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SEVERAL IMPORTED OBJECTS FROM THE ROMAN AND GREAT MIGRATION PERIOD FOUND ON THE SUDOVIAN TRIBAL TERRITORY

Among the Baltic peoples, the Sudovians occupy a special place, both from the linguistic point of view and owing to the situation of their tribal territory. This people was living on the north-eastern borderland of the Polish ethnical territory, bordering upon the Byelorussians on the East and upon the ancient Prussian tribes on the West. It is still doubtful whether the Sudovians should be regarded as one of the Lithuanian tribes or if they were one of the numerous tribes of the ancient Prussians. Recently a Polish linguist J. Otrębski[1] has been inclined to suppose that in the group of the Baltic languages the Sudovian language was most similar to a Slavonic one — even more than the language of the ancient Prussians. As we know, the Sudovians were mentioned for the first time in a Ruthenian chronicle under the date of 983 and a final military defeat of this people took place as early as in 1283. They were crushed by the Teutonic Knights during the invasions of the latter from the territory of former East Prussia. We do not mention here, of course, the ancient evidence on the Sudovians provided by Ptolemy.

The hypothetical borders of the early mediaeval Sudovian territory reached the Great Mazurian Lakes on the West and the Niemen (Nemunas) river on the East. The problem of ist southern frontier is not clear and so far has not been finally solved; it is generally accepted that it was the Biebrza river (Fig. 1). After World War II, Polish archaeologists intended to undertake research on the Sudovians in collaboration with the Lithuanian scientists. An essential problem, waiting for solution, was the need to know the ancient history of that brave Baltic tribe which did not yield either to Poland or to Ruthenia and which was able to resist the Teutonic Knights. As a result of this endeavour to solve the Sudovian puzzle, archaeological excavations start-

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[1] J. Otrębski, *Zagadnienie Galindów* (The Problem of the Galindians), „*Studia Historica*" *w 35-lecie pracy naukowej H. Łowmiańskiego* (In the Thirty-Fifth Anniversary of H. Łowmiański's Scientific Work.) Warszawa 1958, p. 39. More generally on the early mediaeval Sudovia cf. A. Kamiński, *Jaćwież — terytorium, ludność, stosunki gospodarcze i społeczne* (Sudovia, her Territory, Population, Social and Economic Relations), Łódź 1953.

ed both in North-Eastern Poland and in Soviet Lithuania. In Poland they were carried on on praticularly large scale, owing to the co-operation between three Polish museums: the State Archaeological Museum in Warsaw, and the Museums at Białystok and at Olsztyn. Altogether five archaeological expeditions were organized every year by Polish prehistorians on the former tribal

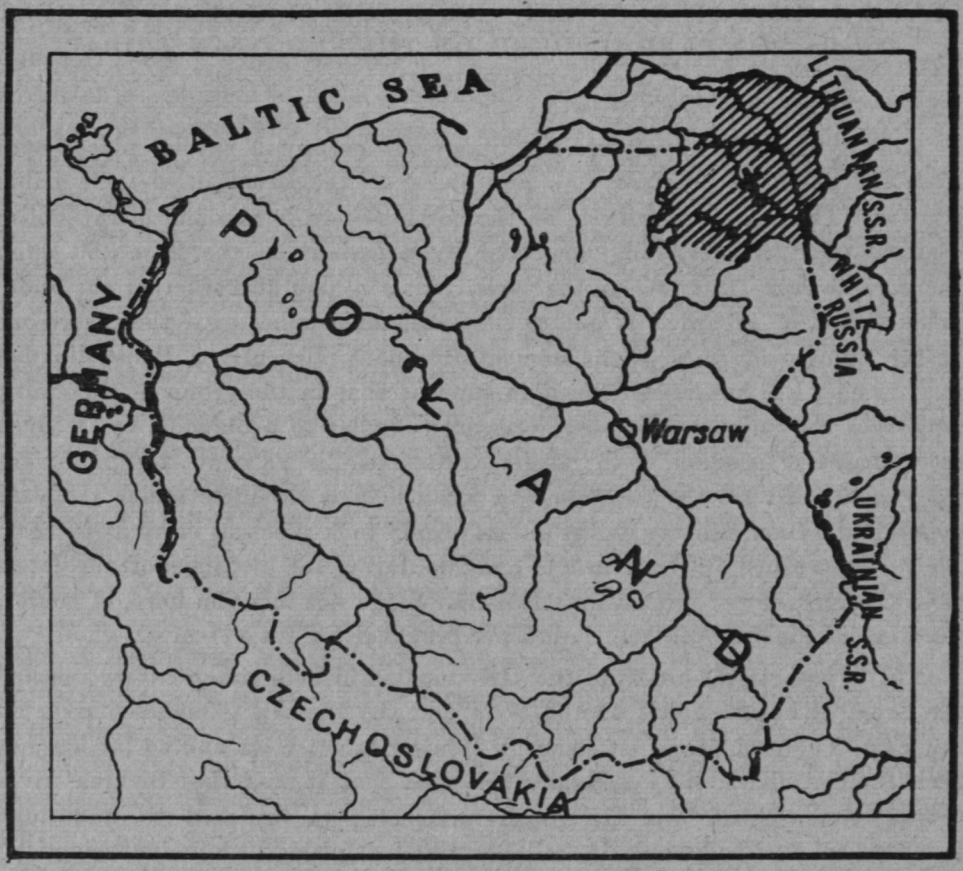

Fig. 1. Map shownig the Sudovian tribal tarritory in Poland and in the Lithuanian S.S.R. and the place discovery of the 4th-5th century „ducal graves"

Sudovian territory. Lithuanian archaeologists carried on excavations on the part of that territory, which belongs to Soviet Lithuania on a smaller scale. As a result of these excavations, our knowledge of the material culture of the Sudovians in the Roman and in the Great Migration periods considerably increased in the last years.

Generally speaking, the results of the excavations, carried on by Polish and Lithuanian archaeologists, have elucidated many points in our knowledge of the life of that tribe that were not clear so far. Up to the starting of the excavations, one of these not clear points were the trade contacts between that people and the Roman Provinces in Antiquity. So far, the problem has not been dealt with in archaeological literature from this point of view, owing to the absence of adequate finds. In the last period, however, some materials were provided which might elucidate this problem. Of course, in this case I do not mean the examination of ancient coins found on that territory. But I would like to call attention to a few imported objects, among weapons and ornaments found on that territory, which are undoubtedly connected with the Roman Provinces.

As we know, a list of finds on the Baltic areas, originating from the Roman Provinces has been recently made by H. J. Eggers[2]; before him C. Engel and W. La Baume[3] worked on it. To J. Puzinas[4] we owe the description of imports in Lithuania. In this article I am not concerned with the enamelled ornaments of Baltic origin or with the local imitations of ornaments made in the Roman Provinces[5]. That refers to three horse-shoe shaped brooches two of which were found at Bakšiškiai, Vilkaviškis district in Lithuania[6] and one at Bargłów Dworny, Augustów district, in Poland[7]. But I do not mention several finds from the borderland of the Sudovian territory, i. e. from the districts of Węgorzewo, Gołdap and Pisz, in the vicinity of the Great Mazurian Lakes, as their beloging to the circle of the Sudovian culture is not certain[7].

Recently, as a results of systematical excavations carried on under my direction at Szwajcaria, district Suwałki, since 1955, several new objects which

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[2] H. J. Eggers, *Der römische Import im freien Germanien*, Hamburg 1951.

[3] C. Engel und W. La Baume, *Kulturen und Völker der Frühzeit im Preussenlande*, Königsberg 1937, p. 156 ff.

[4] J. Puzinas, *Die Flügelfibeln in Litauen und ihre Bedeutung für die Handelsgeschichte*, „Festschrift Wahle", Heidelberg 1950, pp. 189—199.

[5] P. Kulikauskas, *Emaliuotieji dirbiniai Lietuvoje*, „Vytauto Didzioje Kulturos Muziejaus Metraštis", Kaunas 1941, vol. I (1941), p. 43.

[6] Recently A. Kamiński in his work: *Materiały do bibliografii archeologicznej Jaćwieży* (Bibliographical materials concerning the archaeology of Sudovia), „Materiały Staro. żytne" vol. I (1956), p. 205, has identified this place by error with Bakšiai situated upon the Niemen (Nemunas), following A. Spicyn, *Litowskije driewnosti*, „Tauta ir Žodis", vol. III (1925) p. 137 and P. Tarasenka, *Lietuvos archeologijos medžiaga*, Kaunas 1928, p. 101.

[7] J. Marciniak, *Dwa cmentarzyska cialopalne z okresu rzymskiego w Judzikach i Bargłowie Dwornym w pow. augustowskim* (Two Roman cementeries consisting of cremation graves at Judziki and at Bargłów Dworny, Augustów district), „Wiadomości Archeologiczne", vol. XVII (1950/51), p. 60 ff.

[8] C. Engel—W. La Baume, *Kulturen und Völker der Frühzeit*..., o. c., p. 165 ff fig. 25 and a list on p. 282.

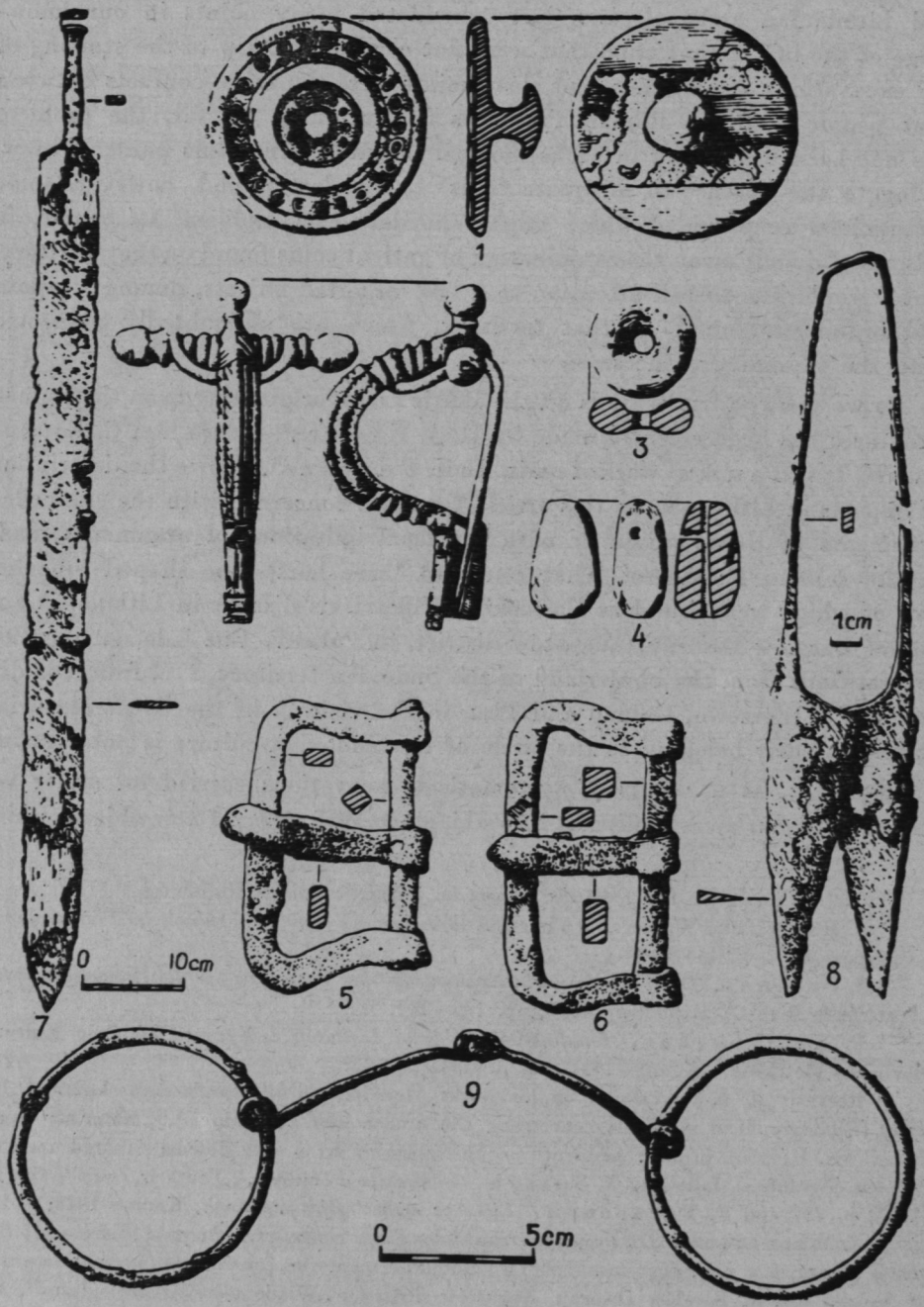


Fig. 2. The grave-furniture of the Sudovian „ducal" grave 25 at Szwajcaria, Suwałki district, from the 5th century

had been imported from the Roman Provinces were found in a large „necropolis" with Sudovian „ducal" graves in 1957[9]. That is a short report on these discoveries. The objects were found in a large barrow of the „ducal" type (no. 25). It was one of the largest barrows at that archaeological site. It was covered with a layer of stones and earth, its diameter being 18 m. It should be added, for comparison, that the diameter of an average barrow in this site, without „ducal" burials, containing only a buried warrior or a woman with children, was from 8 to 10m.

The a/m barrow contained two grave-pits under its mound. In the grave-pit no. 1. almost in the very centre of the barrow a horse skelton was found, placed in a natural position, but its front and hind legs were contracted. This arrangement suggests that they had been fettered with a rope. In the horse's mouth an iron bit was found and on its shoulder-blade (Fig. 2 : 9) and its belly — iron buckles of its harness (Fig. 2 : 5,6).

The grave-pit no. 2, with a human cremation-burial, was situated in a distance of about 2 m to the north-east from the horse's grave. It looked on the sand like a black spot 1.20×2 m; it was not very deep, about 0.70 from humus. In the north-western part of the grave-pit a heap of burnt remains with pieces of charcoal was discovered; to the east of it — lumps of melted bronze were found. Still more eastwards an animal jaw and a large heap of human bones were revealed. A silver brooch with a bronze spring (Fig. 2 : 2), two amber beads (Fig. 2 : 3,4) and a long iron sword (Fig. 2 : 7), under which was lying a round disc-like plaque covered with coloured enamel (Fig. 2 : 1), were found among the bones. On the eastern side, just near the bones, a pair of shears was found (Fig. 2 : 8).

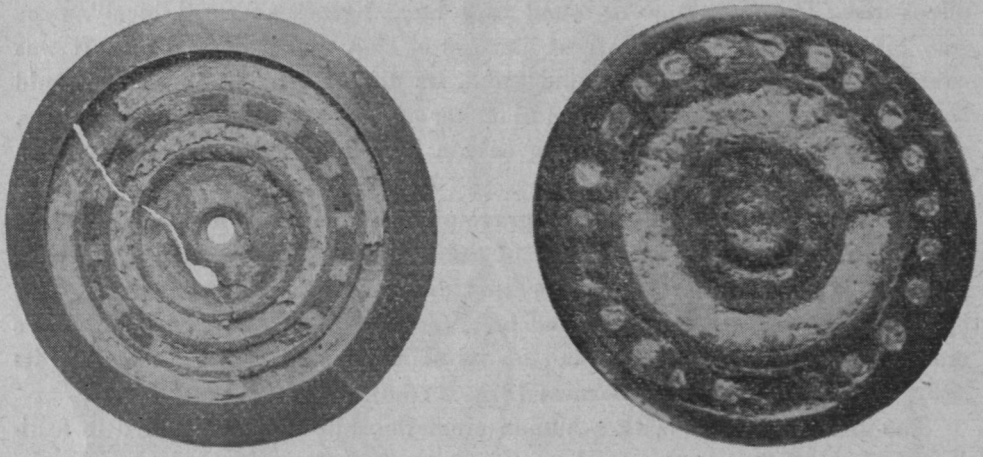
Two imported objects, foreign on the Sudovian territory, occurred in this grave: a sword with the blade made by a special technique (Fig. 2 : 7) and an enamelled plaque. We will discuss them successively.

THE ENAMELLED PLAQUE WITH A STUD FROM SZWAJCARIA AND ITS ANALOGIES ON THE BALTIC SEA-SHORES

The above mentioned plaque, found in a male grave in barrow no. 25 at Szwajcaria (Fig. 2 : 1), consists of two parts: of an ornamented disc covered with enamel and of a fairly long stud (7 mm) with a knob on the back. Both parts of this ornament, contrary to such ornaments found in Scandinavia which will be discussed bellow, were made of one piece of metal. The dimen-

[9] General results of these excavations but without details of the facts described here were published by me in the American periodical: "Archaeology", Cf. J. Antoniewicz, *The Mysterious Sudovian People*, "Archaeology", vol. XI (1958), no. 3, pp. 158—161 and J. Antoniewicz, The Sudovians, Białystok 1962, pp. 1—14 + 24 tables and 4 maps.

sions of this disc-like plaque are as follows: its diameter — 3.5 cm, the length of the stud 7 mm, the diameter of the knob — 1 cm.



a b

Fig. 3. a,b: a — Jevnaker (South Norway). An enamelled plaque from a richly furnished grave; b — Szwajcaria, Suwałki district. An enamelled plaque from the „ducal" grave in barrow 25. According to O. Rygh (1885) and to J. Antoniewicz (1961).

On its outer side the plaque is divided into four circular areas covered with enamel; between these circles there are bronze rings (Fig. 2 and Fig. 3 b). The width of the rings is 1 mm or less. The enamel is 0.5 mm thick, at some places it is even thinner. The ornamentation of the plaque is enriched by de-

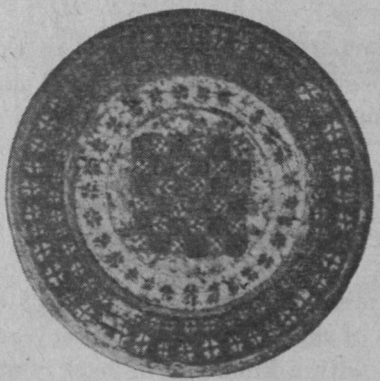


Fig. 4. Smågårda (on the Gotland Island, Sweden). An enamelled plaque from a richly furnished grave. According to A. Almgren and B. Nerman (1923).

corative circles, blue-white and white, put alternalety, from 3 mm to 2.5 mm wide (Fig. 3b). The blue-white circle has white spots placed irregulary on the blue background of the enamel, in a certain distance from one another. Each spot consists of three concentric ovals or rings. It is characteristic that the white colour of the middle oval is darker than that of the outer or inner rings.

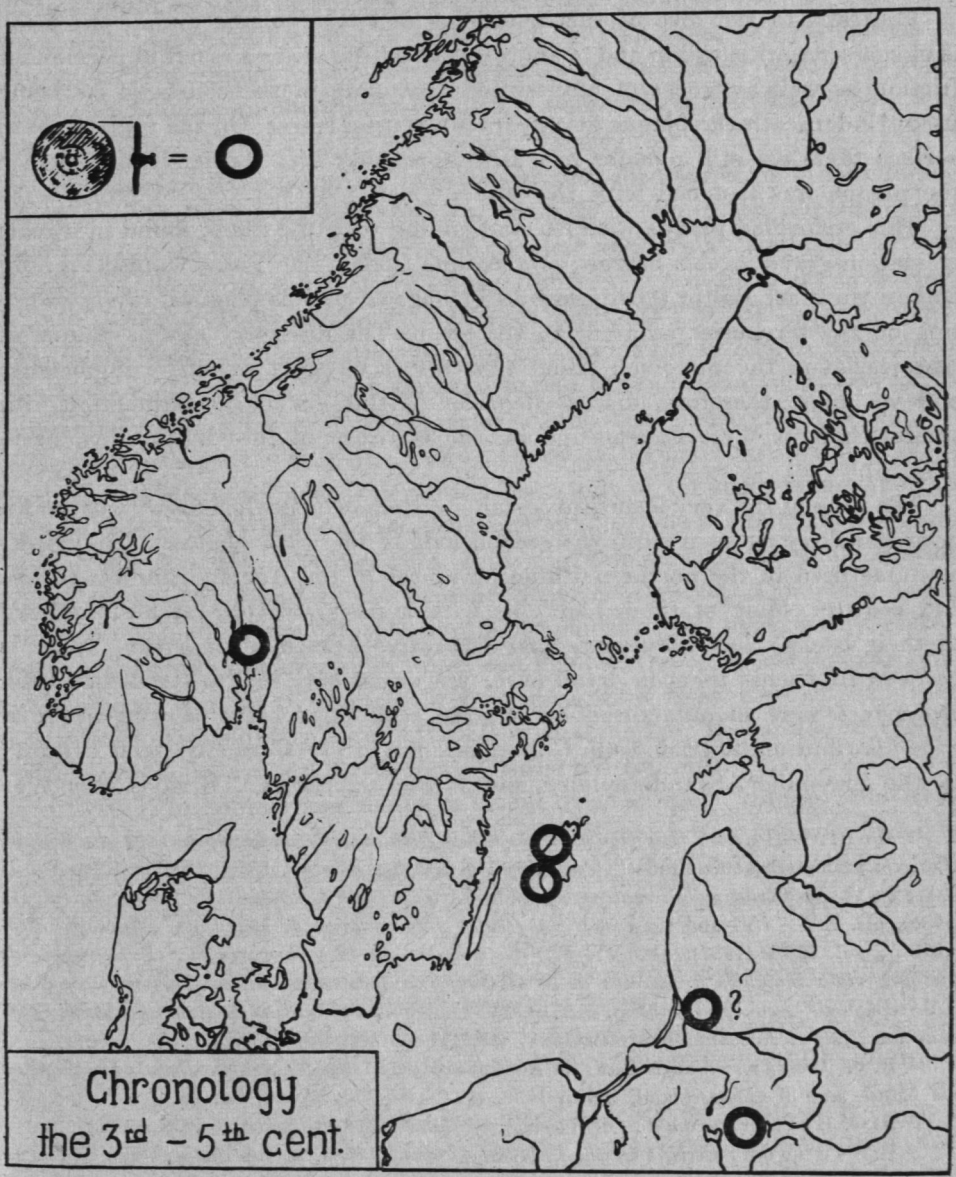


Fig. 5. Distribution of the Roman bronze enamelled plaques with studs in the Baltic region.

Attention should also be called to the fact that under the influence of metal oxides produced while this object was in the earth, a fragment of linen stuck to a part of this ornamented disc and was preserved there. It proves that this object must have been placed on the dead man's dress, or near it, and put into the grave with the unburnt parts of his dress and with other objects.

Contrary to the disc of this plaque, which is regularly round, the knob is of coarser workmanship and bears traces of polishing, as a result of permanent friction as well as traces of unintentional bending in the course of its being used. Underneath the plaque also bears interesting traces. On the fairly smooth surface there are still remains of leather, probably of a leather belt, to which the plaque was fastened with the stud.

This enamelled plaque with ist stud ending with the knob, found in a male cremation-grave in this barrow, is a unique find in the Polish lands (Fig. 3b) and on the East Baltic territories and belongs to similar plaques, rarely occurring on the territories adjacent to the basin. The discovery of this plaque at Szwajcaria on the Sudovian tribal territory is of great scientific importance and we must, therefore, discuss it wider in this article in conjunction with similar finds in West Europe and on the territory of the Baltic Sea basin (Fig. 5).

The type of the very beautiful so-called "Roman enamelled discs" was known in archaeology as soon as in the second half of the 19th century. They were manufactured in the northern Rhine provinces of the Roman Empire, in the 2nd century. Most of them had pins with springs and pin-catches, soldered to their backs, thus they served as decorative brooches (*phibulae*). There is no need to discuss them in detail here. We would only like to stress that such ornaments were manufactured on a large scale, this being proved by their wide distribution by trade from Galia[10] through "free" Germany[11] and Britain[12] to the Slavonic[13], Scandinavian[14] and Baltic territories[15]. Besides this type

[10] Morin—Jean, *Les fibules de la Gaule Romaine, Essai de typologie et chronologie*, „Congrés prehistorique de France", Paris 1911, p. 303 ff and especially p. 820, fig. 23 and pl.I; L. Lerat, *Les fibules gallo-romaines*, „Annales Litteraires de l'Université de Besançon, vol. III (1956), pls. XV—XVI and the same: *Les fibules gallo-romaines de Mandeure*, „Annales Litteraires..., vol. XVI (1957), pls. VI—IX; G. de Looz-Corswarem, *Explorations de quelques villes romaines et tumulus de la Hesbaye*, „Bulletin des Commissions royales d'Art et l'Archéologie", vol. 27 (1888), p. 410, pl. IV, fig. 1; B. de Loe, *Belgique Ancienne, Catalogue descriptif et raisonné*, Bruxelles 1937, vol. III, p. 269, fig. 106, 18.

[11] R.v. Uslar, *Westgermanische Bodenfunde des ersten bis dritten Jhrts nach Christus aus Mittel- und Westdeutschland*, Berlin 1938, pl. 22, fig. 51, pl. 24, fig. 24.

[12] R.G. Collingwood, *Archaeology of Roman Britain*, London 1930, p. 259.

[13] B. Svoboda, *Čechy a římske Imperium*, Praha 1948, p. 98, fig. 15, fig. 5 abc; J. Kostrzewski, *Wielkopolska w pradziejach* ("Great Poland" in prehistory), Warszawa-Wrocław 1955, figs. 717—719. Numerous brooches of thes kind also occur in the Danubian basin; Cf. E. v. Patek, *Verbreitung und Herkunft der römischen Fibeltypen von Pannonien*, Budapest 1942, pls. XIV—XVI.

[14] O. Almgren and B. Nerman, *Die altere Eisenzeit Gotlands*, Stockholm 1923, p. 106 and O. Almgren, *Studien uber Nordeuropaische Fibelformen*, Leipzig 1923, p. 99, figs. 222 and 223.

[14] W Gaerte, *Urgeschichte Ostpreussens*, Kőnigsberg 1929, p.213, ig.161 and P. Kulikuskas, *Emaliuotieji dirbiniai Lietuvoje*, o.c., vol.I,p.43, fig.2; Cf. also H. Moora, *Die Eisenzeit in Lettland*, vol. II, Tartu 1938, p. 587.

of the phibulae with enamelled disc, two other groups occur: 1) enamelled discs with loops for threading a string and hanging them like medallions on the neck, 2) a group, most interesting for us, of enamelled discs with studs ending with knobs similar to our enamelled plaque from Szwajcaria (Fig. 2 : 1 and Fig. 3b).

As regards the latter group, they were first discovered in a considerable number at Moguntia (Moguntine) in a set with the supposed implements for their manufacture, in the nineties of the last century[16]. Similar ones were discovered during the excavations of the Roman camp of Saalburg near Homburg[17]. As that camp was destroyed about the year 270 A.D. it is supposed that these disks are dating from the 3rd century at the latest. In Scandinavia the earliest disc with a stud was found before the important discovery of the Moguntia discs, namely in the eighties of the last century[17]. However, the difference between the only disc found so early at Jevnaker in Norway (Fig. 3a) and that of Moguntia is considerable[19]. The studs of the discs found upon the Rhine, similarly to that of Szwajcaria (Fig. 2 : 1), are immovable, whereas that of disc found at Jevnaker (Fig. 3a) is movable and has the shape of a long rivet; its head is a part of the ornamentation of the disc. This stud, passing to the other side of the disc, was probably ended at the back with a piece of plate playing the role of o knob which can be observed on the ornaments found at Moguntia and at Szwajcaria in Poland. A find from Kvie, Eksa district in Gotland (Sweden) has a stud of similar construction. It was found together with mosaic beads in a cist grave discovered by prof. G. Arwidsson in 1949[20]. This object too had a movable rivet ending with a semicircular head on the ornamented side and a piece of plate playing the role of a knob at the back. Yet another disc from Smågårda, Tofta district, in Gotland (Fig. 4), described by O. Almgren and B. Nerman[21], had an immo-

[16] L. Lindenschmit, *Ausgrabungen vom 1892—1893*, „Westdeutsche Zeitschrift fur Geschichte und Kunst", Trier 1893, p,399 ff, pl.V, fig. 1—2.

[17] J. Jacobi, *Das Romerkastell Saalburg*, Homburg 1897, pl.LXVIII, figs.3,4,12 and „Saalburg Jahrbuch", vol.I (1910), pl.I fig.9, vol.II(1911), pl.III, fig.9, vol.III (1919), pl.XII fig.6.

[18] O. Rygh, *Norske Oldsager*, Christania 1885, vol.I, fig.198 ab and vol.II, p.10.

[19] I owe my knowledge of the specimen found at Jevnaker, Christiania district, in Norway to dr T. Sjővold (Oslo) who has sent me a detailed description of this find, its photographs and coloured diapositive. Dr W. Slomann (Oslo), supposes that the disc from Jevnaker may have been an ornament of a sword-scabbard or its ending. Information in writing received from the authores in Oslo in 1960.

[20] This disc is in the collection of the Statens Historiska Museum in Stockholm(no.25756) and is known to me by autopsy. It was published in the catalogue: *Gotlands Fornsal, Vaglegning*, Visby 1958, p.22. I wish to record my thanks to dr W. Holmquist for information of this specimen accessible to me for study during my stay in Stockholm in 1958.

[21] O. Almgren ane B. Nerman, Die altere Eisenzeit..., o.c., p.106.

vable stud, similar to those from the Rhineland and from Szwajcaria, however it did not have a knob at the end but had a hole in its stud and could be fastened to the dress with a piece of wire or of string. It results from the above that the nearest analogies to the Szwajcaria disc, although these adornments differ in details, constitute a distinct group occurring in Scandinavia and on the territories on the Baltic Sea-shores (see map fig. 5). It is interesting that, so far, similar objects have not been found in Danemark[22], in the remaining part of Sweden or in the East-Baltic republics[23] which, after all, could have been reached through Gotland where, as it has been already pointed out, two characteristic imported disc-like plaques were found.

The chronology of these finds should also be considered. As already mentioned, similar specimens found in the Roman camp at Saalburg are dated to the 3rd century of our era. The grave containing such specimen discovered at Jevnaker (Fig. 3a) is difficult to define, considering the fact that it was unmethodically, probably quite accidentally, explored. In any case there is no doubt that this grave should be dated to the late Roman period. The disc-like plaque from Smågårda grave in Gotland, is dated by Almgren and Nerman to period V i.e. to the years from about 350 to 400 A.D. (Fig. 4). The other disc-like ornament from Kvie should also be dated to the same period, as it occurred together with the Roman mosaic beads which in the North did not appear in this variant before the 3rd century. Taking all this into consideration, it seems that among all specimens mentioned here, that of Szwajcaria near Suwałki is the latest, as it was found together with an ornamented bronze and silver brooch of the cross-bow type with knobs and a faceted foot (Fig. 2:2), which may be dated on the Baltic territories to the period not before the end of the 5th and the beginning of the 5th cent. of our era. As this plaque was found in one of the cremation graves and these began to appear in the Suwałki region in the 5th century of our era, it should be dated to the same period. It was probably made in about the 3rd century of our era in the Rhineland and was brought to the Suwałki district by some tradesmen perhaps in the 4th century, and then, in the 5th century, was put into that cremation grave together with the above mentioned iron sword, with the brooch of bronze and silver and with the pair of shears, as a part of the rich furniture of that grave (Fig. 2).

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[22] I owe the information of the absence of the plaques of this type in Danemark to dr H. Norling-Christensen (Copenhagen) and express my gratitude for that.

[23] A disc-like decoration, similar to ours was found at Kalwja in Esthonia. Cf. M. Schmiedehelm, *Archiełogiczeskije pamiatniki pierioda razłożenija rodowogo stroja na siewierowostokie Estonii*, Tallin 1955, p.218, fig.58, 5. It had a stud similar to that of the Szwajcaria decoration but considerably differed by its open-work ornamentation and that is why it cannot be assigned to our group which so far consists of five specimens (Szwajcaria, Kivie, Smågårda, Oberhof and Jevnaker) in spite of the fact that these five specimens differed in function.

THE IRON SWORD FROM SZWAJCARIA AND ITS ANALOGIES

An iron, double-edged sword with a hilt to be covered with wood, found in this barrow, is also of significance. It is the second sword of this type found at this site, as a slightly similar one was discovered in 1957 in a "ducal" barrow (no. 2) at Szwajcaria[24]. We would like to remind the readers that the first sword from Szwajcaria was 85 cm long and differed from the remaining double-edged swords, dating from the younger Roman period and discovered at Grunajki and at Łaźne, Olecko, district by its shorter hilt. The second sword, found in the ducal barrow no. 25, was longer than the first one; it was 94 cm long and its hilt was 11.5 cm long, so it was shorter than that of the first sword. It should be mentioned that no sword dating from the Roman period was discovered in Lithuania till 1958, and that only a few specimens of this kind were found in Lettland and in Prussia. This is particularly striking when compared with our successful discoveries at Szwajcaria. A 5th century sword, found accidentally at Krikštonis upon the Niemen (Nemunas) river, in the Łoździeje district in Lithuania[25] had been put, similarly to that of Szwajcaria, into a fairly richly furnished grave. The dead man in this grave had not been burnt with the grave goods; he was discovered under a layer of stones 16 × 13.5 m so this grave was rather large. The sword from Krikštonis, about 1 m long, also belonged to the longest ones, found till now, on the supposed Sudovian territory. There is no need to stress the importance of these findings on the Sudovian territory. It results from the whole of the cultural background that these weapons occurred in the richer graves of tribal chiefs or of chiefs of defined smaller administrative units. The same refers to the barrow no. 25 at Szwajcaria which differed in its size (17 × 16 m) and in its contents from the remaining barrows by the existence of a horse burial and by the rich grave-goods of the cremation grave (Fig. 2). The dimensions of the mounds at Szwajcaria and at Krikštonis provide another evidence for the above conclusion. Undoubtedly these barrows were larger than the remaining ones and must have been raised not by the families of the dead but by a greater number of the members of their tribes.

The iron sword found in the "ducal" barrow no. 25 at Szwajcaria (Fig. 2:7) is of special importance, when compared with similar imported objects found in Prussia and in Lithuania so far. It was severely damaged by corrosion.

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[24] J. Antoniewicz, M. Kaczyński and J. Okulicz, *Wyniki badań przeprowadzonych w 1956 r. na cmentarzysku kurhanowym w miejsc. Szwajcaria, pow. Suwałki* (Results of the 1956 excavation of barrows at Szwajcaria, Suwałki district), „Wiadomości Archeologiczne", vol.XXV (1958), p.22 and ff.

[25] P. Kulikauskas, *Naujas archeologinis paminklas užnemuneje*, „Lietuvos TSR Mokslų Akademijos Darbai", vol.VI (1957), p.71 ff and fig.5.

Small fragments of a wooden cover were noticed on its hilt. The sword-blade was also covered by pieces of wood permeated with rust, being the remains of wooden lining of the scabbard made of oak. Moreover fragments of iron rings, probably parts of the scabbard, were found at three places. The sword was 94 cm long, its blade was 5.5 cm wide and its hilt 11.5 cm long.

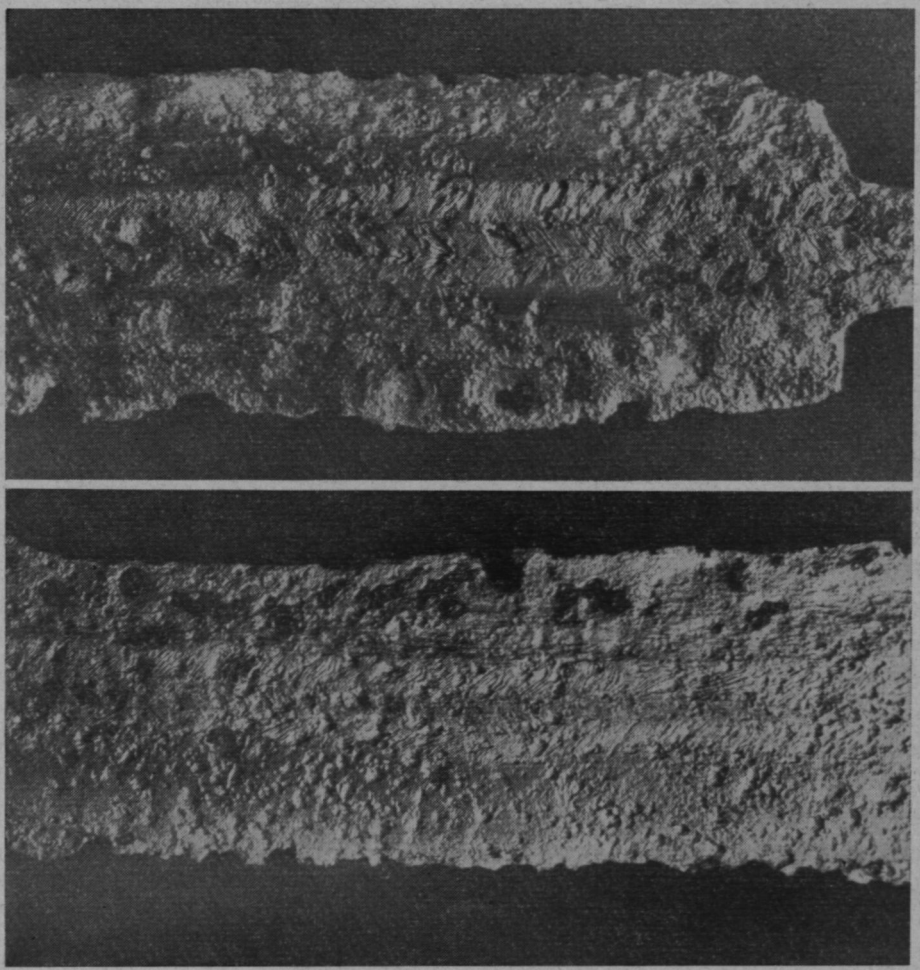

Fig. 6. Szwajcaria, Suwałki district. Fragments of the Roman sword's blade from the „ducal" grave no. 25, dated to the 5th century. According to J.Antoniewicz (1957).

After the sword was submitted to the conservation treatment in the laboratory of the State Archaeological Museum in Warsaw, it has appeared that for its making a special technique had been used (Fig. 6a, b), the technique of the ornamentation of the blade with „damascened steel". To avoid misunderstanding I would like to stress that the sword was not made by the

Damask technique which consisted in making sword blades of the so-called Damask steel i.e. of very hard steel in which patterns were made by segregation of in metal. This technique developed in India before our era and Japanese blacksmiths became famous for such objects of their make in the 19 century[26]. Yet our sword was made by the technique of "damascened steel", which consisted in heating up together the layers of iron and of steel in a high temperature, then in twisting the steel in the shape of a screw and finally in hammering it again in order to obtain the desired shape of the object, in this case a sword-blade. After shaping, the whole thing was hardened in water and etched with various chemical substances[27].

Up to now the above described sword from Szwajcaria, showing "damascened steel" on its blade, has not been submitted to a precise metallographical examinations and therefore we do not know of how many successive layers of iron and steel its blade was made. So far, the existence of swords, made commonly of wrought iron and then hardened by addtional carburisation, has been ascertained in the Roman and in the Great Migration periods in the Slavonic lands of Poland and on the Sudovian territory. It seems, therefore, that the above mentioned sword from Szwajcaria is an imported object from the Roman provinces, as it resembles in its make the famous swords from Nydam near Sonderburg in Jutland[28]. As we know those swords bear Latin inscriptions, presumably names of their manufactures. B. Neuman, who submitted those swords to metallographical examination, ascertained that some of them did not have "damascened steel" on their blades but that they had been heated up in a similar way though not submitted to thermal treatment consisting in twisting the particular layers of iron and of steel. More representative specimens, however, had "damascened steel" on their blades. The next place where such swords were found, nearer to the Polish territory, was Schwaan in Mecklenburg where, during the deepening of the Warnow river, three swords from the Roman and the Great Migration periods were

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[26] C. S. Smith, A Metallographic Examination of Some Japanese Sword blades, „Latecnica in fabricazzione delle lame di acciain presso gli antichi", Milano 1957, p.43.

[27] J. Piaskowski, *Rozwój technologii mieczów żelaznych od czasów najdawniejszych do XV wieku* (The development of the technology of iron swords from the most ancient times to the 15th century), „Muzealnictwo Wojskowe" (Warszawa), vol.I (1959), p.149 ff. The same, *Metaloznawcze badania wyrobów żelaznych znalezionych we wsi Szwajcaria, pow. Suwałki* (Metallographical examinations of iron objects from Szwajcaria Suwałki, district) „Wiadomości Archeologiczne", vol.XXV (1959) pp.58—70.

[28] C. Engelhardt, *Nydam Mosefund 1859—1863*, Kobenhavn 1865, pl. VI, figs. 5,5a,9,11 and pl.VII, fig.20; B. Neumann, *Die ältesten verfahren der Erzeugung technische. Eisens*, „Freiburger Forschungshefte", Berlin 1954, d.6, p.60 (The technology of Roman swords found at Nydam). E. Schürmann, *Untersuchungen an Nydam Schwertern*, „Archiv für Eisenhüttenwesen", vol.XXX(1959),p.59.

foud among other objects[29]. They were made by the "damasceoed steel" technique. Unfortunately, as far as I know, those swords have not been submitted to metallographic examination.

As regards the Slavonic territory of Poland (besides the ethnical territory of the Baltic tribes), three swords made by the "damascened steel" technique have been discovered so far, namely the sword from Sobótka, Ostrów district dating from the 3rd century and Łagowo, Kościan[30] district and that from Wąchock, Iłża district[31]. A Roman dart with a long socket pipe was also found at Wąchock[32]. Unfortunately other swords of this type, as for example that of Rzeczyca Długa, Tarnobrzeg district[33], short swords of the gladius type from Żerków, Jarocin[34] district and others have not been submitted to metallographical examination, so we cannot give any certain information about them[35].

Thus we really know so far four swords on the Polish territory, showing the ""damatcened steel", one of which was discovered in the "ducal" grave in the barrows no. 25 at Szwajcaria (the Sudovian tribal territory). In all probability it was imported from one of the Roman provinces where, as we know, on the territory along the Rhine the technique of joining iron with steel developed in the 3rd—4th cent[36]. Probably from this centre many swords, showing „the damascened steel" were distributed over the German and the Slavonic territories. As far as we know, Szwajcaria is the most easternly situated place where these swords can be found. Of course it is only our working hypothesis. It is also probable that the Szwajcaria sword came from the areas on the Black Sea-shores or from Asia Minor, where smelting centres may have developed earlier in Antiquity, producing weapons from "damascened steel" that were of a lower quality than those of the original Damask steel. There

[29] J. Becker, *Die Waffenfunde in der Warnow bei Schwaan, Mecklenburg*, „Elbinger Jahrbuch", vol.XV (1938), p.125 ff, pl.XXVII, XVIII.

[30] J. Piaskowski, Rozwój technologii mieczów żelaznych..., o.c., p.162, figs.102—104, (Sobótka, Ostrów district) and E. Petersen, *Ein damasziertes Schwert aus einem frühwandalischen Grabe des Warthelandes*, „Altschlesien", vol.9 (1940), p.32 ff + 3 fig, (Łagowo Kościan district).

[31] Information in writing obtained from J. Piaskowski (Kraków) in 1960.

[32] J. Kostrzewski, *Od mezolitu do okresu wędrówek ludów* (From the Mesolithic time to the Great Migration period), „Prehistoria ziem polskich", Kraków 1939—1948, pp.317,322.

[33] R. Jamka, *Rzymski miecz z Rzeczycy Długiej, pow.Tarnobrzeg* (A Roman sword from Rzeczyca Długa, Tarnobrzeg district), „Sprawozdania PAU", vol.XLII (1937), pp.269—272.

[34] W. Kočka, *Grób ciałopalny ze starszego okresu rzymskiego w Żerkowie w pow. jarocińskim* (A cremation grave from the older Roman period at Żerków, in the Jarocin district), „Wiadomości Archeologiczne", vol.XVI (1939—1948), p.170, pl.XXII.

[35] Cf. J. Kostrzewski, *Die ostgermanische Kultur der Spätlatenezeit*, Leipzig 1919 p.89 ff. E. Petersen, *Der ostelbische Raum als germanisches Kraftfeld*, Leipzig 1939.

[36] E. Salin, *Sur les techniques de la metallurgie du fer de la prehistorie aux tempes des Grandes Invansions*, „Revue de Metallurgie", 1952, p.165.

is, however, no proof for that so far. It seems that this technique, before reaching West Europe from India[37] in the 3rd—4th cent. of our era, had passed many intermediate stages in Asia Minor and in the eastern part of the Mediterranean Sea basin and in the Black Sea basin. They may have been produced not only in the Damascus producing centre[38], which arose much later than the Indian ones, but also in other unknown centres, neither mentioned by written sources nor discovered by archaeologists so far. It is also probable that the technique of „damascened steel" may have developed in Galia apart from the production of the „Damask steel" in India.

Regardless of the final result of the future precise establishment of the production-place of the sword from the "ducal" grave in the barrow No. 25 at Szwajcaria, it seems that it was imported to the Sudovian territory and got into the hands of that tribal chief in the course of trade or by rubbery in the 5th century of our era or a little earlier. It should also be emphasized that as regards its dimensions this sword is identical with the one found at Krikštonis in the Lithuanian Soviet Socialistic Republic There is a question whether the latter had not been made by similar technique. These dimensions being identical, if it could be proved that the sword from Krikštonis as the one from Szwajcaria had been made of "damascened steel"— we could assert that both might originate from the same centre[39].

A SCHIELD BOSS ORNAMENTED WITH VERTICAL GROOVES

Another important specimen found at Krikštonis is a shield boss ornamented with vertical grooves (Fig. 7b). So far it is an unique specimen and we do not know any parallels to it from the Sudovian and probably from the Prussian territories[40]. It is interesting that an analogous shield boss, with similar grooves, was found at Ujhartyán, Pest district in Hungary[41] (Fig. 7a), and a further, less similar specimen of that type was discovered in the cemetery at Dobrodzień in Upper Silesia[42] in Poland, where some German warriors from among those temporarily staying on the Polish territory, had been buried.

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[37] R. J. Forbes, *Metallurgy of Antiquity*, Leiden 1950, p. 436.

[38] Feldhaus, „Zeitschrift für historische Waffenkunde", vol. IV (1906), p. 187. F. Schnitz, *Orientalischer Damststahl*, „Beiträge zur Geschichte der Technik und Industrie", vol.XX (1930), p.81.

[39] I would like to express my gratitude to dr J. Piaskowski for information on the sword-blades of the "damascened steel", found on the Polish territory and on the German, French and English publications on this subject.

[40] P. Kulikauskas, *Naujas archeologinis paminklas...*, o.c., fig.9,2.

[41] F. Pfüzenreiter, *Ein volkerwanderungszeitliches Gräberfeld in Staatsforst Guttentag OS*, „Altschlesien", vol. VII (1937), p. 43, fig. 21.

[42] F. Pfüzenreiter, o.c., fig. 20.

The shield boss from Dobrodzień in Silesia is probably an imitation of the Hungarian model, as it is of worse workmanship. The indentity of the dimensions of both of them is striking this also refers to the same shape of the studs of these shield bosses and to thier fairly wide flanges. Only the grooves are

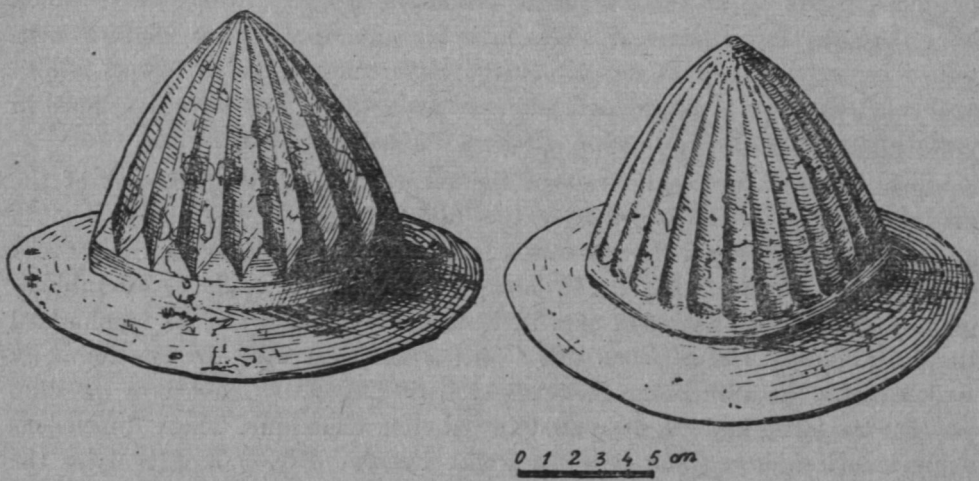

Fig. 7. ab. Shield boss with grooved surface: a — Ujhartyán, Com. Pest (Hungary). According ding to F. Pfützenreiter; b — Krikštonis, Lazdijai District (Lithuania). According to P. Kulikauskas

slightly different; this can be seen on the attached drawings (Fig. 7ab). As the shape of both the Lithuanian and the Hungarian shield bosses are indentical, we may infer that we are dealing here with a far-reaching import and must consider the Lithuanian specimen as an object originating from South Europe. Unfortunately I do not know any further specimens with similar grooves, so I cannot say anything definite about the place of production of such objects so far. Of course, chronological differences between the Hungarian shield boss and the Lithuanian one do not play any important role, as undoubtedly the latter must have passed a long way, before it was put into the grave upon the Niemen (Nemunas).

In this contribution, we have presented several imported objects from the Roman provinces, found on the Sudovian territory in the course of last years' excavations. We believe tbat we shall find some more in the next years. They will gradually filling up the gap in our knowledge of the contacts between the Sudovian territory and Southern and Western Europe[43].

[43] An interesting study by I. B ó n a was published in the Hungarian periodical „Archaeologiai Ertesitõ" vol. 88 (1961), pp. 192—207, after this article hed been written. The autor of this study discusses objects found at Ujhartyán in Hungary and concludes that they shoud be linked with the Goths. In my opinion such origin of the shield-boss from Ujhartyán is not convincing as, so far the characteristic grooves on that shield-boos are unknown on the northevn shores of the Black Sea.