triangular openings in a regular pattern. Their measurements: length 57 mm, width 14.5 mm; length 46.5 mm, width 10 mm; length 51 mm, width 9 mm; length 52 mm, width 9 mm. Also 5 larger holes can be seen, resulting from defects in casting. The even oxide film on the surface of the fracture indicates that the rapture is a contemporary one. This is also proved by the 21 mm long crack running along the upper part of the rattle body which, as a result of a stretching force from within, developed into a crack forcing the rim to curve outward.



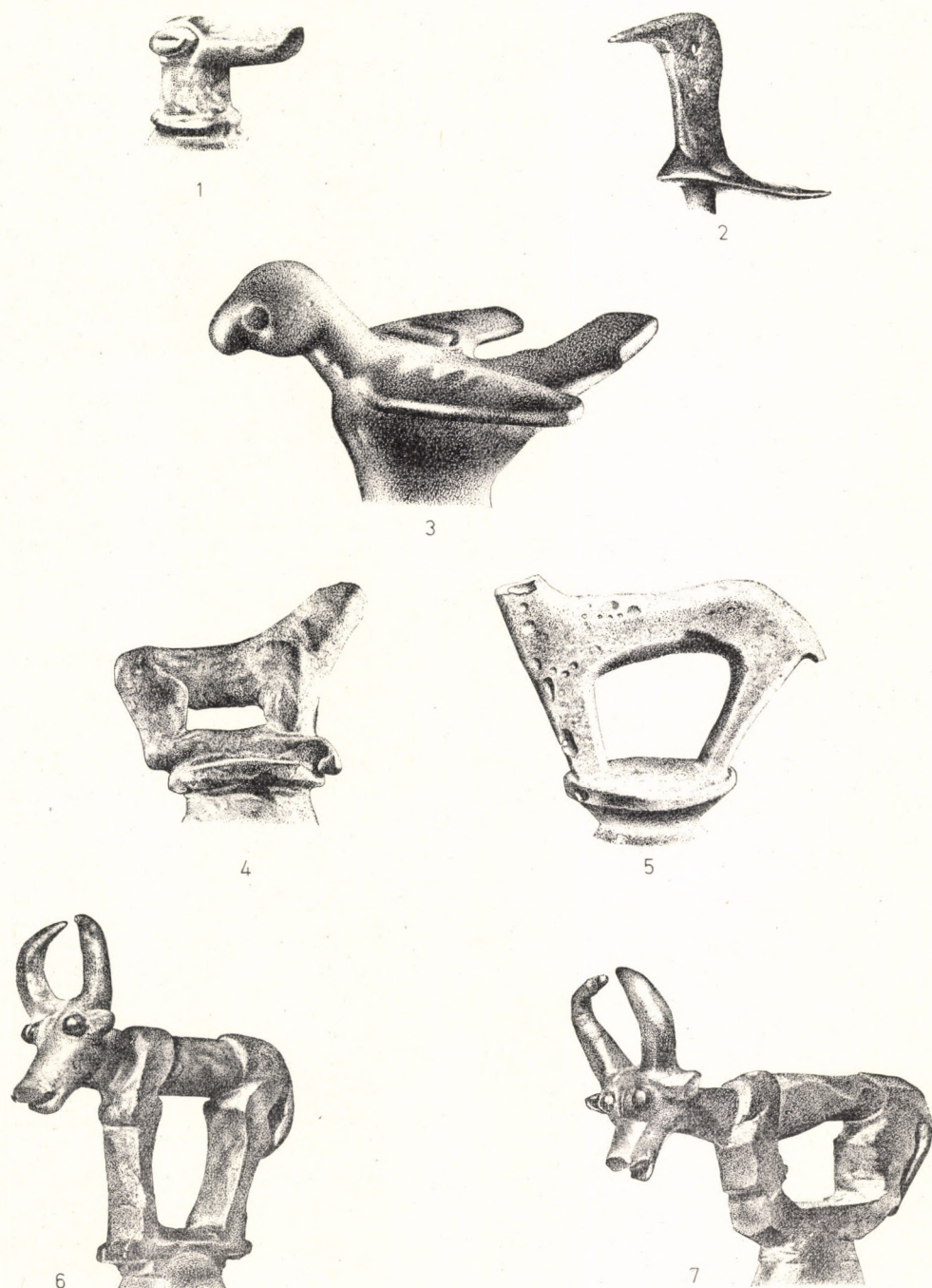


Fig. 4. Animal figures from (1) the Popovka rattle, (2) the rattle in the Hungarian National Museum (3) the Krasnokutsk rattle, (4) the Szurdokpüspöki rattle, (5) the Budapest rattle, (6) rattle 1 from Nagytarcsa, (7) rattle 2 from Nagytarcsa (original size)



How did that happen?

The casting mould of the rattle had to be prepared in such a way that the sand-mould filling the cavity should already contain the iron ball.<sup>25</sup> In our case the upper part of the sand-mould may have fallen apart so that the iron ball got jammed into the upper end of the rattle body. As a consequence of the different rate and duration of the decrease in volume due to cooling,<sup>26</sup> the bronze casing, which cooled more rapidly, cracked. The jammed-up iron ball is distinctly visible. This may account also for the lack of the animal figure. The sharp cast seams visible on the rattle (on the inner line of the rim of the socket and at the holes) prove that it was not used at all. The material of the rattle is bronze, it weighs 400 grams. (Pl. I 2).

#### Bells (Pl. VI)

1. Cast bronze bell with completely closed mantle. A piece of its rim is missing. On the remaining part regular semi-circular cuts can be seen in five places. Height 94 mm and 92 mm resp., lower diameter 49×48 mm. Width of solid loop 2.2 mm, thickness 9.5 mm, inner diameter 15×12 mm, wall thickness 2 mm. Weight of bell 153.85 grams.

2. Bronze bell cast in one piece, with "split" mantle. Length of split 67 mm. At a height of 52 mm the two sides of the split meet and then form a drop-shaped hole. Below the loop there are another 5 holes. Height 98 mm, lower diameter 48 mm. Below, the two rims of the mantle are 7 mm apart. Width of ear 25 mm, thickness 11 mm, inside diameter 13.5×10.5 mm, wall thickness 2.5 mm. Weight of bell 164.7 grams.

3. Bronze bell cast in one piece, with triangular opening on its side. Length 52 mm. Height of bell 100 mm, lower diameter 50×48 mm, width of ear 25 mm, thickness 10 mm, inner diameter 15×11 mm. The iron tongue, curved in a semi-circle at the end, is fixed through the hole below the loop. Length of tongue 88 mm. Wall thickness of the bell 2 mm, weight 193.55 grams.

4. Closed bell cast in bronze, a piece of the rim missing. Height 97 mm, lower diameter 52×50 mm; width of loop 25 mm, thickness 9 mm, inner diameter 12.5×10 mm, wall thickness 2.5 mm. Weight of bell 190.1 grams. The quadrangular iron tongue (7×4 mm) is curved hook-like, but its hooked end is broken off. Length 89 mm, weight 9.75 grams. The loop shows traces of slight wear.

5. Cast bronze bell, open on one side. Length of opening 48 mm, with a 15.5 mm hole above it. Height 98 and 92 mm respectively, therefore the lower rim is not straight. Lower diameter 43×37 mm. Near the rim a small hole and a crack can be seen. Width of ear 28 mm, thickness 12 mm. Inner diameter of ear 14×13 mm. Weight of bell 158.1 grams.

6. Cast bronze bell, one side open from one end to the other. Width of opening 4 mm. Height 93 and 88 mm respectively, therefore its lower plane is inclined.

<sup>25</sup> Darnay 1901: 370.

<sup>26</sup> Melting point of iron: 850–900° C.



Lower diameter 48×47 mm, width 23 mm, thickness 9.5 mm, inner diameter 17×10 mm. Wall thickness 2 mm, weight 153.00 grams.

7. Closed, cast bronze bell, with irregular hole in one side, 36.5 mm in length. Height 94 and 100 mm respectively, lower diameter 50×47 mm. Width of ear 23.5 mm, thickness 10 mm, lower diameter 13×11 mm. On one side of the loop a 9 mm long groove can be seen in the place where the hook of the loop is curved, but this did not result from wear. Weight of bell 172.05 grams.

8. Closed, cast bronze bell, cracked in one place. Height 102 mm, inner diameter 50 mm; width of ear 22 mm, thickness 10 mm, inner diameter 11.5×10 mm, wall thickness 2.5 mm. In two places of the rim semicircular cuts can be seen. Weight of bell 168.55 grams.

#### Bridle-bits (Pl. VII)

1. Forged iron bit, with iron psalia (cheek pieces). The two quadrangular parts of the bit join in a loop-like manner. Length of left part 85 mm, width 10 mm, thickness 8 mm; length of right part 86 mm, width 9 mm, thickness 8 mm. Measurements of slightly bent psalia, ending in a cone: length of left cheek piece 184 mm, width 14 mm, length of cylindrical ends 30 mm; 35 mm upwards and downwards from the rivet a hole can be seen. Length of right cheek piece 178 mm, width 13.5 mm; length of cylindrical ends 28–30 mm. 39 mm upwards and 36 mm downwards from the rivet of this part of the bit a hole can be seen. Inner length of bit (part between the psalia) 75.5 mm. Weight of bit 190 grams.

2. Forged iron bit, with iron psalia. The two quadrangular parts of the bit are joined loop-like. Length of right part 97 mm, width 6 mm; length of right part in bent state 94 mm, measured straight 99 mm, width 6 mm. The slightly bent cheek pieces ending in a cone are fixed to the bit by rivets. Length of left cheek piece 167 mm, width 6 mm, length of cylindrical ends 30 and 26 mm respectively, diameter 5 mm. At a distance of 40 and 36 mm from the rivet of this part of the bit a hole can be seen. Length of right cheek piece 168 mm, width 13 and 15 mm, length of cylindrical ends 26 mm, diameter 5 mm. 37 and 35 mm from the rivet of this part of the bit a hole can be seen. Weight of bit 152 grams.

3. Forged iron bit, with iron psalia. The two quadrangular parts of the bit are joined loop-like. Length of right part 95 mm, width 7 mm; length of left part 88 mm, width 6–7 mm. The right cheek piece, slightly bent and ending in a cone, is broken; length 132 mm, width 14 mm. Length of left cheek piece 170 mm, width 14 mm. Length of cylindrical ends 40 mm, diameter 6 mm. On the left cheek piece holes can be seen 32.5 and 35 mm from the rivet, on the right cheek piece there is a hole at a distance of 27 mm in both directions from the rivet. Weight of bit 150 grams.

4. Forged iron bit, with iron psalia. The two quadrangular parts of the bit are joined in a loop. Length of left part of the bit 95 mm, that of right part 93 mm. One of the nearly straight cheek pieces ending in a cone is broken and detached; length 91 mm, width 14 mm. Length of the other (right) cheek piece 174 mm, width 12 mm. 31.5 mm from the rivet fixing the cheek piece there are holes on both sides. Weight of bit 110 grams.



#### 4. SZURDOKPÜSPÖKI (Nógrád county)

On the right bank of the Zagyva river, on a hill, at a distance of 2 kilometers from the village, Scythian finds came to light from a depth of 80 cm, during the planting of apricot-trees. According to the report of the finders, the finds included 3 bronze rattles, the cheek pieces of an iron bit, and a bronze axe-adze. Field inspection, however, failed to verify this statement, as only a single bronze rattle came into the possession of the Hungarian National Museum (Inv. No. HNM 67.50.1).<sup>27</sup> The lower rim of the cylindrical socket is vertically decorated by a lace-like pattern. Outer diameter of socket 39 mm, inner diameter 25 × 27 mm. Length of socket 107 mm. 8 mm above the rim of the socket there is a hole, 7 mm in diameter, in the centre line of which — in a direction corresponding to the lower plane of the socket — small lines are engraved. In the lower third of the socket 4 drop-shaped raised ornaments, modelled lace-like, can be seen, at distances of 32 and 24 mm respectively from the bottom of the socket. In the middle of the socket there remained a 17 mm long and 7 mm wide irregular hole. The longitudinal axis of the drop-shaped ornament is 30 and 32 mm respectively, the lower semicircle is undivided. Wall thickness of socket 6–9 mm. Height of cone-frustum-type rattle body 86 mm. At the contact point of the rattle body and the socket an irregularly shaped hole can be seen. The lower diameter of the rattle body is 60 mm, below the animal figure 21 mm. The rattle body is divided by 4 triangular openings, with a longitudinal axis of 44 mm. At the bottom of the rattle body a pattern, enclosed by a double frame, runs round the body. Towards the back part of the animal figure the same ornamentation can be seen as that on the socket, while a zig-zag line-pattern decorates the other parts. An iron ball, 16 × 18 mm in diameter, is moving in the rattle body.

Above, the rattle body is closed by a disc-shaped part, 25 mm in diameter, with the animal figure on top. Height of animal figure 30 mm, length 42 mm. The head is missing. The animal sits on its long disproportionate hind legs, its front legs are stretched and straight. The legs end in claws. The tail, 10 mm in length, sticks to the body. The left hind foot is missing. The animal figure decidedly suggests a cat-like beast of prey. Weight of rattle 650 grams (Fig. 4 4, Pl. VIII).

#### Group II

##### 1. GERNYESZEG (Ghernesig, Gornești, Rumania)

At the end of the 19th century a *bronze rattle* was found on the land of the Transylvanian landowner Béni Kállay, which later came into the possession of the Hungarian National Museum (inv. No. HNM 3/1929). The circumstances of discovery are entirely unknown (Pl. IX).<sup>28</sup>

<sup>27</sup> Excavation report of Gábor Vékony in the Archives of the Hungarian National Museum.

<sup>28</sup> Hampel 1893: 405–406, Figs 23–24; Roska 1936: 38, Fig. 27; Roska 1942: 97–98, Fig. 124; Fettich 1931: 502; Roska 1937: 172, 177, Fig. 16.



Intact rattle, cast in bronze.<sup>29</sup> Its square socket is 23 mm high, the measurements of its lateral faces are  $19.5 \times 21$  mm below and  $22.5 \times 26$  mm on top. It is, therefore, narrowing downward. Inner size below  $13 \times 16$  mm, depth of socket 20 mm. On the basis of an entirely similar specimen preserved in the Bucharest Museum,<sup>30</sup> a quadrangular iron point must be imagined to fit into the socket.

Height of the beehive-shaped rattle body 100 mm, lower diameter  $85 \times 83$  mm. A double deepened groove runs along the lower rim of the body and in its middle line. The latter divides the rattle body into two parts. The upper part shows 4 triangular openings, pointing upwards. Height 28 mm, width 18 mm. In the lower part, 3 of the 6 triangular openings point upwards, the other 3 downwards. Height 32 mm, width 18 mm. On the lower, horizontal plane of the rattle body 3 openings are arranged symmetrically. Height 21.5 mm, width 28–3 mm. On the top of the rattle body a 85 mm tall animal figure is placed on a double cone-frustum-type, disc-shaped base. The animal figure (Fig. 3 5) is executed in a naturalistic manner. The mule (?) sitting on its legs bent underneath suggests plastic modelling. The mouth line, the nostrils (carved), the big protruding eyes, and the projecting, long, pointed ears on the head were carefully shaped. In the middle of the forehead there is a protuberance. The left front thigh is fully proportioned, the hoof is distinct. The hind thigh merges with the body. The short tail is turned upwards. Here, too, the semicircular impression in the thigh-curve can be observed. The lower forearm is bent back more strongly, the hind leg merges with the base featurelessly. The rattle is cast in one solid piece, its weight is 830 grams.

## 2. GYULAFEHÉRVÁR (Alba Iulia, Rumania)

In 1901 a bronze rattle was found, which got to the National Museum through an antiquarian. The circumstances of its discovery are unknown.<sup>31</sup> The rattle — full height 181 mm — is divided into three parts: a 95 mm long square bronze rod, the double, conical rattle body, split up by apertures, and its funnel-shaped, widening top.

Width of bronze rod 10 and 13 mm, respectively. 18.5 mm above the bottom of the rattle there is an oval hole, sized  $7.5 \times 4.5$  mm. The rattle body stands on a square capital whose sides, however, are not entirely equal. The shorter side is 23 mm, the longer one 26 mm. The semicircular ear —  $6.5 \times 7.5$  mm — sticks to the head. Height of rattle body split up by 9 openings: 80 mm; its largest diameter 44 mm. Length of longitudinal axis of openings 33.5 mm. Within the

<sup>29</sup> Descriptions up to now have been inaccurate and had various errors. József Hampel wrote: "it appears to be unimpaired, but it may have had a complementary part below". "In both zones of the body there are 4 openings each." The measurements given are also wrong. Hampel 1893: 405. The Gernyeszeg rattle figures without a socket in all publications, with the exception of Domanovszky 1938: Pl. 4. The inaccuracy of the description led also to erroneous conclusions. Iljinskaja 1963: 49, Fig. 4 7.

<sup>30</sup> Parvan 1926: 21, Fig. 10, Pl. III 1 and 728; Hampel 1901: 381.

<sup>31</sup> Roska 1942: 102; Roska 1937: 172; Fettich 1931: 507; Párducz 1965: Pl. XXXIV 2.



rattle body two small bronze balls (8.5 mm in diameter) are moving. The upper diameter of the widening funnel is 22.5 mm. Weight of rattle 210 grams (inv. No. HNM 27/1901.6, Pl. X).

### 3. SOMHÍD (Rumania)

At the end of the last century a bronze rattle was found without any associated finds, "in the ground", on the estate of Archduke Joseph.<sup>32</sup>

Height of slightly narrowing circular socket 75 mm, lower diameter 29 mm, upper diameter 17 mm. Wall thickness 3 mm. In the upper third of the socket a 13.5 × 12.5 mm hole of artificial origin can be seen. Right below the hole, 34 mm from the lower rim of the socket, there is a semicircular, thick loop, inner size 4.5 × 7 mm, outer width 15 mm. The cone-frustum-type rattle body is split up by 4 triangular openings. Height of rattle body 67 mm, lower diameter 54 mm, upper diameter 18 mm. A 2 mm wide pattern of small, chiselled oblique lines fringes the 37–39 mm long openings. The lower, maximum width of the openings is 11–11.5 mm. Four other openings can be found at the bottom of the rattle body joined to the socket, their width is 12 mm. The animal figure decorating the top of the rattle is shaped in an extremely simple manner. Surprising is the complete lack of plane forms. Among the chamfered body-surfaces only the head shows more careful shaping: the mouth-line is carved, the eyes circular. Length of animal figure 59 mm, height 40 mm. The iron ball moving inside the rattle body is 20 mm in diameter. Weight of rattle 285 grams (Fig. 3 4, Pl. XI).

## Group III

### 1. MIHÁLYFA (Veszprém county, Sümeg district)

In 1901, in the part of the village fields called "Fenyősi fields"<sup>33</sup> — a flat area between gently sloping hills, not far from the Fenyős brook — ploughing turned up 4 bronze rattles, lying side by side and, a little farther, a bronze mace. No other Scythian finds were recovered, neither here, nor in the vicinity. In spite of the fact that in the area indicated no mention had been made of skeleton remains or traces of cremation, Kálmán Darnay, imparter of the find, declared: "... the find was undoubtedly provided by a Scythian grave".<sup>34</sup> Since there was nothing to corroborate this assumption, Nándor Fettich was more careful in his statement.<sup>35</sup> Later research, however, separated the bronze mace from the rattles as something that could not belong to the associated finds. The mace having disappeared in 1945, we are left to Kálmán Darnay's description. It was divided into 8 cells which were separated from each other by little indented rods. It was 40 mm in diameter. Two of the bronze rattles were lost, and one was badly dam-

<sup>32</sup> Hampel 1893: 400–404, Fig. 21; Fettich 1931: 513.

<sup>33</sup> Bakay-Kalicz-Sági 1970: 176.

<sup>34</sup> Darnay 1901: 369–372; Fettich 1931: 523.

<sup>35</sup> Fettich 1928: 23, note 15. Cp. Márton 1905: 240.



aged during World War II. The surviving complete rattle and a fragment are preserved in the Balaton Museum in Keszthely. Cone-frustum-type rattle body on cylindrical socket, with animal figure on top (Fig. 3 2, Pl. XII 1-2). The socket is 33 mm in length, with a 4 mm thick edge-ring, 17 mm in diameter, on its lower rim. The socket is widening upwards, and is 23 mm in diameter below the body. A square nail, 66 mm in length, was inserted into the socket. Height of rattle body 75 mm, lower diameter 50 mm. In its upper part 4 long, triangular openings can be seen, 49-51 mm high and 11-15 mm wide; in its lower part there are 3 smaller openings. Inside the rattle body there is an iron ball, 18 mm in diameter. The shaping of the animal figure is rather primitive. The trunk and the legs are in the same plane on both sides, but planes with edges form also the back of the animal on which 10 small slanting lines are engraved on both sides. Under the ears the neck, too, is indented by carving. Remarkable is the cylindrical form of the head on which neither the mouth nor the eyes are elaborated. The watching animal, with its legs bent underneath, can perhaps be identified as a deer. The rattle is cast in one piece. Full height 142 mm, weight 263 grams.

2-4. These are completely similar to the former one; from two of them the animal figures are missing.<sup>36</sup>

#### *Stray finds*

1. Bronze rattle fragment. Place of discovery unknown. The socket, the lower part of the cone-frustum type rattle body and the head of the animal are missing. Full length 125 mm. Lower diameter of rattle body 65 mm. The animal standing on a flat disc may be a deer. On the body 4 swallow-tail-shaped openings are visible.<sup>37</sup>

2. The Hungarian National Museum has another specimen belonging to the group of rattles, its place of discovery is unknown.<sup>38</sup> The figure of a water-fowl

<sup>36</sup> Darnay 1901: 371.

<sup>37</sup> Hampel 1893: 404-405, Fig. 22; Fettich 1931: 526-527.

<sup>38</sup> Smirnov 1894: 386; Fettich 1931: 527. The Hungarian and foreign literature has classed this object unequivocally with the group of the Scythian rattles, whereas, though coming from the Scythian Age, it has nothing to do with the genuine Scythian rattles (Fig. 4 2). This is the reason why it does not occur anywhere in the detailed treatment of the Scythian rattles of the Carpathian Basin. The fundamental difference is apparent at first sight: this bronze object, decorated with the figure of a water-fowl, was not fixed to a wooden handle, but the eye of the animal figure served at the same time as a hole by which the object was suspended. This purpose is also proved by the fact that the lower disc, 1.5 cm in diameter, is solid and slightly bulging, so that without support it would turn over. The so-called rattle body does not show a single characteristic of the Scythian rattles. This object could never have been used for rattling! In the relics of the European Hallstatt culture numerous analogies can be found (cp. *Hallstatt a Byčiskala*, Bratislava 1969, and notes 211, 213, and 214). On the basis of the piece published by A. J. Smirnov (Smirnov 1894: 386), V. A. Iljinskaja regarded it as a peculiar, Hungarian local rattle type, though she, too, emphasized the Hallstatt style (Iljinskaja 1963: 49.) Water-fowls are frequent in the early Iron Age of Central and South Europe, and they are usually symbols of the Sun. As an example, let me refer to the bronze vessel found at Hallstatt and the bronze shield excavated at Nackhålle in Sweden (Scheltéma 1941: 70, Fig. 28). The Hallstatt influence can, of course, also be noticed in the culture of the Scythian Age.



sitting on a rod is fitted to the body standing on a disc-shaped socle. Full height of piece 100 mm, height of bird figure 32 mm, length of trunk ending in a fork-tail 38 mm. Its flattened neck is 3 mm thick. The beak shows indented ornamentation, the eyes are indicated by punched holes. The middle part which may be called the body is broken up by 4 triangular openings placed in two rows with 16 mm long sides. The middle belt, 39 mm in diameter, is decorated by a zig-zag pattern between two indented lines running round the belt. The bottom disc is 14.5 × 15 mm in diameter. Weight of rattle 104 grams (Fig. 3 3).

3. The exact place of discovery of the 4 bronze rattles and the rattle fragments preserved in the Bucharest Museum is unknown. Some consider them Transylvanian pieces (e.g. M. I. Rostovtsev), others believe that they came from the Rumanian lowlands (e.g. V. Parvan). On the basis of Nándor Fettich's findings<sup>39</sup> it is more likely that they do not derive from Transylvania, or, at least not all of them.

(a) The most significant of the rattles is the one analogous to the rattle of Gernyeszeg.<sup>40</sup> Its square socket is 30 mm in length; there is an iron nail in it. The 110 mm high beehive-shaped rattle body is grooved below and in the middle. In its lower part 8, in its upper part 6 triangular openings can be seen, pointing upwards. They are 105 mm in diameter. The height of the animal figure, placed on a disc-shaped base, is 95 mm. Its execution is similar to that of the Gernyeszeg rattle (Fig. 3 6).

(b) Angular socket, 30 mm in length, with a 105 mm iron extension in it. Height of cone-frustum-type rattle body 104 mm, lower diameter 100 mm. A zig-zag pattern runs along the lower rim and in the middle of the body. In its upper part 4, in its lower part 6 (?) triangular openings can be seen. The rattle body is broken, and the animal figure is missing.<sup>41</sup>

(c) Bronze rattle fragment, 25 mm in length, angular socket with small iron nail. The surviving part of the rattle body is 55 mm high and 100 mm in diameter.<sup>42</sup>

(d) Bronze animal figure from the top of a rattle. Height 75 mm, width 90 mm. The animal with legs bent underneath stands on a small base. The sturdy, elaborate animal figure can be identified as a stag.<sup>43</sup>

Mention must also be made of two bell finds from Csany and Muhi-Kocsmadomb.<sup>44</sup> The circumstances of discovery of the Csany bell are unknown, the Kocsmadomb bell was allegedly found in a spot on the riverside at a depth of 1.5 m. It does, therefore, not originate from a grave. Height of bronze bell, square-shaped below, is 85 mm, lower diameter 50 mm. Semicircular loop on top. Inside the bell, closed on top, there is an iron ring for hooking up the tongue.<sup>45</sup>

<sup>39</sup> Fettich 1934: 40.

<sup>40</sup> Parvan 1926: 21–23, Fig. 10, Pl. III 1 and 728, 768.

<sup>41</sup> Parvan 1926: 23–24, Fig. 11, Pl. III 2 and 728, 768.

<sup>42</sup> Parvan 1926: 24, Fig. 12, Pl. III 3.

<sup>43</sup> Parvan 1926: 25, Fig. 13, Pl. III 4. Cp. Smirnov 1894: 385.

<sup>44</sup> *Arch. Ért.* 14 (1894) 265, Pl. III A. The caption is mistaken. This was pointed out first by Nándor Fettich. Fettich 1928: 23, note 34; Posta 1897: 511, 528, Fig. 54 4 and Vol. III 502–503, Figs 279–280, erroneous captions.

<sup>45</sup> Leszih 1939: 76, Fig. 5 1.



## SCYTHIAN RATTLES, POLE-ENDS, AND BELLS IN RUSSIA

The recording of the Russian material sets the researcher a rather difficult task, since the excavations carried out at the end of the last century and at the beginning of this century were extremely perfunctory and poorly documented. None of the world-famous kurgans of the Kuban region has been fully explored, there are hardly any photographs at our disposal and, moreover, many of the handwritten excavation diaries have remained unpublished to this very day. A large number of finds found their way to museums as a result of predatory excavations, but there are also a great many relics which were destroyed or lost. Suffice it to mention the excavations of G. D. Schulz, who melted and sold part of the finds of the famous Kelermes kurgans! The so-called slender furniture — primarily ceramics — were destroyed already during the excavations, which caused extremely great losses to later research.<sup>46</sup>

I have tried to sum up the circumstances of the discovery of the Scythian rattles, pole-ends and bells in Russia and the characteristics of the graves as fully as possible. My efforts, however, were often in vain because of the insurmountable obstacles referred to above. In most cases I had no opportunity to study at length the original objects, and of course in such cases I had to rely on data offered by publications. Apart from my own collections, I have been able to use the original photographic material of Professor Nándor Fettich.<sup>47</sup>

I have divided the Russian rattles and pole-ends into six groups. These groups indicate larger geographical units, thus they do not represent any typological or chronological classification.

### *I. The Kuban region*

#### 1. KELERMES

*Kurgan 1.*<sup>48</sup> The excavation of the kurgans lying south of Kelermes was started by G. D. Schulz in 1903, and continued by N. I. Veselovskij in 1904. Schulz uncovered four, Veselovskij two kurgans. The height of kurgan 1 was 2.25 m, its perimeter about 200 m. The quadratic grave orientated north-south, was 10.7 × 10.65 m in length. From the 20 post-holes found at the bottom of the pit it was possible to conclude the structure of the burial vault carpentered together from beams. According to all indications the space of the vault had been divided, possibly a separate room had been formed for human interment. Apart from the remains of a skeleton devastated by grave-robbers, the following furniture was found:

<sup>46</sup> Rostovtsev 1931: 277–278.

<sup>47</sup> During my visit to the Soviet Union in 1967 I had opportunity to study the material of the Historical Museum in Moscow and of the Hermitage in Leningrad.

<sup>48</sup> *Otchot* 1904: 85–91, Figs 134–150. The numbers in brackets refer to the original publication. Concerning the rattle see Rostovtsev 1922: Pl. X C.



fragments of four vessels including pieces of a smooth black vessel with a geometric pattern (1); in the north-eastern corner of the grave a copper cauldron (2), in the western part of the grave pieces of a small bronze vessel, glass and cornelian beads (3), glass fragments (4), small gold tubes (5), in the vicinity of the middle of the grave 3 gold rosettes (6), gold lamellas portraying a hare's head (7), at the eastern wall of the rifler's pit broken human bones, bones of horses and two big pearls (8), pieces of a limestone sacrificial altar sunken into the earth of the bank of pit,<sup>49</sup> a flint-stone (9) and a seal-shaped bone object [*pintadera*] (10), and at the eastern side of the vault 22 bronze arrow-heads (11). Along the western side of the vault, between the posts, there lay the skeletons of 12 horses, with their skulls pointing east, i.e. towards the human interment. The first horse (the numbers proceed from north to south) had no skull; beside the next 9 horses no furniture at all was found, and beside the 11th and 12th horse there lay 2 silver bridle fittings and iron bits.

Along the southern wall of the vault, 12 more horse-skeletons were uncovered, their skulls pointing north. The tackle of the horses lying in the western part of the grave was far richer than that of the horses in the eastern part. It was *above* the horses interred in the western side that 2 horse-head-shaped bronze pole-ends (not rattles!) and 2 globular bronze rattles were found. The height of the bronze pole-ends decorated with a horse's or rather mule's head is 18.1 cm, their largest width 10 cm.

The extremely wide and large sockets are of an oval cross-section, with a round hole in the side of each. The head of the animal is of plastic shaping, with marked nostrils, mouth-line and eyes (Fig. 5 3).<sup>50</sup> The globular bronze rattle has a long, cylindrical socket, in the lower part of which triangular openings can be seen, and an iron haft is fixed into the socket. In the rattle body, indented by 12 openings, 2-3 iron balls are moving.<sup>51</sup> Beside the first horse (the numbers proceed from west to east) gold tackle ornaments, gold plates and iron bits were found, but only the psalia are well-preserved. The bridle-bit of the second horse is made of bronze, the psalia of iron. This tackle, too, was decorated with many gold plates. Beside the other 10 horses there was similar furniture. The psalia of some of the bits ended in an animal's head carved from bone.<sup>52</sup> 3 iron rattle bodies and iron handles belonging to them were *among* the skeletons of horses lying on the southern side of the vault.<sup>53</sup> At right angles to the sockets, holes can be seen between the long, cylindrical sockets and the double cone-frustum-type rattle bodies, indented by 8 openings, of the 4 smaller bronze rattles found a little more to the south of the horses.<sup>54</sup> In the same place yet another bronze rattle with oval

<sup>49</sup> Rostovtsev 1931: 280; Artamonov 1966: 18.

<sup>50</sup> *Otchot* 1904: 88, Fig. 139; Iljinskaja 1963: 33, Fig. 11; *idem* 1965: 95, Fig. 6 1; Artamonov 1966: 18-19, 101 and Pl. 5.

<sup>51</sup> *Otchot* 1904: 88-89., Fig. 140; Iljinskaja 1963: 33, Fig. 1 2.

<sup>52</sup> *Otchot* 1904: Figs 145-146; Iljinskaja 1965: 99, Fig. 10 6-7, 12. For detailed description of tackle see Rostovtsev 1931: 280.

<sup>53</sup> Iljinskaja 1963: Fig. 1 4-5.

<sup>54</sup> *Otchot* 1904: Fig. 150; Iljinskaja 1963: 33, Fig. 1 6.



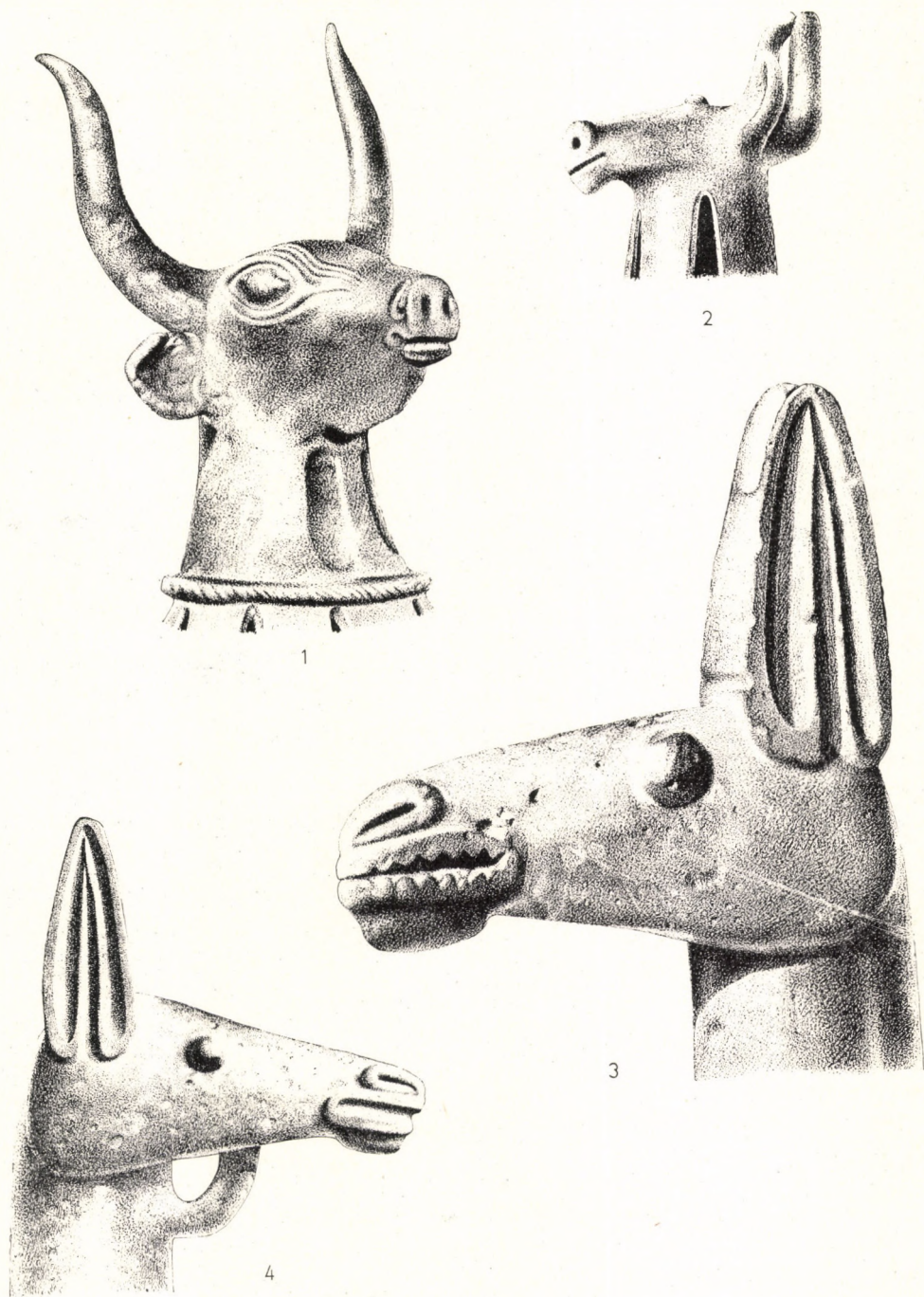


Fig. 5. Animal figures from (1) the rattle from Ulskij aul, kurgan 2/1909, (2) the Starsha Mogila rattle, (3) the Majkop pole-end, (4) the pole-end from Kelermes, kurgan 1



socket and a bird's head on top was discovered.<sup>55</sup> At the western wall of the grave 2 more bronze rattles with a round body and long, cylindrical socket were found.<sup>56</sup>

*Kurgan 2.*<sup>57</sup> Its structure and size correspond to those of the first kurgan. There were two graves in it. The south-eastern part of the burial vault, built of wooden beams, (8.5 × 8 m) had been destroyed by riflers. In the very earth of the bank two Greek bronze helmets forged from one piece were found. In one of the helmets there was a silver ferrule (probably the tip of a whip handle) decorated with a gold plate. In the north-western corner of the grave there was a thin-walled bronze cauldron in pieces (1), pot-sherds (2), more to the south a bronze mirror with ornaments on its backside (3), beads (4), to the right of the beads 29 bronze arrow-heads (5), south of these and west of the centre post the skull of a horse (6), with bronze arrow-tips (7) by its side. In the south-western corner there was a small bronze cauldron that had been flattened during the interment (8). On the northern side, beside the first horse there was an iron bit with a bone ornament representing a ram's head at the end of its psalia; by the side of the second horse there were bronze plates; beside the third an iron bit with bone decorations; beside the fourth horse there was no furniture; beside the fifth an iron bit with psalia and 4 bone-tips; beside the sixth an iron bit with psalia, bronze ornaments, gold ribbons and a large number of white beads; beside the seventh a bronze bit, a bone pendant, gold plates, and many small white beads; beside the eighth horse there were 2 crescent-shaped bone ornaments. No gold ornaments were found beside the 8 horses buried on the southern side. Beside the first horse (counted from south-west) there was a bronze bit with psalia, a bronze bridle fitting (?), a bronze bell,<sup>58</sup> and two bronze buttons. With the second horse an iron bit with psalia decorated with a bone ram's head and a bronze bell were found; beside the third an iron bit with psalia decorated with a bone griffin's head and a bronze bell; beside the fourth an iron bit and 4 bronze buttons; beside the fifth an iron bit with psalia, bronze tackle ornaments; beside the sixth a bone pendant with a bird's head; beside the seventh an iron bit with bone psalia with a ram's head on them, ending in a hoof. The skeleton of the eighth horse lying in the south-eastern corner was destroyed at the time when the graves were robbed. Somewhat *farther up* from the horse skeletons in the line of the second horse there lay a bronze rattle, with an iron handle fixed into its long, cylindrical socket, and an iron ball in the globular rattle body which was perforated by 8 openings. Height about 17 cm. *Opposite* to the seventh horse a similar rattle was found, with a height of about 18 cm.<sup>59</sup> In the part between the second

<sup>55</sup> *Otchot* 1904: Fig. 150. Iljinskaja 1963: 33, Fig. 1 6.

<sup>56</sup> Iljinskaja 1963: Fig. 1 3. In the discussion no mention at all is made of the exact measurements and structure of the rattles. This is the more to be regretted as the objects that can be seen in Figs 1 3, 4, 7, 9, 10, 11, 12 and 13, and in Fig. 2 4, figure in the literature for the first time. Iljinskaja 1963: 35, note 6.

<sup>57</sup> *Otchot* 1904: 91-95, Figs 151-160.

<sup>58</sup> *Otchot* 1904: 94., Fig. 156.

<sup>59</sup> Iljinskaja 1963: Fig. 1, 12-13.



and seventh horse, but in a *higher* level another 2 completely globular bronze rattles and parts of a rattle were found.<sup>60</sup>

All that M. I. Rostovtsev writes about the circumstances of the discovery of the rattles is: "*Über den Pferden lagen auf der unteren und oberen Stufe der Grube fünf Stangenaufsätze von dem gleichen Typus einer durchbrochenen Kugel mit kleinen Kugeln drinnen*".<sup>61</sup>

*Kurgan 3.* Unfortunately this extremely rich kurgan fell victim to the predatory excavations of G. D. Schulz and thus, apart from the surviving finds, most of which became world-famous (a gold diadem with a griffin's head, a silver rhyton with a ram's head, gold plates with lions' and rams' heads, a gold handle coat and a large bronze cauldron),<sup>62</sup> we hardly know anything about the interment. Among the furniture there were also 7 bronze rattles. Height of 4 bronze rattles with a griffin's head 35 cm, largest width 11.5 cm. A semicircular loop emerges from the rim of the quadrangular socket. Length of socket 7.7 cm, width 2.2 cm. In the pear-shaped rattle body perforated by 8 openings there is gravel (Fig. 7 10).<sup>63</sup> Two rattles are smaller (height about 16 cm). The part between the socket and the rattle body shows a semicircular depression, with the head of a fantastic animal on top.<sup>64</sup>

\*

Two bronze rattles with sockets, exact place of discovery not indicated, height about 16 cm.<sup>65</sup>

## 2. ULSKIJ AUL

*Kurgan 1/1898.* In the vicinity of the Ulskij aul excavations were started in 1898. Kurgan 1 is remarkable for its huge size. Its height is 15 m.

The kurgan was composed of two barrows since at a depth of 5.35 m from the surface, the skeletons of more than 50 horses were found; there might have been more as not the entire area was explored. In the middle of the kurgan stood a sepulchral structure with a timber framework, with 6 posts on the longer side and 4 posts on the shorter side between the 4 corner posts. Beside the burial vault further parts of horse skeletons and the skeletons of 2 bulls were uncovered. Around the sepulchral structure, in equal groups (18 horses round each post), there lay the skeletons of 360 horses and 8 oxen. The burial vault itself was ransacked. The surviving furniture included 13 large gold plates portraying running deer, a smaller gold plate of the same kind, gold plates portraying two griffins attacking mountain goats, and 10 gold plates with lions on them. The majority of the gold plates must have been quiver mounts. There was in the grave also a

<sup>60</sup> *Otchot* 1904: 95. Illustration unpublished.

<sup>61</sup> Rostovtsev 1931: 281.

<sup>62</sup> Artamonov 1966: 20.

<sup>63</sup> Iljinskaja 1963: 35, Fig. 1 8; *idem* 1965: 101, Fig. 11 2; Artamonov 1966: 19, 101, Pl. 4. Cp. Rostovtsev 1922: Pl. X B.

<sup>64</sup> Iljinskaja 1963: Fig. 1 9.

<sup>65</sup> *Idem* 1963: Fig. 1 11.



sacrificial altar slab, size  $1.42 \times 0.98$  m, thickness 22 cm, with a  $40 \times 50$  cm centre hollow. We also know of a considerable number of coloured vessels which, however, have not survived.<sup>66</sup>

The remaining data do not clarify whether the bronze rattle with a griffin's head<sup>67</sup> came from the vicinity of the horse skeletons round the sepulchral structure or from the higher layer of the mound in which the other horses were found.

The full height of the rattle cast in bronze is 22 cm, the cone-shaped rattle body perforated by six openings has a lower diameter of 7.3 cm. At the upper end of the cylindrical socket tapering upward a transversal hole can be seen. There is an iron ball inside the rattle body (Fig. 7 9).

*Kurgan 1/1908.* It was excavated by N. I. Veselovskij in 1908. Its height is 6 m. Its southern side was opened by riflers. Furniture left untouched beside the body resting in the  $5 \times 5$  m burial vault with timber framework: 2 gold ear-pendants, a large number of gold shank buttons, gold plates with portrayal of animals (lion, eagle, ram, panther), long small iron tubes, a gold nail, a bronze ornament, iron spear-heads, and iron and bronze scale armour. The horses interred separately in a row from west to east lay close to each other on the left-hand side, with their skulls pointing south. Beside each of the first two horses only 2 iron bits with bronze disc at the side were found; beside the third there were 4 bronze discs; no furniture beside the fourth, and 2 iron bits with bronze disc at the side beside the fifth.

In the shaft opened by the grave-robbers 24 bronze arrow-heads, fragments of a bronze cauldron, silver ornaments, an iron spear, a bronze bell and beads were found.<sup>68</sup>

*Kurgan 2/1909.* Its height is 4 m. According to M. I. Rostovtsev<sup>69</sup> a gold pole-end in the form of a horse's head encrusted with ivy was found in the earth of the mound. It is fully analogous to the Kelermes specimens.

The remaining furniture of the looted grave consists of gold plates, gold buttons, longish tublets, fragments of a bronze cauldron with handle, the latter with the figure of a deer. The skeletons of the 18 horses interred in a separate grave have remained undisturbed. Beside one of them there were bronze beads and round gold plates; beside the other horses iron bits fitted with cheek pieces with animal figures on them were found. In the same place 16 cast bronze bells and 5 bronze rattles and pole-ends were uncovered. Height of 3 rattles with bull's head 24.2 cm (Fig. 5 1), lower diameter of the cone-shaped rattle body perforated by 8 openings 8.3 cm, with 2 iron balls inside. The sockets are very small. A plastic ornament separates the rattle body from the animal's head; the latter is modelled in a realistic manner.<sup>70</sup>

Two peculiarly shaped and ornamented bronze pole-ends. On the enormous socket of oval cross-section, there is a bird's head with a hooked bill and stylized details.

<sup>66</sup> Rostovtsev 1931: 281–282.

<sup>67</sup> *Otchot* 1908: 118, Fig. 169; Artamonov 1966: 26–27, 104.

<sup>68</sup> *Otchot* 1909–1910: 147–148.

<sup>69</sup> *Otchot* 1909–1910: 149., Fig. 215; Iljinskaja 1963: Fig. 2 10.

<sup>70</sup> Artamonov 1966: Pl. 59.



In the lower right-hand corner of both pole-ends a human eye worked out in relief can be seen, on both sides. In the middle of one of the pole-ends the portrayal of a mountain goat with legs bent underneath can be seen. On both pole-ends there are 2 loops below and 1 above into which in all probability the 5 (or originally undoubtedly 6) bronze bells, found near the two pole-ends, were fitted. On the side of the socket of the pole-end with the mountain goat, a bronze rivet with a semiglobular head has remained in the lateral hole seen also on the other rattles. Height of pole-ends 26 cm, largest width 18 cm.<sup>71</sup>

Next to the bells, the cheek piece of a bronze bit and a small iron rod were found. Beside the thirteenth horse there was a silver horse frontlet and small bronze fragments. The iron fragments found in the grave were considered by researchers as remains of a funeral waggon.

### 3. MAHOSHEVSKAJA

Two bronze rattles, exact site unknown. One of the rattles has a long socket and a globular body, with the figure of a stag on top (Fig. 6 2), the other is of a double cone-frustum type with a 26 cm iron handle.<sup>72</sup>

### 4. TULSKA

Fragment of a bronze rattle with iron haft. The circumstances of its discovery and its description are unknown.<sup>73</sup>

### 5. VICINITY OF MAJKOP

Two socketed bronze ornaments portraying a horse's head, with a loop under the chin (Fig. 5 4). Circumstances of discovery unknown. Recently a third rattle ending in a stag's head has become known. The rattle body broken up by openings is fragmentary. Full height (without antlers) 11 cm (Fig. 6 4). Stray piece.<sup>74</sup>

### 6. VICINITY OF KRASNODAR

Socketed bronze pole-end with eagle's head, height 12 cm, diameter of socket 4 cm. Details unknown.<sup>75</sup>

### 7. ANAPA

Four bronze pole-ends were found in a horse grave. On the cylindrical socket stylized stag antlers done in open-work can be seen.<sup>76</sup> Details of the circumstances of discovery are unknown.

<sup>71</sup> *Otchot* 1909–1910: 150, Figs 216–217; Rostovtsev 1922: Pl. X A, D; Iljinskaja 1963: Fig. 2 9, 11. — Artamonov 1966: 27, 104–105, Pls 58, 61.

<sup>72</sup> Bobrinskij 1901: 66, Fig. 20 b; Iljinskaja 1963: 35, Fig. 2 1, 2.

<sup>73</sup> Iljinskaja 1963: Fig., 14.

<sup>74</sup> *Idem* 1963: 35, Fig. 2 4; *idem* 1967: 295–296, Figs 1, 2.

<sup>75</sup> *Idem* 1963: 35, Fig. 2 5.

<sup>76</sup> *Otchot* 1900: 37, Figs 96, 97; Iljinskaja 1963: Fig. 4 2.





Fig. 6. Animal figures from (1) the rattle from Volkovtsy, kurgan 1, (2) the Mahoshevskaja rattle, (3) the Romny rattle, (4) the Majkop rattle, (5) the pole-end in the Novoherkassk Museum, (6) the Chertomlik rattle, (7) the Axjutintsy rattle (original size)



## 8. JELIZAVETINSKAJA

Excavations were performed here by N. I. Veselovskij between 1912 and 1917. From the six larger and many smaller kurgans now only the mound excavated in 1914 is of interest to us.

Instead of wooden beams, here, the sepulchral structure was built of stone, but it had a wooden roof. The stone structure (burial vault) filled nearly the whole pit. Attached to it was a gradually deepening corridor covered with wood, in which the remains of a waggon drawn by three pairs of horses were uncovered. It was emphasized by Veselovskij that there had been two waggons, but the two wheels of the second waggon had been destroyed by riflers. Traces of blue, yellow and white paint found on the ground of the grave indicated that the waggon had been painted. The wheels provided with iron fittings (4) were 0.75 m in diameter, the number of spokes was 12. The distance between the front and rear wheels was 0.7 m. The front of the waggon was decorated with bone encrustment. The horses were lying along the wooden carriage-beam, the end of which was covered by leaf-shaped iron mounting. Beside the horses there were iron bits with bronze psalia and other tackle ornaments. On the western side of the corridor, at the edge of the pit, there were another 10 horses on the surface, while on the eastern side there were 4 human skeletons. The beads found round their necks yielded the conclusion that they had been women. By the northern wall of the pit, outside the burial vault, in a separate place there lay the most important person, in heavy armour, with a big sword next to his right foot.<sup>77</sup>

The two bronze ornaments<sup>78</sup> with a ram's head, its horns stylized, mentioned by V. A. Iljinskaja, do not belong to the group of rattles and pole-ends.

## II. The Don region

Two bronze pole-ends of unknown provenance, on the cylindrical sockets of which a reindeer's head with stylized shovels can be seen.<sup>79</sup>

## III. The Sula region

### 1. STARSHA MOGILA

Excavations were carried out here by T. V. Kibaltchitch in 1876, and by D. Ja. Samokvasov in 1888 and 1889. In the earth of the 21 m high kurgan fragments of earthen vessels, bones of cattle and lambs, 1 bronze spear-head and 2 bronze knives were found. The body, lying in the centre of the 8.5 × 5.7 m oak burial vault, was orientated south-north. By the skeleton an iron knife, an iron sword

<sup>77</sup> Rostovtsev 1931: 285–286; Artamonov 1966: 40.

<sup>78</sup> Iljinskaja 1963: Fig. 4 3.

<sup>79</sup> *Idem* 1967: 297.



and bronze sheath mountings were found. By the northern wall of the grave there lay a 76 cm long iron sword with a bronze sheath end, a wooden quiver, mounted with bone and covered with leather, with 146 bronze, 40 iron and 20 bone arrow-heads. A large earthen vessel stood in the north-eastern corner of the grave, next to it there was a pigskull, and by the eastern side the complete skeleton of a calf with an iron knife between its ribs. In the south-eastern corner of the grave 3 pairs of bronze bits, 13 pairs of iron bits (with 11 pairs of bone psalia, a pair of bronze psalia, and a pair of iron psalia), 30 cylindrical and cubical bronze tubes, a perforated bone disc, bronze frontlets, and 4 bronze plates in the form of lambs' heads.

At the southern side of the grave, by the entrance, two bronze rattles lay on an earth bank, next to the bits. They have cone-frustum-type rattle bodies on cylindrical sockets with an iron ball inside and a bull's head on top. (Fig. 5 1). Into the socket iron hafts were inserted fixed to a wooden handle. The trace left by the wooden handle is 140 cm long. The rattle body shows 4 openings, on the iron haft remains of coarse cloth were visible. Full height of the rattle about 17 cm. At the other end of the earth bank lay a bow and a bronze-mounted quiver with 93 bronze arrow-heads.

In the south-western corner of the grave 4 iron spears, 2 iron axes, an iron scale armour and 30 bronze sword-belt mountings were found. The kurgan had been plundered but most of the furniture remained *in situ*. Was it perhaps the ornate dress of the dead body that had been taken away?<sup>80</sup>

## 2. VOLKOVTSY

*Kurgan 1.* There are nearly 300 kurgans along the banks of the Sula river. The whole group of kurgans is surrounded by a mound and there are trenches and mounds also around each kurgan. The average height of the kurgans is 4–20 m, but there are also higher ones. In 1897 and 1898 S. A. Mazaraki opened two mounds. Kurgan 1 was 13 m high, its perimeter 150 m. It was also surrounded by a mound.

At a depth of 280 cm a timber-framed grave was found. In the earth of the kurgan there were horse-teeth. Above the top of the burial vault on ground level there was a 1 m thick layer of clay, with a coal layer over it, followed by a layer of unio. The hexagonal vault joined from oak beams was 5 m long and 3.5 m wide. The skeleton orientated north-south lay in the centre of the vault, its arms were stretched parallel to the body. Ornate clothes had hung on the iron hooks hammered into the northern wall of the vault. This is proved by the 200 gold plates representing female heads, by the gold buttons and other ornaments found at the feet of the skeleton. On some of the ornaments bits of cloth were found.

A Greek-type bronze helmet, a bronze épaulière and breast-plate, bronze belt mountings, and perforated bone plates lay in the north-eastern corner. In all

<sup>80</sup> Rostovtsev 1931: 458; Iljinskaja 1951: 196–211.



probability these objects, too, had been hanged on nails driven into the wall. In the same place a white plain pot and a black glazed terracotta vessel were found; by the eastern side-wall stood a rough clay vessel, a two-handled, peaky-bottomed red amphora, and a large, rough earthen pitcher. Level with the pelvis of the skeleton, also by the eastern wall, 6 bronze bits with psalia and horse trappings were found (3 bronze and silver bridle ornaments with pieces of leather and portraits in relief; a gold frontlet, 2 large, leaf-shaped gold ornaments, a fish-shaped gold frontlet 21 cm in length, and other bronze ornaments).

In the south-eastern corner of the tomb lay 9 iron spears, 3 iron halberds and 1 iron battle-axe, and farther away 4 bronze rattles and 8 bronze bells. Double cone-frustum-type body on small cylindrical socket, with the figure of a stag on top (Fig 6 1). An iron haft is fixed into the socket. By the lower rim of the rattle body, in a direction corresponding to the place of the animal, two loops can be seen to each of which a bronze bell was fixed. Height of bronze rattle 11 cm, diameter 7 cm, length of iron haft about 15 cm. Height of bells 4 cm, diameter 3.5 cm. Both the rattles and the bells are cast in one piece. By the rattles, somewhat farther away, stood a big bronze cauldron and a round cup of gilt bronze.

About the neck of the skeleton was a torque of solid gold, with hook-billed birds' heads at its end. By the right collar-bone a gold tube, probably haft mounting, by the right thigh-bone a four-blade iron dagger, by the side of the right forearm a leather quiver adorned with gold plates with animal figures on them and containing about 300 (or 250?) arrow-heads, and 40 cm below the left hand there was a socketed silver mace. On the right side, level with the pelvis, lay a hatchet-shaped pole-end.<sup>81</sup>

*Kurgan 7.* It was excavated by S. A. Mazaraki in 1886. More exact data are not known. The grave furniture included 2 rattles. The short socket and eagle's head (Fig. 7 7) were made of bronze, the haft inserted into the socket and the elongated globular rattle body were made of iron.<sup>82</sup>

*Kurgan 476.* By the southern wall of the tomb lay 6 rattles and fragments of bits. Four of them had short sockets and pear-shaped bodies with the head of a long-eared beast of prey (Fig. 7 2,4) on top. Iron nails were fixed into the sockets. 2 cone-frustum-type bodies with long sockets (with two holes in their rims), and the head of a bird of prey on top. Full height about 17 cm.<sup>83</sup>

*Kurgan 477.* The data of the grave excavated by N. E. Brandenburg are unknown, so we have to rely upon the statement of V. A. Iljinskaja,<sup>84</sup> who, referring

<sup>81</sup> Bobrinskij 1901: 65, 82-89, Figs 22, 24; Collection Khanenko Vol. II, 6-7, 23, Pl. XI, No. 224; Minns 1913: 182-187, Fig. 76; Rostovtsev 1931: 454-455.

<sup>82</sup> Bobrinskij 1901: 61, Pl. XVII 5; Iljinskaja 1963: 37, Fig. 3 14.

<sup>83</sup> Iljinskaja 1965: 95, Fig. 2. Foreign research workers are faced with nearly unsurmountable difficulties in identifying rattles from different sites on the basis of earlier and recent publications. From the rattles enlisted by Iljinskaja among the finds of kurgan 476 of Volkovtsy, the one terminating in the head of a bird of prey originates — according to other data — from the village of Budki. Tolstoj-Kondakov 1889: 15, Pl. I, No. 433.

<sup>84</sup> I have not been able to obtain the original publication; Iljinskaja 1963: 37.



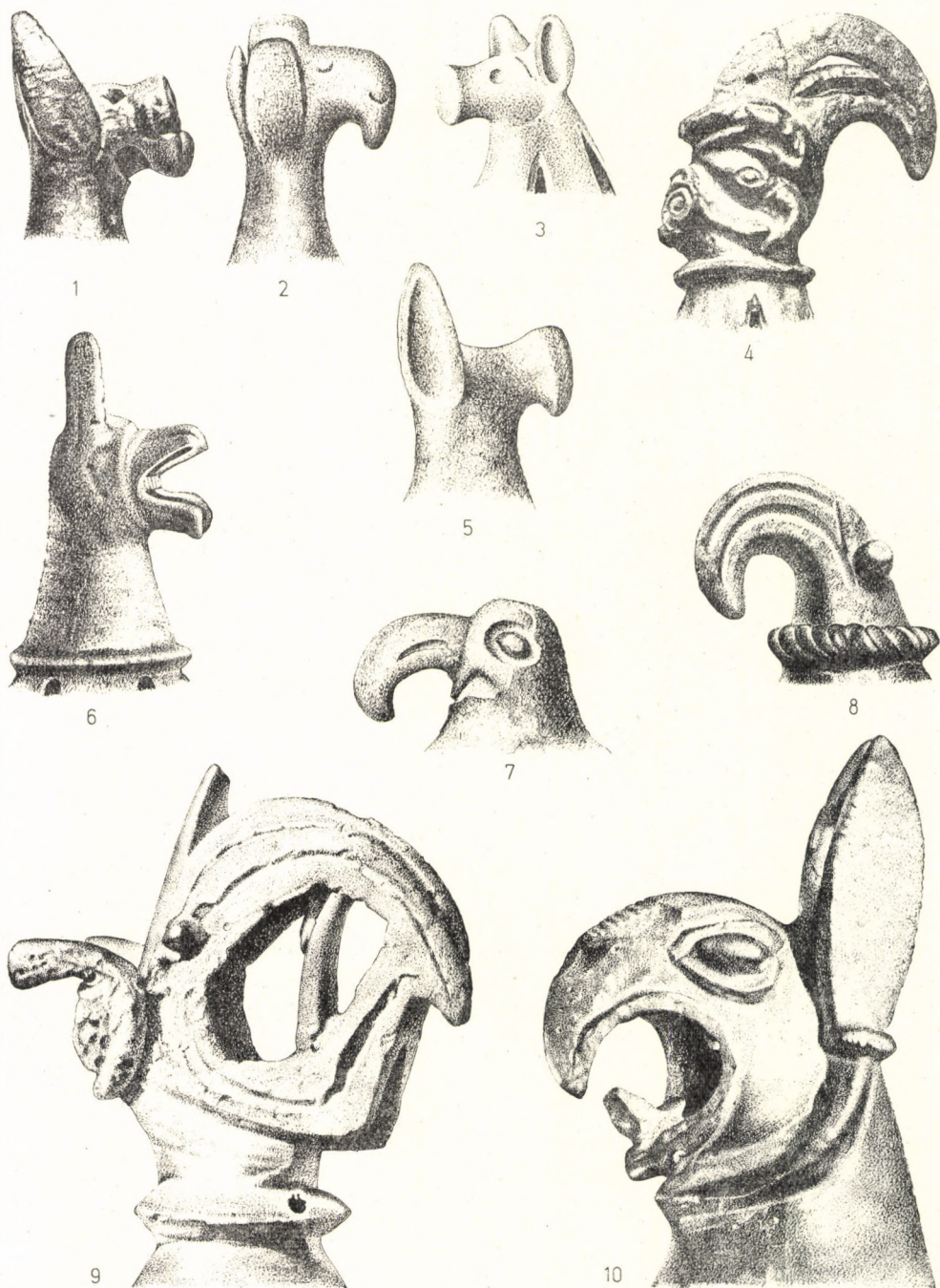


Fig. 7. Animal figures from (1) the Budki rattle, (2) the rattle from Volkovtsy, kurgan 476, (3) the Mezhirichka rattle, (4) the rattle from Volkovtsy, kurgan 476, (5) the Romny rattle, (6) the Romny rattle, (7) the rattle from Volkovtsy, kurgan 7, (8) the Romny rattle, (9) the rattle from Ulskij aul, kurgan 1/1898, (10) the rattle from Kelermes, kurgan 3



to Rostovtsev, ranks 4 iron rattles among the furniture of this grave. M. Rostovtsev's publication is of great value to us because it contains an original photograph of the position of the rattles and bells.<sup>85</sup> The 4 iron rattles with long hafts lie side by side,<sup>86</sup> with their tops pointing in the same direction. 6 bronze bells lie above the iron rattles. The position of the ears of the bells shows clearly that all the six used to be fixed to *one* object. In front of the rattles there were fragments of bits.

### 3. AXJUTINTSY

Four bronze rattles originate from the excavations carried out by V. V. Hvojko in 1897–98.<sup>87</sup> Details of the circumstances of discovery are unknown. Short, cylindrical socket with long iron haft. In the upper part of the double cone-frustum-type rattle body 4 swallow-tail-shaped openings can be seen. Inside the body is an iron ball. The execution of the stag (Fig. 6 7) standing on an oblong base is very remarkable. Round features dominate in the modelling of the mouth, the nostrils, the eyes, the long ears and the antlers. Both front and hinder thighs rise distinctly from the trunk. The sharply demarked thigh-line arches semicircularly at the inner curves. There are holes, at both ends of the socle, into which iron hooks (?) had been fitted. Figure 4 of Plate 4 in Iljinskaja's work shows also a bell which is not mentioned in the text — in a position indicating as if bells had hung on these hooks.

### 4. BUDKI

There were 4 burials in the 7.8 m high kurgan with a perimeter of about 70 m.

The roof of the burial vault, sized 5 × 3.5 m, orientated south-north, was completely charred but the skeleton lying in the same direction (Nos 1 and 2) and the furniture showed no traces of burning. The furniture of the skeleton lying by the eastern wall of the grave consisted of two gold ear-pendants, a string of 51 beads, iron armlets covered with gold plates, a big bronze bracelet at the feet, a bronze mirror with handle by the pelvis, and a two-handled earthen vessel at the left foot. The skeleton lying near the western wall had the following furniture: gold

<sup>85</sup> Rostovtsev 1914: 512, Fig. 95.

<sup>86</sup> Similar to the piece of Bobrinskij 1901: Pl. IX 4.

<sup>87</sup> Iljinskaja 1963: 37. It is not known whether the location of the site is authentic, as the data are very contradictory. V. A. Iljinskaja called attention to these problems. I. A. Linnichenko wrote about having excavated four kurgans near Volkovtsy and two at Velikije Budki, while he mentioned to Samokvasov not much later that all the finds originated from the excavations near Budki. According to an information from 1901 the finds in question came to light from the kurgans situated between the villages of Budki and Axjutintsy. In the catalogue of the Historical Museum of Kiev, on the other hand, Malyje Budki is mentioned as the findspot. This location was accepted by U. Tolstoj and Kondakov 1889: 15, Pl. I, No. 436. For critical remarks on I. A. Linnichenko see Rostovtsev 1931: 452. V. A. Iljinskaja, however, found Linnichenko's first publication as the most authentic one. Iljinskaja 1951: 208., note 4; *idem* 1954: 24, note 5; *idem* 1963: 37, Fig. 4 4.



ear-pendants, a gold necklace, gold plates on the chest, a bronze armlet, a small terracotta vessel by the left side of the chest, and by the pelvis an iron knife (?).<sup>88</sup>

On the right side of the burial vault, next to skeleton No. 1, lay a cone-shaped bronze object with 26 holes in its rim. A little farther away 26 bronze bells were found, together with a bronze iron bit with psalia, horse frontlets and other objects. The 26 bells had evidently been fixed to the bronze cone.<sup>89</sup> There are also two bronze rattles,<sup>90</sup> coming from the vicinity of Budki. The circumstances of their discovery are unknown. One is exactly like the specimen found in kurgan 476 of Volkovtsy (Fig. 7 1); the other is also similar but the animal head — owing to a defect in casting — is defective.

## 5. POPOVKA

*Kurgan 3.* Four iron rattles, about 27 cm in length, originate from the excavations performed by S. A. Mazaraki in 1886.<sup>91</sup> Protruding ear on the middle part of the quadrangular iron haft, above it a small iron ring moves freely along the haft. Diameter of the latter is not much larger than the thickness of the haft. Inside the globular rattle body with four openings, and tapering towards the end, there is an iron ball.

*Kurgan 5.* According to the catalogue of the Historical Museum in Kiev it was this kurgan that yielded the two bronze rattles which have thick, cylindrical sockets with two holes below, and whose egg-shaped rattle bodies perforated by 12 triangular openings end in ducks' heads (Fig. 4 1).<sup>92</sup>

## STRAY FINDS FROM THE VICINITY OF ROMNY

### Rattles

Fragment of iron haft in cylindrical socket. The cone-frustum-type bronze rattle body ends in the head of a hook-billed bird of prey (Fig. 7 8). The bird's head is separated from the body by an obliquely hatched, projecting ring.<sup>93</sup> In the angular socket is a long nail tapering to a point. In the remarkably regular cone-shaped rattle body there are 6 triangular openings; the head of an open-mouthed beast of prey can be seen at its end, one ear is broken off (Fig. 7 6).<sup>94</sup>

<sup>88</sup> According to Iljinskaja: kurgan 4 of Volkovtsy.

<sup>89</sup> Collection Khanenko, Vol. II, 78, 23, Fig. 226 referred to is missing from the book! Bobrinskij 1901: 65., Iljinskaja 1954: 25–30, 33, Fig. 12; *idem* 1963: 37; Rostovtsev 1931: 452–453.

<sup>90</sup> Tolstoj–Kondakov 1889: 15, Pl. I No. 435. The authors defined it as fishtail-shaped. Iljinskaja 1963: 37, Fig. 3 10–11.

<sup>91</sup> Bobrinskij 1901: 64, Pl. IX 4.

<sup>92</sup> Bobrinskij 1901: 64, Pl. IX 5; Iljinskaja 1963: Fig. 3, 9. It is rather confusing that in Fig. 7 1 the rattle is described as coming from kurgan 3 of Popovka. In the earlier literature, on the other hand, Romny was mentioned as the findspot.

<sup>93</sup> Bobrinskij 1901: 64, Pl. IX 1.

<sup>94</sup> Bobrinskij 1901: Pl. IX 2.

Two large bronze rattles cast in bronze. Between the long, cylindrical socket and the egg-shaped rattle body broken up by openings there is a diamond-shaped hole. On the top of the rattle is a roe-deer (?) with a stout body, executed in a naturalistic manner (Fig. 6 3).<sup>95</sup>

### Bells

15 bronze bells: one is small and semicircular, 8 are of a more elongated form, and 6 are cone-shaped. They are cast in one piece, with iron tongues.<sup>96</sup>

## IV. The environs of Kiev

### 1. CHERNIGOV

On the left bank of the river Desna by the Tartar Mountain, a bronze rattle was found in 1910. The circumstances of its discovery are unknown. Rattle body perforated with openings on cylindrical socket, with disc on top. Full height 14 cm. Length of socket 6.5 cm, lower diameter 3 cm, upper diameter 2.5 cm. At the bottom of the socket there is a round hole, 0.3–0.4 cm in diameter. 5 openings in the upper and 5 in the lower part of the rattle body. Length of upper openings 5 cm, lower width 1.5 cm. Lower diameter of rattle body 5.2 cm. Inside the body is a bronze ball, 1.5 cm in diameter. Upper disc decorated with concentric circles is 6 cm in diameter.<sup>97</sup>

### 2. MATUSOVA

In a kurgan opened by peasants there were 4 bronze rattles with animals' heads on them.<sup>98</sup> No further details are known.

### 3. PASTIRSKOJE (Galdushchino)

*Kurgan 2.* The burial vault found in the 3 m high kurgan, 42 m in perimeter, was robbed. Apart from dispersed human and animal bones the following objects were brought to light from the bottom of the grave: an amphora with pointed bottom and a Greek stamp, 15 bronze bells, by the western wall horse trappings (gold and silver plates with human heads, stags, birds, and fish), 7 beads, 2 bronze arrow-heads, bronze quiver mountings, 5 globular stones, and some iron objects.<sup>99</sup> One of the bells was small and hemispherical, 8 were larger and long-shaped, and 6 cone-shaped.

<sup>95</sup> Bobrinskij 1901: Pl. IX 3.

<sup>96</sup> Collection Khanenko, Vol. II, 23, Pl. XII, No. 225.

<sup>97</sup> Iljinskaja 1962: 82–83, Fig. 2.

<sup>98</sup> *Idem* 1963: 40.

<sup>99</sup> Collection Khanenko, Vol. II, 8–9, Pl. XII.



#### 4. VASILOVKA

Near the village lying in the district of Zvenigorod 2 bronze rattles were found, with animals' heads on them. Circumstances of discovery are unknown.<sup>100</sup>

#### 5. ZHUROVKA

*Kurgan 407.* The kurgan was excavated by A. A. Bobrinskij. It contained a female and a male interment. Furniture: bone psalia with bird-shaped ends, bronze ear-pendants beside the female skeleton, a nail-shaped bronze mace, a bronze mirror in a wooden case, and a gold plate decorated with the figure of a "flying stag". Between the two skeletons were 2 iron rattles with long handles, laid on top of one another, with large rattle bodies and birds' heads on top.<sup>101</sup>

### *V. The region of the lower course of the Dnieper*

#### 1. ALEXANDROPOL

At a distance of 65–70 km from the Dnieper, near the village of Alexandropol, stands the large kurgan, called "Lugovaja Mogila". It is 21 m high and 320 m in perimeter. The foot of the kurgan was surrounded by a double bank built of big stones, and by a wide trench. The bank is broken in one place on the eastern side and in one place on the western side. The top of the mound was flattened out and at one time obviously a "*kamennaja baba*" had stood on it. In 1851, when the kurgan was quarried, finds were discovered by the peasants between 4 big stones set edgewise: 2 unusually rudely shaped iron objects covered with gold and silver plates showing an eastern winged goddess (the Persian Artemis?) with an animal on each side. Height 10 cm, width 12 cm. Further finds: a gold-plated iron ring, 2 clasp pins made of gold and silver, at one end the figure of a stag with legs bent underneath, 2 pole-ends with representations of a winged goddess and having rectangular, pyramid-shaped sockets, with loops on each side at their lower ends. The female figure keeps both hands on the waist. The representation is done in open-work, it is rather roughly executed, its back is smooth. On its lower rim there are two small holes. Height 15.7 cm, width 8.6 cm; one trifurcate, socketed bronze pole-end with a bird's figure, holding a small bell in its beak, on each point. Its big, cone-shaped socket is disproportionately short; full height 28.9 cm, greatest width 28.5 cm. Iron handle, bent iron nail covered with silver; a few bronze bells; round and crescent-shaped bronze bells with loops; gold and silver plate fragments.

In 1852 various objects were again found in the earth of the kurgan, of which we mention only the horse-bones and the bronze bells. From under the stone-wall of the kurgan some bronze plates with representations of bulls and dogs were

<sup>100</sup> Iljinskaja 1963: 40.

<sup>101</sup> Rostovtsev 1931: 422–423; Iljinskaja 1963: Fig. 2 8.



brought to light. In 1853, when Tereshchenko carried out his excavations, some arrow-heads and an iron spearhead were found amidst bones of horses, bulls, and sheep. In the western part of the kurgan, over a length of about 2 m, lay rusty fragments of iron bands, fragments of tires, and iron pontils. In the same place also 6 socketed bronze pole-ends were found. Two are decorated with animal figures (birds), with two ears on their cylindrical sockets, on the other 4 the pyramid-shaped socket with two loops is attached to the perforated upper part decorated with the winged figure of a stepping griffin, enclosed by a quadrangular frame. Into the holes of the lower rim small bells had been fixed. Height 15.5 cm, width 10.1 cm. Among the other furniture found there, mention must be made of the tree of life made from a silver plate, on each branch of which (altogether 8) little plate pendants were fixed. The other objects (a large number of bronze and copper plates, little tubes, rosettes, and rattles) had been sewn on clothes.

Many objects were found also in the northern ground-level of the kurgan (iron ring, silver ring, silver spoon with handle ending in a goose's head, two crescent-shaped gold objects, decorated with a horse's head, figure of a wild-boar cut out from a gold plate, etc.), each of which had once been fixed by nails to some wooden object, or perhaps vessel? In 1855 A. E. Lutsenko excavated the kurgan. It was then that a horse grave was uncovered in which the horse was in a kneeling position, head stretched forward. This posture was usual with the Scythians. In the grave covered with beams, ornate tackle was found (4 gold plates with animal figures decorating the bridles, an iron bit with gold rosettes, bronze plates, 6 rattles fitted with chains, and other ornaments).

The front and hinder pommel curve of the saddle on the horse's back was decorated with gold plates. By the right side of the saddle lay a wooden quiver with 45 bronze arrow-heads in it. The skeleton lay at a depth of 6.4 m, in an east-western direction. The objects found in the earth of the pit (fragments of clay, iron, and copper vessels) did not lie *in situ*. In the passage leading to the catacomb were vessel fragments, bronze and bone arrow-heads, gilt iron scale armour pieces, and, next to a small bone table, about 700 gold objects (little tubes, shank buttons, nails, rosettes). In the same place the skulls of 14 horses and a stag were found *in situ*, with silver plates put to their mouths. On a small bench lay pontils, sticks, hooks, loops, and the nails of a big case.

Furniture of the grave uncovered by the threshold of the catacomb: two silver ear-pendants, a bronze necklace, an iron armlet, a bronze dish, a silver vase, and silver tubes with lions' heads. Among the stray finds discovered in the passage particularly the figural tackle ornaments are of interest. Objects of the same kind were found also in the catacomb itself. A little farther away a horse grave with beautiful tackle was found. The most important pieces of the trappings are the round gold plates on which seven bulls' heads surround a human head. Further away lay the skeletons of two more horses, also with rich bridle ornaments. Round the neck of one of the horses 5 bronze bells hung on a bronze chain, between crescent-shaped pendants and discs. The gold plates (89), the shank buttons with ears (33), the gold beads (70) and blue glass beads (89), which are



regarded as the ornaments of the waggon tent, came to light from the trapeziform 3rd pit, together with the fittings of 6 wheels.

A skeleton lay in the catacomb orientated northwest-south, by its left side two amphora rims with a mark from the time of the Bosphoran Princes. Apart from the many bronze and silver plates brought to light, the silver spool found at the head is also significant.

M. Rostovtsev tried to arrange the relics of the kurgan in a certain order. He assumed that bodies had been buried in the mound at three different times, so that also the mound must have been raised in three phases. This assumption is worthy of note, although it cannot be proved since, in the absence of stratigraphical data, the finds cannot be separated from one another.<sup>102</sup>

## 2. CHERTOMLIK

The vast kurgan was 19 m high and 350 m in diameter, its sides were surrounded with stones. Excavations were started in 1862, first at the flattened top of the kurgan where the "*kamennaja baba*" used to stand. The shaft leading into the kurgan, 8.5 m in diameter, was situated at the northern side of the mound. Finds (tackle ornaments) were discovered already at a depth of about 1 m; at a depth of 6.5 m there were various objects piled up in a heap: fully bent rusted silver objects, gold plates which had been fixed with gold nails to some kind of leather, a perforated bronze brazier, 2 bronze pole-ends with rattle body split up by swallow-tail-shaped openings and decorated with a bird's figure, and a loop below; 4 longish, 16.6 cm high and 7.2 cm wide oval rattles with 8 openings. On their tops an extremely stylized figure of a stag (Fig. 6 6) made in open-work, with a loop below, can be seen; 2 perforated bronze plates which have no sockets but the part serving for their fixing is also flat and they were attached to something with nails put through the three holes in them. A curious figure (unicorn or bull?), height 17.1 cm, width 9.3 cm, stands on the top of the stylized decoration; horse frontlets with animal figures, round plates with animals' heads, buttons, bells, rattles, small gold tubes, bronze ribbons, crescent-shaped pendants, bronze necklets, and about 250 iron bits belonging to horse-furniture. Below the pile of finds lay pieces of a rude, black vessel and a Greek amphora.

In 1863, after the mound of the kurgan had been pulled down to ground level, it became possible to excavate the 11 m deep central grave and the three adjoining rectangular horse graves (Nos VIII-IX-X.). The ground plan of the central grave was 6.4×4.4 m. In the middle of the pit, beside decomposed wood and reed remnants, traces of paint were found, and rusted iron hooks and iron nails lay along the walls. Were they, perhaps, remains of the bier?

In the first horse grave 3 horse skeletons were found, with rich tackle, the saddle of one was still in place. There were 4 horses in the other grave. Round the neck of one of them there were 3 big ornaments made from oval bronze plates, 10

<sup>102</sup> Tolstoj-Kondakov 1889: 90-91, Figs 75-76; Minns 1913: 154, Figs 40, 41; Rostovtsev 1931: 379-381; Iljinskaja 1963: 40, Fig. 5 1, 3; Artamonov 1966: 54-58, 112, Pls 189-191.



crescent-shaped plates and 8 bronze bells. The third horse grave had also 4 skeletons. On three of them bridles with gold ornaments and saddles were found, on the fourth there were silver ornaments but no saddle. All 11 horses were lying with their heads toward the central grave.

East of the horse graves were two graves (VI-VII). In grave VI gold ear-pendants, a gilt silver necklace, a gold ring and a leather quiver were found. In the other grave there was a gold necklace, a quiver containing 60 bronze arrow-heads, and reed cane (?).

Farther to the west another three skeletons were found with simple furniture (clay jugs).

By the northernmost horse grave a big underground cave was discovered, extending to the central grave. The finds discovered here (bronze pail, many figural gold plates and buttons, swords with gold hilts, quiver mountings, little tubes, sheath ends, a gold ring with the figure of a bull, iron swords, a whetstone, bronze arrow-heads, etc.) lay in complete disorder, due to the ravages of the robbers. By the northern side stood a huge bronze cauldron, its handles formed by figures of 6 mountain goats; in the cauldron there were a horse's skull and other horse-bones. Next to it another big bronze cauldron was found in which, apart from foals' bones, there was an iron ladle. The bottom of both cauldrons was smoked. In the central part of the cave other objects were found (potsherds, gold ornaments, a leather quiver containing arrow-heads, a piece of a silver chain, a sword with gold hilt, a whetstone with gold handle, knives with bone handles, arrow-heads, and a bronze lamp). This underground chamber extended to the east into the pit IV where, on a thick clay pedestal, the famous silver vase was found; next to it there was a huge silver dish with a silver ladle ending in a dog's head inside. By the southern wall of the pit stood the "bed" 2 m long, about 140 cm wide and 70 cm high, covered with grey, blue, green, and yellow wooden panelling.

On it lay, west to east, the skeleton of a woman, with gold ribbons on the forehead, gold ear-pendants, and gold plates (among them the plate with the figure of a Scyth standing in front of a sitting woman who holds a mirror in her hand). The gold plates were on long ribbons hanging from the high cap; a gold wristlet, rings, a bronze mirror with bone handle. The skull and part of the trunk were covered with a purple blanket. Another skeleton lay farther away, by it a bronze and an iron wristlet, a knife with bone handle, bronze arrow-heads, and a clay amphora. At some distance stood another 13 amphorae.

The central grave was completely destroyed by the robbers only the remains of the bed indicated the grave. In the chamber, dug in a north-eastern direction, smaller finds (amphorae, mirror) and a skeleton were uncovered. With the latter there were a bronze necklace, gold ear-pendants, a gold ring, an iron knife, a leather quiver containing 67 bronze arrow-heads, gold plates, the bone plates of a whip-handle or a bow, etc. On the floor lay gold plates (473 in number), buttons, beads, ribbons, etc. which had been sewn on clothes originally. In chamber I, situated in the south-eastern section, apart from a skeleton with poor furniture (a quiver, arrow-heads, and iron knives), a bronze cauldron, amphorae, remnants of a carpet, many gold ornaments, 350 arrow-heads, and a dog's skeleton were found. In the



south-western chamber III there were 2 skeletons. By one skeleton lay a necklace, gold plates, wristlets, rings, a sword with gold hilt, gold sheath mountings, plates adorning a whip-handle, a knife with bone handle, a leather quiver containing a large number of bronze arrow-heads, bronze belt mountings, a bronze cup and a silver jug. The furniture of the other skeleton consisted of a gold necklace, a silver wristlet, a ring, bronze belt mountings, an iron sword, a knife, and a quiver containing arrow-heads.<sup>103</sup>

### 3. CHMIRJOVO

A bronze ornament was found near the base of the kurgan. Attached to its flat "ear" is a horizontal base with the markedly stylized open-work figure of a deer standing upon it. An important, characteristic feature is the appearance of the flat ear with two holes in it.<sup>104</sup>

### 4. KRASNOKUTSK

The "Tolstaja Mogila" near Krasnokutsk was excavated in 1860 by I. E. Zabelin. Near the ground level, in two heaps, he found the fittings of a funeral waggon (tires, pieces of straps, 8 wheel-hub fittings, and a bronze ornament with an animal figure). In the southern mound lay 4 socketed bronze pole-ends portraying dragons, with two loops on their sockets (height 13.3 cm, width 8.6 cm). In the northern mound there were 4 bronze rattles ornamented with winged lions and triangular openings, with two loops on their sockets (height 17.2 cm, width 8.2 cm), and 2 socketed bronze rattles (height 8.8 cm, width 5 cm) with cone-frustum-type bodies, on top birds with wings spread (Fig. 4 3). There were remains of straps in some of the loops. A number of bronze plates which could be fastened up by sewing and harness ornaments (8 round plates hanging on chains, 8 pendants with chains, and 16 bronze bells hung on iron chains) came to light from the same place. On the surface lay 54 arrow-heads in a heap. In the centre of the kurgan there were 3 graves, orientated east-west. One of them, in which four horses lay on their sides, was covered with planks and straw. The horses had iron bits decorated with silver plates. The other two graves had been robbed. In the riflers' shaft of one of the graves gold plates and a piece of an iron sword were found, in the other there were amphora fragments, fittings of a small box, bronze arrow-heads, an enamelled ring, human bones and bones of horses.<sup>105</sup>

### 5. JEKATERINOSLAV, LISA GORA

Socketed bronze ornaments bearing human figures came into the Hvojko collection. The associated finds include a large number of bells.<sup>106</sup>

<sup>103</sup> Hampel 1893: 406, Figs 25, 26; Tolstoj-Kondakov 1889: 92-94, Fig. 78; Iljinskaja 1963: 40, Fig. 5 2, 4, 5; Artamonov 1966: 46-53, Figs 89, 90.

<sup>104</sup> Rostovtsev 1931: 385, note 1.; Iljinskaja 1963: 42, Fig. 5 11.

<sup>105</sup> Semjonov-Zuser 1939; Artamonov 1966: Figs 123, 125.

<sup>106</sup> Bobrinskij 1901: 66; Iljinskaja 1963: 42, Fig. 6.



## 6. SLONOVSKAJA BLIZNITSA

In the north-western part of the kurgan, in the lower layer of the mound, 6 iron bits with psalia and 4 socketed bronze pole-ends lay in a heap, near the stone base. The socket with two loops below is divided from the figures of the markedly stylized scene of fighting animals made in open-work technique. It shows a winged griffin tearing up a young stag.<sup>107</sup>

## 7. VELIKAJA LEPETIKHA

At a depth of 3 m from the top of the mound 4 bronze rattles were found. Short, cylindrical sockets, cone-frustum-type rattle bodies, with the figure of a water-bird (duck?) in relief. Details of the circumstances of discovery are unknown.<sup>108</sup>

## VI. Region of the Dniester and Bug

### 1. MEZHIRICHKA (near Balta)

In the course of the excavations carried out by J. Th. Abaz 2 bronze rattles were brought to light from a robbed grave. All that is known is that bronze arrow-heads, strap pieces, and fragments of a clay vessel were in the grave in addition to the rattles. One of the rattles has a massive, cylindrical socket with a hole in its upper part; the cone-frustum-type rattle body ends in the head of a beast of prey (Fig. 7 3); definitely not horse! In the other short socket there is an iron haft. The cone-shaped rattle body has six perforated openings, its end is broken off.<sup>109</sup>

### 2. RASKOJITSY (Moldavia)

A bronze pole-end with a funnel-like socket expanding downwards was found here. Its laminar upper part suggests a stylized bird's head. Loops can be seen at the end of its extension, extruding on both sides, and above it on one side.<sup>110</sup>

## EARLIER VIEWS ON THE PURPOSE OF RATTLES AND POLE-ENDS

Quite up to recent times, research dealing with Scythian relics has been rather puzzled by the above-described group of rattles and pole-ends. This is, in my view, due to the fact that these objects were either separated from their original environments, while attempts to acquire decisive arguments started from inanimate typological examinations, or, on the other hand, disregarding their technical

<sup>107</sup> Iljinskaja 1963: 42., Fig. 5, 15.

<sup>108</sup> *Otchot* 1913–1915: 136, 222, Fig. 275; Rostovtsev 1931: 376; Iljinskaja 1963: Fig. 7 3.

<sup>109</sup> Bobrinskij 1901: 66–67, Fig. 16; Iljinskaja 1963: 40., Fig. 2 6–7. *idem* 1965: 95, Fig. 6 3.

<sup>110</sup> Nudelman–Rykman 1950.



characteristics, erroneous starting-points were adopted on the basis of illusory connections.

1. Among Hungarian researchers József Hampel<sup>111</sup> and Kálmán Darnay<sup>112</sup> were of the view that these objects had to do with hunting and shepherding. They thought that animals had been driven by the sound of rattles.

2. A. S. Lappo-Danilevskij was the first to suggest that the rattles were to be considered as flag ornaments.<sup>113</sup> His idea was appreciated and even approved by several scholars. This possibility was not rejected by G. A. Bobrinskij either,<sup>114</sup> though in making his careful statements he took notice of two of the decisive factors. He noticed imprints of cloth on certain pieces, and also emphasized the sound-producing effect of the rattles. Similar views were professed by Zoltán Felvinczi Takács in Hungary.<sup>115</sup> Although not entirely unfounded, this idea is irreconcilable with the historical facts. Much more acceptable are the arguments of A. M. Tallgren<sup>116</sup> and G. Nioradze,<sup>117</sup> who stressed the ritualistic role of these objects. G. Nioradze mentions that the Khevsurs decked out their holy flags with bells, spear-heads and other objects even as late as at the beginning of the 20th century.

3. The majority of Russian researchers<sup>118</sup> have kept regarding these objects as symbols of power and war insignia, in spite of the fact that this assumption was rejected by J. Smirnov as early as in 1894.<sup>119</sup> According to E. Minns' view, too, this possibility cannot be excluded entirely.<sup>120</sup> M. Rostovtsev tried to support his profound theoretical counter-arguments by experimental data as well. At the Kiev Historical Museum he tried to reconstruct the war insignia or flag decoration theory, but the experiments failed altogether.<sup>121</sup> Such a usage is also considered likely by V. Pârvan.<sup>122</sup> N. L. Chlenova believes that they were either waggon ornaments or war insignia. She argues that in olden times totem animals were used on war insignia.<sup>123</sup> According to V. A. Iljinskaja, too, this usage cannot be dismissed in the case of rattles. She refers to Arianus who described that the Scyths had pole-shaped insignia on which they put ornaments sewn from textiles of various colours, and these got filled with air in riding and produced a booming sound. They used these insignia to frighten the enemy and to distinguish the individual units in battle.<sup>124</sup> Recently, in connection with a bronze rattle from the

<sup>111</sup> Hampel 1893: 404.

<sup>112</sup> Darnay 1901: 371.

<sup>113</sup> Lappo-Danilevskij 1887: 95-96

<sup>114</sup> Bobrinskij 1901: 6-7.

<sup>115</sup> Felvinczi 1915: 68.

<sup>116</sup> Tallgren 1930: 157.

<sup>117</sup> Nioradze 1932: 94, Fig. 16.

<sup>118</sup> Pl. Bobrinskij 1901: 67.

<sup>119</sup> Smirnov 1894: 386; Bobrinskij 1901: 64.

<sup>120</sup> Minns 1913: 77.

<sup>121</sup> Rostovtsev 1914: 511; *idem* 1931: 460.

<sup>122</sup> Pârvan 1926: 727.

<sup>123</sup> Chlenova 1962: 193.

<sup>124</sup> Iljinskaja 1963: 52.



Tagar Age, V. L. Jegorov explained that the rattles discussed had most likely been war insignia which, at the same time, might have also been the insignia of the ruling class.<sup>125</sup>

4. In one of his earlier works two possibilities were raised by I. E. Zabelin:<sup>126</sup> the rattles had been either waggon ornaments or tent ornaments. Zoltán Felvinczi Takács even published a relief representing an Assyrian camp scene from the time of Assurnasirpal II (884–860), on which ornaments with wild goat (or deer?) figures can be seen at the entrance of the gala tent and on its top. On the evidence of this, he believes that rattles, too, were used by the Scyths likewise.<sup>127</sup> M. Rostovtsev placed the silver ornaments of the Melgunov kurgan on the poles of the gala tent.<sup>128</sup> Also Ervin Supka accepted this as a sound explanation.<sup>129</sup> Sándor Domanovszky wrote that the Gernyeszeg rattles had decorated the top of the tent-pole.<sup>130</sup>

5. The most widely held view is that the rattles and pole-ends discussed adorned Scythian waggons. It was in describing the carriage fittings of Alexandropol and Krasnokutsk that I. E. Zabelin first raised the idea that the rattles and ornaments found there had been fixed on the ends of the supporting pillars of the tent (kibitka) built on the waggon.<sup>131</sup> U. Tolstoj and N. Kondakov did not take sides.<sup>132</sup> According to C. A. Bobrinskij, too, the rattles and pole-ends had been ornaments of the tent on funeral hearses.<sup>133</sup> The view of the Russian research workers was in fact adopted also by E. Minns some years later, as also V. Radlov spoke of waggon ornaments when describing the Scythian rattles.<sup>134</sup> P. Reinecke ventured only to the rather vague statement that the rattles had evidently adorned the ends of some poles supporting the tent.<sup>135</sup> The enthusiastic Hungarian amateur archeologist Kálmán Darnay tried to consider the question in the light of reason — he believed that these pole-ends could only have been fixed on the four car-stakes of the waggon.<sup>136</sup> This view was accepted by several Hungarian research workers, among them János Stiller<sup>137</sup> and Lajos Márton,<sup>138</sup> who were the first in the international literature on the subject to recognize the significance of the bronze bells found together with the rattles.<sup>139</sup> The prominent Hungarian archeologist Géza Nagy, relying upon data found in written historical sources, arrived at the same conclusion as his contemporaries. He firmly believed that the Scythian rattles had been

<sup>125</sup> Jegorov 1967: 252.

<sup>126</sup> Zabelin 1890: 46–47.

<sup>127</sup> Felvinczi 1915: 68–69, Fig. 4.

<sup>128</sup> Rostovtsev 1931: 417.

<sup>129</sup> Supka 1935: 42.

<sup>130</sup> Domanovszky 1938: 5.

<sup>131</sup> Zabelin 1890: 47.

<sup>132</sup> Tolstoj–Kondakov 1889: 90–100.

<sup>133</sup> Bobrinskij 1901: 64.

<sup>134</sup> Radlov 1894: 124; Minns 1913: 77–78.

<sup>135</sup> Reinecke 1897: 4.

<sup>136</sup> Darnay 1901: 371.

<sup>137</sup> Pásztor–Stiller 1908: 29.

<sup>138</sup> Márton 1908: 50.

<sup>139</sup> Márton 1908: 42.



ornaments of the waggon tent.<sup>140</sup> M. I. Rostovtsev, in one of his earlier works,<sup>141</sup> assumed that the rattles and pole-ends might have been ornaments of Iranian-type war chariots, but later he accepted the funeral hearse theory, and the definition below, given by him in his work in German, has been accepted later by research workers virtually without reservation: “*Es ist sehr möglich, dass die Wagen wie Katafalke aussahen, und dass an den Ecken jedes Wagens Stangen mit bronzenen oder eisernen Aufsätzen aufgestellt waren, an denen Glocken hingen, und über welchen die Leichendecke ausgespannt war.*”<sup>142</sup>

V. V. Shlejev believed that the rattles had adorned the end of the poles of chariots and had functioned as strap dividers. According to his view they exerted an apotropeic effect on the horses.<sup>143</sup> Not even Mihály Párducz, who relied mainly on the results obtained by V. A. Iljinskaja, was able to evade the force of the hypothesis that had spread on the basis of literary data.<sup>144</sup> Iljinskaja assumed that the rattles had been put on the corners of the waggon or at both sides of the entrance of the kubitka built on the waggon.<sup>145</sup> M. I. Artamonov, though apparently with reservations, accepts this assumption, and writes: “the rattles seem to have been waggon ornaments”.<sup>146</sup>

6. In the question of the purpose and interpretation of the pole-ends, the observations of A. M. Tallgren who first pointed out the magical and religious implications of this group of finds, made a considerable step forward.<sup>147</sup> However, few researchers paid proper attention to the directions given by this eminent scholar. V. A. Iljinskaja took the right path in emphasizing, in her enumeration of the Assyrian, Hittite and other antecedents in Asia Minor, the cultic significance of the Scythian rattles and pole-ends,<sup>148</sup> but, on the whole, she did not solve the problems to be investigated.

<sup>140</sup> Nagy 1909: 155; *idem* 1913: 316–318.

<sup>141</sup> Rostovtsev 1914: 47–55, 511.

<sup>142</sup> Farmakovskij 1914: 33; Felvinczi 1915: 68; Párvan 1926: 768; Rostovtsev 1931: 295; Fettich 1934: 40; Domanovszky 1938: 4.

<sup>143</sup> Shlejev 1950: 53, 60–61.

<sup>144</sup> Párducz 1953: 28; *idem* 1955: 158; Mihály Párducz: *Hungary's Scythian Age*, Doctoral dissertation. Manuscript. 1965; Bökönyi 1956: 4.

<sup>145</sup> Iljinskaja 1963: 51.

<sup>146</sup> Artamonov 1966: 191.

<sup>147</sup> Tallgren 1930: 153–182.

<sup>148</sup> Iljinskaja 1963: 53–59.

## CHAPTER TWO

### SURVEY DATA OF THE RATTLES FOUND IN THE CARPATHIAN BASIN

1. The linear dimensions of the rattles found in Hungary clearly show that no two rattles are exactly alike. Within each group (site), however, roughly the same size prevails (Table 1).

Apparently, there is no connection between the size of a rattle and its method of fixing. The Nagytarcsa rattles, the specimens of Aszód, Szurdokpuspöki, Gyulafehérvár, and Somhíd, as well as two of the Gyöngyös rattles have sockets. Table 2 shows the proportion between the socket and full height.

TABLE 1

Site	Full height cm
Aszód	cca. 26
Gyöngyös	8.2 8.8 12.6 11.4 15.0 15.0
Nagytarcsa	23.1 22.2 17 (broken)
Szurdokpuspöki	23.3
Gernyeszeg	21
Gyulafehérvár	18.1
Somhíd	17.5
Mihályfa	14.2 cca. 14 „ 13.5 „ 13-14
Transylvania? (Bucharest Museum)	23.5



TABLE 2

Site	Full height cm	Length of socket cm	Proportion
Aszód	26	12.6	1 : 2
Gyöngyös	15	3.8-4.3	1 : 4
	15	4	1 : 4
Nagytarcsa	23.1	7.2-7.4	1 : 3
	22.2	6.6	1 : 3
	17	6.7-7.4	1 : 3
Szurdokpüspöki	23.3	10.7	1 : 2
Somhíd	17.5	7.5	1 : 2

TABLE 3

Site	Weight gr
Aszód	750*
Gyöngyös	930 ?
Nagytarcsa	520
	760
	400*
Szurdokpüspöki	650
Somhíd	285

Between the length of the socket, i. e. its inner depth, and the height of the rattle there is, of course, a close connection. The depth of the socket was much rather adjusted to the size than to the weight (Table 3).

As can be seen, rattle 5 of Gyöngyös, weighing 930 grams, has only a 4 cm socket, while the socket of rattle 1 from Nagytarcsa is 7.4 in length. We arrive at a similar conclusion if we examine the group of rattles fitted with an iron thorn (Table 4). The length of the iron thorn is, as a rule, 5-10 cm. A definite exception are the Gernyeszeg and Bucharest specimens in whose cases the shortness of the iron thorn (3-4 cm) is in no way in harmony with their size and weight. Since V. Pârvan's information<sup>149</sup> is authentic, the explanation must be sought somewhere else.

It must be obvious to anyone that the rattles once had a wooden handle, or, more precisely, they had been fixed to a pole. Let us first examine what the diameter

<sup>149</sup> Pârvan 1926: 21, Fig. 10, Pl. III 1.

TABLE 4

Site	Full height cm	Length of casing cm	Length of iron thorn cm	Weight gr
Gyöngyös	8.2	1.4	2.5 (broken)	680
	8.8	1.4	5.05	600
	12.6	1.6	5.2	710
	11.4	0.6 (broken)	broken off	690
Gernyeszeg	21	2.3	cca. 4 lost	830
Gyulafehérvár	18.1	9.5	?	210
Mihályfa	14.2	3.3	6.6	273
	cca. 14	cca. 2.7	cca. 6	?
	„ 13.5	„ 2.3	„ 6	?
	„ 13	„ 2.1	„ 6.7	?
Transylvania ? (Bucharest Museum)	23.5	3	3	?

TABLE 5

Site	Socket, upper and lower diameter cm		Diameter of wooden pole cm (rounded data)
Aszód	3.0	cca. 5	cca. 4.0
Gyöngyös	2.4	2.6	2.0
	?	?	?
Nagytarcsa	2.6	4.0 × 3.8	3.5
	2.4	3.5	3.0
	2.0	3.5 × 3.6	3.0
Szurdokpüspöki	2.7	3.9	3.5
Somhíd	1.7	2.9	2.6

of these poles was. In the case of the specimens with sockets this is easy to establish, since it is enough to know their inside diameter (Table 5).

In the case of the rattles fixed to a pole with an iron thorn it is more difficult to give accurate measurements, but we may arrive at approximately correct results if we take the lower diameter of the cast casing as the norm, all the more so since even from the point of view of aesthetics this seems to be the only conceivable way of reconstruction (Table 6).

The above data show that the diameter of the pole of the rattles varied between 2–4 cm, so there was room for even the thickest one in an average-sized human



TABLE 6

Site	Casing diameter cm	Shape of iron thorn	Iron thorn			Wooden pole, calculated diameter cm
			length	width	diameter	
Gyöngyös	1.3	cylindrical	2.5	—	0.5	2
	1.4	square	5.2	0.5	—	2
	1.25	square	5.05	0.5	—	2
	1.5	?	?	?	—	2
Gernyeszeg	square 1.9×2.1 2.2×2.6	square	2+3?	1.6×1.3	—	3-4
Gyulafehérvár	1.3	square bronze tube	9.5	1 × 1.3		3?
Mihályfa	2.3	square	6.6	0.7		2
	1.7 + 0.4					
	?	square	8-10			2*
	?	square	8-10			2*
Transylvania ? (Bucharest Museum)		square				
	1.2*			3.5*		3*

TABLE 7

Site	Number of holes	Distance of holes from the rim cm	Diameter of holes cm	Place of looped ears	Traces of wear
Aszód	none	—	—	—	strong (fire?)
Gyöngyös	1	0.9	0.5×0.8	— small ear rearwards below	used used
	1	?	?		
Nagytarcsa	2	1.0-1.2	0.6 0.6×1.4 (damaged)	—	none hardly used used none
	2	1.0-1.4	0.6		
	2	1.3	0.6		
Szurdokpüspöki	1	0.8	0.7	—	(fire?)
Somhíd	1	5	1.25×1.35	small ear 3.4 cm aside the rim	used

palm. In respect of the rattles with iron thorns, too, the measurements given are realistic, as the thorns are in all cases encircled by a wooden ring, at least 0.7 cm thick, which is fully sufficient for keeping them firmly in the haft.

The fixing of the rattles to the pole — in the case of the socketed specimens — was done by nails placed into the holes visible on the lower rim of the socket.

In the socket of one of the bird's-head-shaped pole-ends found in kurgan 2 excavated at Ulskij aul in 1909 the nail remained in its place,<sup>150</sup> so that it can justly be assumed that similar, conical bronze or iron nails were used also with the specimens found in Hungary. The purpose of the looped ears found on the bottom of the sockets is not entirely clear as they may have had a part in fixing the rattles and — on the basis of the material found in Russia — smaller objects (bells) might have hung upon them as well.

On the basis of the data in Table 7 it can be said that except for the Aszód and Somhid rattles, 1–2 holes can be found on each specimen at a height of 0.8–1.4 cm from the lower rim of the socket. The holes are 0.5–0.6 cm in diameter. It is remarkable that no trace of the rivet fixing the pole has remained on a single specimen from the Carpathian Basin!

The rattles with iron thorns were fixed to the pole probably with a string or band, though no traces of this can be found.

#### THE PRACTICAL PURPOSE OF THE SCYTHIAN RATTLES

Before trying to determine the one-time length of the wooden pole of the rattles, first the most important practical function of these objects must be clarified. The sound-producing role of the rattles was noted by some research workers long ago. After G. A. Bobrinskij and J. I. Smirnov, also József Hampel, Kálmán Darnay and Lajos Márton referred to it. It is quite evident that the reason for putting iron balls or stones into the perforated body of the rattles was that they were meant to produce a sound by moving. In this respect two fundamental questions arise: 1. what sound was given by the rattles?, 2. how were the balls put into them brought into motion? The necessary data are recorded in Table 8.

The most important conditions and circumstances determining the sound generated are the material of the sound-producing instrument, the material and size (weight) of the striker (ball), the form of the "sound-box" (rattle body), its size and articulation (openings, number and distribution of holes) and its weight, and moreover the vigour and rhythm of moving the sound-generating instrument.

The data summarized above make clear that the Scythian rattles completely differ from one another in this respect, too, even within each group.

Inside the majority of the rattles an iron ball is moving. Its size on the average is  $1.6 \times 2.0$  cm. The cubic content of the rattle body (= sound-box) can be approximately calculated if a certain simplification is carried out, i. e. if we treat the rattle

<sup>150</sup> Artamonov 1966: Pl. 58.



TABLE 8

Site	Bell			Rattle body			Openings				Weight gr
	iron	bronz	gravel	height cm	diameter		number	length cm	width cm	other holes	
					upper cm	lower cm					
Aszód	?	?	?	?	?	?	?	?	?	?	750*
Gyöngyös	—	—	+	6.8	2.4	4.1	3+3	2–2.5	1.2	—	680
	—	—	+	7.4	1.8	4.0	3+3	2–2.9	1–1.1	cracked	600
	—	—	+	7.4	2.3	4.1	3+3	2.3–2.7	1.3–1.6	2 cracked	710
	—	—	+	7.0	1.2	4.2	3+1	2.5–3.3	1.6	1 cracked	690
	—	—	+	7.45	2.4	4.0	3+3	2.9–3.0	1.0–1.3	—	930
	—	—	+	7.1	?	?	?	?	?	?	?
	+	—	—	9.3	1.3×1.8	5.9×6	4	5.3–6.1	1.1–1.3	2	520
Nagytarcsa	+	—	—	11.5	2.0	6.8	3	2.9–3.2	0.6–1.7	2	760
	+	—	—	9.4	2.0	6.0×6.2	4	4.6–5.7	0.9–1.4	defective	400
	+	—	—	8.6	2.1	6.0	4	4.4		2	650
Szurdokpüspöki	+	—	—	8.6	2.1	6.0	4	4.4		2	650
Gernyeszeg	—	—	—	10.0	2.2	8.3×8.5	4+6+3	2.8 3.2 1.1	1.8 1.8 2.9	—	830
	2	—	—	8.0	4.4		9	3.3	—	1	210

Somhíd	+	—	—	6.7	1.8	5.4	4+4	3.7–3.9	1.2	2	285
Mihályfa	+	—	—	7.5	2.0	5.0	4+4	4.9–5.1	1.1–1.5	cracked	273
	+	—	—	?	?	?	4+4	?	?	—	?
	+	—	—	?	?	?	4+4	?	?	broken	?
	+	—	—	?	?	?	4+4	?	?	broken	?
Budapest	—	—	—	12.5	?	6.5	4	?	?	broken	?
Transylvania? (Bucharest Museum)	—	—	—	11.0	2.6	10.5	6+8+?	?	?	cracked	?
	+	—	—	14.0	—	—	4+6+4	?	?	incomplete	—



bodies as truncated cones. Accordingly, the volume of the rattle bodies is as follows in Table 9.

On the basis of the above analyses there can be no doubt that the most important *practical* function of the Scythian rattles was the generating of sound.

What kind of sound did the rattles produce?

The following extremely interesting examinations (Table 10), highly promising also from the point of view of cultural history, were performed by Pál Sztanó of the Folk Music Research Institute of the Hungarian Academy of Sciences.<sup>151</sup>

TABLE 9

Site	Volume cm <sup>3</sup>	Site	Volume cm <sup>3</sup>
Aszód	?	Szurdokpüspöki	87
Gyöngyös	55.5	Gernyeszeg	245
	51.1		
	62.0	Gyulafehérvár	53.2
	63.0		
	60.0		
Nagytarcsa	?	Somhíd	71.0
	116.1	Mihályfa	76.9
	192.6		?
	118.1		?
		Bucharest Museum	414.5

The sound examinations prove beyond doubt that the rattles, when moved rhythmically by a human hand, produce *musical* sounds.

Is it conceivable that the Scythians living about 2500 years ago *deliberately* strove to produce a musical effect?

My positive answer — I believe — is fully justified by the results of the sound examinations obtained with the bronze bells included in the associated finds of Nagytarcsa.

With a few exceptions, the researchers dealing with Scythian relics entirely disregarded from the very beginning the bells found together with the rattles or separately. Suffice it to refer to the latest summary of V. A. Iljinskaja. Exhaustive examinations, however, show that rattle and pole-end finds are regularly accompanied by bronze bells. In the Carpathian Basin five sites yielded Scythian bells (Table 11).

<sup>151</sup> Pitch level examinations have been performed on the basis of comparison with a sound generator. We determined the frequency of the pitch-note and that of the more distinctly audible overtones.

TABLE 10

Site		Audio frequency Hz
Aszód		unexaminable
Gyöngyös		unexaminable <sup>152</sup>
Nagytarcsa	rattle 1 rattle 2 rattle 3	2 439 1 316 2 625 (broken)
Szurdokpüspöki		1 027
Gernyeszeg		2 487
Gyulafehérvár		3 597
Somhíd		2 032
Mihályfa		unexaminable

TABLE 11

Site	Number of rattles	Number of bells	Circumstances of discovery
Aszód	1	1*?	unknown
Gyöngyös	6	5*?	with rattles
Nagytarcsa	3	8	with rattles at a depth of 50-60 cm
Csany	—	1	unknown
Muhi-Kocsmadomb	—	1	alone, at a depth of 150 cm

The most important data of the bells are summarized in Table 12. They will be filled with true meaning if we are able to establish also the quality of the sound of the bells, or rather their pitch level, expressed in Herz. Table 13 shows the pitch level of Nagytarcsa bells.

We may consider the following values as the characteristic sounds of the bells: bell 1 895 Hz; bell 2 354 Hz; bell 3 919 Hz; bell 4 2237 Hz; bell 5 1375 Hz; bell 6 640 Hz; bell 7 1818 Hz; bell 8 625 Hz. Arranging the bells on the basis of the values given, we obtain the following order: 2, 8, 6, 1, 3, 5, 7, 4.

<sup>152</sup> On account of the wax-coating generally applied for conservation in earlier times, pitch examinations could unfortunately not be made with these pieces. Similar reasons prevented the examination of the Mihályfa rattles.



TABLE 12

Site	Height cm	Lower diameter cm	Volume cm <sup>3</sup>	Weight gr	Striker		
					material	length cm	weight gr
Aszód	8.5	4	62.3	121	—	—	—
Gyöngyös	7.7	6.9*	cca. 30	120	iron	7.8	15
	10.2	8*	cca. 250	143	—	—	—
	7	5.5	85	111	iron and bronze	6.3	17
	8.4	4.5	75.6	82	—	—	—
	5.5	3.9	36.3	24	—	—	—
	9.2–9.4	4.9	96.4	153.8	—	—	—
Nagytarcsa	9.8	4.8	105.6	164.7	—	—	—
	10	5	114	193.5	iron	8.8	9.75
	9.7	5.2×5	117.1	190.1	iron, four- edged	8.9	9.7
	9.2–9.8	3.7×4.3	87.5	158.1	—	—	—
	8.8–9.3	4.8	111.7	153	—	—	—
	9.4–10	4.7×5	93.2	172	—	—	—
	10.2	5	108.9	168.5	—	—	—
Muhi	8.5	5×5	?	?	iron ringlet	—	—

The given conditions of examination do not permit the accurate determination of the musical sounds,<sup>153</sup> but the consonance of the eight bells can be unequivocally demonstrated. This is also confirmed by the intervals between the sounds of the bells.

<sup>153</sup> The pitch of the normal musical "a" = 440 Hz.

Openings in mantle			Wall thickness	Holes in mantle	Holes in rim
Number	length	width			
1	5.2		0.4 0.5	none	none
1	3.7		0.25 0.3	1	none
?	?		0.29-0.35	1 burnt	none
1	2.9			1 broken!	none
1	in middle of mantle 1.5; 0.6			fractured	none
none	none	none	0.1	cracked broken repaired!	none
none	none	none	0.2	1	5
1	6.7	0.7	0.25	5	none
1	5.2		0.2	none	none
none	none	none	0.2-0.3	1	none
1	4.8	0.5-1.3	0.2	2	1
1		0.4	0.23	1	none
1	3.65		?	none	none
none	none	none	0.25	cracked	2
none	none	none	none	none	none

It is a well-known fact that harmony depends on the magnitude of the intervals: the smaller the figures of proportion expressing the interval, the better the harmony.

We may say, therefore, that the consonance of the Nagytarcsa bells is a pleasant one, expressed in terms of music, they are melodious. This is even more apparent if we also take the overtones into consideration. Any sound-generating instrument (musical instrument) produces, beside and together with the fundamental tone,



TABLE 13

No.		Audio frequency Hz		Remark
1	895	1 118	2 110	broken
2	354	?	2 825	broken
3	919	1 174	2 170	
4	477	2 237	2 247	
5	913	1 375	(2 800)	
6	640	1 083	(2 130)	
7	563	1 818	(4 300)	first value uncertain
8	625	?	?	broken

overtones as well. The data in Table 14 are arranged with regard to the cubic content and weight of the bell, as well as to the shaping of the bell's mantle.

In spite of some circumstances hindering the examinations (broken and cracked bells), it is possible to establish the correlation between pitch and tone and the calculated cubic content, weight, open or closed shape of the bell's mantle. The bells with the highest pitch have the greatest cubic content and weight, while the undamaged specimen with the lowest tone (bell 6) has the lowest weight and its

TABLE 14

Order according to fundamental tones	Order according to over-tones (tonality)	Cubic content cm <sup>3</sup>	Weight gr	Length of opening cm	Remark
2		105.6	164.7	6.7	broken!
8	8?	108.9	168.5	closed	cracked
6	6	111.7	153.0	8.8	open
1	1	96.4	153.8	closed	
3	3	1114.0	193.5	5.2	
	2?				
7	7	93.2	172.0	3.6	
4	4	117.1	190.1	closed	



mantle is fully open. It would be a futile attempt to set up absolute rules, but our assumption has nevertheless been proved by facts. Thus, it is fully justified to declare again that the makers and users (or buyers) of the rattles and bells took great care to ensure a pleasant *musical* effect. If this assertion arouses surprise or doubt, this will probably be due to the reason that it may be rather difficult to imagine the "nomadic Scythians" as having possessed such a high musical culture. Again, it is the world of the Hungarian herdsmen stubbornly preserving their traditions through the centuries to which we have to turn to obtain documentary material.

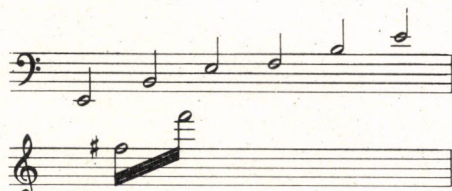
One of the most important instruments of the herdsmen was the hand-bell or cattle-bell which was used and preserved with great care.

It is only at first sight that the small bells, cattle-bells and great bells tied to the neck of cattle may appear as some ordinary, simple requisites in animal keeping. Already in earlier times, listening to the "word" (sound) of these bells some of the ethnographers and folklorists took notice of their *musical* tone and harmony.

Knowing the "ceremony" of the selection of small bells and cattle-bells we cannot doubt that this effect was achieved deliberately. Let us quote here the evidence of Mihály Márkus's description: "The herdsmen of the Great Hungarian Plain match their cattle-bells in such a way as to make each one sound differently but all of them harmonize with one another. The bell that confuses the harmony is taken out and put aside. Much importance was attached to this by herdsmen in the Kiskunság area (Little Cumania) and at Kecskemét, as well as east of the river Tisza." It always depended on the herdsman's ear for music what the harmony of the cattle-bells was like.

"The selection of cattle-bells and great bells was always done with great care. They were not purchased by one herdsman, but by several herdsmen together. At the copper-smith's or bell-maker's one of them shook the little bells one by one, while the others stood at a distance and listened to the sound. This test took quite a long time. Often it was repeated and the suitable piece was selected after lengthy consultation."<sup>154</sup>

The first attempt in Hungary to determine the musical quality of the sound of bells was made by Margit Luby. Performing tests in the Hortobágy, she noted down the music of one of the assemblies consisting of 9 cattle-bells:



Seeking ancient, perhaps Asian traditions behind the music of herdsmen's hand-bells and cattle-bells, she raises the question: "Supposing this beautiful harmony hides some ancient, fundamental element of Hungarian music? Supposing some

<sup>154</sup> Márkus 1943: 245–246; Nagy-Czirok 1959: 105; Sárosi 1965: 29; Vajkai 1959: 53.



trace of the anhemitonic-pentatonic scale can be found in the harmony of great bells and cattle-bells?"<sup>155</sup>

Mihály Márkus examined a set of 8 cattle-bells kept at the Hungarian Ethnographical Museum. His table<sup>156</sup> below (Table 15) offers an interesting comparison with the Nagytarcsa series of Scythian bells also consisting of 8 pieces.

TABLE 15

No.	Frequency of note struck	Frequency of main note	Frequency of third note	Pitch level appr.
1	308-310	278-280	cca. 370	E flat <sup>1</sup> , C sharp <sup>1</sup> , G flat <sup>1</sup>
2	cca. 488	cca. 460	cca. 620	H <sup>1</sup> , B <sup>1</sup> , E flat <sup>2</sup>
3	cca. 594	cca. 570	cca. 750	D <sup>2</sup> , C sharp, F sharp <sup>2</sup>
4	cca. 620	cca. 590	cca. 780	D sharp <sup>2</sup> , D <sup>2</sup> , G <sup>2</sup>
5	958-960	910	742-718	D sharp <sup>2</sup> , B <sup>2</sup> , F <sup>2</sup> F sharp <sup>2</sup>
6	cca. 1550	cca. 1300	cca. 1200	G <sup>3</sup> , F sharp <sup>3</sup> , D sharp <sup>3</sup>
7	cca. 1650	cca. 1580	cca. 1280	A sharp <sup>3</sup> , G <sup>3</sup> , D sharp <sup>3</sup>
8	cca. 1780	cca. 1720	cca. 1410 cca. 1380	A <sup>3</sup> , G sharp <sup>3</sup> , F <sup>3</sup> , F <sup>3</sup>

Márkus's table shows that the main note of the low-sounding cattle-bells is the third degree of the natural scale, while with the higher-sounding ones it is the fourth degree.

Thus the Hungarian folklorist Bálint Sárosi<sup>157</sup> was right in his conclusion that small bells and cattle-bells played a distinguished role also in music making, and that it can be assumed that "the herdsmen went much farther in matters of boldness in harmony than the major key triad of the average church bell".<sup>158</sup>

#### LENGTH OF THE HANDLES OF RATTLES AND POLE-ENDS

A reconstruction of the length of the handles of rattles and pole-ends can be attempted only conditionally and with strong reservations. The Starsha Mogila rattles — according to observations — had 140 cm long handles. This, however, cannot be regarded as a general feature, and we would arrive at wrong conclusions if we failed to take the weight, size, and method of fixing of the rattles into consideration. Let us assume that the Gyöngyös rattle weighing 710 gr (height 12.6 cm,

<sup>155</sup> Luby 1943: 134-138.

<sup>156</sup> Márkus 1943: 264.

<sup>157</sup> Sárosi 1965: 29.

<sup>158</sup> It has to be mentioned that as early as in 1908, Lajos Márton called attention to the different sounds of bronze rattles, but he failed to draw any further conclusions. Márton 1908: 42.



with iron thorn) had a 150 cm long handle, 2 cm in diameter. In this case, holding the end of the handle, a force of more than 5 Nm would have to be exerted to move it from a horizontal position by 90 degrees. Under such conditions the rhythmical moving of the rattle for a long time would have been very tiring. However, it cannot be stated for certain that the very extreme end of the handle was gripped, although experiments have shown that the rattles can be made to tinkle with most success if their handle is held in this way. If we accept this practical experience, the value calculated for the ideal length of the handle would be about 50–150 cm in most cases. It is evident, however, that this hypothesis cannot be generalized, so that the length of the handle must have been greatly varied in each individual case.

### SURVEY DATA OF THE RATTLES AND POLE-ENDS FOUND IN RUSSIA<sup>159</sup>

The finds known from the territory of the Soviet Union must be divided into two groups from the very beginning. To the first group belong the rattles — showing a similar structure as those found in Hungary — into the rattle bodies of which an iron or bronze ball had been put, while the second comprises the pole-ends without a rattle body. Those in the latter group were only indirectly suitable for producing a sound: bronze bells had been fixed to the majority of them. For instance to the 2 bird's-head-shaped specimens from kurgan 2/1909 of the Ul'skij aul 3 bells each had been fixed, while the large, three-pronged specimen decorated with birds' figures from the Alexandropol kurgan had 3, and the 2 pole-ends decorated with griffins' heads 2 bells each. Considering that nearly all of them have symmetrically arranged holes and ears, I am quite convinced that also the other pole-ends had a similar function. Still, I shall have to discuss these pieces separately from the specimens that can be unquestionably regarded as rattles.

The numerical proportion of the rattles to the pole-ends is 89 : 35. That the rattles and pole-ends belong together is sufficiently proved by the fact that pole-ends without rattles were brought to light at only 6 sites (13 pieces). From three of the 6 sites, however, we know only stray finds. The data characterizing the socketed rattles are given in Table 16.

We have not even approximate data on 12 (3 sites) of the 35 socketed bronze rattles originating from 13 sites, so that they can be estimated to a very small extent only.

On examining their distribution according to full height it can be noticed that in the case of the socketed specimens most pieces are 15–20 cm high (14 pieces from 5 sites), and only a single one is higher (22 cm); 4 rattles (3 sites) are 10–15 cm

<sup>159</sup> The metrotechnical characterization of the rattles, pole-ends and bells found in Russia could, of course, not be as accurate and detailed as that of the specimens found in Hungary. I did not have the opportunity to make either sound examinations or spectro-analytical examinations. In several cases not even the measurements are entirely accurate since they had to be recalculated on the basis of the illustrations published.



TABLE 16

Site	Pieces	Full height cm	Length of socket cm	Socket diameter cm	Number of holes	Place of holes	Looped ear	Num- ber of balls	Material of balls
Kelermes, kurgan 3	2	18*	6*	3*	1	1-2 cm from rim	—	1	iron
Ulskij aul, kurgan 1/1898	1	22	7	3	1	—	—	1	iron
Volkovtsy, kurgan 476	2	16.5	5.8	3.5	2	0.8-1 cm above rim	—	1	iron
Popovka, kurgan 5	2	12*	4*	2.5*	2	1 cm above rim	—	1	iron
Romny	2	17*	5.3*	2.3*	?	transversal hole under body	—	1	iron
Chernigov	1	14	6.5	3	1	2 cm above rim	—	1	bronze
Matusova	4	?	?	?	?	?	?	?	?
Vasilovka	2	?	?	?	?	?	?	?	?
Alexandropol	2	?	?	?	?	?	?	?	?
Chertomlik	2	9*	?	2*	?	?	2	?	?
	4	16.6	1.5	2.5	?	?	2	?	?
Krasnokutsk	4	17.2	2.5*	2.3	?	?	2	?	?
	2	8.8	1.5*	1.8	?	?	2	?	?
Velikaja Lepetikha	4	?	?	?	?	?	—	?	?
Mezhirichka	1	12*	6.8*	3*	1	transversal hole under body	—	1	iron



high, and again 4 rattles (2 sites) are 8–10 cm high. According to the length of the socket two further groups can be separated: the rattles with 4–7 cm long sockets (11 pieces from 7 sites), and those with very small sockets — 1.5–2.5 cm in length (10 pieces from 3 sites). However, the lower diameter of their sockets can be regarded as uniform: 2–3.5 cm. It is noticeable that on each of the pieces with remarkably short sockets there are 2 looped ears which had an important part obviously in fixing the rattle to the pole. In the case of these rattles, too, the lower diameter of their sockets determines the thickness of the wooden poles used as handles. The data indicate that the handles of the socketed rattles found in Russia were also 2–3 cm in diameter! The poles, similarly to the pieces found in the Carpathian Basin, were fixed into the socket with stub nails. In spite of the incomplete data it is apparent that the 1–2 holes formed 1–2 cm above the lower rims of the socket were 0.8–1.5 cm in diameter. Into the rattles iron or, in one or two cases, bronze balls were put. The interesting phenomenon that transversal holes with a larger diameter were formed between the rattle body and the socket can be observed, apart from one exception, only on the socketed pieces. (This permits the assumption that there was no iron thorn in the piece of similar structure found in kurgan 1 of Kelermes either!) The only conceivable purpose and function of these transversal holes could be in producing a clearer tone. The pole stuck into the socket muffles the sound of the rattle and diminishes the clear clang of bronze. The transversal perforation, therefore, gives full scope, as it were, to the rattle body. I can explain the fixing of a rattle to the pole by means of an iron thorn in the same way, with the more perfect production of sound: it is only another metal that directly touches the bronze rattle!

The data of the rattles fixed to poles with iron thorns are given in Table 17. This group comprises 59 rattles from 18 sites. Distribution according to height: 35 cm — 4 rattles (1 site), 20–25 cm — 8 rattles (3 sites); conditionally, the iron rattles forged from one piece, altogether 13 (4 sites) can also be ranked in this group; the height of 20 rattles ranges from 15 to 20 cm (7 sites), 10–15 cm — 13 rattles (7 findspots), only one specimen is shorter than 10 cm (8.8\* cm). The full height also includes the length of the sockets cast with the body, thus the actual height of the rattle bodies is smaller. An examination of the height of the rattle bodies — measured together with the animal figure — reveals a definite regularity, as each fits almost precisely into one of the five groups below:

6–8 cm	32 pieces	(9 sites)
12 cm	13 pieces	(5 sites)
14 cm	5 pieces	(2 sites)
18 cm	3 pieces	(1 site)
27 cm	4 pieces	(1 site)

21 specimens have long casings (5–15 cm), 3–5 cm in diameter. The diameter of the shorter casings varies between 1–3 cm.

Most specimens with a long, cylindrical (or angular) casing (15) show rimmed shaping below. These were fixed to wooden handles with the iron thorn put into



TABLE 17

Site	Pieces	Full height cm	Length of socket cm	Socket diameter cm
Kelermes, kurgan 1	2	23*	15*	5*
	3	24.5*	—	—
	4	11*	5.6*	3*
	1	12*	4*	2.5*
Kelermes, kurgan 2	2	16*	9*	3*
	1	17*	10*	4
	3	18*	10*	3*
Kelermes, kurgan 3	4	35	7.7	2.2
Kelermes	2	16*	9*	3*
Ulskij aul, kurgan 2/1909	3	24.2	4.4	1*
Mahoshevskaja	1	22*	8*	3*
	1	8.8*	—	?
Tul'ska	1	10*	3*	2*
Starsha Mogila	2	17	5	2
Volkovtsy, kurgan 1	4	14	2.5*	2*
Volkovtsy, kurgan 7	2	?	?	?
Volkovtsy, kurgan 476	4	15.5	2.5	2*
Volkovtsy, kurgan 477	4	27*	—	—
Axjutintsy	4	16	2	2.1
Budki	2	15*	2.5*	2
Popovka, kurgan 3	4	27	—	—
Romny	1	11.5*	3*	1.5*
	1	11*	3	1.5*
Zhurovka, kurgan 407	2	26*	—	—
Mezhirichka	1	13*	2*	1.3*

Length of iron thorn cm	Number of holes in rim	Looped ear	Bell	
			material	number
12*	1 rimmed	—	bronze	2-3
16*	rimmed	—	iron	1?
?	2	—	bronze	1
?	?	—	bronze	1
?	—	—	bronze	?
?	1 rimmed	—	bronze	1
?	1 rimmed	—	bronze	1
?	angular, rimmed	1	bronze	?
?	1 rimmed	—	bronze	1
?	?	—	bronze	2
2	1 rimmed	—	bronze	1
26	—	—	bronze	1?
20*	—	—	bronze	?
25-30	—	—	bronze	1
15	1	2	bronze	1
?	?	—	bronze	?
?	—	—	bronze	1
—	—	—	iron	?
11	1	—	bronze	1
?	?	—	bronze	1
—	—	1 + ringlet	iron	1
?	?	—	bronze	1
18*	—	—	bronze	1
—	—	—	iron	1
?	?	—	bronze	1



the socket, so that the diameter of the cylindrical handle could not have been larger than the full diameter of the rim. This means that the largest (calculated) diameter of the handle was 4–5 cm. We arrive at a similar result if we examine the diameter of the thorns of the short, socketed and iron rattles. The iron thorns, 1–1.5 cm in diameter at their points, did no longer wedge the handles which were about 4 cm in diameter. In the case of the iron rattles with long thorns we must consider that their handles were not driven up to the bottom of the rattle body! A major expansion can be seen on several rattles forged from iron, 9–10 cm above their pointed top, and in one case even an iron ringlet was drawn over the iron handle above this expansion (Popovka, kurgan 3).<sup>160</sup> The circumstance had a considerable effect on the sound of the rattles. Inside the rattle body there is usually one iron ball, but two sites yielded even specimens with 2–3 balls inside! In one case gravel was recorded.

For lack of essential data little can be established concerning the characteristics of the sound of the battles found in Russia, but it can be stated even without sound examinations that the pieces found in Russia show the same deliberate efforts as successfully demonstrated in the case of the Hungarian examples.

No one can doubt that within each set of rattles often 3–4 types can be found, and that also within each type individual specimens of different size, shaping, and material (bronze and iron!) gave different sounds. Let us mention, for instance, the 12 rattles of 5 different types found in kurgan 1 of Kelermes, where even the number of the pieces of the same type is different (1–2–2–3–4); out of the 12 rattles 9 were cast in bronze, 3 are of forged iron, 8 have long sockets without animal figures, 1 is more solid with an animal figure, 4 are large-sized, 5 of smaller size. In the body of the largest there are 12 openings each, with 2–3 balls inside, the rattle bodies of the smallest ones (one with socket?) are perforated by 8 small triangular openings each, with 1 iron ball inside! (Between the rattle body and the socket there is a transversal, large, round perforation). In the Kelermes kurgan No. 3 there were 6 bronze rattles: 4 were 35 cm high! In the rattle body of one, 11.5 cm in diameter, fixed to the handle with an iron thorn and a looped ear, there are 8 long openings, inside the rattle body there is gravel (!); inside the rattle bodies of 2 socketed specimens, 18\* cm high, also with 8 openings, however, there are iron balls, and between the socket and the body a round perforation (hole) can be seen.

Our assumption will rest on even firmer foundations if we also examine the associated finds including bronze bells, or more precisely, the sites yielding also bronze bells which are mentioned along with the rattles in the publications dealing with them. For instance in kurgan 2/1909 of Ul'skij aul, apart from 3 rattles, there were also 16 cast bronze bells.

Very incomplete data are known about the bells, they are mostly left unmentioned in the most recent works, but also earlier publications rarely contain their pictures and descriptions, even though prominent Russian researchers firmly believed in

<sup>160</sup> Bobrinskij 1901: Pl. IX 4.



the relation between rattles and bells as early as 70–80 years ago. In this respect the excavations conducted by I. A. Linnichenko in the region of Romny are particularly valuable. In one of the kurgans near the village of Budki he found a bronze cone with 26 holes next to one of the skeletons and, further away, 26 bronze bells. The finds were connected to each other already by G. A. Bobrinskij.<sup>161</sup>

Excavating the Krasnokutsk kurgan, I. E. Zabelin found, apart from 8 round plates hanging on chains and 8 crescent-shaped plates, 16 bronze bells which were also hanging on iron chains.<sup>162</sup> In this respect kurgan 477 of Volkovtsy, where beside 4 iron rattles also 6 bronze bells were found by N. E. Brandenburg, is of extremely great importance. The surviving photograph<sup>163</sup> clearly shows that the 6 bells had formerly been attached to a *single* object!

Apart from those brought to light independently, bells unquestionably belonging to rattles or pole-ends were also found.

In Ul'skij aul, kurgan 2/1909 mentioned previously as an example, too, next to the 2 big pole-ends there lay another 5 small bronze bells.

In order to determine the function of the bells the group of the pole-ends found in Russia must also be examined (See Table 18).

Out of the 30 pole-ends originating from 12 sites 11 (from 5 sites) can hardly be evaluated at all. Among the pole-ends there are some very large pieces: the height of 3 of them ranges from 25 to 30 cm (2 sites). The majority are 15–20 cm high (9 pieces from 3 sites) or somewhat shorter (10–15 cm — 7 pieces from 3 sites).

Divided according to the manner in which they are fixed to the handle, there are socketed pieces, pieces with iron handle, and sheet-plated pieces. The latter were nailed to a flat handle. The sockets of a minority are rather large-sized and not always round. The sockets of 5 specimens (3 sites) are 6–8 cm in diameter, 12 have a diameter of 2–4 cm (4 sites). Four of the pole-ends with large sockets have a socket with oval bottom, therefore, even with a calculated diameter of 5–7 cm, the handle can be taken in hand. The round handle of the Alexandropol pole-end decorated with 3 bird figures, and 6–7 cm in diameter is difficult to hold in one hand; but by its height (30 cm) and weight, it had to be held with both hands anyway. Nine specimens have rectangular sockets which does not mean, however, that also the handle followed the shape of the socket over its entire length. Considering that at the bottom of the sockets — as it can be ascertained — there are no holes for fastening nails, it is probable that the stability of the socket on the handle was ensured by the angular shape. In four cases we have authentic data (8 pole-ends) showing that bells had been hooked into the holes and small ears.

Thus, from the survey of the Russian material we can finally conclude that from the Kuban to the Danube the rattles and pole-ends used by the Scythian were fixed to wooden handles, and they held them in their hands!

<sup>161</sup> Bobrinskij 1901: 65.

<sup>162</sup> Tolstoj-Kondakov 1889: 103.

<sup>163</sup> Rostovtsev 1914: 512, Fig. 95.



TABLE 18

Site	Pieces	Full height cm	Length of socket cm	Socket di ameter cm	Number of looped ears	Number of hanging holes	Number of hanging ears	Number of bells	Other features
Kelermes, kurgan 1	2	17.1	8*	6*	—	—	—	—	—
Ulskij aul, kurgan 2/1909	2	26	10	7×3 oval	—	—	3	3	—
Majkop	2	12*	6*	2.8*	1	—	(1)	?	stray find
Krasnodar	1	12	3.6*	4*	—	?	—	?	stray find
Anapa	4	?	with iron handle		—	—	—	—	—
Alexandropol	1	15.7	6	2.2	2	2	—	?	one-sided
	1	28.9	6.5	6-7*	—	3	(3)	3	—
	4	15.5	5	4.2*	2	2	—	2	separate hole, too
Chertomlik	2	17.1	—	—	—	?	—	?	skeet plated!
Chmirjovo	1	?	—	—	—	—	—	—	skeet plated!
Krasnokutsk	4	13.3	6*	1.8*	2	2	—	?	—
Jekaterinoslav (Lisa Gora)	1	?	?	?	?	?	?	?	stray find
Slonovskaja Bliznitsa	4	?	?	?	2	?	—	?	—
Raskojitsy	1	?	?	?	—	2	1	?	hole below



# COULD THE SCYTHIAN RATTLES AND POLE-ENDS HAVE BEEN ORNAMENTS OF CANOPIES ON WAGGONS?

From all the authors on the subject, M. I. Rostovtsev gave clearest expression to the idea that some of the Scythian rattles might have decorated funeral canopies: "... diese Stangenaufsätze Teile von Bestattungsbaldachinen waren, welche über dem Verstorbenen getragen wurden, oder welche man an dem Leichenwagen befestigte."<sup>164</sup>

Thus in this case, too, ornaments of the funeral hearse would be concerned. Rostovtsev himself felt the weak points of his hypothesis, so he did not entirely reject the earlier views: "*Es ist jedoch sehr wahrscheinlich, dass nur ein Teil der Stangen mit den Aufsätzen die Bestimmung hatte, als Stützen des gefahrenen oder getragenen Katafalkes zu dienen. Einige von den Aufsätzen, besonders die reich verzierten und monumentalen, können sehr wohl als Spitzen von Fahnen oder Standarten gedient haben, die die Leichenprozession begleiteten, wobei diese Standarten mit Glocken behängt und vielleicht auch mit Schnüren und Troddeln versehen waren.*"<sup>165</sup>

The metrotechnical examinations have made it clear that the views in which the rattles decorated the ends of stable poles are entirely untenable, as in this way the rattles and bells would be deprived of their practical function. The waggon ornament theory, however, deserves to be examined.

We know also from written historical sources that the waggon played a very important role in the life of the animal-keeping, nomadic Scyths (Herodotus IV. 46. Hippocrates: *De aere, aquis et locis* 18. Strabo VII. 3.)

The authenticity of written sources can be confirmed in the first place by the evidence of archeology. No Scythian waggon burial in the Carpathian Basin (Table 19) has yielded bells or rattles.

A survey of the relationship of the rattles and pole-ends to waggon burials uncovered in Russia is given in Table 20.

Taking the entire accessible material into consideration we find that among the 46 sites known in the vast area stretching from the Kuban region to the Car-

TABLE 19

Site	Number of rattles	Number of bells
Szentes-Vekerzug, grave 13 <sup>166</sup>	none	none
Diósgyőr <sup>167</sup>	none	none
Hatvan-Boldog? <sup>168</sup>	none	none

<sup>164</sup> Rostovtsev 1931: 460.

<sup>165</sup> *Ibid.*: 295.

<sup>166</sup> Párducz 1952: Pl. L 1-2.

<sup>167</sup> *Idem* 1953: 28-29. Gyöngyös cannot be included with absolute certainty.

<sup>168</sup> Posta 1895: 1-26.



TABLE 20

Site	Number of rattles	Number of pole-ends	Number of bells	Waggon remnants	Other remarks
Kelermes, kurgan 1	12	2	—	—	
Kelermes, kurgan 2	4	—	—	—	
Kelermes, kurgan 3	6	—	—	—	
Kelermes	2	—	—	—	stray piece
Ul'skij aul, kurgan 1/1898	1	—	—	—	
Ul'skij aul, kurgan 1/1908	—	—	1	—	
Ul'skij aul, kurgan 2/1909	3	2	16+5	—	
Mahoshevskaja	2	—	—	—	
Tul'ska	1	—	—	—	stray piece
Majkop	1	2+1	—	—	stray piece
Krasnodar	—	1	—	—	stray piece
Anapa	—	4	—	—	
Jelizavetinskaja	—	—	—	+	only waggon ornament
Starsha Mogila	2	—	—	—	
Volkovtsy, kurgan 1	4	—	8	—	
Volkovtsy, kurgan 7	2	—	—	—	
Volkovtsy, kurgan 476	6	—	—	—	
Volkovtsy, kurgan 477	1	—	6	—	
Axjutintsy	4	—	?	—	
Budki	—	—	26	—	on conical console
Budki	2	—	—	—	stray piece
Popovka, kurgan 3	4	—	—	—	
Popovka, kurgan 5	2	—	—	—	stray piece
Romny	3	—	15	—	stray piece

(Table 20 cont'd)

Site	Number of rattles	Number of pole-ends	Number of bells	Waggon remnants	Other remarks
Chernigov	1	—	—	—	
Matusova	4	—	—	—	
Pastirskoje, kurgan 2	—	—	15	—	
Vasilovka	2	—	—	—	stray piece
Zhurovka, kurgan 407	2	—	—	—	
Alexandropol	2	6	(3)	+	
Chertomlik	6	2	25+8?	—	
Chmirjovo	—	1	—	—	
Krasnokutsk	6	4	16+(4)?	+	
Jekaterinoslav	—	2?	many	—	stray piece
Slonovskaja Bliznitsa	—	4?	—	+	
Velikaja Lepetikha	4	—	—	—	stray piece
Mezhirichka	2	—	?	—	
Raskojitsy	—	1	—	—	stray piece
Melitopol	—	—	—	+	

pathian Basin in three cases were waggon remnants found along with rattles and pole-ends and, even there, they were separate in respect of both location and structure. With the waggons excavated at Jelizavetinskaja and Melitopol<sup>169</sup> there were neither rattles nor pole-ends. The same refers to the waggon burial at Szentés-Vekerzug in Hungary. Nevertheless, the waggon ornament theory must be lent further analysis. We must examine whether we know of a nomadic waggon structure that may support the earlier views.

The simple structure of the four-wheel waggon<sup>170</sup> found in grave 13 of Szentés-Vekerzug is not suitable for a thorough analysis, though it is quite apparent that there were neither stake braces nor stand poles on it. The iron hoops of the wheels were about 73 cm in diameter, their width was 3.2 cm, their thickness 0.5 cm. The hoops had been fixed to the wooden wheels with iron nails. The hub of the probably spoked wheel was protected by an iron bush with an axle aperture

<sup>169</sup> Terenozhkin 1955: 23.

<sup>170</sup> Párducz 1953: 23–24, 37, 53, Pls I, III 9–12, VI, VII. *Idem* 1955: 158.



of 5 cm and 11.5 cm in diameter, which had probably been fixed to the hub with 3 nails. The waggon, therefore, had wheels rotating on axles. The distance between the bushes of the intact front and rear wheel-tires was about 170 cm, but this cannot furnish a basis for determining the length of the waggon as, according to all indications, the waggon had been burnt before the burial.

From the remnants of the Krasnokutsk and Alexandropol waggons it can be established that they were of a light structure with spoked wheels. A particular point of interest is that the wheels of the Krasnokutsk waggon were not of equal size!<sup>171</sup> According to the metallographic examination of the hoops the inside of the nave-ring was ferrite, i.e. pure iron (alpha iron), which is a very soft and plastic material. The outer side of the bent tire had carburized,<sup>172</sup> meaning that a 1–2 mm thick harder surface layer had been formed on the soft steel surface by hardening at a temperature of about 880–940° C. Since in spite of the thick rust this layer was easily recognized, the Soviet researchers performing the examination believed that the wheels, i.e. the waggon, had hardly been used, so that in all probability it had been specially made for burial purposes. In my opinion the argument advanced is not conclusive as the resistance of the carburized layer is very great and protects precisely against abrasion. Quite a number of data show that the waggons buried had been previously used in economic life. Let us examine their structure.

As the nearest parallel we must analyse the waggon excavated in the 5th Pazyryk kurgan. Its parts are: frame with 4 wheels, body, and shaft yoke. The whole waggon was made of birch, and apart from wood only leather straps had been applied by its maker. Full length of solid axles 310 cm. The part of the axle (126 cm in length) on which the iron structure was put is rectangular, the rest is round. The structure that can be called the bottom carriage consists of two wooden frames. The lower one is 128 × 238 cm, the upper 128 × 206 cm; the lower is composed of two longitudinal and four transversal laths, while the upper frame consists of two longitudinal and six transversal laths. The two frames are tied together by 21 small lathe-turned shafts, 27 cm high, and by straps. The terraced front part was the box-seat. The space behind the seat is covered by a 1 cm thick boarded roof placed on 14 poles framed above and below. Within the poles supporting the roof was the "basket", the woven side of the waggon which had been painted red. In the front axle three holes had been cut for the shaft-bar. The wheels were 160 cm in diameter. The wooden tire was made of two 7 cm wide and 5.6 cm thick pieces of bent-wood, each 290 cm in length. At a length of 30–40 cm, the two ends are overlapping and are fixed together with wooden nails and straps. Each wheel has 34 oval (5 × 1 cm) spokes, 70–71 cm in length. The lower ends of the spokes covered with birch-bark were fitted into the 66 cm long nave. The birch-bark made the wheels firmer and protected them from drying up. After the wheel had been put on the axle, the front and rear naves were connected with a 178 cm long bar, and the pegs were placed outside this clamping bar. The purpose of this

<sup>171</sup> Shramko-Solntsev-Fomin 1963: 47, Fig. 4 19–21.

<sup>172</sup> *Ibid.*



structure was to protect the pegs from abrasion. The distance between the front and rear wheels is only 6 cm. The 320 cm long beam, 6.5×8 cm in diameter, was attached to the fixed front axle, with a 164 cm long light yoke at its end and two whipple-trees for fastening the traces. The waggon was drawn by two pairs of horses.

According to S. I. Rudenko this waggon had definitely been used for transport well before the burial. This is proved by the fact that the wheels, the axles, the sockets and the yoke holes are heavily worn. The structure of the waggon indicates that transportation by horse-drawn vehicles between the Altaian mountains and the steppe was very highly developed as early as in the 4th century B.C. S. I. Rudenko suggests it might have been a waggon used in a bridal procession, which was taken to the Altaian region with the wife of the Pazyryk chieftain. Considering that in 1956 two-wheeled waggons of similar structure were found in China, he believes that the wife of the chieftain may have been a Chinese princess. According to written sources, the Imperial Court of China presented such waggons to the princes of the Huns and other nomads after the war waged by Emperor Süan against the Huns.<sup>173</sup>

Thus on the Pazyryk waggon there is no possibility of placing rattles or other ornaments. A counter-argument may be that there were no such objects in the grave anyhow, as the 12 cm high figure of a stag standing on a globe and made of wood and leather was found in kurgan 2.<sup>174</sup>

Nevertheless, there are also sites where besides waggon burials, kindred pieces and antecedents of the Scythian rattles and pole-ends, too, were brought to light.

In 1956, in the Armenian Soviet Socialist Republic, kurgans from the 4th–12th centuries B.C. were excavated in the village of Lchashen, near the lake Sevan. These enormous graves, covered with stones, are characterized by wooden waggons buried with the bodies. In kurgans 1 and 2 there were massive, four-wheel waggons joined together from boards, with wicker-woven waggon tents which used to be covered. On the waggons there are no straight poles supporting the tilts.<sup>175</sup>

In kurgan 5 there was a two-wheel waggon. Its bottom consisted of four parallel boards, its sides were wicker-woven. In kurgan 8 only the upper part of the two-wheel waggon was found; the skulls of two bulls and two horses lay in front of it. The front and rear boards were richly decorated, the wheels had 28 spokes each. At the juncture of the beam and the yoke there lay a bronze ornament representing a two-wheel waggon. The detail-photograph published clearly shows that the solid bronze ornament with a handle ending in a bull's horn belonged neither to the beam, nor to the yoke. Into kurgan 10 two waggons had been buried, one with four, the other with two wheels. The massive wheel, 137 cm in diameter, of the four-wheel waggon had been joined together from three boards. In front of the waggon lay the skulls of two bulls. The front axle is firmly fixed, so

<sup>173</sup> Rudenko 1960: 232–236, Pl. LII; Talbot-Rice 1958: 98, 119, Figs 21, 30.

<sup>174</sup> Griaznov 1958: 9, Pl. 29.

<sup>175</sup> Rumjantsev 1961: 237, Figs 1–2, and 241, Fig. 3.



the two front wheels could not turn. The beam and the yoke had been deposited separately. By the two-wheel waggon a similar bronze ornament was found as in kurgan 9. The sides of the four-wheel waggon in kurgan 11 were woven of thin wicker. The sides are 113 cm high and 178 cm long. There were no poles or stake braces. The height of the waggon measured from the ground is 180 cm, its full length together with the beam 560 cm. The width of the bottom of the waggon is 108 cm. The seat was in the rear. The solid wheel joined together from three boards is 110 cm in diameter. This waggon, too, has fixed axles. The roof of the waggon, composed of innumerable parts, is dismountable. The wheels of the two-wheel waggon found in the same grave are about 100 cm in diameter and have 28 spokes each. Poles or stake braces were not used. The long, quadrangular beams were about 6-7 cm in diameter.

The structure of the Lchashen waggons, again,<sup>176</sup> contradicts the assumption that these bronze ornaments (models) were fixed on the waggons. Noticing this fact, A. O. Mnatsakanjan concluded that the figures of bulls, stags, birds and mountain goats usually found by the front parts of the waggons or about the middle of the yoke, had been connected with *cultic* images.<sup>177</sup> An important point is that the Lchashen waggons had also been used in economic life.

In 1958 O. M. Dzharparidze unearthed a four-wheel wooden waggon in Trialet (Georgian Soviet Socialist Republic). Only the solid wheels, the rectangular frame and the yoke survived. A careful examination of the wheels, axles and bushes revealed that the waggon had been used exclusively for ritual purposes. The wheels and the axles were only very slightly worn, so it is not likely to have made a longer journey.<sup>178</sup>

We must investigate briefly also the structure of the waggons recovered from Thracian graves, since the Thracian carriage fittings and ornaments found include some pieces which, at first sight, may be brought into connection with the group of Scythian rattles and pole-ends.<sup>179</sup> It must, however, be pointed out by the start that the waggons known from Thracian graves were made after antique models, and have nothing to do with the nomadic waggons; moreover, the population of Thracia, under Roman rule from the 1st century B. C., was provided with waggons by the big Roman workshops.

The Thracian waggons had four or two wheels. The body was suspended on the four prongs of the frame.<sup>180</sup> The above mentioned objects were put on the ends of these ferruled prongs so that the bearing straps of the body could be fixed to them. Therefore, any further comparison is lacking foundation.

One of the Thracian-Roman waggons from the 3rd century B.C. excavated in Stara Zagora was taken apart directly before the burial. The wheels were dismounted from the axles and placed side by side. The body, too, was detached

<sup>176</sup> Mnatsakanjan 1960: 141, Fig. 4 and 142, Fig. 5; Arakeljan-Martirosjan 1967: 31, Fig. 2.

<sup>177</sup> Mnatsakanjan 1960: 139-150.

<sup>178</sup> Rumjantsev 1961: 341-424, Fig. 4.

<sup>179</sup> Venedikov 1960: Pl. 5 16.

<sup>180</sup> *Ibid.* Pl. 78-98.



from the axle.<sup>181</sup> This was presumably also a custom with the Scythians. (Perhaps at grave 13 of Szentes-Vekerzug?)

Let us close our analysis of the waggons with the evidence of the clay waggon models which undoubtedly belong to the Scythian heritage.<sup>182</sup> Some of the Chinese representations also offer good guidance.<sup>183</sup>

Relying upon the evidence of the waggon structures we have come to know, we cannot but reject the following hypotheses:

1. The Scythian rattles and pole-ends are supposed to have been at the end of beams (V. V. Shlejev). The diameter (4–7 cm) and form of the very beams excludes this possibility. Also other correct arguments were enumerated by V. A. Iljinskaja in her profound criticism of this theory.<sup>184</sup>

2. They are supposed to have decorated the canopy of the funeral hearse (Rostovtsev) or the stake braces (Kálmán Darnay, János Stiller, Lajos Márton). The latter assumption can be ruled out by a single forceful argument, namely that stake braces had been unknown for thousands of years, in fact right through the Middle Ages, and were first used on waggons in the 15th–16th centuries.<sup>185</sup>

3. These objects are supposed to have been fixed to the poles of the tent (kibitka) built on nomadic waggons. (I. E. Zabelin, U. Tolstoj–N. Kondakov, G. A. Bobrinskij, V. Radlov, G. Nagy, E. Minns, N. Fettich, V. A. Iljinskaja, M. Párducz, M. I. Artamonov). This theory is usually supported by the observation that in most cases 2 or 4 rattles were found together.<sup>186</sup> The truth is that rattles or pole-ends of identical types were found in pairs in 18 cases, and in fours in 15 cases. Single specimens are known from 24 sites, and 3 similar pieces in the same place were found in three cases. When the total number of the various types and kinds of rattles and pole-ends is examined, this assumed order does no longer apply. Four rattles are known only from 10 sites. The conclusions drawn from the survey data themselves, contradict this assumption, considering that into the socketed pieces straight wooden handles, 2–4 cm in diameter, were fitted, so that the poles supporting the kibitka ought to have had free-standing ends, whereas on the ancient nomadic waggons — as we have seen — the covered living space was not formed by means of straight poles! Even the simple, open waggons show a different structure! Consequently the assumption that the rattles were on the ends of the poles set up in the four corners of the waggon or on those placed at both sides of the entrance of the kibitka, is *completely unfounded*.

Considering the musical effect of the rattles and bells, the waggon ornament theory can be denied with even more force. If we were to accept the earlier view

<sup>181</sup> *Idem* 1961: 248.

<sup>182</sup> Minns 1913: 50–52, Figs 4–6; Bóna 1960: Pls LXVII 4, LXVIII 1, 5; Artamonov 1966: 9, Fig. 1.

<sup>183</sup> Rostovtsev 1929: Pl. XI, 57. — Cf. E. Chavannes: *Mission archéologique dans la Chine septentrionale*, Plates of Vol. I.

<sup>184</sup> Iljinskaja 1963: 50.

<sup>185</sup> For instance in the case of the waggons found in Hungary: Tary 1968. Hensel 1956: 198–202, Figs 162, 417, 415–416; Klisky 1967.

<sup>186</sup> Rostovtsev 1931: 364.



and assumed that the Scythian rattles and bells were fixed to the waggon, then we would deprive the rattles and bells of their practical function from the very beginning since the volume of the noise produced by a waggon rolling on hard-set soil is 60–70 phons, which would muffle and swallow any musical sound.

## CIRCUMSTANCES OF DISCOVERY

TABLE 21

Site	Grave, kurgan	Finds of depôt nature	Stray finds
Aszód		+	
Gyöngyös	?	(+)	
Nagytarcsa		+	
Szurdokpüspöki		+	
Gernyeszeg			+
Gyulafehérvár			+
Somhíd		?	(+)
Mihályfa		+	
Budapest, Hungarian National Museum			++
Transylvania? (Bucharest Museum)			++

The rattles of the Carpathian Basin and those of Russia were found in remarkably different circumstances. In the former group (Table 21) no finds originate from graves and kurgans, and the finds of 5 sites were deposited collectively, while the Russian specimens (Table 22) were in graves and kurgans at 21 sites, and in a stray material in 14 cases. I do not know of associated finds deposited without a grave. The proportion of the stray pieces as compared to the total material is in both areas roughly the same: 11 : 5 and 35 : 14 (proportion of the sites).

What finds were buried together with rattles and pole-ends? The data of the rattles of the Carpathian Basin are given in Table 23, those of the pieces found in Russia in Table 24.

On examining the material of the 18 groups of finds in Russia which can be more or less evaluated, we shall find that in the graves with rattles and bells the principal skeleton (or skeletons) lay in richly decorated clothes, with many jewels. The furniture was destroyed or removed by the robbers, therefore the material of the kurgans does not offer a sufficient basis for drawing more serious conclusions as to the degree of their being supplied with furniture. What the summary of the finds reveals is undoubtedly noteworthy but has no decisive force.

TABLE 22

Site	Grave, kurgan	Associated finds of depôt nature	Stray finds
Kelermes, kurgan 1	+		
Kelermes, kurgan 2	+		
Kelermes, kurgan 3	+		
Kelermes			+
Ulskij aul, kurgan 1/1898	+		
Ulskij aul, kurgan 2/1909	+		
Mahoshevskaja			+
Tulska			+
Majkop			+
Krasnodar			+
Anapa	+		
Starsha Mogila	+		
Volkovtsy, kurgan 1	+		
Volkovtsy, kurgan 7	+		
Volkovtsy, kurgan 476	+		
Volkovtsy, kurgan 477	+		
Axjutintsy			+
Budki			+
Popovka, kurgan 3	+		
Popovka, kurgan 5	+ ?		
Romny			+
Chernigov			+
Matusova	+		
Vasilovka			+
Zhurovka kurgan 407	+		



(Table 22 cont'd)

Site	Grave, kurgan	Associated finds of depôt nature	Stray finds
Alexandropol	+		
Chertomlik	+		
Chmyrjovo	+		
Krasnokutsk	+		
Jekaterinoslav			+
Slonovskaja Bliznitsa	+ ?		
Velikaja Lepetikha			+
Mezhirichka	+		
Raskojtsy			+

It seems that rattles, pole-ends, and bells occur both with male and female interments. The distribution of arms and vessel furniture can be assessed only from a chronological point of view. In the respect of animal interment the most important point is the existence of horse graves and the cases where tackle was

TABLE 23

Site	Horses bones	Horse-trappings			Bell	Arms	Clothes ornaments	Mace	Other objects
		bits	mounting	phalera					
Aszód				+	+				
Gyöngyös		+	?	+	+	?			+
Nagytarcsa		+			+				
Szurdokpüspöki	?	?				?			
Gernyeszeg									
Gyulafehérvár									
Somhíd									
Mihályfa								+	
Budapest									
Transylvania ? (Bucharest Museum)									

buried without a horse. The incomplete data seem to indicate that the kurgans had horse-furniture in 13 cases, but horse-bones are mentioned only in 8 cases. Horse burials are missing from the kurgans of the Sula region. This circumstance was pointed out already by Rostovtsev (Poltava group). As an example he mentions the Sumejko kurgan, where furniture of 18 horses was found, but there was no horse interment.<sup>187</sup> Considering that the iron bits of the earliest, so-called Vekerzug group of the Scythian material in Hungary are related precisely with the Sumejko iron bits, the absence of horse burials is an important feature. No such sharp difference can be observed in connection with horned cattle burials, they occur in the Kuban and Sula regions as well as in Alexandropol. It is not mere chance that in 6 of the graves with rattles and bells a sacrificial cauldron was found, in some places more than one, and at 4 findspots also a sacrificial altar slab was registered. Waggon burials occurred only in the late steppe kurgans.

The survey of the finds also reveals that bronze bells were in fact often part of the horse furniture. This, however, cannot be taken as a general feature, because they can be found also on pole-ends and, on the other hand, separately, on independent objects (e.g. Budki, Volkovtsy, kurgan 477).

After the thorough study of the circumstances of discovery and the associated finds, there cannot be much doubt that the rattles and pole-ends did not belong *directly* to the personal furniture of buried persons, and nor to the furniture of horses and waggons. At Kelermes they lay above the horses and between the skeletons of horses by the wall of the grave, at Ulskij aul partly around the horses and partly — perhaps — in the mound of the kurgan. At Starsha Mogila they lay by the southern side of the grave on an earth bank. Next to them were bits (16 pairs), farther away, on the bank, a bow and a quiver containing 93 arrows. By the northern wall there was *another* quiver with 206 arrow-heads.<sup>188</sup> In kurgan 1 of Volkovtsy rattles and bells (plus two pairs of iron bits) were found at the southern wall of the burial vault, in a rather isolated position. The situation was the same also in kurgan 476 of Volkovtsy (plus bit). In the kurgans excavated in the region of the lower course of the Dnieper their location was even more varied. At Alexandropol 4 pieces were found in a separate stone recess by the stone wall of the kurgan, 6 near to carriage fittings; at Chertomlik 8 pieces were in the mound of the kurgan, with parts of horse-furniture and 250 iron bits; at Kranokutsk, near the ground level, there were 10 rattles and pole-ends together with carriage fittings, 16 bells and 70 iron bits. At Slonovskaja Bliznitsa, too, 4 pole-ends and 3 pairs of iron bits lay rather apart from the other finds.

Thus it appears that from the Kuban to the Danube these objects had a specific, but altogether identical function.

<sup>187</sup> Rostovtsev 1931: 449–450, 459.

<sup>188</sup> V. A. Iljinskaja maintains that the quiver containing 206 arrow-heads does not necessarily belong to the furniture of this grave. Her assumption is based on the fact that the arrow-heads of the second quiver do not fit chronologically into the associated finds. Her doubts based on typological considerations, are not convincing, as the material and form of the arrow-heads is primarily determined by their purpose. Cp. Iljinskaja 1951: 209.



TABLE 24

Site	Human interment		Body jewelry	Clothes ornament	Arms								Vessels			Bronze cauldron
	num-ber	nature			sword	dagger	spear	axe	arrow	quiver	head-piece	armour	clay	bronze	silver, gold	
Kelermes, kurgan 1	1	?	+	+					+				+	+		+
Kelermes, kurgan 2	2	?	+						+		+		+			+
Kelermes, kurgan 3	?	?	+	+												
Ulskij aul, kurgan 1/1898	?	?								+						
Ulskij aul, kurgan 1/1908	?	?	+	+			+		+			+				+
Ulskij aul, kurgan 2/1909	?	?		+												+
Starsha Mogila	1	♂		?		+	+	+	+	+		+	+			
Volkovtsy, kurgan 1	1	♂	+	+		+	+	+	+	+	+	+	+	+		+
Volkovtsy, kurgan 476	?	?														
Volkovtsy, kurgan 477	?	?														
Budki	2	♀	+										+			
Pastirskoje	1?	?	+						+	+			+			
Zhurovka, kurgan 407	2	♂ ♀ +	+	+												
Alexandropol	2+3	♂ ♀	+	+			+		+	+		+	+	+		
Chertomlik	1+6	♂	+	+					+	+			+	+	+	+
Krasnokutsk	2	?	+		+				+				+			
Slonovskaja Bliznitsa	?	?														
Mezhirichka	?	?														

Ferrule	Mirror	Rython	Power insignia, mace	Altar	Horse interment					Horse-trappings				Waggon	Bell	Rattle	Pole-end	Other objects
					horse	ox	stag	sheep	mule	bit	mounting	bone ornament						
				+	+					+	+	+				+	+	pintadera
+	+				+					+	+	+			+			
		+	+															
					+	+	+			+						+		
					+					+					+			
						+				+	+				+	+	+	
							+	+		+	+	+				+		bow
+			+							+	+				+	+		
										+						+		
										+					+	+		
	+														+			bronze cone
					+						+				+			
	+			+								+				+		
					+	+	+	+		+	+		+	+			+	small box, silver spindle, brazier, bronze pail, bronze lamp
+		+			+		dog			+	+		+	+	+			
					+					+	+		+	+	+	+	+	small box
										+			+					
													+					



## CHRONOLOGY OF THE RATTLES AND POLE-ENDS FOUND IN RUSSIA

In order to determine the function, the content and origin of the spiritual background, and to decide the question whether such rattles and pole-ends were a singularly Scythian feature, a firm chronological system is required.

### *I. Chronology of the kurgans in the Kuban region*

Kelermes: first half of the 6th century	Krasnodar: 5th century
Ulskij aul: 6th-5th centuries	Anapa: 4th century
Mahoshevskaja: 6th century	Novocherkassk Museum: end of the 5th century
Tul'ska: 5th century	Jelizavetinskaja: 4th century
Majkop: 6th century	

### *II. The Sula region*

Starsha Mogila: second half of 6th century	Budki: end of 6th and first half of 5th century
Volkovtsy, kurgan 1: 4th century	Popovka, kurgan 3: 6th century
Volkovtsy, kurgan 7: end of 6th century	Popovka, kurgan 5: 5th century
Volkovtsy, kurgan 476: end of 6th and beginning of 5th century	Romny: 6th-5th centuries
Axjutintsy: 5th century	Chernigov: 6th century
	Pastirskoje: end of 6th century
	Vasilovka: 5th century
	Zhurovka: beginning of 6th century

### *III. The Dnieper region*

Alexandropol: end of 4th and beginning of 3rd century	Krasnokutsk: 4th century
Chertomlik: middle and second half of 4th century	Jekaterinoslav: 4th-3rd centuries
Chmyrjovo: 4th-3rd centuries	Slonovskaja Bliznitsa: 3rd century
	Velikaja Lepetikha: 4th century

### *IV. Dniester-Bug region*

Mezhirichka: 6th century	Raskojtsy: 5th-4th centuries
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The topographical and chronological characteristics of the rattles and pole-ends indicate that these objects were wide-spread in the area from the river Kuban to the Carpathian Basin as early as in the 6th B.C., i.e. at the time of the first great Scythian wave, with the exception of the regions of the lower reaches of the rivers Don and Dnieper.

## CHRONOLOGY OF THE RATTLES FOUND IN THE CARPATHIAN BASIN

The age of the rattles and the associated finds excavated in the Carpathian Basin could not be determined by research in every case. The main reason of this – apart from the lack of authentic complexes of finds – must undoubtedly be sought in the purely formal and typological method of dating. I mention as an example the case of the Gernyeszeg rattle which, being a piece of excellent quality, is regarded by Nándor Fettich as having been imported from the East,<sup>189</sup> and therefore dating from the previous period. V. A. Iljinskaja, at the same time, considers it a peculiar local piece.<sup>190</sup> Mihály Párducz is of the same opinion.<sup>191</sup> Nándor Fettich based his statement on the craftsmanship and the execution of the rattle, while Iljinskaja relied on its form and decoration. Both viewpoints are important but not satisfactory in themselves. In my opinion the Gernyeszeg rattle and its counterparts in the Bucharest Museum are indeed local products, but I believe that this is proved not by the ornamental elements but by the fact that their makers were no longer aware of the true purpose and spiritual background of the rattles. The main evidence for this is that in the otherwise perfectly cast rattle there is no ball. A thorough examination convinced me that there had never been a ball in it! No record proves that the specimen kept at the Bucharest Museum has ever had a ball inside its body either, though it is damaged in one place, and therefore it is not inconceivable that the ball may have dropped out some time. Thus such rattles were manufactured that were unsuitable for their most important practical function, for the production of sound. Seen in this light, a different emphasis must be laid on the so-called stylistic marks, i.e. on the form of the rattle body, the form and arrangement of the openings, the shape of the cast casing, the length of the iron thorn, and the decoration of the surface of the rattle. It is a remarkable fact that among the Scythian rattles found in the Carpathian Basin, only on the two pieces of the Bucharest Museum and on the Szurdokpüspöki rattle can a surface decoration be seen: a zig-zag line pattern arranged in bands. On the Gernyeszeg rattle, however, there is no such decoration. We do not know of any specimen in the Scythian material that would correspond to the rattles discussed. Although the pieces originating from the Romny district, quoted several times,<sup>192</sup> show a certain resemblance, they cannot be regarded in the least as “sister pieces” of the Transylvanian ones. The essential differences are that the rattles found in Russia are socketed and that in their oval rattle body an iron ball is moving!

Considering that the similar pieces known from Romny do not come from a time earlier than the 5th century B.C. either, the Gernyeszeg and Bucharest

<sup>189</sup> Fettich 1934: 40.

<sup>190</sup> Iljinskaja 1963: 49.

<sup>191</sup> Párducz 1970 (Manuscript).

<sup>192</sup> Bobrinskij 1901: Pl. IX 3; Minns 1913: 186, Fig. 79.



specimens can be dated only in the end of the 5th century B.C. This dating is confirmed also by the style of the portraying of animals which is far removed from the genuine, ancient Scythian animal style. I entirely realize how dangerous and unreliable it is to establish dates on mere stylistic grounds,<sup>193</sup> yet, for lack of other evidence, our only choice is to apply this method in the case of the Somhíd, Gyulafehérvár, and Szurdokpöspöki rattles. The dating of the Aszód, Gyöngyös, Mihályfa, and Nagytarcsa pieces is facilitated by the accompanying finds. Mihály Párducz puts the date of the Aszód and Gyöngyös finds at the second half of the 6th century B.C.,<sup>194</sup> relying upon the more or less stable chronology of the bronze phaleræ and the iron bits of the so-called Vekerzug type. The age of the Nagytarcsa find, too, can be determined in the first place on the basis of the iron bits. Taking into consideration the Szentes-Vekerzug,<sup>195</sup> Cserhátszentiván,<sup>196</sup> Mezőnyék, Diósgyőr,<sup>197</sup> Hetény,<sup>198</sup> and Gyöngyös<sup>199</sup> parallels — and accepting the chronology of the Scythian Age in the Carpathian Basin —<sup>200</sup> the associated finds of Nagytarcsa, too, must be dated in the second half of the 6th century and in the first third of the 5th century B.C.<sup>201</sup> This early dating is supported by the archaic form of the rattles, their manufacture, and the nature of the representation of the animal (bull). The Nagytarcsa rattles have no exact analogues, but they bear the marks of the group of rattles with bulls' heads (Starsha Mogila, Ul'skij aul, kurgan 2/1909). Particularly noteworthy is the fact that from the entire Scythian area, from Central Asia to Transdanubia, no other rattles or pole-ends with representations of bulls (horned cattle) are known. Incidentally, it is interesting that one series was found in the Kuban district, one in the Sula district, and one in the region between the Danube and the Tisza.

The Szurdokpöspöki rattle belongs to the early group of rattles of the Carpathian Basin. This rattle, too, was not found alone, but the other pieces of the complex got unfortunately lost. The finds were discovered at a depth of 80 cm in the earth upset by deep-ploughing and, according to the unanimous statement of the finders, just like at Nagytarcsa, they found 3 rattles also at Szurdokpöspöki, and by the rattles there was also an iron bit and a bronze axe-adze. The authenticating excavations found no trace of the human and horse bones allegedly seen

<sup>193</sup> Tallgren 1930: 180.

<sup>194</sup> Párducz 1958: 66.

<sup>195</sup> *Idem* 1955a: Pl. X 4, Pl. XI 7.

<sup>196</sup> Patay 1955: 68–69, Pl. XII 12–13.

<sup>197</sup> Gallus-Horváth 1939: Pl. LXVII 3–5, Pl. LXVIII 1–3.

<sup>198</sup> Dušek 1961: 173, Pl. VI 3.

<sup>199</sup> Márton 1908: Pl. III 6–9.

<sup>200</sup> For reservations concerning the accepted chronology of the Scythian Age see Gazdapusztai 1966: 113–116.

<sup>201</sup> See Kornél Bakay's preliminary report on the Nagytarcsa excavations, *Arch. Ért.* 92 (1965) 232; Párducz 1965a: 290. The excavation of the cemetery at Szentlőrinc in southern Hungary was concluded in 1966, its material (of 4 graves) included also the so-called Vekerzug-type iron bridle-bits. The cemetery of the La Tène period has been dated by Erzsébet Jerem to the turn of the 5th and 4th centuries B. C. Jerem 1968: 194, Figs 26, 28, Pls XLVI–XLVIII.



at the site. Therefore, in this case, too, we cannot call the entire complex of finds to help in establishing an accurate date. Under these circumstances all that can be stated is that this specimen, too, originates from the time between the end of the 6th and the beginning of the 5th century B.C., just like the Gyulaférvár piece whose analogues are known from the Kuban district (Kelermes). Bearing in mind the chronology of the Kelermes kurgans, the Gyulaférvár rattle can with certainty be dated in the 6th century B.C. The Gyulaférvár rattle is a unique piece in the Carpathian Basin because it has a funelling top and there is no animal figure on it.

The Somhíd rattle, too, is undoubtedly an early piece, that is to say it is unquestionably justified to date it in the 6th century B.C.<sup>202</sup> It is beyond argument that in view of the shaping of the animal figures the Somhíd, Gyöngyös and Mihályfa rattles are akin to one another. Nándor Fettich, owing to the "primitive workmanship" considered them as local makes.<sup>203</sup> His references to Gernyeszeg as an analogy is wrong, for the Mihályfa rattles, on the basis of their form and structure, are related to the Starsha Mogila specimens. Accordingly, they belong to the early group of Scythian rattles, i.e. they were made not later than at the end of the 6th or in the first third of the 5th century B.C. What other arguments speak for this dating?

#### SPECTRAL ANALYSIS OF SOME SCYTHIAN BRONZE OBJECTS EXCAVATED IN THE CARPATHIAN BASIN<sup>204</sup>

The accessible Scythian rattles and bells found in Hungary were subjected to a spectral analysis by Márta U. Vanyek of the Budapest University of Technology.<sup>205</sup> Similar examinations have been performed on Copper Age, Bronze Age, and Avar Age finds,<sup>206</sup> but the material of the Scythian Age has not figured so far in Hungarian research.<sup>207</sup> The most important data on the objects examined are summarized in Table 25.

The results are summarized by Márta U. Vanyek as follows:

"The basic material of the objects examined is bronze. The copper basic material contains 10 per cent tin. As an accompanying element or possible alloy lead and zinc can be found in the samples."

<sup>202</sup> Iljinskaja 1963: 49.

<sup>203</sup> Fettich 1943: 40.

<sup>204</sup> The spectral analysis of the Scythian bronze objects found in Hungary is under way.

<sup>205</sup> For the representation of the method of examination and the detailed enumeration of data see the report of Mrs. Márta Urhegyi-Vanyek entitled "Spectroanalytical examination of the rattles and bells of the Scythian Age", in the archives of the Archeological Institute of the Hungarian Academy of Sciences.

<sup>206</sup> Zimmer-Szabó-Patay 1962: 515-519; Vanyek-Erdélyi 1967: 97-100.

<sup>207</sup> Information on the method employed by Soviet research and the results obtained is given by Chernykh 1965: 96-100; — *Idem* 1966: 143-154.



"As well-detectable trace-elements arsenic and stibium appear. These are customary accompanying elements of copper and tin ores. Their change in itself is not characteristic, but from the examination of the Sb/As proportion certain conclusions can be drawn."

"In the course of the classification we considered the tin content as the basic criterion, as it had got into the sample by deliberate mixing (we disregarded slight fluctuations of the tin content; they are a natural consequence of the technology at the time). On the basis of the tin content the classification is the following:

group I, composition resembles groups II and III

group IV, composition resembles group VI

group V, composition resembles group VII

The change of the lead and zinc contents served as a control. Their considerable fluctuation renders likely that they are impurities. Their average value within

TABLE 25

Site	Name of object	Sample No.	Group
Nagytarcsa	rattle	1	I
		2	
		3	
Mihályfa	rattle	4	II
		5	
Nagytarcsa	bell	6	III
		7	
		8	
		9	
		10	
		11	
		12	
Gyöngyös	rattle	14	IV
		15	
		16	
		17	
		18	
Gernyeszeg	rattle	23	VI
Aszód	rattle (in 2 pieces)	24	VI
		25	
Aszód	bell	26	VII
		27	
	phalera	28	

a group, however, can be characteristic. Between the two the change of the quantity of lead, showing a parallel with the tin content, is more consistent. Interesting is the development of the zinc concentration. The objects belonging to groups IV, V, VI and VII, with four exceptions, contain only traces of zinc, but the zinc content of the four exceptions is also lower in every case than the average of groups I–II–III. The question might arise whether these objects had been perhaps more corroded as zinc easily dissolves from the alloy. The probability of this assumption can be rejected, however, if the changes in the Sb/As proportion are examined.

The Sb/As proportion is all along higher in the samples belonging to groups IV, V, VI, and VII than in those of groups I–II–III. Combining this result with the change of the zinc content, we may draw the conclusion that for the production of the objects belonging to groups IV, V, VI, and VII some other basic material was used than for those belonging to groups I–II–III. Since the change of the zinc-lead content was found to be consistent, it is probable that the copper ore was of different origin in the two cases. This assumption is also supported by the fact that zinc has never been mined in Hungary (not even today), so that it must have come from the same place in all cases (in all likelihood from the zinc mines of the Ural district). At the same time copper ore — in more or less good quality — is to be found in several places in our country. It can be assumed that the individual workshops processed the ore coming from the mines nearest to them.

An extremely interesting, though at first sight unjustified, result is that while the objects (rattles or bells) belonging to groups I, II, III must be regarded as being of the same composition (Sn content hardly fluctuates, the one or two outstanding values found with the impurities are not of decisive importance), the composition of the rattles and bells belonging to groups IV, V, VI, and VII is different, i.e. the tin content of the rattles is lower than that of the bells. At the same time, independent of provenance, the composition of the material of the rattles compared to each other and, in the same way, the composition of the bells compared to each other, is similar. Examinations in other directions may possibly explain this fact."

Márta Vanyek's distribution into groups is undoubtedly remarkable, as she knew only the sample numbers at the time of her examinations, without denomination of objects and findspots.

Her classification is evaluated from an archeological point of view in the following.

The Nagytarcsa rattles and bells did not come from the same workshop as the Aszód, Gyöngyös, and Gernyeszeg pieces. Considering that the Mihályfa rattles are very closely related to those of Nagytarcsa, a certain workshop relationship or at least the usage of almost the same raw material can be assumed. This confirms the dating of the Mihályfa rattles.

Very important is Márta Vanyek's observation that the tin content of the rattles is lower than that of the bells, but the composition of the material of the rattles and bells originating from different sites — compared with one another — is



similar! The explanation of this fact is undoubtedly to be sought in the function of the objects, i.e. in order to obtain different *sound effects* different compositions of material were applied in the case of the rattles and the bells.<sup>208</sup>

If we accept the arguments indicating that the Gernyeszeg and Bucharest rattles were local products, as well as the results of the spectrum-analysis, we must assume that the Aszód and Gyöngyös objects were not made in the East either. Since, however, the Sn (zinc) characteristics of the Gyöngyös bells (group V) and the Nagytarcsa bells (group III) are approximately identical, the right view seems to be that only the component material, the zinc, originated from the same region, while the rattles and bells of groups I–III themselves were made in different workshops.

In want of comparative material it would be rather hazardous to attempt at an exact localization of the workshops. (In the East, concerning this topic, only metallographic examinations have been made lately). One thing, however, is certain, namely that the westward Scythian drive was motivated mainly by trade and economic objectives. Márton Roska stressed Transylvania's richness in ores (gold, silver, iron, copper),<sup>209</sup> to which Mihály Párducz and János Harmatta added the importance of the export of horses (tarpan) to the West.<sup>210</sup> These interrelations, ranging over vast areas, left their traces in Slavonia,<sup>211</sup> Austria,<sup>212</sup> Bulgaria,<sup>213</sup> Greece,<sup>214</sup> and Germany.<sup>215</sup>

There is apparently a contradiction between the dating of the Gernyeszeg rattle to the end of the 5th century B.C. and the results of the spectro-analytical examinations, as we dated the Gyöngyös finds in the second half of the 6th century B.C. Although the contradiction may be a real one (either because our dating is wrong, or mistakes were made in the course of the spectrum-analysis), the difference of about 80 years can nevertheless be easily explained, even if both the Gyön-

<sup>208</sup> The bell cast from an alloy composed of different metals rings more beautifully, as it was very well known by Hungarian herdsmen still in the last century. The shepherd who had discovered the famous Cumanian grave finds of Kígyópuszta in 1816 melted three gold objects into the material of the sheep-bells he was just making. Éri 1956: 139.

<sup>209</sup> Roska 1963: 36–40.

<sup>210</sup> Harmatta 1966: 107–116; Harmatta 1967: 134–135; Mihály Párducz: *Hungary's Scythian Age* (manuscript); Bökönyi 1954; 1955.

<sup>211</sup> It must be mentioned here that various rattle-shaped objects can also be observed in the European Hallstatt culture, but these are not related to the Scythian rattles. An example is the Šaregrad object, which is quite unlike the Scythian rattles in respect of age (Ha–B–C), form, function, and size (height 6 cm). Vinski 1955: 37, 42, Fig. 25.

<sup>212</sup> Foltiny 1963: 30–31.

<sup>213</sup> Rostovtsev 1931: 535–542. Split-bodied, rattle-shaped small objects from the early Iron Age occur also in Bulgaria, but these are not related to the Scythian rattles. The small bronze rattle of Bargala was worn on a string, its height was altogether 7 cm. Venedikov 1948: 94, Fig. 64.

<sup>214</sup> Akurgal 1961: 216, Figs 184–185. Split-bodied objects decorated with birds' figures standing on balls, cast in bronze and belonging to the Hallstatt B period, are also known from the territory of Greece, but they are not rattles, since they contain no balls and are very small (4.5–6 cm). — Rolley 1967: Figs 20–21.

<sup>215</sup> Furtwängler 1883.



gyös group of finds and the Gernyeszeg rattle were products of a local, (perhaps Transylvanian?) workshop. It was not the workshop and the composition of the alloy that changed but the persons who ordered them!

## REPRESENTATION OF ANIMALS

The number of rattles decorated with animal figures exceeds by far those without an animal figure. In the Carpathian Basin (including stray finds) the proportion is 20 : 1, in Russia 88 : 33, or rather 31 because two specimens have human figures.

What animals were represented on the rattles?

More accurate determination of the animal figures is not always possible, but even so it can be seen that the domestic animals represented are the horse and the bull (ox), while the wild animals include the red-deer, roe-deer, wild duck, panther (?), lion, and various birds. Fantastic animals (griffin, dragon) occur both in earlier and later times. The uniformity of the types in itself proves that the choice of the animals to be put on the rattles was not accidental, but quite deliberate, with the animal figures determined well in advance (Table 26).

Three groups of animal figures can be distinguished:

1. domesticated animals playing a role in the economic life of the Scyths (e.g. horses, horned cattle);
2. wild beasts they encountered in the steppes in their pursuit of game (e.g. deers [*Cervus* L. and *Capreolus* C.], eagles, sparrow-hawks, falcons, panthers);
3. animals which are not at all characteristic of the steppes (e.g. lions), and mythical, so-called fantastic animals (griffins, dragons).

Apparently a group of animals otherwise frequent in Scythian representative art does not occur on rattles and pole-ends (e.g. bears, wild boars). The most frequent animal figure of the Scythians both in Europe and in Asia was undoubtedly the deer. This can be seen also in the case of rattles and pole-ends. In the territory of Russia rattles with stags' figures are known from 8 findspots, but in the Carpathian Basin rattles decorated with stags' figures have not been found so far. The animal figures on these rattles show the characteristics of the roe-deer (*Capreolus capreolus*). The famous Hungarian golden stags (Zöldhalompuszta, Tápiószentmárton) show the features of the reindeer (*Rangifer tarandus*),<sup>216</sup> but on the animal figures of the rattles there is no trace of the ram's nose curving downward, the wide mouth and the strongly-stretched hoofs characteristic of reindeers.

Without the aid of historical zoology no far-reaching zoological conclusions can be drawn, but it is most likely that the reason of this phenomenon must be sought in the difference of the ranges and various species of deers. The roe-deer (*Capreolus capreolus*) is a characteristic animal of leafy forests, i.e. also in the first millennium B.C. it was a native animal primarily in Europe, while among

<sup>216</sup> Determination by Antal Péntes.



TABLE 26

Site	Red-deer	Roe-deer	Bull (ox)	Horse	Mule	Bird	Big beast of prey: panther, lion	Fantastic animal: griffin, dragon	Water-fowl (wild-duck)
Aszód		+							
Gyöngyös		+							
Nagytarcsa			+						
Szurdokpuspöki							+		
Gernyeszeg		+			?				
Somhíd		+							
Mihályfa		+							
Budapest		+							+
Transylvania? (Bucharest Museum)		++			?				
Kelermes, kurgan 1				+		+			
Kelermes, kurgan 3							+	+	
Uliskij aul, kurgan 1/1898								+	
Uliskij aul, kurgan 2/1909			+			+			
Mahoshevszkaja	+								
Majkop	+			+					
Krasnodar						+			
Anapa	+								
Don district	+								
Starsha Mogila			+						
Volkovtsy, kurgan 1	+								
Volkovtsy, kurgan 7						+			
Volkovtsy, kurgan 476						+	+		
Axjutintsy	+								
Budki							+		

(Table 26. cont'd)

Site	Red-deer	Roe-deer	Bull (ox)	Horse	Mule	Bird	Big beast of prey: panthere, lion	Fantastic animal: griffin, dragon	Water-fowl (wild-duck)
Popovka, kurgan 5									+
Romny		+			?	+	+		
Alexandropol						+		+	
Chertomlik	+							+	
Chmyrjovo	+								
Krasnokutsk						+	+	+	
Velikaja Lepetikha									+
Mezirichka							+		
Raskojitsy						+			

other species of deers the red-deer (*Cervus elaphus* L.), for instance, was at home in Europe, in the region of the Caucasus, in Siberia, and also in south-east Asia. The Scythians, however, must have known also the elk (*Alces alces*), and the reindeer (*Rangifer tarandus*).<sup>217</sup>

Attempts have already been made to determine the zoological character of the Scythian deer-representations and, thereby, to establish the original home of the Scythian deers;<sup>218</sup> these investigations, however, are far from being completed.

A survey of the representation of animals on rattles and pole-ends immediately reveals that not all of them correspond to the Scythian style. How can it be explained?

<sup>217</sup> Chlenova 1962: 189.

<sup>218</sup> Minns 1942: 57-58. — Chlenova 1962: 191-192. — Kádár 1967: 59-65. — A comprehensive picture of the Early Iron Age fauna of the areas north of the Black Sea is given by Tsalkin 1960 and Liberov 1960.





## ORIGIN OF THE SCYTHIAN RATTLES

When searching for the origin of the Scythian rattles and pole-ends we must survey all the areas and cultures where similar objects are known.

There are analogues among the bronze objects of the Ordos region dating from the very end of the 7th or the first third of the 6th century B.C.<sup>219</sup> Near parallels are known also among the Tagar Age (6th–4th centuries B.C.) bronze rattles with figures of mountain goats<sup>220</sup> found in the Minusinsk basin, but, the majority being stray finds, the circumstances of their discovery are little known. Recently J. S. Grishin<sup>221</sup> has published interesting data on the technique of their manufacture. Some of the simpler specimens were cast in parts, some were put together from two halves, while casting in one piece by lost wax process, the characteristic technique of the Scythian rattles, occurs very rarely. A point of interest is that the Omsk Museum piece has a pole-end, coming from the Ob district, which is made of bronze and whose vertically divided, perforated disc is decorated with stylized elks' heads. A wooden handle used to be fixed into its triangular socket. It was dated by V. N. Chernetsov in the middle of the first millennium B.C.<sup>222</sup> Chronologically close to this find is the stag figure<sup>223</sup> from the world-famous Altaian Scythian site, the 2nd Pazyryk kurgan, which bears a strong resemblance to the Mahoshevskaja rattle, although the Pazyryk piece is made of wood and leather. Many finds survived in the 2nd kurgan particularly in the horse grave which was only partly destroyed by the grave-robbers. On the basis of the furniture,<sup>224</sup> the 2nd Pazyryk kurgan was determined by Franz Hančar as a shaman burial.<sup>225</sup> The Pazyryk kurgans belong to the 5th–4th centuries B.C.<sup>226</sup>

The Scythian rattles and pole-ends found in the areas west of the Ural cannot originate from the areas enumerated, for they appear earliest in the Kuban district or at least simultaneously with certain specimens of the areas east of the Ural. The developed form of the types of the Kuban district, the technique of their manufacture and their functional modelling make this assumption all the more likely.

<sup>219</sup> Salmony 1933; Carter 1957: Pl. 17.

<sup>220</sup> Tolstoj–Kondakov 1890: 40, Fig. 38; Radlov 1894: 126; Jegorov 1967: 250–253, Fig. 1.

<sup>221</sup> Tikhonov–Grishin 1960: 166.

<sup>222</sup> Chernetsov 1957: 150.

<sup>223</sup> Griaznov 1958: Pl. 29.

<sup>224</sup> *Ibid.*: 7, Pls 5, 7, 25, 27, 29, 32, 33, 37–41, 43, 46, 48, 63–64.

<sup>225</sup> Hančar 1952: 182, 193–194; *Idem* 1956: 165. *Idem* 1956a: 183–185.

<sup>226</sup> Rudenko 1960: 162–172; Ghirshman 1964: 360–370.



Today it can hardly be doubted any longer that the specific culture and art of the Scythians evolved in the times following the wars in Asia Minor.<sup>227</sup> It is not the aim of this book to investigate the origin of the Scythians, we are only trying to line up those arguments and results achieved so far, which appear to be firm enough.

It was emphasized already by Géza Nagy that the Scythians had come from the East, from Asia to the region of the Black Sea.<sup>228</sup> The time of their appearance in southern Russia was put by Rostovtsev to the end of the 6th century B.C.<sup>229</sup> According to Herodotus the Scythians penetrated into Asia in pursuit of the Cimmerians and overthrew the rule of the Medes who had until then been the lords of Asia (*Lib. IV. cap. 1*). The Scythians wanted to take possession of the fertile plains of southern Russia,<sup>230</sup> and it is a fact that they occupied that area extremely swiftly.<sup>231</sup> Neither the burial customs of the Scythians, nor their art of representing animals has adequate precedents in the beam frame and catacombe Bronze Age cultures of the steppes around the Black Sea.<sup>232</sup>

The earliest rattles and pole-ends originate from the Kuban district, from Kelermes. The grave goods of the kurgans, according to the investigations, were made by as many as four workshops: Scythian, Urartian, Assyrian and Greek. The links of the Scythian relics with Asia Minor are sufficiently established, particularly since the discovery of the Ziwiyeh finds (Saqqiz). Recent research has proved convincingly that the finds previously regarded as a hoard were Scythian grave goods.<sup>233</sup> Historical sources (inscriptions of the Assurhaddon age) tell us that the Scythians appeared in the north-western parts of Assyria in the wake of the Cimmerians in 679 B.C.

The Cimmerians occupied Urartu and the area round Lake Van, the Scythians Manna and Media (Ziwiyeh).<sup>234</sup> The Scythians settled down in the northern part of Manna, in the valley of the river Arax, which is called Sakasena, obviously because the Scythians were also called Sakas by the Persians. In 673 B.C. they entered to an alliance with the Medes and the Mannas. The princes of the Scythians were Ishpakai and Partatua. It has not yet been clarified whether the same Scythian tribes continued to live there up to the end of the 7th century, or the Scythians of the time of the Babylonian king Nabopalassar (625–601) represented a fresh wave of population. In any case Nabopalassar allied with the Scythians against

<sup>227</sup> I do not share the view formulated in the clearest way by Zoltán Felvinczi Takács: "We must start from the fact that the nomads who kept changing their abodes even by seasons could not have engaged in activities exerting a decisive influence on the development of general culture. If, therefore, we wish to determine the different basic factors and basic forms, we must consider first of all the creations of the oldest cultured peoples that had settled down permanently." Felvinczi 1915: 65.

<sup>228</sup> Nagy 1895: 5–7; *idem* 1909: 154, 169.

<sup>229</sup> Rostovtsev 1922: 41.

<sup>230</sup> Carter 1957: 23.

<sup>231</sup> Chernikov 1965: 108.

<sup>232</sup> *Idem* 1965: 127.

<sup>233</sup> Ghirshman 1964: 98–125. For links in Asia Minor see Rudenko 1961: 39–52.

<sup>234</sup> Godard 1962: 95–96.



Assyria and — as revealed by the researches of H. Schmidt<sup>235</sup> — it was then that the “Asian rule” of the Scythians began which, according to Herodotus (*Lib. IV, cap. 1.*), lasted 28 years. Herodotus writes that the Scythians were defeated by Kyaxares, king of the Medes (653–585), after he had the Scythian leaders murdered on the pretext of a feast in 594 (*Lib. IV, cap. 103–106*). Since, however, in 591 B.C. the Scythians still took part in the campaign against Egypt and Palestine (references of the Bible and the Book of Jeremiah!), there seems to be more truth in the assumption that they withdrew towards the north, to the Black Sea region, around 584 B.C.<sup>236</sup>

Thus the presence of the Scythians in Asia Minor in the 8th–6th centuries B.C. is an irrefutable fact. Recently the possibility has been raised that the Scythians invaded Asia Minor also from the area of Kazakhstan.<sup>237</sup> According to N. L. Chlenova, Scythic peoples lived in Kazakhstan, in Kirghizia, in the Altai and Tuva regions, and even in the Ordos region.<sup>238</sup> It is hard to deny the possibility that the Scythians may have advanced towards the south from two directions: from the north across the Caucasus, and from north-east, through Central Asia, along the southern shores of the Caspian Sea. It is, however, quite certain that a considerable part of the Scythians who appeared suddenly and in huge numbers in the neighbourhood of the Black Sea at the beginning of the 6th century came into their new country through the Caucasus.<sup>239</sup>

The Caucasian peoples played undoubtedly an important role in the development of the culture of the Scythian Age. Even the Cimmerians (Assyrian ‘*Gimirri*’, Hebrew ‘*Gómer*’) may have been Caucasian tribes.<sup>240</sup> Also the antecedents of the Scythian rattles, pole-ends, and bells can be found in their purest form in the Koban culture.

Outstanding among the findspots of the Koban culture (Faskau, Kumbulta, Chmy, Piatigorski, etc.) which emerged at the beginning of the first millennium B.C. is Kazbek where many finds containing silver and copper vessels were excavated in 1871.<sup>241</sup> Among the finds the most important from our point of view are the bronze stags suspended on chains<sup>242</sup> some of which are 5–6 cm high, while others reach a height of 20 cm;<sup>243</sup> the stags and a bull’s figure that are put on poles<sup>244</sup>; the human figure standing on bull’s horns, with a peculiar object in his hand, which A. M. Tallgren likens to a sceptre and connects with the double-headed hammers of the steppes.<sup>245</sup> Three bells with split mantles about 15 cm high each,

<sup>235</sup> Schmidt 1927: 1–90.

<sup>236</sup> Artamonov 1966: 11–13.

<sup>237</sup> Chernikov 1965: 98–104.

<sup>238</sup> Chlenova 1962: 193. Cp. Felvinczi 1915: 66.

<sup>239</sup> Krupnov 1960: 67, Fig. 4.

<sup>240</sup> Nagy 1895: 28; Gazdapusztai 1963: 37–38.

<sup>241</sup> Tallgren 1930: 109–182.

<sup>242</sup> Tallgren 1930: Figs 31–34.

<sup>243</sup> I collected my data in 1967 by examining the material on display at the Historical Museum in Moscow.

<sup>244</sup> Tallgren 1930: 157, Figs 34–35.

<sup>245</sup> *Ibid.*: 158, Figs 12–13.



had been fixed to the horns. The spherical ends of the objects<sup>246</sup> regarded as double-headed hammers are perforated and empty, which gives me reason to believe that they represent rattles. The big bronze bells, too, sustain this assumption. There was a separate bronze bell (height 12 cm) in the treasure, which had also a split mantle.

Mention must be made of two pieces, one bearing the figure of a rider and the other those of a horse and a bull, described as harness ornaments.<sup>247</sup> A. M. Tallgren related the cones of the drinking-horns to the Scythian rattles and pole-ends.<sup>248</sup>

The Kazbek treasure is made up in all likelihood of sacrificial objects which originally did not belong together, but were brought to the cultic sanctuary at different times and on different occasions as votive offerings added to the sanctuary's original equipment.

A. M. Tallgren even suggests some rather convincing analogies: In Rhodes, Argos and Thessaly thousands of breast-pins were found as *ex voto* offerings in the temples of Athene and Zeus. Bells which got there as sacrificial objects are often found in ruins of old temples in the Caucasus. In any case, there were many sanctuaries in the Caucasus, and, after Uvarov, Tallgren describes one of them, the Rekom sanctuary. It is a small, hut-like building with a low stone wall round it. There is a small window in the wall, ornamental fittings on the wooden door, and nails in the beams. A large number of bulls' horns lay outside the building. The Ossets either dropped their sacrificial objects into the sanctuary through the window or put them on shelves.<sup>249</sup>

Part of the objects of the Kazbek treasure originates undoubtedly from the time of the late Koban culture (6th century B. C.), the entire treasure, however, can be dated only within several centuries (i. e. 8th–3rd centuries B. C.). The early pieces (animal figures) have analogues known from other findspots. Such are for instance the pole-ends with stag figures of Kamunta.<sup>250</sup> The existence of direct antecedents of the Scythian rattles in the north-Caucasian Koban culture is extremely important from our point of view. G. Nioradze has published pieces of the Kvemo-Shashireth treasure (rattles with birds' and rams' heads),<sup>251</sup> emphasizing their ritual significance. Similarly, the bells also have analogues. The so-called Koban bell<sup>252</sup> may be regarded as an antecedent in respect of form as well. A bronze bell<sup>253</sup> was found in the south-eastern corner of grave 76/140 in the Lugovoje cemetery (6th–5th centuries B. C.) in the Northern Caucasus. There were also direct contacts between the Scythians and the peoples of the Koban culture, as

<sup>246</sup> *Ibid.*, Fig. 15.

<sup>247</sup> *Ibid.*, 167, Figs 62–63.

<sup>248</sup> *Ibid.* 155.

<sup>249</sup> *Ibid.* 1930: 178–180; Tokarjev 1963: 164–165.

<sup>250</sup> Iljinskaja 1967: 300. Fig. 7.

<sup>251</sup> Nioradze 1932: 93–94, Figs 12–15.

<sup>252</sup> Krupnov 1960: 425, Pl. III 6.

<sup>253</sup> Munchajev 1963: 180, 190–192, 207, Fig. 26 10, Fig. 30.



is evidenced by the Mozdok cemetery (7th–6th centuries B. C.). Considering that the influence of Asia Minor, especially that of Urartu, was very strong in the Northern Caucasus (on the Berlin head-piece originating from the Koban cemetery there is an Urartian inscription<sup>254</sup>), it is not surprising that parallels of the Koban bells are also known from Ališar.<sup>255</sup> B. B. Piotrovskij, therefore, justly arrived at the conclusion that the Scythians of the Black Sea region had had close relations with the Caucasus, the regions beyond the Caucasus and Asia Minor.<sup>256</sup> The Cappadocian and Hittite connections were emphasized also by A. M. Tallgren.<sup>257</sup> A. A. Iessen has established that at the time of the Koban culture the metal casting centre was in the Kuban region.<sup>258</sup>

In 1879 I. P. Arshipov performed chemical tests on ancient bronze objects. Among others, he examined 15 objects from the Kazbek treasure, including 2 bronze bells, a stag figure, etc. The tests revealed the copper, lead, and zinc contents of the objects.<sup>259</sup> In the bronze objects of the Koban culture, too, the proportion of the copper and zinc content is 90%: 10%.<sup>260</sup> (This proportion was the same in the case of the rattles of the Carpathian Basin!) The comparatively high lead content is also worth attention, since this is characteristic of the bronze objects of Asia Minor.

Farther to the south, from the shores of the Lake Sevan (Lchashen),<sup>261</sup> and from Armenia (Tolors, Archadzor: ornaments with bulls' heads)<sup>262</sup> ornaments are known which resemble the Scythian specimens. These graves belong to the 14th–12th centuries B. C. The Lchashen ornaments were found next to waggon remnants, at the place where the carriage-pole joined the yoke (9th kurgan). On the basis of a detail-photograph<sup>263</sup> it can be established that they were not fixed to the pole. Such an assumption would be contradicted also by the solid lower part ending in horns. The mythological character of the scene represented is undeniable: it shows hunters standing on a two-wheel waggon drawn by two horses, chasing a stag. A similar ornament was recovered from kurgan 10, but there the pole and the yoke had been dismantled, and two bulls' skulls lay in front of the waggon. In the front board of the waggon in the 11th kurgan two stag figures are carved. The cult of the stag and the bull cult is an undisputable fact, and, as it was established also by A. O. Mnatsakanjan, the pole-end ornaments representing stags, bulls, birds, and mountain goats were in all probability connected with cultic images.<sup>264</sup>

<sup>254</sup> Gazdapusztai 1963: 30.

<sup>255</sup> Piotrovskij 1962: 6, Fig. 3.

<sup>256</sup> *Idem* 1940: Vol. III, 90.

<sup>257</sup> Tallgren 1930: 155.

<sup>258</sup> Iessen 1951: 75–124. — Gazdapusztai 1966: 107.

<sup>259</sup> Tallgren 1930 174.

<sup>260</sup> История Северо-Осетинской АССР. Moscow 1959: 20.

<sup>261</sup> Mnatsakanjan 1960: 139–152.

<sup>262</sup> Mnatsakanjan 1954: 101.

<sup>263</sup> Mnatsakanjan 1960: 139, 141, Fig. 4.

<sup>264</sup> *Ibidem* 142–143, 145, Fig. 7.



V. A. Iljinskaja, too, observed<sup>265</sup> that the above-discussed Armenian objects show a very close affinity to the insignia with animal figures of the famous Anatolian royal graves.

Excavations at Alača-Höyük were started in 1935, led by R. O. Arik and H. Z. Kosay.<sup>266</sup> Among the extremely rich grave furniture only the insignia with discs and stag figures are of interest to us.

The ritual of the 13 graves excavated can be summed up as follows: The dead were buried in the pit laying on their right side in a contracted position. The pits were 3–8 m in length and 2–5 m wide. The graves were orientated west–east, facing south. The four sides of the pit were covered with stones, and then the roof laid on boards was thickly covered with clay. The skulls and legs of the animals consumed at the burial feast were put over the grave and they, too, were covered with earth.

The grave furniture were put into the grave rather at random, with the exception of the cultic objects which were laid in front of the body. Remarkably enough, the animal symbols were placed *separately*, often into the middle of the grave.

In grave “A” the insignia lay side by side in a nearly straight line, in grave “B” the bronze stag figure which had probably been fixed to a silver-inlaid wooden handle was found to the left of the skull. In grave “B” — judging by the furniture found there (bronze mirror, silver comb, a bundle of gold needles, 3 gold fibulae, a gold coronet, gold chains, 2 gold armlets, 1 ear-ring) — a woman had been buried. Also the third grave was a female burial. Its furniture is astonishingly similar to the types of finds discovered in the Scythian graves which are about 1500 years younger.

On the woman's skull there was a coronet, round her neck a gold and coral chain, on her breast a gold fibula, to the left, level with the breast, a silver idol with gold breasts, gold shoes and blue stone-inlaid eyes. By the skull lay another silver idol, a silver spoon, a silver spindle, a gold cup, a gold and silver bracelet, a gold-headed silver needle, and a gold-inlaid silver vessel. Further away, in front of the skeleton, lay four disc-shaped symbols (“standards”), and in the south-western corner of the grave an electron-inlaid bronze symbol with a bull figure, and some other rare metal objects.

The sizes of the symbols with animal figures of Alača-Höyük range from 19 to 36 cm. Apparently the sizes, too, had some significance, because they varied even in the same grave (e. g. grave “D”: 19, 22, 23, 41 cm).

The technical standard of the animal insignia is high. The fine bronze casts had been encrusted with silver.

The Alača-Höyük graves are not all of the same age, burials were made there for nearly two centuries. The dating of the Turkish research workers (4000–3000 B. C.) is in no way correct, nor can the dating of Tibor Horváth (1000–800 B. C.)

<sup>265</sup> Iljinskaja 1963: 53.

<sup>266</sup> Arik 1937; Kosay 1951; Bossert 1942: 297–298, Pls 62–63; Bittel 1950; Akurgal 1961: 9–15, Pls I–IV and Figs 2–11.



be accepted.<sup>267</sup> According to recent research the graves can be dated to 2300–2100 B. C., and ethnically identified with the Hattian people.<sup>268</sup>

The most important question from our point of view is the meaning and role of these symbols.

The princes buried in the Alača graves were also the high priests of their people. These insignia were used in religious rites, partly as rattles accompanying the mysterious sound of ritual songs, while the animal figures personifying the gods were fixed on poles. Nearly all pieces have wedge-shaped points, therefore they were fitted into wooden handles.

Particularly remarkable is the cultic meaning of the perforated specimens. On the diamond-shaped symbols the swastikas running partly to the left and partly to the right are symbols of the rising and descending Sun. Below, the symbols are embraced by bulls' horns. Altogether they represented the universe — as it has been pointed out by F. Hančár.<sup>269</sup> On the rim of another perforated disc flying birds indicate the cultic nature of the representation.

It is obvious from the representations that the stag and the bull are the holy animals of some deity. They are probably the attributes of the Hattian Vurusemi (Arisa) sun-goddess. The close intertwining of the sky with the animals, first of all with the bull and the deer, naturally points also to the original totem ancestors.<sup>270</sup>

One group of these symbols shows the influence of the religious views of the Mesopotamian culture (bulls' horns, aureola above the animals).

Foreign influence can be noticed also at other Anatolian findspots, e.g. at Horoztepe. Another important point about the representations of animals found in the Horoztepe grave is that they are very close to the Caucasian finds. "The startling similarity of the Caucasian and Anatolian metal work can hardly be explained by economic reasons alone" — writes E. Akurgal.<sup>271</sup>

Summing up the above, we can say that the antecedents of the Scythian rattles and pole-ends appeared in the last third of the 3rd millennium B. C. in Asia Minor (Anatolia) and, spreading further through Mesopotamia, Assyria and Urartu, reached the region of the Caucasus as early as in the 14th and 13th centuries B. C.

Direct contacts are indicated by the bronze figures of Hittite origin found in the Caucasus which represent people dancing in a ring and wearing headgears with high horns, and often with bells, too. Some have animal masks instead of faces.<sup>272</sup> It is beyond doubt that those figures, too, had cultic contents, in all probability connected with shamanism.

<sup>267</sup> Gallus-Horváth 1939: 146.

<sup>268</sup> One of the most recent discussions is that of S. Lloyd, who attempted at a reconstruction of the Alača-Höyük graves. He placed the symbols with animal figures on the corners and sides of the canopy and on the bier. Lloyd 1967: 20–29, Fig. 10. I believe that such a reconstruction is rather far-fetched.

<sup>269</sup> Hančár 1939: 292.

<sup>270</sup> Miyakawa-Kollautz 1960: 166.

<sup>271</sup> Akurgal 1961: 13.

<sup>272</sup> Miyakawa-Kollautz 1966: 166, Figs 18–19.



But how were the Scythians able to take over some of the characteristics of the cults of Asia Minor? Knowing the role the Scythians played in Asia Minor it can be assumed — as also H. Schmidt thought<sup>273</sup> — that they copied things on the spot or from memory. Regarding certain patterns, it is contended by N. L. Chlenova that only those patterns of Asia Minor survived which corresponded to the level of the Scythian society.<sup>274</sup> It must be noted, however, that e. g. the Assyrian compositions<sup>275</sup> can early be recognized even in the art of the Altaic Scyths.

## THE FUNCTION, SPIRITUAL BACKGROUND AND RITUAL SIGNIFICANCE OF THE SCYTHIAN RATTLES AND POLE-ENDS

Our examinations have provided several reliable clues which will, in all likelihood, enable us to determine the one-time function of the Scythian rattles.

We have seen that throughout the Scythian world of Eurasia no two rattles or pole-ends are exactly alike. It follows from this extremely important fact that every single rattle or pole-end — even in the case of identical sites — was cast in a different mould. Technological arguments alone cannot explain this circumstance, though it is obvious that further examinations must be made also in this respect. All Scythian rattles and bells, without exception, are cast in one piece, and the specimens made of iron were forged from one piece. Knowing the high level of Scythian bronze casting, it seems entirely impossible that the rattles and bells differ from one another because Scythian technology was not sufficient to ensure their full uniformity. Detailed examinations have offered conclusive evidence to the fact that the rattles and bells played a sound-producing role. The differences between the individual specimens (height, diameter, weight, volume, number and size of openings, method of fixing, material and number of balls) can be explained by the efforts of the Scyths to obtain different acoustic effects, and this, indeed, is the proper explanation. On most rattles, however, there are animal figures, and the most surprising fact is that these animal figures, too, are not of the same form, not even within one group! From findspots in Hungary we know three cases where several similar pieces were found in the same place. The least variance is displayed by the animal figures on the 6 rattles found at Gyöngyös, as there is hardly any noticeable difference in the carriage of the deer figures. Minute differences can be observed, however, in the shaping of the muzzles and in the body proportions. The animal figures of the 4 Mihályfa rattles are already separated from each other by ornamental differences. The necks and backs of the animals were stressed by chiselled lines, but the master who made the rattles did not perform his task in a uniform manner. On one animal figure we can see a closely set line

<sup>273</sup> Schmidt 1927: 77.

<sup>274</sup> Chlenova 1962: 195.

<sup>275</sup> Rudenko 1961.



of shallow incisions, while on the other the back of the animal is covered by more vigorously chiselled, deeper grooves, set wider apart. One would be inclined to regard the dissimilitude of the animal figures of the Mihályfa rattles as unimportant differences, were there not such striking differences between the carriage of the animal figures of the Nagytarcsa rattles. Rattle No. 1 is decorated with a bull's figure with stretched legs and rigid posture, on the top of rattle No. 2, on the other hand, there is a bull with its legs drawn under its body. It is remarkable that this animal, too, is represented in a rigid posture. The neck and head stretched forward indicate the posture that is usual in the mating season.<sup>276</sup>

A thorough examination of the finds excavated in Russia yields the same result. Let me refer as an example to the rattles found at three sites of the Sula district group. The difference between the animal figures of the 4 bronze rattles coming from the first Volkovtsy kurgan is far too great to be meaningless. The heads, trunks and antlers of the stags, in spite of the identical composition, are entirely different, and it is wholly justified to assign these differences to deliberate efforts on the side of the maker or makers of the rattles. The differences of the stag figures decorating the 4 rattles of the kurgan near Axjutintsy are less conspicuous, yet a comparison of them is illuminating since by drawing attention to the minute differences we can avoid the schematism of superficial observation. If it was easy to see the sharp differences in the case of Volkovtsy, it is as difficult to discover them in this case. This already indicates that the maker of the Axjutintsy rattles made the casting moulds according to a model. The stag figure of rattle No. 1 has a well-shaped muzzle-line, the front and hind thighs are pronounced, and the length of the six-twined antler exactly corresponds to the length of the trunk. On rattles Nos 2, 3 and 4 the muzzle is not elaborated, the proportions of the antler and the body fails to correspond to each other and, moreover, the shaping and harmony of the branches of the antler, too, are different. This is particularly noticeable on rattle No. 3 where the two front branches close in a ring-like manner and are contracted. The model, therefore, was the same but different casting moulds were used for each of the four rattles.

From the 5th Popovka kurgan two bronze rattles decorated with water-fowls (wild-ducks) were brought to light, and the differences between the animal figures can naturally be observed also in this case. The beak of the bird's head on rattle No. 1 is straight and the eyes are emphasized in a plastical manner. On rattle No. 2 the beak is narrower and curving upward, and the details of the head are much more perfunctory. Instead of enumerating further examples I shall rather sum up the regularities. The Scythian rattles and pole-ends appear to be individual pieces, whether their external characteristics (measurements, forms, weight) or their practical purpose (acoustic effect) is examined. On the basis of these two factors it is quite certain that the variance of the animal figures decorating the ends of the rattles is not fortuitous either. Nor can the various species of animals met in the classification of the rattles and pole-ends be mere decorating elements. Their

<sup>276</sup> Carter 1957: 28.



deeper content could already be guessed in the course of the examination of the antecedents.

Written historical data as well as archeological evidence point unequivocally to the fact that in the 6th–5th centuries B. C. Scythian society was long past that stage of development whose characteristic feature is the hunter's magic,<sup>277</sup> and therefore the spiritual background of the Scythian animal style cannot be sought in magic.

Greek colonisation in the northern coastal region of the Black Sea is known to have begun in the second half of the 7th century B. C., whereas in the second half of the 6th century B. C. already the first Greek polises appeared in the region of Kerch. There is no doubt that the meeting of the Hellenic culture and the nomadic peoples of the Black Sea steppes opened up a new era. Greek influence made itself felt also in areas remote from the Black Sea as early as in the 6th century B. C., since a Scythian vessel with a Greek inscription was found even at a distance of 300 km from Olbia, by the Bug river.<sup>278</sup>

On the basis of these facts several scholars have believed that Herodotus, who reported also on the religious views of the Scythians, identified the Scythian gods with the Greek ones because they were essentially the same. We have many reasons to assume that the names of Scythian gods recorded by Herodotus (*Lib. IV. cap. 59*) — Tabiti, Papaïos, Api, Goitosyros, Argimpasa, Thagimadas — are names originating from the Scythians themselves. Herodotus's explanatory identifications, however, must not be accepted. Herodotus did not see the religious rites of the Scythians with his own eyes, he was only told about them; therefore, it would be misleading to suppose that the Scythian gods, too, were anthropomorphous. Presumably Géza Nagy, who saw them as the gods of the Fire, the Heavens, the Earth, the Sun and Fertility, was on the right track.<sup>279</sup>

All assumptions that the Scythians had been followers of some antique religion are ruled out by historical and archeological evidence.<sup>280</sup> The data indicate that shamanism still prevailed in the Scythian Age, though, as it is suggested by the names of gods, it is not impossible that, from the 4th–3rd centuries B. C. onwards, part of the leading strata had some religious ideas of a higher order, too.

The Scythian animal style in itself indicates that the religious images of the Scyths appeared in a zoomorphous form and thus, searching for their content, we must inevitably arrive at a totemistic world concept. The representation of animals in the Scythian art — therefore also the animal figures of the rattles and pole-ends — express a profound ideological content.<sup>281</sup>

In the beginning the totem animal was the holy animal of the whole tribe, but later it became the helper and symbol of only the man who performed magic rites, the *shaman*.

<sup>277</sup> Smirnov 1966: 167–168.

<sup>278</sup> Blavatskij 1964: 13–26.

<sup>279</sup> Nagy 1895: 38–39.

<sup>280</sup> Rostovtsev 1927: 141. Rostovtsev identified the equestrian figure of the Karagodeuasha rhython with the Iranian mounted god Ahura-Mazda.

<sup>281</sup> Blavatskij 1964: 21; Chernikov 1965: 123.



Herodotus recorded of the Neurs "living according to Scythian customs" the following: "Otherwise they are said to be magicians. The Scythians and the Hellenes settled in Scythia state that every Neur turns into a wolf once every year; he remains a wolf for some days and then assumes again his previous form" (*Lib. IV. cap. 105*).

This characterization is a description of shamanism. The ancestor-animal goes on living in the shaman who, however, can get in touch with the other world only if he slips into the skin of the totem animal or puts on its principal attributes (such as horns, an animal mask). The shaman's second ego is, therefore, an animal. His existence is welded with the existence of the animal, they have a common fate.<sup>282</sup>

Each tribe (people?) had a different totem animal. With the Soicts it was the hare, with the Yakuts the eagle, with the Buriats the swan, with the Finns the bear, and with the Magyars the "Turul" (mythical eagle). The wolf was the totem animal of the Turks. They also fastened wolves' heads to their war insignia, but these had nothing to do with the Scythian rattles, owing to their fundamentally different structure and form.<sup>283</sup>

Among the natural forces in close kinship with one another the figure of the Ancient Mother, living first in the shape of a hind, seems to be the oldest.<sup>284</sup> The deer was obviously one of the ancient Scythian totem animals and, therefore, some of the Scythians declared themselves its descendants.

In the opinion of V. I. Abajev the name of the Scythians, "saka", too, originally meant stag (compare with the Osset word "sag" = stag).<sup>285</sup>

Totemism is an ancient rite which dates back to the Palaeolithic, and professor Gyula László is most probably right in contending that the animal-imitating rituals of the Ice Age were also the sources of the totem belief. The hunters of one particular clan regularly donned the fur of the same animal, and this animal became later the distinguishing symbol of the clan and the tribe.<sup>286</sup> With the progress of social development totemism withdrew to the background and was transformed. The concept of the ancestor-animal assumed a new meaning, and survived as the spiritual helper of the shamans.

According to historical and ethnographical evidence the magician in the service of the community held a highly influential position from which, if he was a circum-spect and able man, he could gradually rise to the rank of chieftain or even king. Many a king and chieftain owed his prestige to no small extent to his fame as a magician.<sup>287</sup>

Of the Hiungnus it was recorded by Vang-tsen in 244-255 A. D. that the leader and the shaman was one and the same person.<sup>288</sup>

<sup>282</sup> Miyakawa-Kollautz 1966: 173; László 1945: 17-29.

<sup>283</sup> Minns 1913: 77-78; Miyakawa-Kollautz 1966: 174, Fig. 34.

<sup>284</sup> László 1946: 28.

<sup>285</sup> Abajev 1949: 37.

<sup>286</sup> László 1968: 62.

<sup>287</sup> Frazer 1900.

<sup>288</sup> Miyakawa-Kollautz 1966: 170.



Regarding the shamans of the Siberian peoples we can read that "the economic and social position often gave the shamans political power as well. With the Samoieds the shaman was sometimes also chieftain, or the head of a tribal confederation". "In the northern woodlands of Mongolia the tribes and clans were headed by shamans, and in the 17th and 18th centuries the Buriats were lead by shamans in their fight against the Russians."<sup>289</sup>

The overwhelming majority of the Scythian rattles, pole-ends, and bells found in Russian soil originate from kurgans and, moreover, from tumuli containing dead supplied with dignified furniture. It is evident that into these graves heads of clans, chieftains or princes were buried.

Could these persons have been magicians as well? The appearance with the Scythians of the institution of the Sacred King is not inconsistent with Scythian shamanism, since the king was at the same time also the chief magician and, as such, had to alter the course of nature in the interests of his people. If, therefore, a famine set in, the Scyths, too, put their king in irons. The objective of shamanism is indeed to influence the relations between man and nature in a favourable way, but the sphere of authority of a shaman most often does not reach beyond the circle of the family, clan or tribe. On the other hand, the cult of the Sun, the Earth, the Water, and Fertility is also characteristic of the shamanistic rites, though not the principal aim of shamanism. Apart from fortune-telling, dream-reading, and healing sacrifices were offered also for the fertility of the land and animals (e. g. rain-making).<sup>290</sup>

With the Altaic Turks shamans functioned even as late as in the 19th century, though Tengere Khan, the Prince of Heavens, and Jer-Sub, "the holy Turk god of Land and Water" (Kül-Tegin inscription),<sup>291</sup> were worshipped as early as in the 8th century A. D. The nature worship of the Altaic Turks was described by Theophylactus, as follows: "The Turks venerate above all the air, the fire and the water. They sing hymns to the land, but they worship only the heavens which created the universe; they offer them horses, oxen and sheep; they also have priests who practice prophesying" (*Lib. VII. cap. 8*).

It was pointed out by A. N. Bernshtam that shamanism had existed with the nomadic peoples of Central Asia and with the Altaic nomads as early as in the first millennium B. C.<sup>292</sup>

In Kirghizia, in the Sajmalü Tash mountains of Fergana, pictographs of unique value have survived which originate partly from the first millennium B. C. and partly from the time between the 1st and 8th centuries A. D. On the basis of the representations, Sajmalü Tash may safely be regarded as a shamanistic shrine. Amidst depictions of ritual dances, group saturnalia and actors wearing animal masks, antlers and owl feathers, shaman figures turn up together with various

<sup>289</sup> Diószegi 1962: 64.

<sup>290</sup> Solymosy 1937: 416-432; László 1944: 376-397; Diószegi 1958; Voigt 1965: 387-390: summary of the most important international literature.

<sup>291</sup> Thomsen 1934: 121-175.

<sup>292</sup> Bernshtam 1940: 23-31.



animal figures. There are sun-discs and other cosmic symbols as well,<sup>293</sup> which is to be emphasized since the Scythian material also abounds in solar and cosmic symbolics.

From the earliest times, the deer and the bull have been the most important animals in those religions where the gods are known by animal attributes. The ancestor-animal of Mother Earth is the deer which was also the symbol of the winter solstice and the Sun. Therefore the stag could not have been the holy totem animal of the Scythians in the 7th–3rd centuries B. C. In ancient times the totem animal was taboo, not even its name could be uttered, and it was forbidden to hunt it, kill it, or eat its flesh. This ancient veneration of the stag was no longer in fashion with the Scythians, since in several places stag bones or entire stag skeletons were found in graves. In 1912 stag thigh bones and an antler were found by N. I. Veselovskij in the Marjevo kurgan in the Kuban district. At Alexandropol a stag's skull was found by A. E. Lutsenko. In the Crimea, near Simferopol, a complete stag burial was brought to light by A. A. Shchepinskij, which he dated between the 7th and 5th centuries B. C.<sup>294</sup> The same can be observed in respect of horses and horned cattle.

We cannot therefore regard the animal figures of Scythian art as manifestations of totem belief, even though their antecedents originate undoubtedly from totemism. It is, however, equally wrong to suppose that they represent the attributes of the gods of Asia Minor, despite the fact that in the Sumerian, Assyrian, and Urartian art the gods were very frequently accompanied by hooved animals, primarily stags, bulls, and mountain goats.

In our search for the origin of the Scythian rattles and pole-ends we have found that this type of object had first emerged in Mesopotamia, and that the Scythians became acquainted with it through the Caucasian peoples. However, attention must be paid to the circumstance that the ends of the earliest rattles are not decorated with animal figures (first and second Kelermes kurgans, 477th Volkovtsy kurgan, 407th Zhurovka kurgan, 3rd Popovka kurgan, Chernigov and Gyulafehérvár), while the analogues from Asia Minor are without rattle bodies. This fact suggests that the rattle itself was an ancient instrument of the nomadic Scythians, and only its combination with an animal figure was due to an alien influence. The rattle type that developed in the 6th century B. C. is at any rate one of the most specific kinds of find in the Scythic material, which was by no means created under Greek or Hellenistic influence.<sup>295</sup>

It would be, however, very misleading if we tried to interpret the animal figures of the rattles and pole-ends in themselves. We know well, for instance, that the bull (horned cattle) was an attribute of the god Marduk in Mesopotamia as early as in the Sumerian era.

An inscription of the Kassite king Agumkakrime, originating from 1650 B. C. mentions the antler crown as the "crown of domination", the "symbol of divinity".

<sup>293</sup> Bernshtam 1952: 50–68.

<sup>294</sup> Chlenova 1962: 190, 193.

<sup>295</sup> Rostovtsev 1931: 299.



It was likewise venerated by the Hittites with whom the number of horns showed the rank of the deity.<sup>296</sup> We have seen that it was of great significance also in the Alaça-Höyük graves. Some of the animals even bore the sun-emblems (in the form of concentric circles) as well.<sup>297</sup> The bull cult which was extremely widespread in Anatolia, later played an important role in the art of Urartu, too.<sup>298</sup>

Among the finds of the royal graves of Ur, it is enough to mention the harp ending in a bull's head.<sup>299</sup>

Let us refer also to the Egyptian Apis-bull in front of which the women appeared in the nude to be fertilized by his glance.

Pasiphaë, the wife of Minos, king of Crete, fell in love with a bull and their offspring, the Minotaur was in fact the symbol of the Sun and, therefore, was offered sacrifices. The bull is also the symbol of Zeus, Apollo and the Roman Jupiter. The Greeks often portrayed Dionysius in the shape of a bull, which explains why the women begged Dionysius to take their virginity. It is particularly important from our point of view that in Urartu, in the 9th–7th centuries B. C. the god Teshub of Hittite origin was portrayed with bull's horns. On the Karmir-Olur crown, too, he can be seen in this form.<sup>300</sup> The shield of Sardur II (760–733) which also bore the figure of a bull was found in the same place.<sup>301</sup> The kinship of the Hittite, Assyrian and Caldean cultures with the Caucasus was pointed out already by A. M. Tallgren, who was the first to identify the figure standing on three times three bull-horns with the figure of the god Teshub.<sup>302</sup>

Horned cattle had a distinguished part in sacrificial rites as well, both in the prehistoric age and in the great cultures of Antiquity. Many data prove that the skulls of horned cattle and the horns offered protection against malign spells.<sup>303</sup>

To sum up, the bull was the symbol of supreme power, of the Sun, and inexhaustible masculinity (fertility). Still, the real meaning and spiritual function of the Scythian rattles with cattle figures would be entirely misinterpreted if we were to start from the above. For if the animal figures had functioned merely as attributes, then nothing would explain our basic problem, namely as to why there are no two rattles with exactly the same animal figure, dimensions, and sound in the Eurasian Scythian world. The riddle of the purpose of the rattles and bells would remain unsolved.

All the data testify to the fact that the Scythian rattles, pole-ends, and bells had a specific purpose. Let us summarize the lessons to be drawn from our examinations.

In the Scythian society rattles, pole-ends and bells were made for certain persons. Bronze casting and iron smithery — crafts requiring great technical skill and practice — were fully subordinated to the function of the objects, that is, deliber-

<sup>296</sup> Miyakawa-Kollautz 1966: 166.

<sup>297</sup> Akurgal 1961: Pls I–II.

<sup>298</sup> Lloyd 1956: Pl. 27; Akurgal 1961a: 54–55, Figs 30–34.

<sup>299</sup> Champdor 1964: Figs 90–91.

<sup>300</sup> Déchelette 1910: 470–479; Tokarjev 1963: 318; Miyakawa-Kollautz 1966: 166.

<sup>301</sup> Akurgal 1961a: 302, Fig. 7.

<sup>302</sup> Tallgren 1930: 163, Fig. 12.

<sup>303</sup> Keller 1963: 355–372; Rybakov 1965: 24, Fig. 37–38.



ate efforts were made to ensure the acoustic effect and consonance of the rattles and bells. These efforts were manifest already in the composition of the mould. The cast of forged pieces were further refined, and the sets of bells also bear witness to the fact that the musical harmony desired was ensured by subsequent corrections. The variance in the dimensions of the rattles provided from the start for different acoustic effects. Every rattle, pole-end, and bell was a unique piece, no exact copy was ever made. This means that those who owned them were identified, as it were, with the objects. The comparatively small number of the species of animals represented suggests that on the whole the same ideas were attached to the objects. The rattles and pole-ends, without exception, had wooden handles, and with their aid the balls put into the rattle body were brought into motion.

The bells were fixed by their ears to some object, sometimes to pole-ends without rattle bodies. The only conceivable reason why the rattles, pole-ends and bells found in Russia were deposited in the graves and had a peculiar place in the burials is that these objects were closely associated with the social position of the person buried or with the function he fulfilled in the life of his tribe.

The grave furniture found in the kurgans — in the majority of the cases that can be evaluated — shows that rattles were buried only with persons who stood high above the masses of the common people. A considerable number of rich Scythian burials, however, contained no rattles, pole-ends, and bells, therefore these instruments were used only by *certain* members of the ruling strata. The table listing the grave furniture found in the kurgans in Russia reveals that apart from the personal belongings of the buried, from weapons, vessels, and horse trappings also a number of ritual objects were put into the graves. Sacrificial cauldrons, rythons, metal mirrors,<sup>304</sup> and stone slabs of sacrificial altars decorated with sun-discs<sup>305</sup> are the most conspicuous ritual grave furniture.

Since the Scythians — like most nomadic peoples including the Avars and the conquering Magyars — believed in shamanism,<sup>306</sup> some of the chieftains and princes may also have been shamans practicing magic.<sup>307</sup> On the basis of the data available it appears most likely that the Scythian rattles, pole-ends, and bells were requisites of the shaman's equipment. From the earliest times, certain musical instruments had a distinguished part in the rites of Shamanism, a belief based on totemistic traditions. In the Ice-Age cave of Les Trois Frères a man wearing a bison's skin holds in his hand an instrument giving a quivering sound, and — according to A. Rust's experiments — such an instrument can indeed be made to sound.<sup>308</sup> Instead of enlisting here masses of data produced by ethnology, I rather quote L. P. Potapov's summary: "Among the material symbols of shama-

<sup>304</sup> For ritualistic role of Scythian mirrors see Skudnova 1962 and Párducz 1958: 58–64; Párducz 1960: 523–544.

<sup>305</sup> Grakov 1928: 54, Fig. 38; Tallgren 1937: 59, Fig. 12.

<sup>306</sup> Okladnikov 1949: 216.

<sup>307</sup> A similar phenomenon can be observed at the famous Silla gold crown burials in Korea. Hentze 1933: 156–163; Okladnikov 1949: 218.

<sup>308</sup> Miyakawa-Kollautz 1966: 162–163.



nism the shaman's drum is the most important instrument of ritual activity".<sup>309</sup> Their material being wood and leather, remains of drums can hardly be recovered by archeology. By a stroke of luck, however, the metal fittings of a shaman's drum may actually turn up. A Late Neolithic grave near the village of Anosovo, in the region of the Lake Baikal, yielded an implement made from the antler of a moose which was defined by the well-known Soviet archeologist A. P. Okladnikov as the stick of a shaman's drum.<sup>310</sup> However, we have much more specific data as well, since among the finds from Kurgan 2 of Pazyrik an actual drum was found, made of bent ox-horn lamellae.

Bells and other metal ornaments are essential elements of shaman's drums.<sup>311</sup> On the basis of my examinations, I believe that the key to the original purpose of the rattles of the Scythian Age is to be found in this fact.

If the bells were fittings of shamans' drums or of other similar instruments, what was the function of the rattles that were fixed to wooden handles?

The folklore of the Hungarians which is of eastern origin, has preserved thousand-year-old traditions, including the remains of ancient rituals. Not more than fifty years ago the performers of "regös songs" (winter-solstice wassailing songs) still accompanied themselves by the "music" of a single-headed shaman's drum and rattle-sticks.

"The exact counterpart of a minstrel's (regös's) stick decked out with chains, iron rings, and rattles (so-called cocks' bells) can be found with the shamans of the Asian Turks, and Tartars, they use them to rattle out the rhythms of the shaman's songs".<sup>312</sup>

The function of the Scythian rattles must have been the same; therefore they most probably decorated the ends of the shamans' sticks. We know that the shaman's drum symbolized also the shaman's horse<sup>313</sup> (the Hungarian word "táltos" itself which used to be the name of the shaman, came to mean later "saddle-horse"), which suggests that the iron bits found by rattles and bells must also have had a ritual purpose. Why were bits put next to rattles and bells?

In 1938, at Csengele, near Szeged in Hungary, beside a cart-road, two Avar stirrups, two bits, and a spear-head were found at a depth of about 40 cm "in a heap in the pit". There was no grave, nor ashes or bones in the direct vicinity of the spot. However, 22 m east of the pit, on the highest point of the sandy ridge, the lone grave of an Avar nobleman was uncovered by Dezső Csallány.

<sup>309</sup> Potapov 1947: 159.

<sup>310</sup> Diószegi 1958: 223-224.

<sup>311</sup> Nioradze 1925: Figures; Diószegi 1962: 32-33, 48, *idem* 1963: 229, Fig. 3, 231, Fig. 5, 242, Fig. 8.

<sup>312</sup> Sebestyén 1902: 12-13. In the performance of shamanistic songs the song, the music and the dance occur together; memories of this have survived in the Hungarian "regös-songs". The music is recitative. "It merely supplies the text, which is recited rhythmically but not tied to permanent musical forms, with freely used phrases of the traditional tune, according to the chances of the rhythm. Because of the indefinite rhythm we do not find here lengthier melodies organically constructed and logically formulated" — writes Gyula Sebestyén on pp. 73-74.

<sup>313</sup> Diószegi 1958: 180-184.



The tackle put into the pit was a symbolic horse interment.<sup>314</sup> The parallel is obvious, and it can hardly be a mistake if we say that the Scythian bits, too, symbolize horse interments, or rather horse sacrifices. With this purpose were 16 iron bits placed beside rattles at Starsha Mogila, 250 at Chertomlik, and 70 at Krasnokutsk.

Among Hungarian sites, phalerae were found at Aszód, 2 iron bits at Gyöngyös, 4 iron bits at Nagytarcsa, and an unknown number of bits at Szurdokpüspöki.

It is precisely the Russian examples that indicate that these symbolic horse sacrifices were related only to the cultic objects, since there were also genuine horse interments in the kurgans.

The meaning of the sound of the rattles and bells was learned by ethnographers studying shamanism.

Sound-producing instruments do not only increase mass suggestion but also assist the shaman's falling into a trance. When trance is to be induced, the ritual tunes and the texts, interrupted by exclamations, are accompanied by the beating of the drum and tinkling of bells. This musical background has a particularly strong effect on the nerves: the audiences wait benumbed for the spirits evoked by the shaman.

Ármin Vámbéry recorded about the Altaic Turks the following: "One side of the drum is covered with deer-skin, the other is decked out with various pieces of metal and small bells; this (the drum) constitutes the main object of religious worship with the Altaians and inspires much more fear than the shaman himself". Small iron bells (*kungra*) hang also on the drum of the shamaness of the Forest-Tartars, called *Najdik*. "These small bells play an important role in religious worship, since their tinkling excites and thrills the shaman and brings him to ecstasy."<sup>315</sup>

A shaman legend, too, indicates the significance of the bells: the Ancestor Shaman saw a gigantic tree whose trunk was formed by bodies of snakes. Its leaves were metal mirrors, and its flowers metal bells.<sup>316</sup> Moreover, these bells had the function of driving away evil. This interpretation was also wide-spread among Finno-Ugric peoples.

The young Estonian and Mordvinian women hanged small bells fastened to bands of cloth on their hips which tinkled when they moved.<sup>317</sup> In the graves of the Finnish cemetery of Köyliö bell-shaped pendants were found into which stones or pieces of metal had been put to make them tinkle.<sup>318</sup> The bronze rattles and bells possessed magic power chasing away the evil.<sup>319</sup>

Objects of this kind can also be found in great numbers in the Hungarian relics of the 10th and 11th centuries.<sup>320</sup> In the 365th kurgan of the Timirjevo cemetery,

<sup>314</sup> Csallány 1953: 135.

<sup>315</sup> Vámbéry 1885: 145, 149-150.

<sup>316</sup> Miyakawa-Kollautz 1966: 176.

<sup>317</sup> Erdélyi-Ojtozi 1969.

<sup>318</sup> Kivikovski 1965: 26-27.

<sup>319</sup> Fehner 1963: 89.

<sup>320</sup> Bakay 1966: 49, Pl. XXI 1.



also of the 10th century, an iron-tongued bronze bell was found in the earth above the pile. The clay bear paw found there also points to the cultic contents of the grave.<sup>321</sup>

The role of bells and rattles as protection against spells continued to survive. It can be found as early as in the early period of Christianity. It is sufficient to mention as examples the cross of Emperor Justin II (566–578) fitted with silver bells,<sup>322</sup> and the bells which are used in churches also today. Connected with the function of clanking to avert trouble are also the rattle jugs of the Palots in north-east Hungary, which were probably intended to protect the quality of water.<sup>323</sup>

Thus the shaman uses the rattles and bells to frighten the enemy away and, on the other hand, to bring about a kind of musical performance, heightening thereby his own ecstasy and the power of mass suggestion exerted by it.

It is worth mentioning that the Moldavian Hungarians ("Csángós"), on greeting the New Year usually formed several groups when they performed their songs ("hejgetés"). One of the groups was singing, the other was tinkling with bells, the third made a bellowing sound with an instrument called bull, while the fourth was going round with a drum.<sup>324</sup>

Regarding the circumstances of discovery and the outward form of the Scythian rattles, pole-ends and bells, we must distinguish between the early sites and the late Scythian kurgans where a strong Greek influence is evident. In the case of Alexandropol, Chertomlik, Krasnokutsk, and Lisa Gora we saw that part of the bells (5–8 pieces) were fixed to the necks of horses, while those of Krasnokutsk hung on iron chains. Remarkable is also the large number of bells (16–26). The Scythian relics of the steppes, from the 4th and 3rd centuries B. C., were Hellenized already to such an extent that even the tackle shows a new form. This change is indicated best by the appearance of Greek phalerae.<sup>325</sup> The Greek tackle, too, is of Persian origin, so that it is not surprising that the fashion of hanging bells round the necks of horses can also be found in Asia Minor.<sup>326</sup> A closer study of those burials and grave furniture that showed a heavy Greek influence revealed how much the ancient Scythian traditions were kept alive behind the surface of Hellenistic forms. It was only that the quickening rate of social development, together with foreign influences, brought such forms into the foreground which were more easily understood by the people of the age. Things that had been unconditionally believed by the Scythians of the 6th and 5th centuries B. C. were comprehended by their successors one or two centuries later only in a "re-interpreted" form. This re-interpretation is of assistance to us because it provides an opportunity to check up on our hypothesis in a deductive manner. The characteristic feature of the early Scythian animal style is the crouching stag or roe-deer, in Alexandropol,

<sup>321</sup> Malm 1963: 70, Fig. 41.

<sup>322</sup> Montelius 1915: 297, Fig. 35.

<sup>323</sup> Szilády 1935: 158.

<sup>324</sup> Diószegi 1958: 177.

<sup>325</sup> Rostovtsev 1931: 381.

<sup>326</sup> Strommenger 1962: Pl. 252, 258; Ghirshman 1964: 184, Fig. 231.



on the other hand, a horse was actually buried in that position. Such exaggeration is a general feature for which a number of examples could be given as regards armour, clothing, etc., but for us the cultic phenomena are the most important. Nothing proves better the cultic purpose of the Scythian rattles and pole-ends than the fact that in the 4th and 3rd centuries B. C. the place of naturalistic animal figures was, in several cases, taken over by anthropomorphous god-figures.

These pole-ends, however, were already mere symbols whose original function had long since been forgotten. What proves this assumption? Partly the fact that the rattle body with the ball is missing and, partly, that several specimens are flat, one-sided, i. e. have a plain backside.

None of the rattles found in the area of the Carpathian Basin come demonstrably from graves. Since, with the exception of the finds of Gyöngyös, Szurdokpüspöki and Nagytarcsa, excavations have not been made anywhere else, the following attempt at an explanation can only be hypothetical.

For what reason could the rattles and bells found in Hungary have been buried in the ground? To begin with, it has to be pointed out that each complex of finds in Hungary was recovered from a slight depth, and that the finds lay in heaps. Since the Scythian rattles and bells are cultic objects and requisites of shamanistic rites, it stands to reason to think of some magic or sacrifice.<sup>327</sup>

The spots where Scythian rattles were found had probably been cultic places. Today only vague replies can be given to a great many puzzling questions, since not a single bell was brought to light as a result of archeological excavations in the presence of experts, either in Hungary or in the entire Carpathian Basin.

No exact reason is known why these objects were hidden in the ground, but searching for an answer the following circumstances must certainly be taken into consideration:

1. Several rattles show defective casting and are jagged (3rd rattle of Nagytarcsa, Szurdokpüspöki).
2. The majority of the rattles show hardly any traces of wear.
3. The finds discovered 60–80 cm below the present surface could have been safely hidden 2500 years ago only if some building had stood over them (shrine?).
4. Their hiding in the soil must have been accompanied by rituals, according to the evidence of the bells and bits placed beside the rattles.

As for the hiding of the shaman's equipment, it can be mentioned that on the right bank of the Kulim river, near Achinsk, at Ishimka, a bronze mirror dating from the 1st century A. D. was found, which had belonged to a west Siberian shaman. It was buried because, having been the shaman's helper, the people

<sup>327</sup> A sacrificial place which is supposedly of the Scythian Age was excavated by Ferenc Csoma in the Hungarian village of Monaj. In a kurgan, 82 m in diameter and about 2 m high, in a thick charcoal layer at a depth of 175 cm, he found 20 three-edged, socketed Scythian-type bronze arrow-heads which were markedly damaged by fire. Under the 6–12 cm thick coal layer there was a 7 cm thick clay plaster below which lay a potted "crimson-glazed" vessel fragment. The raw soil appeared at a depth of 250 cm. Csoma 1887: 61–62.



were afraid of it.<sup>328</sup> On the basis of the bits indicating a symbolic horse sacrifice,<sup>329</sup> and the Caucasian shrines we might think also of votive offers, but this is rather unlikely.

Our present knowledge does not permit as yet any definite statement on the purpose of the rattles found in Hungary.

Nevertheless, there is little doubt that the spiritual content and background of the rattles, pole-ends, and bells of the Scythian Age, from Kelermes to Nagytarcsa, were identical, and that this spiritual heritage was undeniably one of the Scythians who invaded the Carpathian Basin.<sup>330</sup>

<sup>328</sup> Okladnikov 1949: 211; Miyakawa-Kollautz 1966: 171.

<sup>329</sup> Tackle was widely used by the Greeks as a votive offer. Tallgren 1930: 179.

<sup>330</sup> It is now a fifteen-year-old view of some of the Soviet archeologists that no Scythians lived in the Carpathian Basin. Analysing written sources, mainly Herodotus, B. N. Grakov and A. I. Meljukova (1954: 39–93) arrived at the conclusion that the region of the forest-clad steppe was inhabited by non-Scythian peoples (*op. cit.* 45). They accepted A. I. Terenozhkin's and V. A. Iljinskaja's assumption that, since the agrarian Scythians had lived between the Bug and the Dnieper and the early Slavic culture developed later in the substratum of the central Dnieper region, that population (the agrarian Scyths) could not have been Thracian, nor Iranian (i. e. Scythian) but only Slavic. (*op. cit.* 50).

They tried to support this hypothesis by archeological data. A. I. Terenozhkin — following A. A. Spitsin's division according to which the Kiev and Poltava groups differ greatly from the material of the nomads of the steppes — maintains that the agrarian and animal-keeping cultures settled in the wooded steppes were of local origin. (Terenozhkin 1954: 94) On the basis of the types of objects examined he contends that a continuous inheritance can be observed in the archeological material up to the Zarubinetz-type Slavic culture. Therefore the culture of the Scythian Age must be regarded as a Proto-Slavic culture (*op. cit.* 109–111.)

It is highly important to re-consider the views of Grakov, Meljukova and Terenozhkin because if the peoples living in the region of the wooded steppes were not Scythians then the material in Hungary which is very closely related to that region cannot belong to the Scythian ethnic group either. This circumstance was recently pointed out by János Harmatta who, at the same time, had some very sound arguments against the Proto-Slavic theory. (Harmatta 1966: 108, 110). His finding that in the period in question Scythians lived in the area between the Lower Danube and the Don, on the steppes and on the wooded steppes alike is very important.

The Zarubinetz culture was recently summed up by Tretjakov in his work published in 1959. We cannot deal, of course, with all Proto-Slavic hypotheses, but rather try to point out that the theory of professor János Harmatta is not confirmed by archeological data either.

From Herodotus' reference to the Agathyrsi on the northern fringe of Scythia and to the Siginnae beyond the Danube, János Harmatta concludes that it is these two Iranian, but — in his opinion — non-Scythian, peoples that the finds of Transylvania and the Great Hungarian Plain, usually regarded as Scythian, come from (*op. cit.* 112).

Since Herodotus obtained most of his information from Tymnes, envoy of the Scythian king Ariapeites (*Lib. 4. cap. 76*), about 450–440 B. C. — and added the experiences of his own travels from Olbia up the Bug river, his account on the basis of the data of the Persian war, must be accepted as authentic back to 70–80 years. This, in turn, means that the Agathyrsi must have occupied their territory before the 530s B. C., since Herodotus, apart from the Turos (Vol. IV. 99), does not mention any other ethnic group on the territory inhabited by the Scythians. In János Harmatta's view the Agathyrsi and Syginnae, who had settled down in Transylvania and on the Great Hungarian Plain prior to the Scythians, belonged to the Cimmerian tribal confederation and, after its breaking up (at the beginning of the 6th century



B. C.), appeared under their own independent tribal name (*op. cit.* 115). He says that the material culture of the Cimmerians is primarily characterized by the metal objects of the Koban culture.

Profound counter-arguments concerning the chronology of the Scythian Age in Hungary and the question of the ethnic group of Cimmerians are put forward by Mihály Párducz in his reply to János Harmatta (Párducz 1968: 135–148). The essence of Mihály Párducz's view is that on the basis of the archeological data available, the lower chronological limit of the finds from the Scythian Age cannot be put earlier than about 560 B. C. Between the appearance of the Scythians in Transylvania and Hungary, however, the difference could not have been more than 10–20 years.

The character of the Scythian culture in Hungary rules out the possibility of connecting it with the group of relics of the Cimmerian type — writes Mihály Párducz, and his arguments are rather convincing.

According to Géza Nagy the word Agathyrsus is an attribute since the antique authors heard about the Agathyrsi sometimes at the Lower Danube, sometimes in the region of Maeotis, and then at the shores of the Baltic Sea. For instance, Ephoros, a writer on geography, mentions them together with the Sarmatians and Gelons, already among the nomads living beyond the Black Sea, and calls them one of the most illustrious tribes of the Scythians. According to Géza Nagy, therefore, the Agathyrsi are also Scythians, only a prevalently matriarchal tribe. (Nagy 1895: 17.)

On the other hand, the question as to where the Agathyrsi actually lived is not decided up to this very day. The Hungarian researcher Robert Frölich sought them — wrongly — in the region of the Baltic (Frölich 1884: 181–193); according to Géza Nagy they lived in Transylvania and in Wallachia (Nagy 1895: 17), and according to S. Atanacković in the Banat, the Bachka, and in Syrmia (Atanacković 1954: 75–79). D. Popescu suggests that they must have lived rather in Moldavia, Galicia and Volhynia. (Popescu 1962: 451.) It appears certain, therefore, that the home of the Agathyrsi cannot be sought in Transylvania alone. This is contradicted even by Herodotus's description (*Lib. IV, cap. 125*).

If the Scythian material of Transylvania were the heritage of a non-Scythian people, then, owing to the close connection between the Hungarian and Transylvanian finds, the Scythian culture of Hungary could not be regarded as truly Scythian either. This would also mean, however, that neither the so-called Kiev and Poltava groups which are closely akin to the finds of Hungary and, moreover, nor the finds of the Kuban region are Scythian, considering that there are genetical connections between the Sula and Kuban regions. In the light of our present archeological knowledge these conclusions appear to be false. But the assumption according to which the Sigynnae lived in the Great Hungarian Plain at the same period is equally unacceptable. The Scythian material found in Hungary and Transylvania is so homogeneous in its main features that it is hardly possible to assume two different peoples. I believe that the analysis of the Scythian rattles and pole-ends also supports the view that the people who invaded the Carpathian Basin in the 6th century B. C. were the true Scythians known from historical sources, for otherwise the homogeneous spiritual background of the group of finds examined would be unimaginable.







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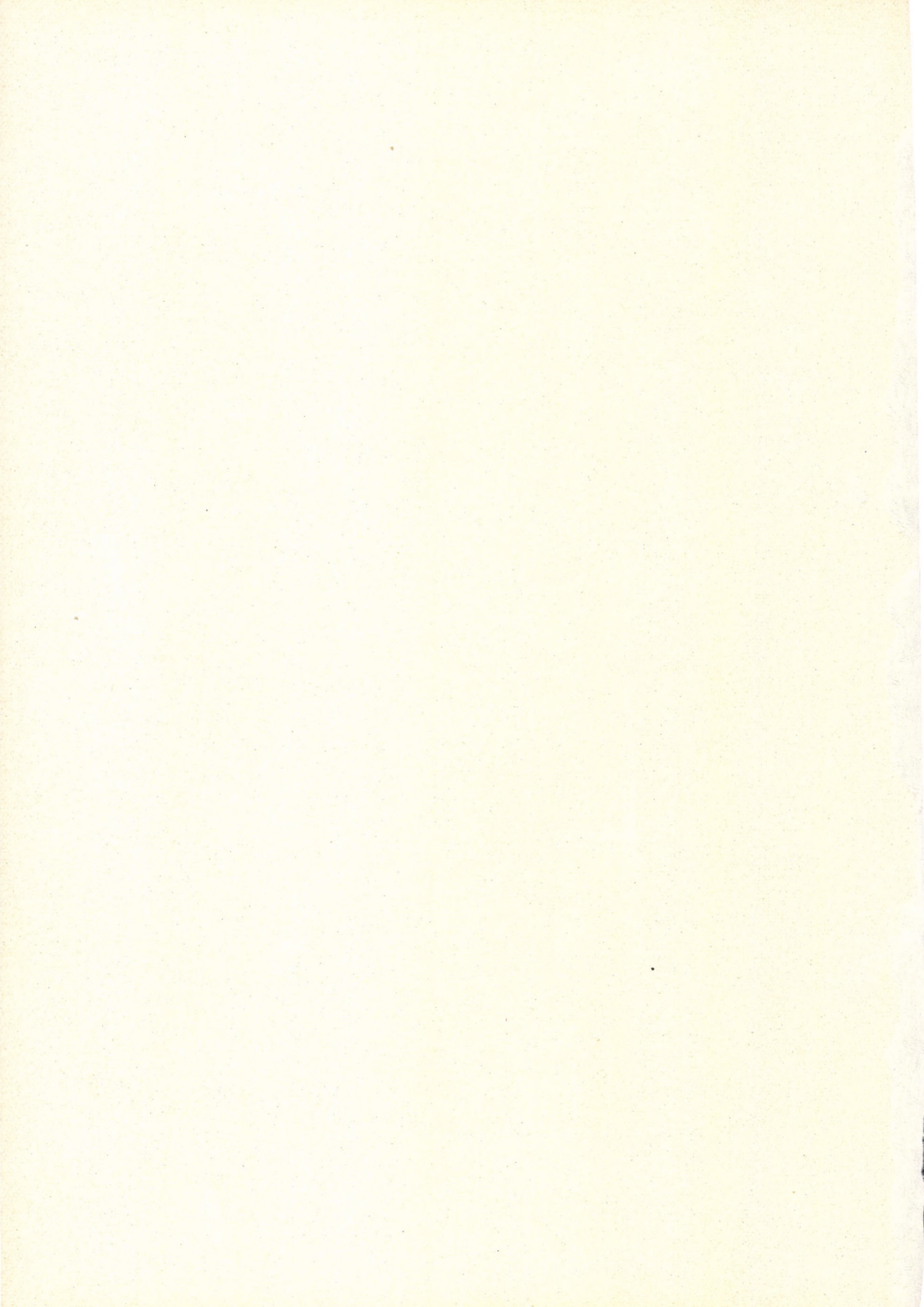
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## ABBREVIATIONS

Acta Antiqua et Archaeologica	Acta Antiqua et Archaeologica. Acta Universitatis de Attila József nominatae. Szeged
Acta Antiqua Hung.	Acta Antiqua Academiae Scientiarum Hungaricae. Budapest
Acta Arch. Hung.	Acta Archaeologica Academiae Scientiarum Hungaricae Budapest
Alba Regia	Bulletin du Musée Roi Saint-Étienne. Annales Musei Stephani Regis. Székesfehérvár
Ant. Tan.	Antik Tanulmányok, Budapest
Arch. Hung.	Archaeologia Hungarica, Budapest
Arch. Ért.	Archaeologiai Értesítő, Budapest
Arch. Austriaca	Archaeologia Austriaca, Wien
Diss. Pann.	Dissertationes Pannonicae ex Instituto Numismatico et Archaeologico Universitatis de P. Pázmány Nominatae Budapestiensis.
ESA	Eurasia Septentrionalis Antiqua, Helsinki
EMU	Ethnologische Mitteilungen aus Ungarn. Budapest
Fol. Arch.	Folia Archaeologica. Acta Archaeologica Musei Nationalis Hungarici. Budapest
HNM	Hungarian National Museum
MTAK	Magyar Tudományos Akadémia Társadalomtudományi Osztályának Közleményei, Budapest
Nyelv. Közl.	Nyelvtudományi Közlemények, Budapest
PZ	Prähistorische Zeitschrift, Wien
Slov. Arch.	Slovenska Archaeologia, Bratislava
КСИИМК	Краткие сообщения о докладах и полевых исследованиях Института истории материальной культуры АН СССР. Москва
КСИА	Краткие сообщения Института археологии. Киев
МАР	Материалы по археологии России, С-Петербург
МИА	Материалы и исследования по археологии СССР. Москва,
СА	Советская Археология, Москва
СЭ	Советская Этнография, Москва
ГИЭ	Труды Института этнографии, Москва







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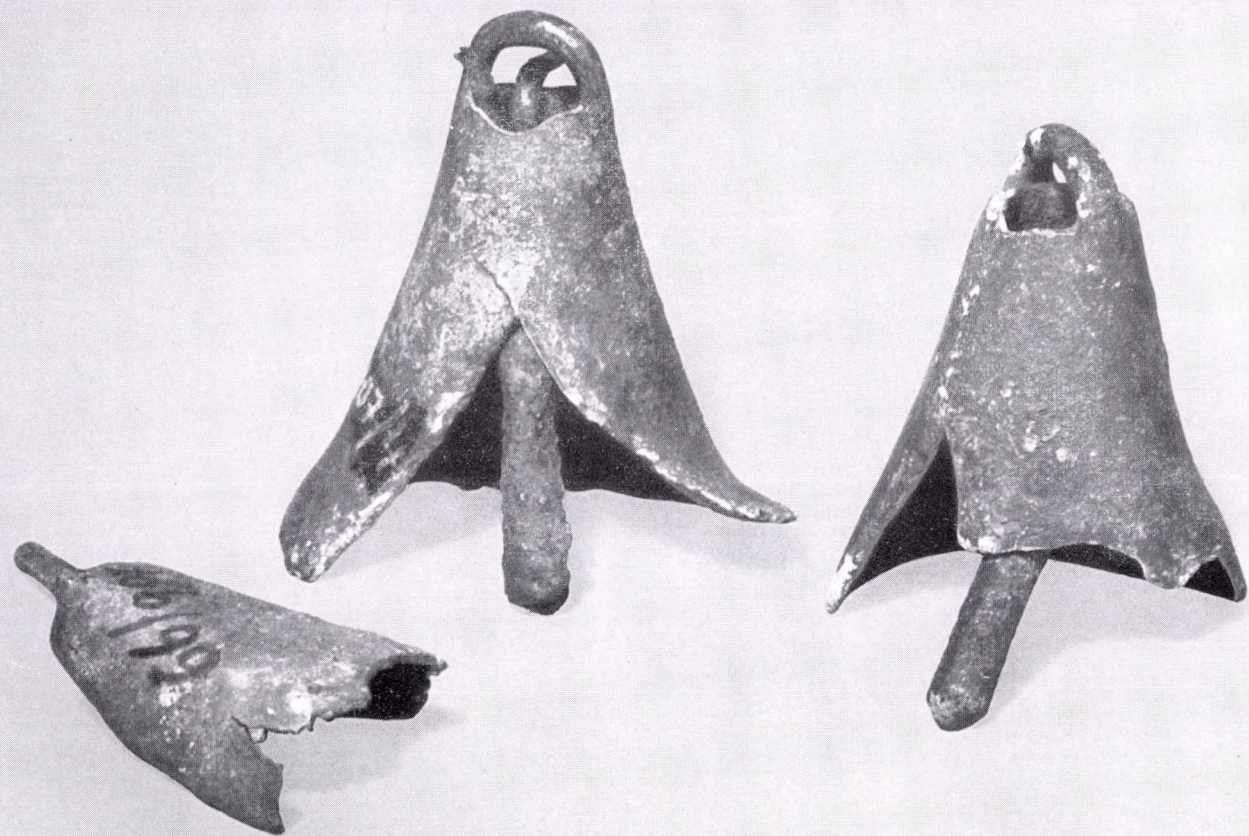




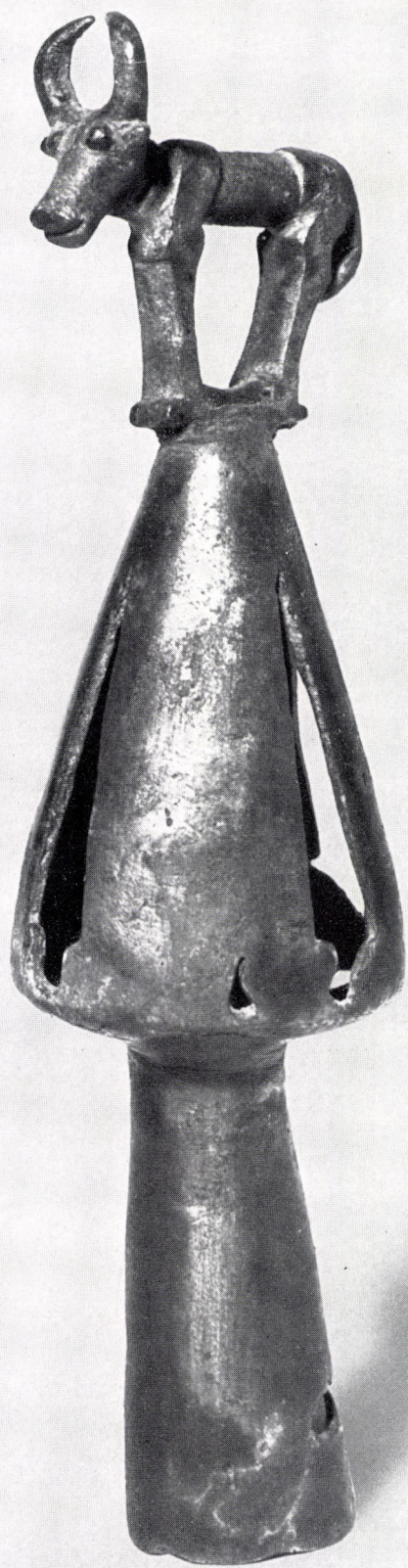




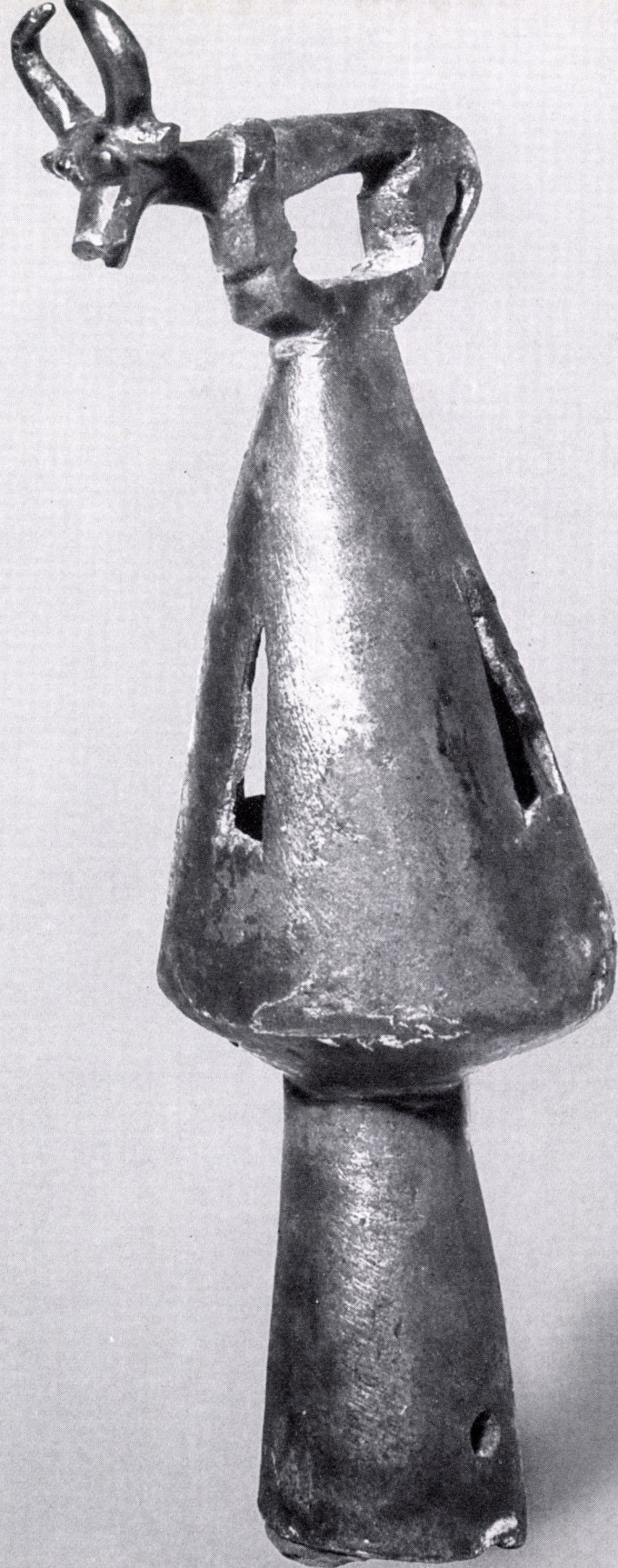








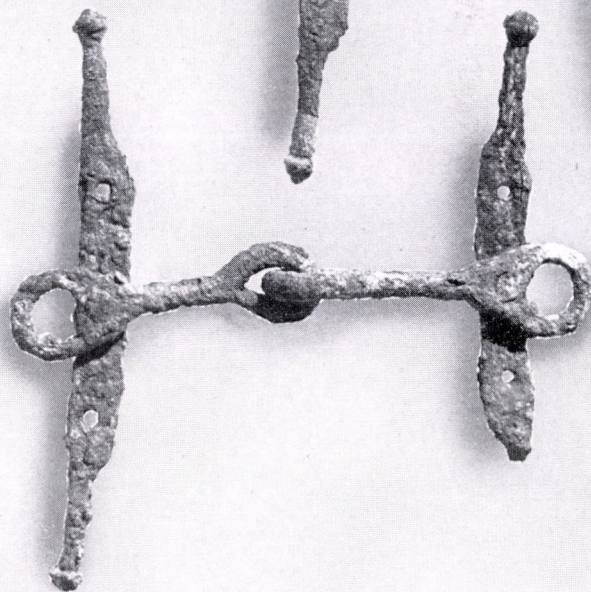
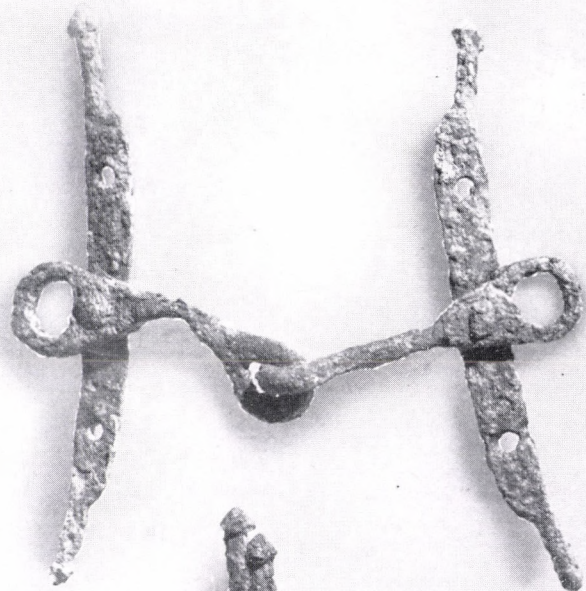


















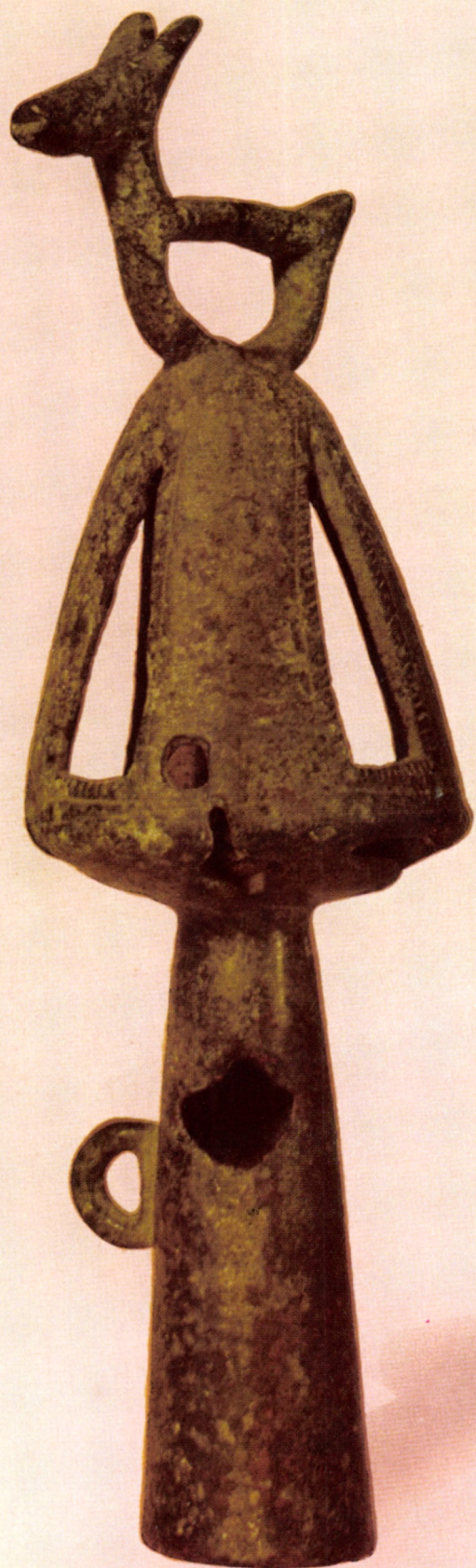




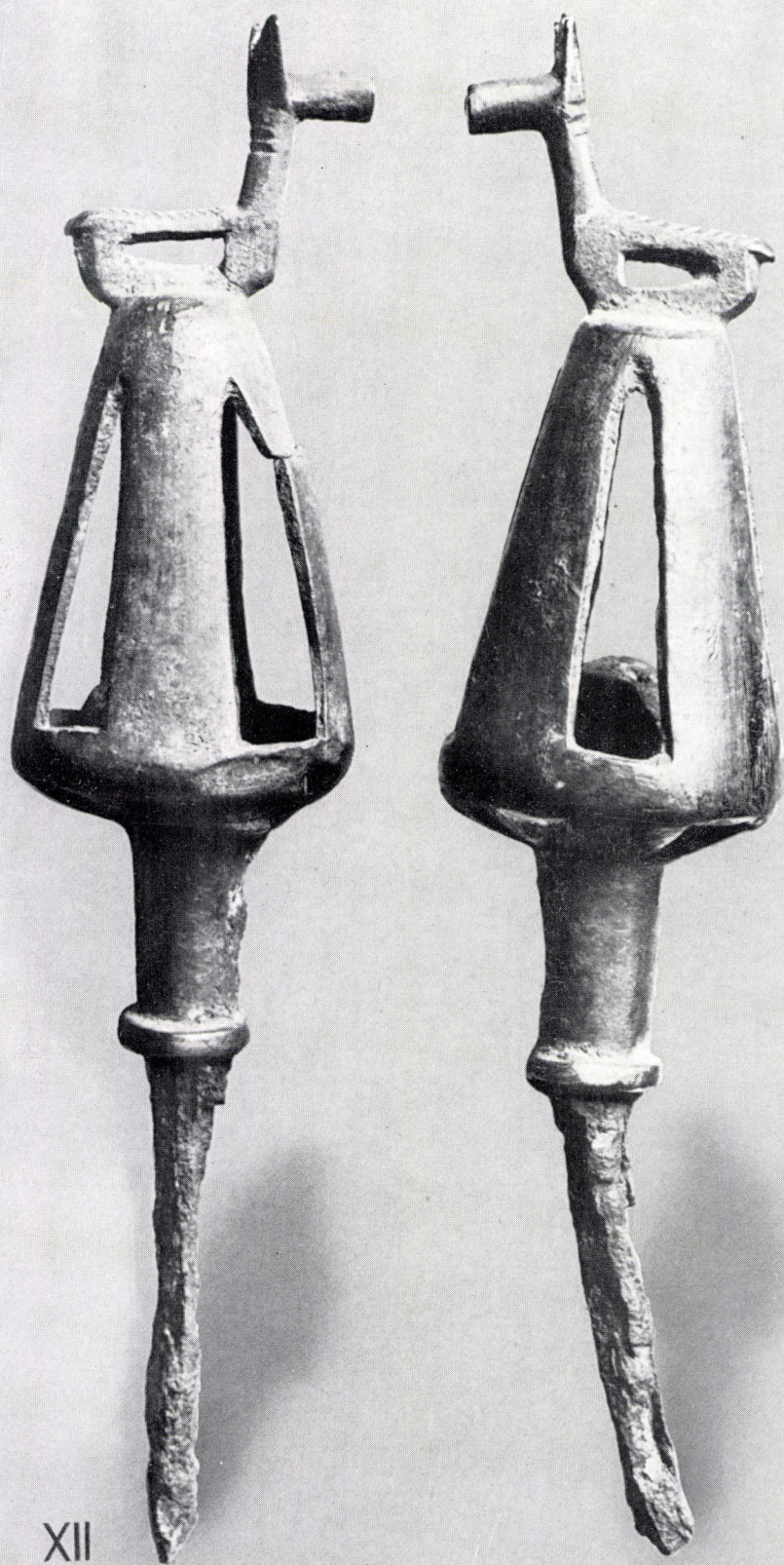


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