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**CELTIC COIN FINDS  
FROM A SETTLEMENT OF THE LA TÈNE PERIOD  
AT PEŁCZYSKA**

There are relatively few Celtic coins from Polish territory; until now only about 100 pieces have been found, including also those coins found as parts of a hoard. The majority have emerged as chance finds, without a specific archaeological context. Less than ten coins have been obtained by archaeologists in the course of regular research. This explains the specific attention due to discoveries made in the course of archaeological fieldwork in Pełczyska village in 2000–2002.

This small village, Pinczów commune, Świętokrzyskie Voivodship, is located some 55 km north-east of Cracow, on the edge of the Little Poland Upland. It is an area within the watershed of the river Nida (a tributary of Vistula river), famous for its very fertile loess soils.

The stimulus for commencing the archaeological research at Pełczyska came from a chance find of bronze vessels of Roman origin in 1938. In 1958–1973 the remains of a settlement populated from the Early Bronze Age to the Migration period, were discovered as a result of research carried out near the spot of the mentioned find. Surprisingly, the majority of objects found were related to Celtic settlement of the area. The relics coming from the La Tène period, found at Pełczyska capture the complex transformation of settlements which are considered to be typical for the entire Little Poland Upland region in the course of the last three centuries BC (LT C1–LT D2)<sup>1</sup>.

In 2000 archaeological research was resumed in Pełczyska. The scope of work covers, despite classical methods of excavations, prospecting conceived on a wide scale using aerial photography and geophysical methods (ground penetrating radar — GPR, but also surface search using metal detectors). Among the most significant achievements one can count the find of a multicultural cemetery

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<sup>1</sup> see M. Rudnicki, *The Celtic Settlement at Pełczyska near Złota*, [in:] *Kontakte längst der Bernsteinstraße (zwischen Caput Adriae und den Ostseegebieten) in der Zeit um Christi Geburt*, Kraków 1996, p. 243–256.

linked to the settlement. At the settlement itself, the discoveries are of the same significance and they make Pełczyska one of the most valuable archaeological sites of the La Tène and Roman periods in the country. The research at the Pełczyska site has been carried out within the framework of the project named: “Celtic Expedition of the Warsaw University Institute of Archaeology”, the concept and organization of which have been effected by the author of this paper. Since the very beginning the almost full financing of the undertaking has been provided by private sponsors.

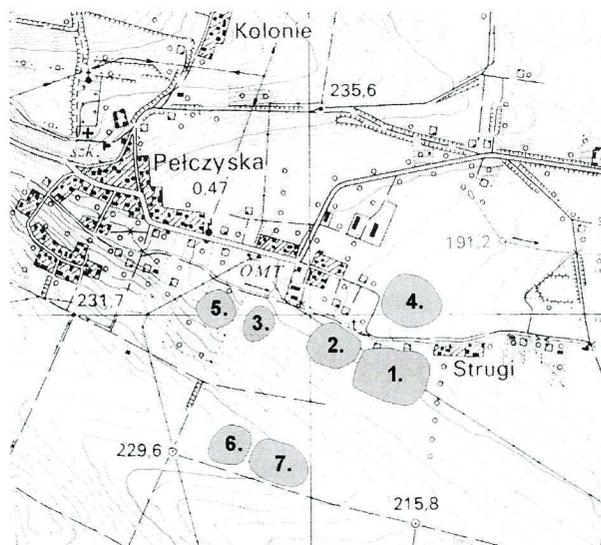


Fig. 1. Pełczyska – map of archaeological sites

The Pełczyska settlement sites cover a considerable area (approximately 12 hectares), on the northern slope and bottom of a small loess valley. The area has been split into 7 sites (Fig. 1)<sup>2</sup>. During the last three seasons (2000–2002), the excavations at the settlement covered the total surface of 339 sq. m, most of which concerns site 1 (234 sq. m). The excavations were supplementary to the wide scale surface prospecting. The stratigraphy of the Pełczyska settlement is very rich and complex as in the case of the majority of loess sites. In total, the remains of 140 prehistoric objects were found, of which 127 (including 3 large sunken huts) have been registered on site 1. Apart from several tens of thousands of pottery fragments, during the research 255 metal relics have been obtained, of which 163 pieces are iron objects, and the remaining 92 are bronze finds as well as silver

<sup>2</sup> The area of the La Tène settlement is covered by sites 1–4, and the site of the bronze vessel finds has been marked as the site 5, in turn site 6 covers multicultural cemetery, and site 7 — a Neolithic settlement.

and gold ones (including 4 Celtic and 15 Roman coins)<sup>3</sup>. Among the remaining finds, apart from the bone, stone, flint objects, some glass and sapropelite items have been found as well as the first lump of amber at this particular settlement. The majority of the objects date to the La Tène and Roman periods. The materials of the research are preserved in the collection of the Institute of Archaeology of Warsaw University.

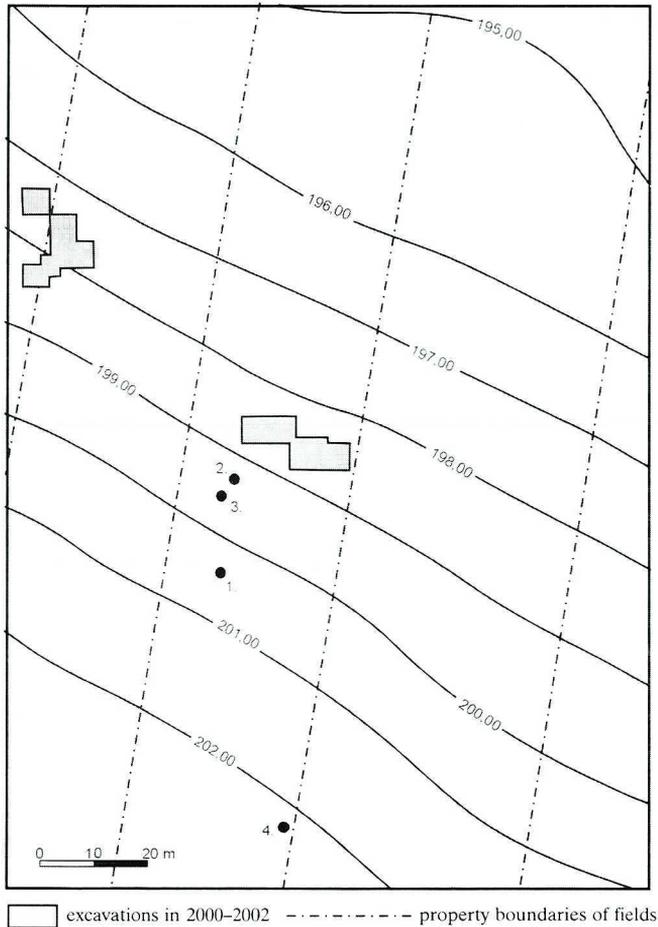


Fig. 2. Petczyńska, Site 1. Planigraphy of silver coin finds scatter  
1, 2, 3 – silver coins; 4 – lump of gold

<sup>3</sup> The number of metal relics quoted here exceeds considerably the figure relating to similar finds within the research being carried out over 9 seasons in 1958–1973. Glaring disproportions in this regard result by no means from using the metal detectors during excavation works. The proof is delivered by examples of discovery of minor objects: In the past no single coin had been found (modern or ancient).

The above mentioned finds of metal objects included 4 Celtic coins (3 silver ones and one gold) and one object of gold, which may be associated with the minting. Unfortunately all finds are loose and they cannot be linked with a particular stratigraphic context. They were discovered in the modern humus layer during surface research using metal detectors, intended for identifying the settlement spacing. The lump of gold and silver coins were found adjacent one to another at site 1. On the basis of the planigraphic analysis of the distribution of the silver coins, there are grounds to suppose that they might have been constituents of one deposit (see Fig. 2). The sole gold coin was found at the site 2, 120 m west of the cluster of the other relics. All these finds should be associated with the Celtic settlement which had been functioning in the area of the present Pełczyska village in the last centuries BC.

#### GOLD FINDS

In 2000 the first gold coin was discovered at the Pełczyska settlement. Determining the chemical composition of the metal of which the coin was made as well as determining the chronology and origin of the coin has been a subject of a comprehensive survey<sup>4</sup>. Below a brief version of conclusions presented in the aforementioned survey, supplemented by the recent findings, is to be presented. The shape of the coin in question resembles deep bowl, close to oval 12.5 by 8.7 mm, the weight of which is 0.840 g (Fig. 3, 4). It was made out of gold of a fair tint. Its preservation may be determined as very good. The coin was struck unilaterally, images from the die appear on the concave (reverse) side only, and the convex (obverse) side is even<sup>5</sup>. The irregular shape of the coin justifies the opinion that the die used for striking resembled probably a round bar, of cross-section of 9.5 mm, with convex end. Because of the unusual shape of the blank, a part of its surface protruded beyond the edge of the die. The smooth even surface on that particular fragment of the relic proves that the striking was preceded by the stage of blank preparation consisting of hammering the casting from the mould (probably made out of clay).

The image on the obverse is equally difficult to describe and to interpret. Its central part is composed of two longitudinal, curved thickened lines, directed by their edges one towards another. One resembles somehow the moon with one sharp end, and the second one rounded with two protrusions (?). The second thickening is created by — it seems — two, partially combined components. Inside the arc thus formed there are three pellets, the doubled design of which gives a false impression of a die shift. In fact this effect comes from the renovation of

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<sup>4</sup> M. Rudnicki, *Złota moneta celtycka z osady w Pełczyskach, woj. Świętokrzyskie*, [in:] 25 lat archeologii w Masłomęczu (in print).

<sup>5</sup> Regardless of the irregularities of surface due to the mint technique applied (negatives of image from the reverse).

the pellets on the die used for striking the coin in question. It seems that the remaining components of the images on the die had not undergone the renovation which means that the pellet motif had been given relative priority.

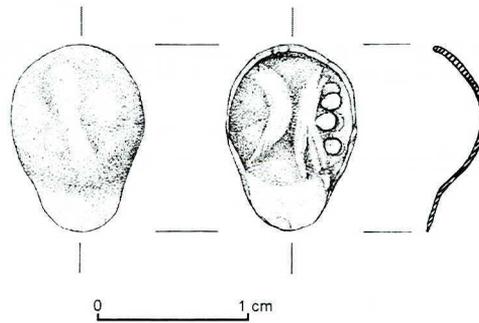


Fig. 3. Pełczyska, Site 2. Obverse (left) and reverse (right) of the 1/8 stater

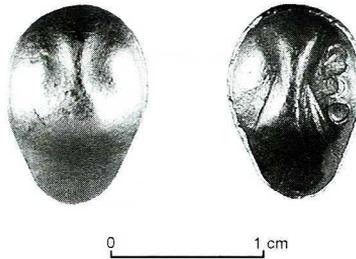


Fig. 4. Pełczyska, Site 2. Obverse (left) and reverse (right) of the 1/8 stater

Taking into account the dimensions and weight of the coin as well as the material from which it was made, without any doubts it should be determined as 1/8 of a stater and attributed to the coinage of the Celtic Boii<sup>6</sup>.

The representations on the coins of analogous face value, known from this milieu differ very considerably from those on the coin from Pełczyska. The sole<sup>7</sup> similar piece comes from the Sieradz neighbourhood<sup>8</sup> (Fig. 5), however that find is a loose one, without any context whatsoever. To determine the chronology and

<sup>6</sup> As far as the issue of trisection of the Boii staters are concerned, see K. Castelin, *Die Goldprägung der Kelten in den böhmischen Ländern*, Graz 1965, p. 53–59.

<sup>7</sup> Last year in the milieu of Warsaw treasure hunters there was a unconfirmed information on discovery of two gold coins, in southern Poland, and by description of dimensions and shape it corresponds to the fractions of stater referred to here.

<sup>8</sup> P. Adamkiewicz, *Moneta celticka z okolic Sieradza*, *Magazyn Numizmatyczny* 29, Częstochowa 2000, p. 56–57.

origin of the coin a wide analysis of its metrological and stylistic properties within its archaeological context have been applied.

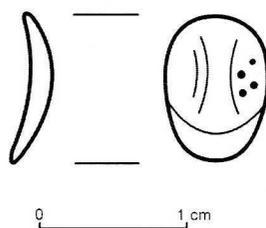


Fig. 5. Coin of the 1/8 stater found nearby Sieradz (according to P. Adamkiewicz)

A growing importance in the studies on the gold Celtic coins is attributed to the results of the metallographic analyses, which provide premises as to the origin and quality of a precious metal used in their striking. Such analyses have been disseminated along with the modern spectrographical methods, application of which does not lead to the destruction of the analyzed object<sup>9</sup>. In some countries, analyses carried out using those type of methods constitute now an indispensable part of research on gold Celtic coins<sup>10</sup>. In respect of the unique pieces such as the coin from the Pełczyńska, the conclusions which are drawn on the basis of the comparison of chemical compositions of the Bohemian gold staters and small denominations, are of great significance as far as the chronology is concerned. Therefore the described coin was subjected to metallographic tests. The summary of these result leads to very interesting conclusions in the field of methodology.

To determine the chemical composition of the gold alloy used as minting raw-material, the described coin has been subjected to spectral analyses at four different research establishments. Initially the duplication of analyses performed

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<sup>9</sup> As to the review of these methods see G. Morteani, K. P. Martinek, *Die chemische Analyse prähistorischer Goldobjekte*, [in:] G. Lehrberger, J. Fridrich et al. (ed.), *Das prähistorische Gold in Bayern, Böhmen und Mähren: Herkunft-Technologie-Funde*, *Památky Archeologické – Supplementum 7*, vol. 1, Praha 1997, p. 127–135.

<sup>10</sup> See A. Hartmann, E. Nau, *Über die spektralanalytische Untersuchung einiger griechischer Philipp- und Alexander-Statere sowie deren keltischer Nachprägungen*, [in:] *Festschrift zum 75-jährigen Bestehen des Württembergischen Vereins für Münzkunde*, Stuttgart 1976, p. 7–34; A. Hartmann, *Über Materialanalysen an Goldmünzen der keltischen Bojer*, [in:] *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 32, Mainz 1985, p. 660–664; A. Voûte, *Die Feingehaltsbestimmung der Goldmünzen*, [in:] K. Castelin (ed.), *Keltische Münzen. Katalog der Sammlung des Schweizerischen Landesmuseums Zürich*, vol. 2, Zürich 1985, p. 55–68; E. Kolníková, E. Minarovičová, *Najstaršie razené zlato na Slovensku (keltické a rímske mince)*, *Mineralia Slovaca* 31, 1999, p. 435–442.

was due to the desire of verifying preliminary results, later on it resulted from the need to explain the differences between the specific measurements. All four analyses were carried out using the same method of X-ray fluorescence spectroscopy, however, because of the technical differences of the apparatus used, the geometry of measurements varied. Because of the same reason the sampling method was different and therefore the surface for measurements varied. The results are specified in tables 1–4.

In the first case, the test was carried out on the obverse of the coin and its edges. Rubbing the surface of the relic with a quartz pad, 7 test samples were taken, after which the material spread in that way<sup>11</sup> was analyzed quantitatively.

Table 1. Results of measurements of the chemical composition of the Pelczyska 1/8 stater alloy, carried out in the Faculty of Physics and Nuclear Technics, University of Science and Technology (AGH), Cracow

Elements/ Sample number	Au (%)	Ag (%)	Cu (%)	Pt (%)	Pb (%)	Fe (%)
1	87.3	9.9	1.7	0.45	n.d.	0.7
2	81.8	14.2	3.5	0.49	n.d.	n.d.
3	89.4	8.3	1.9	0.44	n.d.	n.d.
4	81.9	15.4	2.3	0.39	n.d.	n.d.
5	86.4	11.3	1.8	0.46	0.03	n.d.
6	78.3	18.8	2.5	0.38	n.d.	n.d.
7	82.6	14.2	2.7	0.46	n.d.	n.d.
Mean	84.0	13.2	2.3	0.44	0.004	0.1

The subsequent analysis was carried out with Spectro X-test spectrometer. The measurements were taken at four points of the coin (Obverse: samples 1, 2; reverse: samples 3, 4), and the results are listed in the Table 2.

Table 2. Results of measurements of the chemical composition of the Pelczyska 1/8 stater alloy, carried out by the Regional Assay Office, Warsaw

Element/ sample number	Au (%)	Ag (%)	Cu (%)	Pt (%)	Pb (%)	Cd (%)	Other (%)
1	73.5	21.8	1.5	0.6	1.7	0.9	n.d.
2	73.7	20.7	1.7	n.d.	2.0	1.9	n.d.
3	73.7	22.1	1.5	0.8	1.9	n.d.	n.d.
4	74.9	19.2	n.d.	n.d.	1.0	1.6	Sn 2.1 Ir 1.1
Mean	74.0	21.0	1.2	0.35	1.7	1.1	0.8

<sup>11</sup> With this method of sampling, the object surface layer of the thickness less than  $1\mu$ , is worn away, and the material taken cannot be seen by an unaided eye.

The next measurement was carried out using the scanning microscope TESLA and EDAX analytical attachment. Due to the technical limitations, the coin obverse was tested in three points.

Table 3. Results of measurements of the chemical composition of the Pełczyńska 1/8 stater alloy, carried out by the Central Research Laboratory of the Polish Academy of Sciences Institute of Archaeology and Ethnology in Warsaw

Element/ sample number	Au (%)	Ag (%)	Cu (%)	Si (%)	Fe (%)	Ti (%)	Other (%)
1	89.59	8.12	0.30	1.81	0.08	0.10	n.d.
2	86.51	9.36	0.84	2.43	0.69	0.09	Mn 0.08
3	87.56	9.55	1.17	1.06	0.17	0.08	Zn 0.42
Mean	87.88	9.01	0.77	1.76	0.31	0.09	0.17

The last measurement was that carried out by means of the electron microprobe SU-30 CAMECA, using energy — dispersion spectrometer (EDS) of NORAN (system Voyager). This equipment enabled carrying out the precise point measurement at which the section of the microarea of the sample is equal to approx.  $1 \mu^3$ .

Table 4. Results of measurements of the chemical composition of the Pełczyńska 1/8 stater alloy, carried out by the Institute of Nuclear Physics, Warsaw Technical University

Element/ sample number	Au (%)	Ag (%)	Cu (%)
1	95.49	4.51	n.d.
2	77.00	18.76	4.24
3	97.89	2.11	n.d.
4	14.41	85.59	n.d.
Mean	71.20	27.74	1.06

To verify the results of subsequent spectral analyses in respect of the gold fineness, the classic methods were applied. First of all mass density was determined<sup>12</sup>, which in case of the Pełczyńska coin is equal to  $14.71 \text{ g/cm}^3$ . In case of the modern fair alloys of gold (of increased silver content), the obtained value correspond to fineness of approx. 700/1000. Finally the item was tested by means of the touchstone and the result obtained was close to the Au fineness of 750/1000.

In the summary of all analyses results it can be stated that the Pełczyńska coin was made out of a very non-homogenous gold alloy. It has been proven by the results of the precise point measurement presented in the table 4. Having in mind

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<sup>12</sup> Value resulting from the relation between the weight and the volume of the metal, which enables to get idea of the gold assay.

the high reliability of the gravimetric analysis and results of the test by means of the touchstone, it should be assumed that the percentage of gold by mass falls within the range 70–75%. The second main component is silver, the content of which is slightly above 20%. The repeatability of the results during subsequent measurement and representivity of the samples surface prove that the copper is present in the alloy and that its content falls within range of 1–2%. The situation is, however, much worse as far as the remaining elements are concerned (Pt, Pb, Fe, Sn, Si, Cd, Ir, Zn, Ti, Mn), the percentage of which by mass and their presence as such are questionable. Taking into account the repeatability of the results, in this group platinum and lead (perhaps tin and iridium, too) could be indicated as elements, the presence of which in minute quantities are highly probable. The presence of platinum in the Pełczyńska coin alloy, regardless of the quantity involved, could constitute an identity mark of great significance. A minor admixture of this element is a characteristic attribute of the majority of coins issued by the Boii<sup>13</sup> and establishes the grounds for the hypothesis of the Mediterranean origin of gold used in their production.

According to K. Castelin<sup>14</sup> the weight and quality of the coins were the main criteria, enabling the subdivision of Boii gold issues into 4 periods (A–D). Referring to K. Castelin's scheme one should remember that both the chronological meaning and methodological aspect of his study have been questioned<sup>15</sup>. The nominal weight of the Pełczyńska coin and the weight of stater of account (ca 6.7 g)<sup>16</sup> as well as the gold content falls within the range of variation of these attributes, which are characteristic for the minting period C<sup>17</sup>. In that period the weight of actual staters had dropped from 7.176 g to 6.536 g<sup>18</sup>, while according to Castelin, as a principle the weight of the staters of account was lower if compared to the nominals in the circulation. Among coins of face value of 1/8 stater, taking into consideration by the said researcher, the difference was as much as 0.720 g<sup>19</sup>. Having in mind Castelin's findings relating to the weight of the staters of account, calculated for the coins of face value of 1/8, the Pełczyńska coin should be dated back to the earlier part of the period C<sup>20</sup>.

In the said minting period the gold fineness of the actual stater dropped down to 776/1000 (850/1000 on average), and in case of smaller denominations even

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<sup>13</sup> Hartmann, *o.c.*, p. 672–673, tab. 1, 3.

<sup>14</sup> Castelin, *o.c.*, p. 34–39.

<sup>15</sup> See Hartmann, *o.c.*, p. 660; B. Ziegauß, *Datierung böischer Münzen durch eine Analyse von Schatzfunden*, [in:] G. Lehrberger, J. Fridrich et al. (ed.), *o.c.* (see note 9 above), p. 213.

<sup>16</sup> The coin weight multiplied by 8.

<sup>17</sup> The youngest gold coins issued by the Boii in Moravia and Bohemia before they left to the northern Panonia, where the mint was transferred, see Castelin, *o.c.*, p. 15–16.

<sup>18</sup> *Ibidem*, p. 190, tab. I, VI, XI.

<sup>19</sup> *Ibidem*, pp. 23, 26.

<sup>20</sup> *Ibidem*, see tab. XI.

to 703/1000<sup>21</sup>. At this point one should not disregard one relevant observation by K. Castelin that the coins coming from the C and D minting periods resemble each other both in the content of gold and obscure images they bear<sup>22</sup>.

As it was mentioned above, the obscure image of the coin from Pełczyska has no equivalent among gold denominations of the Boii, published so far. One analogy is that of the 1/8 stater from the Sieradz neighbourhood, which being an import had found its way far beyond the land covered by the Celtic settlement. The feature which definitely make the distinction between two finds from any other coin types issued by the Boii is the motif of two longitudinal, curved thickenings on the reverse. As to the issue of connotations of three accompanying pellets, being one of the characteristics of the 1/8 stater reverse coming from the younger gold denominations of the Boii, the case is different. On the Paulsen 490–520 type of coins pellets are part of an image in the form of arch with outgoing rays, and in case of Paulsen 521–555 so called *radial triangle*<sup>23</sup>. As E. Kolníková correctly mentioned, smaller denominations coming from the younger period of the Boii gold minting period are characterized by the conformity to the established pattern of initial symbolic presentation of triangles and pellets as well as the lower quality of the minting techniques<sup>24</sup>. Without interpreting the symbols of described images, one can make an observation stating that the total disappearance or at least significant limitation of pellet motifs (as to their number and display) in comparison with the schematic image of the *radial triangle* on the 1/8 stater minted by the Great Boii in central Danubia could be explained by the loss of their initial meaning. The justification of this opinion could be found in the fact that the implementation of individual components of the die design (first of all such as pellets) had not required very advanced engraving technique. In this context image on the coin discovered in Pełczyska complies well with the style of the analogous specimens struck in Moravia and Bohemia during the period C.

Proof of a particular attention devoted to the legibility of three pellets, which can be seen on the said specimen, is the evident trace of renovation carried out in respect of that particular motif on the die used for the striking of the coin in question. It seems that the most logical explanation for such efforts would be the moneyer's concern to make sure that his produce does not diverge from other coins in circulation.

The above findings are of limited information value as far as the date of issue of the described coin is concerned on the basis of the absolute chronology. Modern views on dating the coinage of the Boii do differ considerably from the

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<sup>21</sup> Assay of gold of low face value series AA–VII falls within the range of 700/1000–750/1000, see *ibidem*, p. 38.

<sup>22</sup> *Ibidem*, p. 16.

<sup>23</sup> R. Paulsen, *Die Münzprägung der Boier*, 1–2, Leipzig–Wien 1933, p. 61, tab. 24, 25.

<sup>24</sup> E. Kolníková, *Výpoved' nálezov mincí o keltskom hradisku v Trenčianskych Bohuslaviciach*, Slovenská Numizmatika XV, 1998, p. 15.

K. Castelin's findings, and at the same time are far from perfection. First of all this is the result of inadequate progress in the field of publications of new finds<sup>25</sup>. In addition to that the problem of considerable differentiation in weights of minor face values coming from the younger issues of Bohemian and Moravian provenance makes it difficult to make the link between the coin in question and corresponding chronologically type of actual staters. To this type of issues, besides the 1/8 stater with image of arch or triangle with rays and pellets, the 1/3 stater coins with image in the form of two knobs, which appear close to the motif of pellets and zigzag lines (Paulsen 405–485) or independently (Paulsen 486–488), may be included. According to E. Kolníková<sup>26</sup>, the finds from Moravia, mainly from Staré Hradisko, where they had been struck, allow us to date these issues back to the second half of the 2<sup>nd</sup> century BC. A similar chronology is attributed to the stater finds with difficult to specify images of knobs and hollows (Paulsen 269–301) images of a shell-type (Paulsen 302–356) of this oppidum, the weight of which falls within range of 7.46–7.16 g. According to the quoted opinion, the younger type of the coins are staters with a star-shaped image (palm of the hand?) and a ball (or quadrilateral hollow) on the obverse shell-shaped motif on the reverse (Paulsen 357–399), which had been coined on the turn of the 2<sup>nd</sup> century BC. It must be mentioned, however, that both among older and later of the quoted types of staters there are specimens weighing approximately (and in another case even less) than the stater of account, the weight of which is calculated for the Pełczyska coin<sup>27</sup>.

Having in mind the quoted findings it can be presumed that the described coin was struck about the turn of the 2<sup>nd</sup> century or at the beginning of the 1<sup>st</sup> century BC. Nowadays a higher degree of precision in respect of the relic should not be deemed possible. The type of representations noticeable on the reverse of the Pełczyska coin allows it to be situated among imitations of the decadent gold denominations variants coined by the Boii in Bohemia and Moravia. The principle stylistic references to the basic type are limited to the pellet motif, but the image of two arc-like thickenings diverge from them significantly. It is probable that the coin discovered near Sieradz was struck in the same mint workshop. It is worth emphasizing that a similarity between the two finds relates not only the type of images of the die, size and weight, but also untypical form and shape. These references are likely to be the outcome of the implementing the same minting technique.

Having regard to the above observation I suggest adopting as a working concept the attribution of this coin to “the Pełczyska type” (Fig. 6). Apart from purely practical aspects, the proposal has one more justification. In 2001 during archaeological fieldwork and research at site 1 an object was found which

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<sup>25</sup> See E. Kolníková, *Keltské mince v peňažných dejinách Moravy*, [in:] *Peníze v proměnách času*, Ostrava 1998, p. 25.

<sup>26</sup> *Ibidem*, p. 23–24.

<sup>27</sup> See *ibidem*, p. 26.

indirectly indicates that at the Pelczyska settlement there could have been a Celtic mint (see Fig. 2).

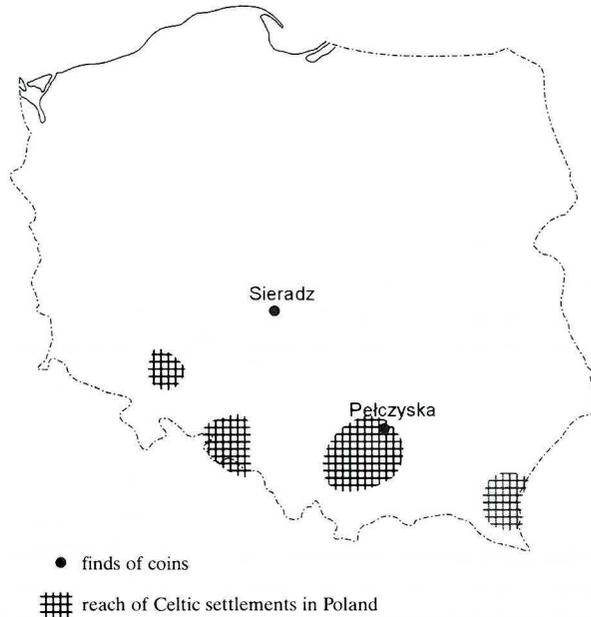


Fig. 6. Map of finds of the Pelczyska type coins

The find is an oval lump of gold of dimensions  $12 \times 10$  mm, thickness of 6 mm and weighing 6.34 g (Figs 7, 8). There is no doubt that the form of the piece is not a natural one and that it resembles Celtic coins. The surface on the obverse side is convex and even, and on the reverse side there is a conical rise caused by the pouring of the metal. On the basis of its shape it may be assumed that the piece had been cast in a bowl-shaped<sup>28</sup> mould of slightly oval shape and depth of approximately 3.5 mm. On its longer sides there are clearly noticeable flattenings, probably traces of pliers. Having in mind the experience gained in the course of analyses presented earlier, the test on chemical composition of alloy was completed at six points on the surface of the item (convex side: samples 1, 2, 3, 4; the other side: samples 5, 6). The results obtained by such means (Table 5) not only seem to be reliable, but simultaneously are fully comparable with the results of tests on chemical composition of the alloy utilized for the 1/8 stater. A comparison of the test results of chemical composition of both relics is presented in Table 6.

<sup>28</sup> Thus it fits well to the form of the clay plates with cavities for casting blanks, numerous finds of which are known from the Bohemian and Moravian oppida, and some also from the Celtic settlements in Little Poland.

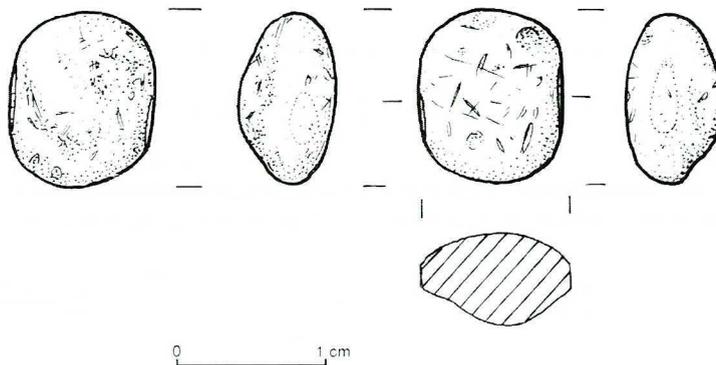


Fig. 7. Pelczyska, Site 1. Lump of gold — semi-product for a gold stater

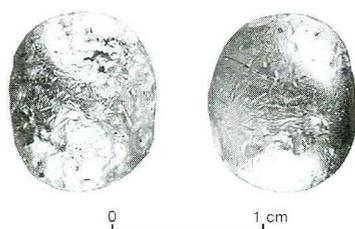


Fig. 8. Pelczyska, Site 1. Lump of gold — semi-product for a gold stater

Table 5. Results of measurements of the chemical composition of the lump of gold alloy, carried out by the Regional Assay Office, Warsaw

Element/ sample number	Au (%)	Ag (%)	Cu (%)	Pt (%)	Pb (%)	Cd (%)	Other (%)
1	80.8	15.0	n.d.	n.d.	1.4	0.8	Ir 1.9
2	79.2	15.4	1.7	n.d.	1.5	0.8	Ir 1.4
3	78.8	16.2	n.d.	n.d.	1.4	n.d.	Sn 3.6
4	77.0	16.8	n.d.	n.d.	2.5	n.d.	Sn 3.6
5	79.8	15.7	1.6	n.d.	1.6	0.9	Ir 0.4
6	78.0	16.6	2.0	n.d.	1.8	n.d.	Ir 1.6
Mean	78.93	15.95	0.88	n.d.	1.70	0.42	2.08

Table 6. Comparison of mean values of the chemical composition of the alloys, which had been utilized the 1/8 stater and the lump of gold

Element/ item	Au (%)	Ag (%)	Cu (%)	Pt (%)	Pb (%)	Cd (%)	Other (%)
1/8 stater	74.0	21.0	1.2	0.35	1.7	1.1	0.8
lump of gold	78.93	15.95	0.88	n.d.	1.7	0.42	2.08

No doubt the gold content in the alloy of lump slightly higher than in the case of the coin. The assay of the precious metal in the alloy utilized to its preparing reaches almost 800/1000, which have been confirmed by the metal density analysis determined at 15.99 g/cm<sup>3</sup> (for the coin 14.71 g/cm<sup>3</sup>). Apart from that the chemical composition of the metal in both cases is very close. Disregarding platinum, in the composition of both alloys exactly the same elements may be detected, in similar proportions. It is even possible to state that in order to produce both relics the raw material coming from the same source had been utilized. The principal difference between them lies in the assay of gold, the lower content of which in the alloy of coin is compensated by increased content of silver.

These observations can hardly be considered as a typical coincidence the more so as the difference in weight between stater of account calculated in respect of coin and that of piece is equal to merely about 0.4 g. Moreover, comparing the same values for the 1/8 stater coin discovered nearby Sieradz and the lump, we receive the difference equal to merely 0.1 g<sup>29</sup>. In such a case the most probable is the hypothesis that the described lump of gold constitutes in fact a semi-product of the Celtic stater. The lack of reliable material for comparison<sup>30</sup> makes it impossible to judge whether this piece of metal was suitable for striking a coin or whether the form of the blank would have had to undergo further treatment (which is perhaps the more probable).

The semi-product of the coin from Pełczyska corresponds to the youngest Boii issues of staters — coming from Bohemia and Moravia. Taking into account the earlier presented data on the chronology of the same type of emissions, the relic in question should be dated back to the same period as the 1/8 stater i.e. to the turn of the 2<sup>nd</sup> century or at the beginning of the 1<sup>st</sup> century BC. The similarity of the chemical composition of metal suggests that both items are products of the same workshop, operating somewhere in the area of Celtic settlement enclave in the west part of Little Poland (Pełczyska?).

The existence of the local Celtic minting operations in this region is unquestionable. At present 7 coins of a stater face value<sup>31</sup>, are known, which may

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<sup>29</sup> The weight of the 1/8 stater, found near Sieradz, is 0.78 g (see above, note 8), so the weight of the stater of account was approx. 6.2 g.

<sup>30</sup> No similar finds from the Celtic homeland, and the published results of experiments do not give clear-cut indication in this respect.

<sup>31</sup> Contrary to the views of Z. Woźniak, (*Działalność mennicza Celtów w Małopolsce*, [in:] *Celtowie i ich mennictwo*, Warszawa 1986, p. 74–75), there are no grounds to include to the local issues in Little Poland, the 1/8 stater from Cieszyn (A. Kietlińska, T. Hildt, *Materiały z Cieszyna*, Sprawozdania Państwowego Muzeum Archeologicznego, 4, 3–4, Warszawa 1951, p. 121–123; K. Castelin, *Keltenmünzen in Schlesien*, [in:] *Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege* 20–21, Berlin 1976, p. 260), and in particular the find nearby Kraków published by T. Żebrawski (*Wiadomości Numizmatyczne*, [in:] *Czas, Dodatek Miesięczny* 5, Kraków 1857, p. 620–621, pl. 1).

be treated as local issues, named the “Cracovian type”<sup>32</sup>. As regards the design of the die, weight and gold content (and consequently the tint colour) Cracovian staters constitute a group so non-homogenous, that it seems difficult to accept them as belonging to the same type. In addition to the coins with the dominating content of gold in the alloy, the weight of which falls within the range of 6.72 g — 5.63 g (considering all specimen within range of 7.423 g — 5.63 g) the specimens made of electrum or so called silver are included there<sup>33</sup>. Since the distinction of the new type the chronology of the whole group has been causing certain objections and reservations<sup>34</sup>. The direct evidence for existence of the local Celtic minting operations in west Little Poland are the finds of clay plates with cavities for casting coin blanks. At present the finds of such a type are known from three settlements: Kraków–Mogiła<sup>35</sup>, Zakrzów<sup>36</sup> and an unpublished find from Kraków–Pleszów<sup>37</sup>. There is no doubt that both the plates from Zakrzów and those from Mogiła, in which the presence of electrum<sup>38</sup> has been detected, served for casting blanks of the 1/8 stater face value.

At the present stage of research the relating of the finds from Pełczyska (together with the coin discovered near Sieradz), with any of the staters of the “Cracovian type” does not seem feasible. Unfortunately none of them have not been subjected to spectrographic analyses, and the sole comparative criterion, due

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<sup>32</sup> See Castelin, *Keltenmünzen...*, p. 260–268; Z. Woźniak, *Mennictwo celyckie. Stan i perspektywy badań*, [in:] *Pieniądz starożytny. Stan i perspektywy polskich badań*, Warszawa 1984, p. 30ff; L. Morawiecki, *Mennictwo celyckie* [Zarys mennictwa europejskiego, vol. 3], Kraków 1986, p. 117–118; P. Kaczanowski, *Złota moneta celycka z osady kultury przeworskiej w Kryspinowie, woj. Kraków*, Sprawozdania Archeologiczne 48, Kraków 1996, p. 119–133.

<sup>33</sup> Castelin, *Keltenmünzen...*, p. 265; Morawiecki, *o.c.*, p. 118; Kaczanowski, *o.c.*, p. 129.

<sup>34</sup> K. Castelin referred it to the minting period C, and Z. Woźniak with the period D, see Castelin, *Keltenmünzen...*, p. 260–268; Z. Woźniak, *Keltische Schrötlingsformen aus Kraków–Mogiła*, [in:] *Festschrift zum 50-jährigen Bestehen des Vorgeschichtlichen Seminars Marburg* [Marburger Studien zur Vor- und Frühgeschichte, vol. 1], Marburg 1977, p. 244; the same, *Celycki warsztat menniczny z okolicy Krakowa*, Acta Archaeologica Carpathica 18, Kraków 1978, p. 110–111; the same, *Mennictwo celyckie*, p. 30; Morawiecki, *o.c.*, p. 117–118.

<sup>35</sup> R. Hachulska–Ledwos, *Celyckie formy do odlewania krążków mennicznych z I w. p.n.e. znalezione w Polsce*, WN XX, 1976, p. 180–183; R. Hachulska–Ledwos, Z. Woźniak, *Formy do wyrobu krążków mennicznych z I w. p.n.e. z Krakowa–Nowej Huty (Mogiła, stan. 1)*, Materiały Archeologiczne Nowej Huty 5, 1976, p. 202–206; Z. Woźniak, *Keltische Schrötlingsformen...*; M. Wirska–Parachoniak, *Analiza technologiczna celyckich foremek mennicznych z Małopolski*, Acta Archaeologica Carpathica 21, Kraków 1981, p. 153–157.

<sup>36</sup> R. Mycielska, *Nowe znalezisko formy do wyrobu krążków mennicznych ze stanowiska Zakrzów, woj. Kraków*, Acta Archaeologica Carpathica 21, Kraków 1981, p. 145–151; Wirska–Parachoniak, *o.c.*

<sup>37</sup> Kaczanowski, *o.c.*, p. 128.

<sup>38</sup> 50% of gold, 49% of silver and minor quantity of copper and zinc, see Hachulska–Ledwos, Woźniak, *o.c.*; Woźniak, *Keltische Schrötlingsformen...*

to a significant stylistic differentiation remains the weight of individual coins. The data relating to the metrological parameters of the “Cracovian type” of coins make us believe that the finds from Pełczyska belong to relatively early issues<sup>39</sup> (that of minting period C — according to Castelin). This hypothesis is confirmed by the chronology of the sunken hut — object No 2 from Zakrzów, i.e. from a place where clay plates for casting blanks (before the end of the stage LT D1). The majority of “Cracovian type” finds seems to represent already earlier local issues corresponding to the chronology of the object 187/54 from Kraków–Mogiła, where fragments of two clay plates come from (end of LT D1–LT D2)<sup>40</sup>.

#### SILVER FINDS

Among items discovered during surface prospecting by means of metal detectors on site 1 there are three silver large coins. It is worthwhile stating that although the findspots were about 17 m apart, all three coins were found almost along the same line, aligned exactly along the longer axis of the field (Fig. 2). The rectangular shape of this field conditions the way of its cultivation, which always is carried out along the same axis. Taking into account the impact of soil erosion resulting from the slope inclination and intensity of the cultivation there is a supposition that the coins had been parts of the same deposit, dispersed by ploughing.

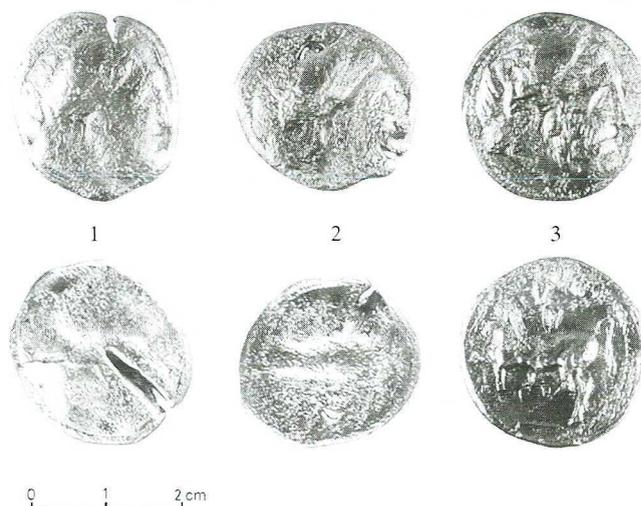


Fig. 9. Huși–Vovriești type tetradrachms. Obverse (up) and reverse (down)

<sup>39</sup> Chronologically the stater from Kraków–Grzegórzki of weight 6,72 g, seems to refer to them.

<sup>40</sup> Earlier issues would correspond to the stage II, and later ones with the stage III, of the Tyniec group development as seen by Z. Woźniak, *Działalność...*, p. 72–75.

Immediately after taking out from the soil, the coins gave the impression of being well preserved. However, it soon appeared that the metal on the surface to some extent had been affected by oxidation. Already after the initial washing some parts of the presentations lost their readability, including an inscription on one of them. The unfavourable soil conditions were probably responsible for such a situation. It must be considered that the oxidation of the surface layer of metal (removed during cleaning) to a relatively small extent affected the weight of the coins. Nevertheless it is possible both to determine the images the coins bear and their typological identification (Fig. 9)<sup>41</sup>.

1. tetradrachm, Obverse: head of Zeus right. Reverse: stylised horseman riding a horse left. Two straight incisions on the edge, made from obverse to reverse, one 12 mm long through the entire thickness of the blank, another 6 mm long — shallow, caused the fracture of the blank, 11.69 g, 25.5 × 22.5 mm, surfaces deteriorated.
2. tetradrachm, Obverse: head of Zeus right. Reverse: stylised horseman riding a horse left. Semi round incision, width 3.5 mm from obverse to reverse through the whole thickness of the blank, straight incision along the edge, length 7.5 mm made from obverse to the reverse, 12.08 g, 25 × 22 mm, surfaces deteriorated.
3. tetradrachm, Obverse: head of Zeus right. Reverse: stylised horseman riding a horse left, above, between the head of a horseman and the horse tail the remains of an inscription of four (?) letters, resembling Philip's name; on the reverse the trace of rectangular counterstamp of dimensions 3 × 2 mm, below the horse, 12.53 g, 25 mm.

Despite objections as to the preservation, there is a visible similarity of the tetradrachms No 1 and 2. This concerns not only the weight, shape and dimensions but also analogous schematic images. Without too much risk it may be stated that they come from the same mint. The images on tetradrachm No 3 are slightly more realistic and are accompanied by inscription. Simultaneously this coin has the highest weight and the most regular shape, there are no incisions but only a counterstamp on the reverse. The described coins are undoubtedly imitations of the Macedonian tetradrachms of Philip II, which belong to the Huși-Vovriești type, distinguished by C. Preda<sup>42</sup>.

In order to compare the quality of the precious metal, the tetradrachms have been subjected to the spectrographic analyses by means of X-ray fluorescence (RFA). Its application in Celtic numismatics has recently gained particular popularity in the field of gold coins tests<sup>43</sup>. At the same time we have no adequate comparative material for silver coins, in particular to the specimens of our interest.

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<sup>41</sup> The numbering presented below will be applied unchanged herein and also in the table and in the Fig. 9.

<sup>42</sup> C. P r e d a, *Monedele geto-dacilor*, București 1973, p. 111–131.

<sup>43</sup> See note 9 and 10.

It seems however, that the results of analyses of this kind are very promising for future. Perhaps they will allow to find answers to many questions concerning the origin of the raw materials which in turn will create possibilities for identification of products of particular workshops. Tests of the described coins have been carried out by means of a Spectro X-test spectrometer — the same apparatus, which proved itself the most effective during the analysis of the chemical composition of the 1/8 stater described above. Only in one case (coin No 1) was the test performed both on the obverse (the head of Zeus) and the reverse (croup of the horse) side of the coin, however the results were almost identical. In other cases only the reverse of the coins were analyzed, the analogous points on each of them being tested. The results are presented in the table 7.

Table 7. Results of the measurements of the tetradrachm alloys, carried out at the Regional Assay Office, in Warsaw

Element/ Coin number	Ag(%)	Cd(%)	Pd(%)	Au(%)	Cu(%)	Pb(%)	Pt(%)	Weight (Gram)
1. Obv.	91.8	3.3	3.1	1.1	n.d.	0.8	n.d.	11.69
1. Rv.	91.7	4.7	2.8	0.8	n.d.	n.d.	n.d.	
2. Rv.	92.2	3.1	2.5	0.9	0.7	0.6	n.d.	12.08
3. Rv.	91.6	4.6	2.4	n.d.	0.8	n.d.	0.5	12.53

At the first glance a close similarity can be seen between the results of individual tests<sup>44</sup>. The similarity applies both to the chemical composition of the alloy and the percentage by mass of particular components. Disregarding the differentiated element contents of the smallest percentages by mass of metal<sup>45</sup>, it may be simply stated that the silver alloy utilized for striking all three coins is almost identical. Its main constituent is of course silver, the content of which is equal to ca 92%, the second largest content is that of cadmium — ca 4%, the third one is palladium — ca 2.5%. The content of copper is surprisingly low (0.7–0.8%), which probably could be the effect of surface alterations caused by the state of preservation of the coins. At the same time our attention is attracted by slight — but it seems — an evident admixture of gold, probably detected incorrectly as platinum<sup>46</sup> in case of tetradrachm No 3.

The finds of Huși–Vovriești tetradrachms representing the first phase of Geto–Dacian coinage, are concentrated quite obviously in the midlands of

<sup>44</sup> Although their results may not correspond to reality, due to the leaching of certain element out from the surface of the coins during cleaning. Application of the same methods of cleaning ensures that the potential error is the same in all three cases.

<sup>45</sup> Results of measurements in case of elements, the percentage of which by weight does not exceed 1% are biased with the greatest risk of an error and cannot be treated as reliable ones.

<sup>46</sup> It is highly probable due to the interferences of the characteristic lines of gold and platinum series L.

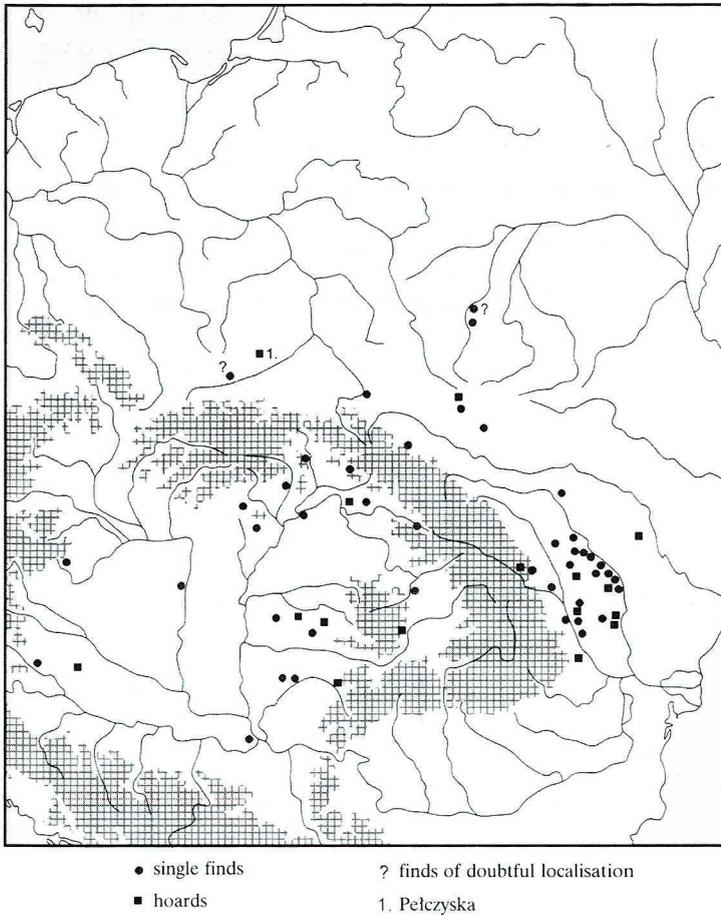


Fig. 10. Finds of Huși-Vovriești type tetradrachms

Moldavia (Eastern Dacia). In the literature the concepts of C. Preda have been widely recognized, in whose opinion these tetradrachms had been struck starting from the end of 3<sup>rd</sup> century till the middle of the 2<sup>nd</sup> century B.C., by the Celtic-Germanic tribe of Bastarnae, living there<sup>47</sup>. The typical feature of the Huși-Vovriești type is the wide differentiation of stylistic images on coins, which were imitations of the tetradrachms of Philip II. In addition of relatively faithful imitations of the prototypes, with the trace of inscriptions, there are also the coins with rather schematic images. Another very characteristic feature of the coins of that type is repeated occurrence of the counterstamps and deep incisions passing through the whole thickness of the blank. These cuts are treated as a result of

<sup>47</sup> Preda, *o.c.*

testing the assay of the precious metal. The weight of Huși–Vovriești type tetradrachms falls generally within the range of 14–11 g, and specimens of 14–13 g constitute ca 70–75% of the total number of coins, and the remaining — ca 20–25% weight about 12–11 g. Coins below 11 g are quite rare.

Finds of Huși–Vovriești type tetradrachms outside Moldavia territory have been recorded also in the territory of Ukraine, Hungary, Austria, Slovakia and Poland<sup>48</sup> (Fig. 10). In Poland the finds of that kind, like the majority of Geto–Dacian coins are concentrated evidently in the southern and south–eastern part of the country<sup>49</sup>. Having regard to the adjacent land of Ukraine, they are the most numerous type of this kind of finds<sup>50</sup>. Apart from the hoard of Lipowiec, single specimens come from the neighbourhood of Łuck and Medyka. The coin from the collection of the National Museum in Cracow could probably be counted among the finds from southern Poland.

The tetradrachms discovered at Pełczyska should be included rather into the less numerous group of the lighter coins<sup>51</sup>. It is appealing that there is similarity not only of the weight but also of the composition of the precious metal utilized in their striking. Taking into account the earlier data on the location of the particular finds there is a high probability that they had been constituents of a dispersed deposit. Moreover it cannot be excluded that all three coins (and at least No 1 and 2) come from the same mint workshop. The distance between the finds (about 17 m) justifies the assumption that the deposit in question had been dispersed a long time ago and dislocated due to ploughing. Perhaps future studies will give an opportunity to find out whether the discovered coins comprised the whole of the deposit (hoard?) or only part of it.

## CONCLUSIONS

The relatively numerous finds of the Celtic coins in Pełczyska are quite outstanding if compared to La Tène settlement in the Western Little Poland. One reason for this exceptional situation could be identified as a consequence of using on regular basis the metal detectors in the course of archaeological fieldwork there. In our case, however, to limit the explanation to the sphere of methodology would be an excessive simplification.

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<sup>48</sup> See E. Kolníková, *Zeugnis der Münzfunde über Kontakte des vorrömischen Dakiens mit dem mitteleuropäischen Raum*, *Studii și Cercetări de Numismatică*, XI (1995), București 1997, p. 48; B. Tomášová, E. Kolníková, *Nález keltskej mince v Sedliskách–Podčičve*, *Slovenská Numizmatika* XV, 1998, p. 193–194.

<sup>49</sup> See A. Miłkołajczyk, *The Transcarpathian Finds of Geto–Dacian Coins*, *Archaeologia Polona* 23, 1984, p. 52f.

<sup>50</sup> 20 examples in total.

<sup>51</sup> Unfortunately only in a few case we know the weight of the coins from mentioned finds. Apart from finds near Łuck (12.10 g) there is a part of the Lipowiec hoard (11.30 g), where there were together heavier and lighter pieces.

In the first half of the 3<sup>rd</sup> century BC (end of the stage LT B or the beginning of the LT C) two groups of Celts arrived in the territory of southern Poland<sup>52</sup>. One settled on lands of the upper San River, by the Polish–Ukrainian border. The second group (probably from the south–west) created a settlement enclave in the neighborhood of Cracow<sup>53</sup>, the area to which the Pełczyska settlement belongs.

Material from this site represent all development stages of the Tyniec group, starting from LT–C till the end of LT–D2. The continuation of the settlement relations, and at the same time the biggest prosperity of the La Tène settlement falls within LT C1–LT D1. The finds from that period make Pełczyska — probably functioning at that time as a local center of trade and production — one of the richest settlements known in the region. The evidence for this consists of numerous relics of glass<sup>54</sup>, sapolite and the only bronze brooch of Nauheim–type found on the Polish territory (imports). The welfare of the inhabitants is confirmed by the size and differentiation of the collection of wheel–made pottery<sup>55</sup>. Its frequency and technological qualities as well as finds of graphite raw material (imported from south) indirectly prove that it had been produced locally. Relatively early on in the life of the settlement trade based on the precious metal (coins?) had been known is shown by the iron pan of scales discovered in the context of the materials of the middle La Tène period (LT C)<sup>56</sup>. Gold, together with glass, sapolite, graphite and other goods had arrived due to commercial contacts with the Celts, living in Moravia<sup>57</sup> and Bohemia. Such a relationship in the oppida period is confirmed by the local issues of gold coins referring to the monetary system of the Boii. An inflow of imports to Pełczyska had probably something to do with its location on the amber route.

The finds of tetradrachms of Huși–Vovriești type are evidence for another orientation of the relationship. According to A. Mikołajczyk, at least two ways should be taken into consideration through which the tetradrachms of the first

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<sup>52</sup> See Z. Woźniak, *Neue Forschungsergebnisse über die jüngere Latènezeit in Südpolen*, *Arheološki Vestnik* 47, Ljubljana 1996, p. 165–172 (further references there).

<sup>53</sup> The La Tène material from that area is known in the literature as the so called Tyniec group.

<sup>54</sup> Including fragments of seven glass bracelets, which is almost 10% of all finds of this type discovered on the Polish territory.

<sup>55</sup> A percentage of that type of pottery in the inventory of dwelling objects (above 50%) is definitely the highest one if compared with the rest of the Celtic settlements in Little Poland.

<sup>56</sup> Reference is made to a find from a sunken hut of the La Tène period, turned up in 1962 (feature 6/62). Because of interspersing parts of adjacent features (features 6/62 and 15/64), the more precise determination of the chronology of the relic would not be certain. Soon the pan of scales will be the subject of separate paper.

<sup>57</sup> Confirmation of strong relationship between the Celts from the region near Cracow and their kinsmen from Moravia is reflected by numerous references in terms of forms and technology in the field of manufacture of wheel– and hand–made pottery.

phase of Geto–Dacian coinage reached Polish territory<sup>58</sup>. It seems, however, that in the light of archaeological finds during last few years, the inflow of such coins (in particular the Huși–Vovriești type) may be associated with the functioning of the so–called “Bastarnian route”. A number of finds typical for the Jastorf culture from the Polish territory (including the Western Little Poland), have been dated back to the times of functioning of the Poienești–Lukaševka culture<sup>59</sup>. It is significant that the finds of tetradrachms of the Huși–Vovriești type (as well as the majority of the Geto–Dacian coins) found on the Polish territory, have been discovered exclusively from the territories in which the Celts had been settling, in the southern and south–eastern part of the country. This was not a coincidence. Perhaps the mint production and distribution of the coins of that particular kind was the competence of the Celts participating in the structure of the Bastarnae tribe. Their partners to the north–west belonged mainly among their Celtic kinsmen groups, and not the Germanic population. It is worth saying that no other items have been found at Pełczyska, which beyond dispute could be associated to the Poienești–Lukaševka culture and the so–called “Bastarnian route”<sup>60</sup>.

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<sup>58</sup> Mikołajczyk, *o.c.*, p. 58ff.

<sup>59</sup> See Z. Woźniak, P. Połeska, *Zabytki typu jastorfskiego z zachodniej Małopolski*, [in:] Comhlan, *Studia z archeologii okresu przedrzymskiego i rzymskiego w Europie Środkowej* dedykowane Teresie Dąbrowskiej w 65. rocznicę urodzin, Warszawa 1999, p. 379 f.

<sup>60</sup> The sole definite Jastorf find would be dated back to the elder part of the pre–Roman period, see M. Rudnicki, *Pełczyska. Chronologia osady z okresu lateńskiego na podstawie materiałów z wybranych obiektów*, unpublished thesis in the Institute of Archaeology, University of Warsaw, Warszawa 1997, p. 152 f., pl. XXX: 4; Woźniak, Połeska, *o.c.*, p. 381.

## ZNALEZISKA MONET CELTYCKICH Z OSADY LATEŃSKIEJ W PEŁCZYSKACH

(Streszczenie)

Na ziemiach polskich zarejestrowano do tej pory zaledwie ca 100 znalezisk monet celtyckich, uwzględniając także te, które wchodziły w skład skarbów. W większości są to znaleziska przypadkowe, dlatego uwagę zwracają znaleziska z osady w Pełczyskach.

Pełczyska (pow. Pińczów, woj. Świętokrzyskie) leżą ca 55 km NE od Krakowa na lessowych terenach prawobrzeżnego dorzecza Nidy. Przyczyną podjęcia tam badań archeologicznych było przypadkowe odkrycie w 1938 r. W efekcie badań prowadzonych przez 9 sezonów w latach 1958–1973 odsłonięte zostały relikty rozległej osady pradziejowej. Najliczniejszą grupę znalezisk stanowiły wówczas materiały związane z kulturą lateńską.

Badania archeologiczne w Pełczyskach wznowione zostały w 2000 r. w ramach projektu pod nazwą Ekspedycja Celtycka Instytutu Archeologii Uniwersytetu Warszawskiego. Rezultatem trzech sezonów badań (2000–2002), obejmujących różne metody prospekcji (fotografia lotnicza, metody geofizyczne), jest cały szereg niezwyklej znalezisk z różnych okresów, w tym kolejne stanowiska (por. ryc. 1). Z osadnictwem celtyckim wiązać można między innymi odkrycia czterech monet oraz bryłki złota związanej z produkcją menniczą (por. ryc. 2).

Złota moneta znaleziona na stan. 2 w 2000 r. była tematem odrębnego opracowania. W niniejszym tekście przytoczone zostało jego podsumowanie uzupełnione o najnowsze ustalenia. Opisywana moneta kształtem przypomina owalną miseczkę o wymiarach 12,5 na 8,7 mm i wadze 0,840 g (ryc. 3, 4). Przedstawienia ze stempla (dwa łukowate zgrubienia i trzy kropki) znajdują się jedynie na stronie wklęsłej. Zdwojenie przedstawienia kropek na monecie pozwala stwierdzić, że ten motyw na stemplu użytym do jej wybicia, był odwiany. Wielkość, waga i rodzaj kruszcu pozwalają określić monetę jako 1/8 statera z kręgu mennictwa bojskiego, jednak same przedstawienia nie mają analogii na terenie Czech i Moraw. Jedyną, znaną analogią w tym przypadku jest znalezisko monety o tym samym nominale z okolic Sieradza (ryc. 5). W celu określenia chronologii i proveniencji monety z Pełczysk posłużono się analizą jej cech stylistycznych i metrologicznych. Skład chemiczny stopu użytego do jej wybicia określony został na podstawie analiz wykonanych metodą fluorescencji rentgenowskiej (RFA) w czterech placówkach badawczych. Ich wyniki prezentują tabele 1–4. Porównanie jakości kruszcu i wagi monety z ustaleniami K. Castelina dotyczącymi mennictwa bojskiego pozwala odnosić jej emisję do okresu menniczego C. Tę hipotezę zdają się potwierdzać nawiązania stylistyczne motywu kropek na rewersie monety. Uwzględniając najnowsze ustalenia dotyczące datowania późnych emisji staterów i ich frakcji bitych na oppidach czeskich i morawskich, chronologię opisywanego zabytku odnosić można do przełomu II/I lub pocz. I w. przed Chr. Zarówno znalezisko z Pełczysk, jak i spod Sieradza traktować należy jako naśladownictwa późnych emisji bojskich z Czech i Moraw, które pochodzą z lokalnej mennicy (prawdopodobnie tej samej) działającej zapewne na terenie zachodniej Małopolski.

Kolejnym z opisywanych znalezisk jest bryłka złota odkryta na stanowisku 1. Jej waga (6,34 g) i kształt (12 × 10 mm) nie jest dziełem przypadku (ryc. 7, 8). Została ona odlana w miseczkowatej formie, charakterystycznej dla produkcji krążków monet celtyckich. Skład chemiczny stopu określono metodą RFA (tab. 5). Jest on bardzo zbliżony do składu metalu użytego do wybicia opisywanej wcześniej monety (por. tab. 6). Kolejne ustalenia prowadzą do wniosku, że bryłka ta to w istocie półprodukt celtyckiego statera, który wykonany został w tym samym warsztacie co moneta (Pełczyska?) przy użyciu podobnego rodzaju surowca menniczego.

W trakcie badań archeologicznych prowadzonych na stanowisku 1 odkryto trzy monety srebrne, które określić należy jako tetradrachmy typu Huși–Vovriesti (ryc. 9). Planigrafia znalezisk pozwala przypuszczać, że pierwotnie wchodziły one w skład jednego zespołu (por. ryc. 2). Ana-

lizy spektrochemiczne (RFA), którym poddano monety wykazały duże podobieństwo składu kruszcu użytego do ich wybicia (por. tab. 7). Podobieństwo stylistyczne tetradrachm oznaczonych numerami 1 i 2 sugeruje ponadto, że są to produkty tego samego warsztatu mennicznego. Kolejne ustalenia potwierdzają hipotezę, że monety należały do jednego zespołu (skarbu?) rozproszonego przez orkę. Tetradrachmy typu Huși–Vovriești wybijane były na terenie środkowej Mołdawii od końca III do poł. II w. przed Chr. przez celto–germańskie plemię Bastarnów (por. ryc. 10). Ich znaleziska na obszarze ziem polskich rozpatrywać należy w kontekście materiałów typowych dla kultury jastorfskiej i jej związków z kulturą Poienești–Lukaševka (tzw. szlak bastarneński). Uwagę zwraca przy tym koncentracja znalezisk monet geto–dackich w rejonach zajętych przez osadnictwo celtyckie w pld. i pld.–wsch. Polsce.

Stosunkowo liczne znaleziska monet celtyckich w Pełczyskach, uwzględniając całe spektrum innych znalezisk (importy), świadczą o zamożności i wielokierunkowych kontaktach ludności zamieszkującej osadę w okresie lateńskim. Prawdopodobnie miało to związek z jej usytuowaniem na szlaku bursztynowym.

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