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**NEW CONSIDERATIONS ABOUT MEANING OF THE FORM AND THE CONVENTIONAL  
SYMBOLS FOUND ON MONETARY SIGNS (6<sup>TH</sup>-5<sup>TH</sup> CENTURY BC)**

**ABSTRACT** One of the main questions to be put to the evidence is what is the connection between the shape of monetary signs in use and everyday reality in the sixth and fifth centuries BC. Also, if they were commercial items, what was their significance, because they don't fully express the function of currency? Were they made in the shape of arrowheads without ultimately symbolizing anything of the purpose for which they were created? In fact, 'arrowhead' monetary signs represent measurable symbols, used in real trade transactions as a 'standard' in certain regions. They were established to act as a counterpart for quantities of goods, which were at the time in question grain and fish products. These two commodities seem to be the most sought after by the local population of Greek origin population. These monetary signs could represent, after a primary connection had been established by spindle-shaped arrowheads, through other stages too throughout the second half of the 6<sup>th</sup> century BC, evolve into other shapes, in the classic cases representations in the shape of cereal grain, or marine fish respectively. Our opinion is that the interpretation of these signs must have been unequivocal for the population of 6<sup>th</sup> and 5<sup>th</sup> centuries BC, or, more precisely the interpretation of their significance and destination. Here we are not referring to real arrowheads used in battle. In casting these monetary signs items the elements which were selected for local exchange were depicted in a selected shape. This means that the simplest one, an arrowhead, represents this symbolically, it is not a real weapon. They represent instead the exchange items for which they were created: cereals-wheat ears or wheat and barley grains, fishery products etc. These new considerations were suggested to us by the study of the monetary symbolism throughout the Greek world. Special attention has been given to the presence, on some of the "arrowhead" monetary signs of the first type (especially the cast monetary signs), of a series of symbols that could be linked, it is assumed, to some monetary workshops of the West-Pontic colonies. They appear chiefly, if not in their entirety, on the "arrowhead" signs in the shape of a laurel leaf, with elongated form with a prominence of central rib and edge.

Key words: Pontus Euxinus, pre-Roman period, monetary signs, trade

**ABSTRAKT** Celem prezentowanych studiów jest rozważenie związku kształtu monetopodobnych form pieniądza charakterystycznych dla zachodniego i północnego wybrzeża Morza Czarnego z wytworami codziennego użytku. Uwagi odnoszą się do świata greckiego VI i V w. p.n.e. Pieniądz ten był środkiem płatniczym używanym w handlu, chociaż wydaje się, że nie w pełni oddawał on funkcje pieniądza monetarnego. Pieniądze w kształcie grotów strzał nie muszą symbolizować celu militarnego, dla którego pierwotnie zostały stworzone. W rzeczywistości znaki pieniężne w formie grotów strzał to możliwy do policzenia środek pieniężny używany w gospodarce, przede wszystkim w handlu, przy zastosowaniu rozmaitych „standardów” regionalnych. Zostały one wykreowane jako równoważniki dóbr, w tym czasie w pierwszej kolejności zboża i ryb. Te grupy towarów były szczególnie pożądane przez Greków i znaki pieniężne wydają się być szczególnie powiązane z nimi, także poprzez ich formę („groty strzał” w formie liścia przypominające kształtem ziarno). Dlatego uznano za celowe zaproponowanie bardziej jednoznacznej oceny tych znaków pieniężnych, ich znaczenia i przeznaczenia na tle sytuacji właściwej dla VI i V w. p.n.e. Po prostu skorzystano z popularnych wzorów, aby stworzyć środek ułatwiający wymianę. Opinię tę wspierają studia z zakresu ikonografii greckiej.

Słowa kluczowe: Morze Czarne, okres przedrzymski, znaki monetarne, handel

Among the wide range of forms of exchange which were in use before the appearance and use of actual coin, the group of monetary signs cast in the Ionian Pontic colonies along the western and north-western shores of the Pontus Euxinus, is one of the favourite themes. Different aspects relating

to the shape and symbolic function (or even identity) of these objects have been subjected to scrutiny. Above all, research has been directed towards the "arrowheads" which were specially moulded for commercial purposes, and, in secondary place (but only from the point of view of the present report),

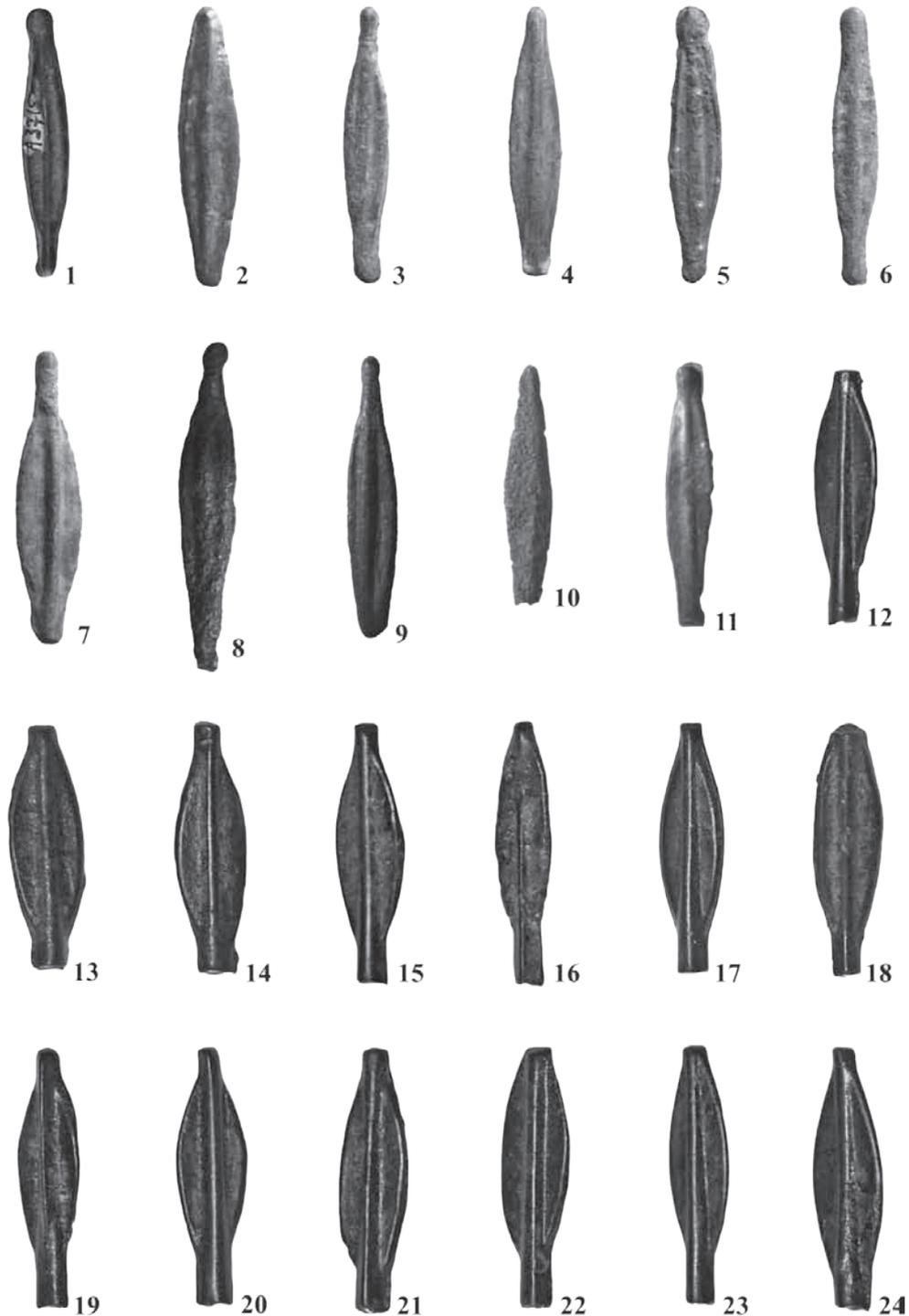


Fig. 1. “Arrowheads”-monetary signs from the first category: earlier pieces (1-11) and classic pieces (12-24)

at “the small dolphins” made at Olbia. There is a relatively rich bibliography of works devoted to the iconographic significance of the first mentioned group of mould-cast objects, conventional named “arrowheads”, but having a commercial purpose<sup>1</sup>. My personal experience of carrying out research and publishing thousands of such pieces, and I am particularly thinking of the numerous hoards of them,

particularly those discovered over the last ten to fifteen years in the Dobrudja, combined with thorough analysis, open up the possibility of a new approach to the regarding the significance of their shape. In particular my attention will be directed towards the signs which are borne on one or both sides of these pre-monetary arrowheads.

Their production was a general phenomenon which appears in the archaic Greek communities starting from the end of the first half of 6<sup>th</sup> century BC and continuing down to the first half of 5<sup>th</sup> century BC. These included, at one time or the other,

<sup>1</sup> All references regarding this problem can be found at Talmațchi 2010: *passim*; Talmațchi 2011: 59-78.

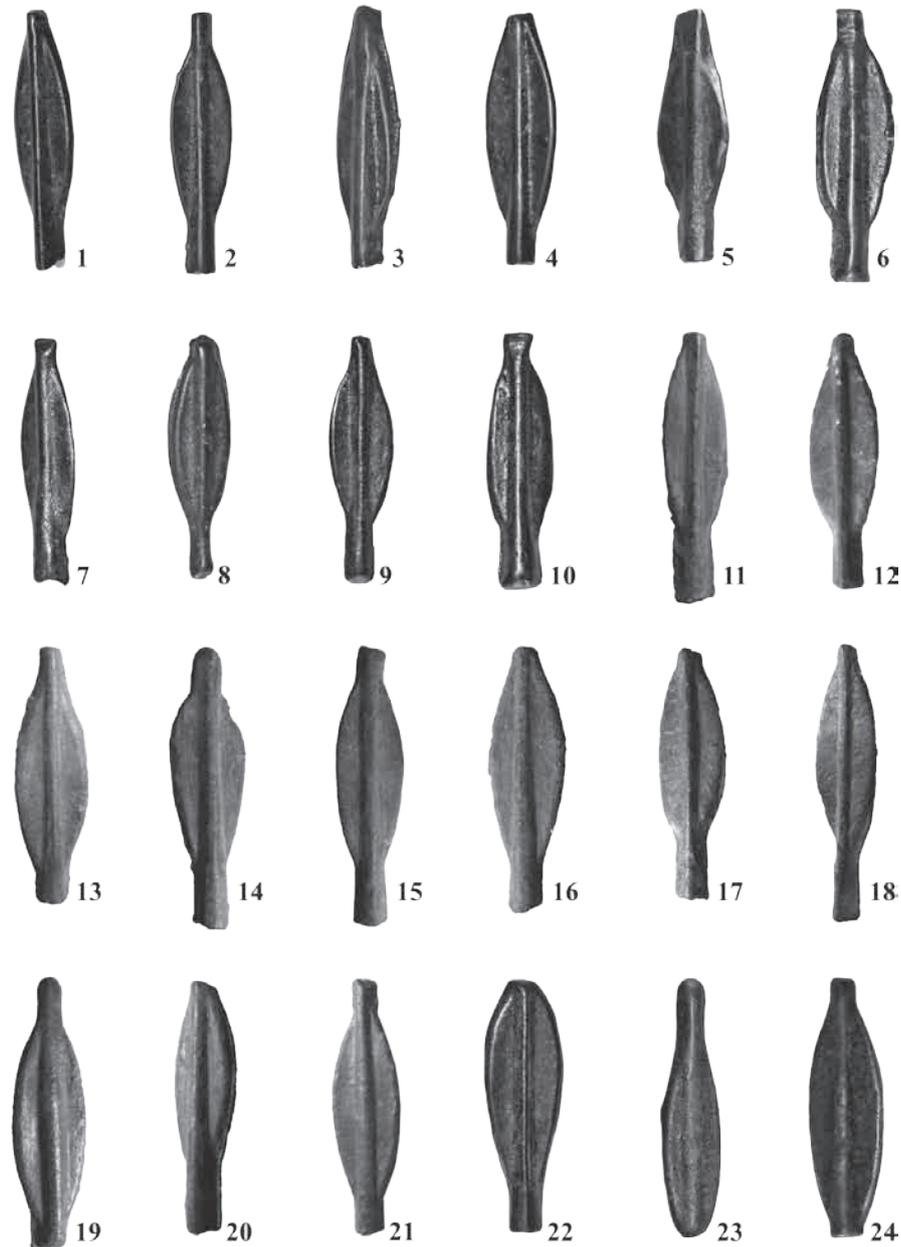


Fig. 2. “Arrowheads”-monetary signs from the first category: classic pieces (1-24)

most of the Milesian colonies on the north and west coast of the Black Sea. As is usually the case, their production represented an answer to an economic necessity which arose on the local (or zonal) commercial market, between on the one side the coastal communities, and on the other those located inland. It represented the gradual replacement of barter with a more advanced form of trading, with a metal instrument used to measure the value of the products that were exchanged. At first in the form of arrowheads, and later on in the form of Olbian “fishes and dolphins” (Fig. 3, no. 1-6; Fig. 10, no. 4-8). These are not the only categories of monetary signs in use in this area. Some other forms of pre-monetary signs, produced by the Greeks from the western shore of the Black Sea, may have been considered as symbols of power among the local population in the Thracian and Scythian hinterlands. The

“arrowheads”, however, are certainly among the most widespread. Produced in massive quantities, they are “scattered” especially over the *chora* of the cities and the autochthonous environment, for example in most of the important Getian settlements along the coast<sup>2</sup>. It would be difficult to explain the presence of the monetary signs in terms of the appearance of a “financial” union in such an early context. We note, however, the local trend in the area under analysis, towards a requirement of some form of benchmark required by the local economic realities<sup>3</sup>. The “arrowhead” monetary signs (Figs. 1-2) and the Olbian “dolphins” (Fig. 3, no. 1-6) do not seem, at first sight, to have a clearly determined

<sup>2</sup> Talmaçhi 2010: 70.

<sup>3</sup> Talmaçhi 2010: 102.

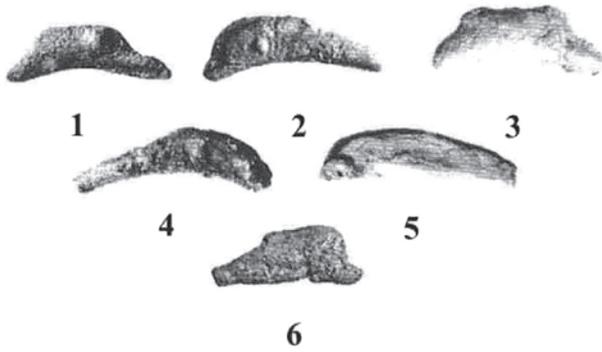


Fig. 3. Olbian dolphins discovered in Dobruja (1-6)

value<sup>4</sup>, but responded to some requirement of an economic nature<sup>5</sup>, but were also endowed with a religious and political significance, as a *status symbol*<sup>6</sup>. But they did not possess all the characteristics and functions that currency would have in the Greek world in the future. We will not continue to deal with the multitude of other problems regarding this category of monetary sign, focusing instead only on the two mentioned in the title of this article.

The form of these signs seems to be dictated to accord with the tastes of the local population, but not absolutely. The existing bibliography stresses the wilful collaboration entered into by the Greeks, casting the signs in a shape mimicking the true bronze arrowhead used in war by the local population, making them more easily accepted by the local population.

A short series of observations can be made regarding the form of these monetary signs. As far as the first of these groups is concerned, the *fusi-form* examples, highly elongated and with barely perceptible traces of possible ‘ribs’, seem to be the earliest examples of this type of monetary sign. They have a form that neither resembles the shape of the willow nor the laurel leaf. It is possible that the shape resembles that of an olive leaf (Fig. 1, no. 1-11)<sup>7</sup>. The first such so-called arrowheads do not come to meet the expectations of the local population. Rather, as I have mentioned before, they express an initial intention of exchange that came first of all from the Greek population, until the establishment of steady trading relations between the Greeks and the local population. The “arrowhead”

monetary signs represent, as do the later small dolphins and fishes made in the north-west Black Sea region, measurable symbols of some economic and commercial relationship, embracing certain “standards” established in the area. They were designed to establish the counterparts for trading commodities, at that time grain and fish products. These latter seem to be counted among the most popular goods for people of Greek descent: the further export of these commodities to the Greek world is to be taken as proof of this. Monetary signs of this form, which are found throughout the second half of the 6<sup>th</sup> century BC, could be a primary step on the road towards later signs in the shape of grain of wheat, or a representation of marine life respectively, to take the classic cases. Especially in the case of the so-called “arrowhead” monetary signs, I would argue that the representation, or more precisely its significance and reception, must have been unequivocal to the population of the 6<sup>th</sup> and 5<sup>th</sup> centuries BC. Specifically such signs would not have been taken for classic battle arrowheads. Rather I would launch the hypothesis that we have to establish a link with economic elements found in everyday life, an economic imperative which made it necessary for trading relations to become established between Greeks and the native population: especially the Getians, but not only. In our opinion the casting of these monetary signs had to take into consideration the shape of elements that were exchanged in local trade. This way, the simplest form of a non-military arrowhead evolved into a representation of the goods which were being traded: ears of wheat, grains of wheat or barley, or fish. It is possible that at some point these monetary signs assured the “monetary” needs in some of these cities<sup>8</sup>.

These new considerations arose from the study of monetary iconography specific to the Greek world. The major centres, together with the smaller *poleis*, alongside elements drawn from the local Pantheon elements (gods or their attributes), also bear the main sources of income, such as fish, grain (ears or single grains), ceramics etc. either on the obverse or the reverse of their coins. Examples of this kind are numerous, and this observation is particularly valid for the Greek colonies. Coinage of this type was struck from the beginning of the first half of the 5<sup>th</sup> century BC, very soon after the cast coins finished. A chronological overlap in the 6<sup>th</sup> century BC has to be ruled out, as the early coins differ from the signs by the financial and monetary processes of exchange, by the achievement of a certain stages of measurability of products, and

<sup>4</sup> Talmațchi 2008: 16; Talmațchi 2009: 596; Cojocaru 2010: 87-114; Cojocaru 2011: 26-49.

<sup>5</sup> Preda, Nubar 1973: 19; Scorpan 1980: 29; Mihăilescu-Bîrliba 1990: 38; Preda 1998: 30; Topalov 2007: 723.

<sup>6</sup> Avram 1989: 75-76; Anochin 1986: 78, 83-85; Mihăilescu-Bîrliba 1990: 38-39; Mănușu-Adameșteanu 1992: 55-67.

<sup>7</sup> Talmațchi 2010: 41, 102; Talmațchi 2011: 69.

<sup>8</sup> As well sensed and Poenaru Bordea 2001: 9.

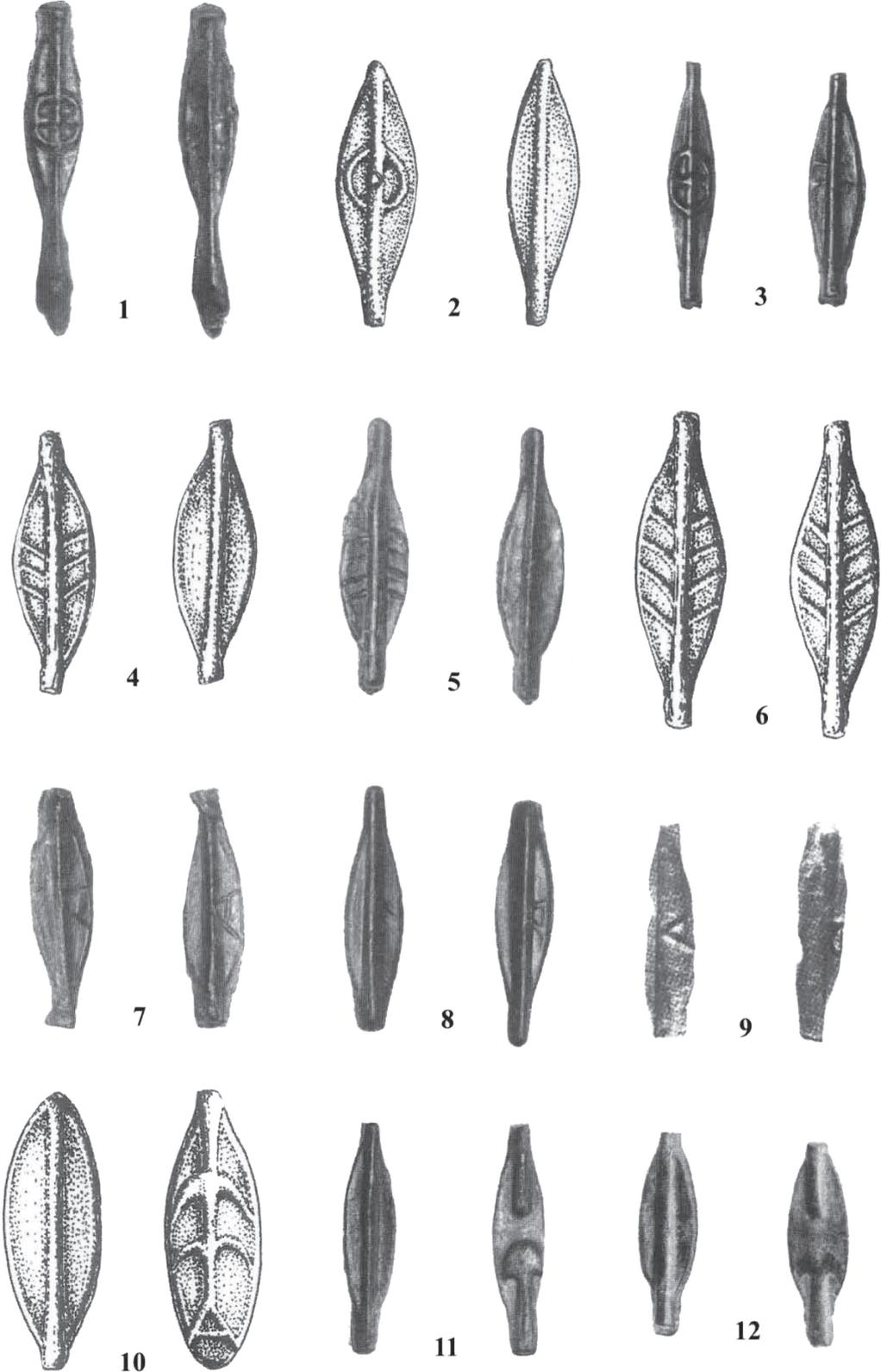


Fig. 4. “Arrowheads”-monetary signs shaped with the wheel symbol (1-3);  
“arrowheads”-monetary signs shaped with the fir tree symbol (4-6);  
“arrowheads”-monetary signs shaped with the wheel symbol (7-9);  
“arrowheads”-monetary signs shaped with the anchor and A letter symbol (10);  
“arrowheads”-monetary signs shaped with the hatchet symbol (11-12)

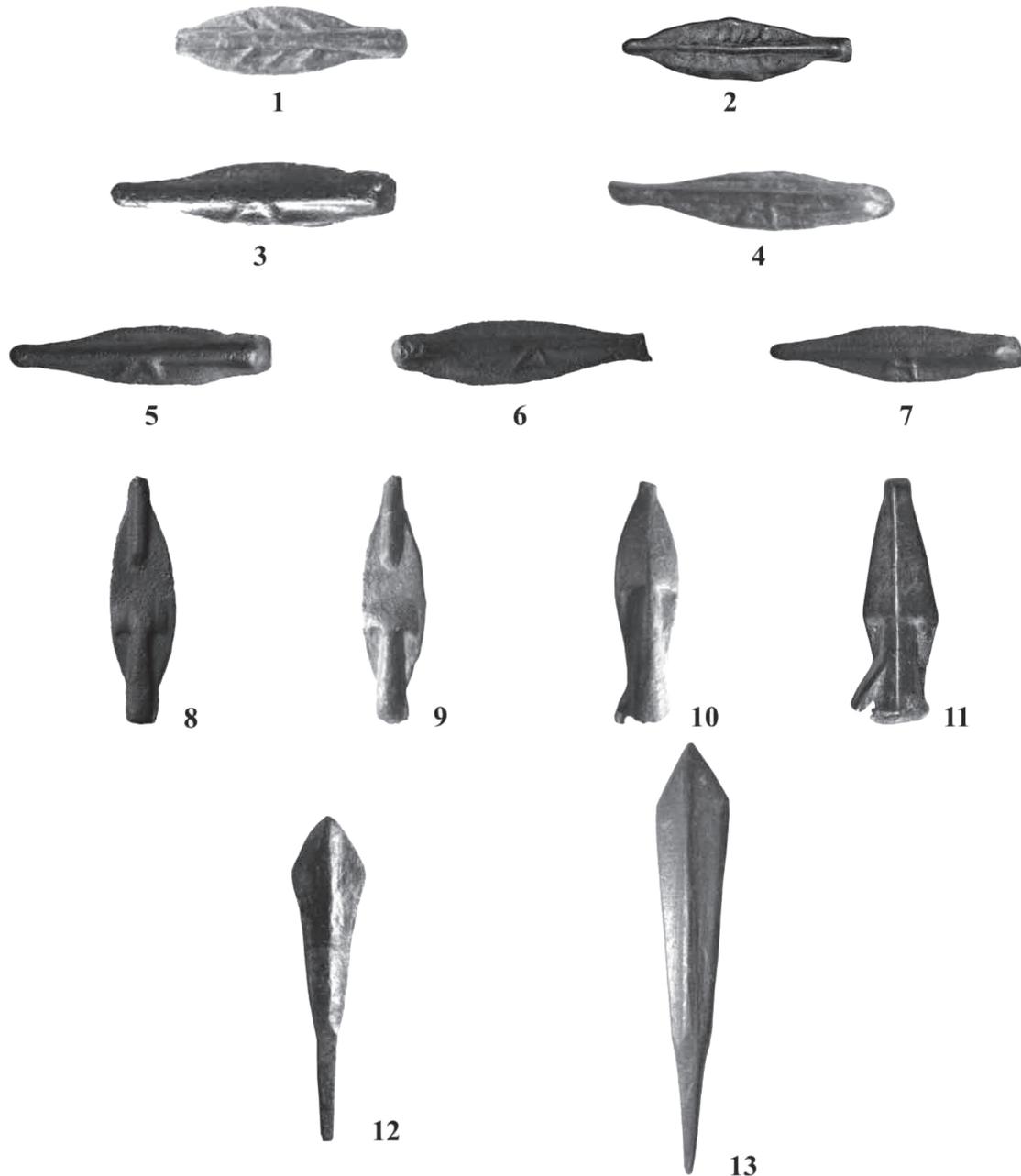


Fig. 5. “Arrowheads”-monetary signs shaped with the fir tree symbol (1-2); “arrowheads”-monetary signs shaped with the letter A symbol (3-7); “arrowheads”-monetary signs shaped with the hatchet symbol (8-11); possible “arrowheads”-monetary signs destined to change and found together with monetary symbols (12-13)

above all by the transition from semi-standardized signs of exchange to a generally accepted one in the “civilized” world as then known, which is a characteristic feature for this period<sup>9</sup>. Monetary signs have some of the features of currency (unlike some means of exchange considered pre-monetary), but are not coins.

The most significant examples supporting our approach of establishing probable links between the monetary signs currently under examination (previously considered to be “arrowheads”) and the goods traded on the north and west coast of the Black

Sea, such as grain shapes and symbols, occur on coins struck by the mints of Leontinoi (Syracuse) and the Aeolian city of Neandria (Fig. 11, no. 1-2). The 5<sup>th</sup> century BC is relatively rich in representations of these ears of grain, either wheat or barley, struck by cities where the economy was based on agricultural activity and partly on fishing. Of course, these mints are far away from the area currently under investigation, but their iconography betrays the ultimate realities of the Greek world in the technique of representation and symbolism. We also have to take into account other aspects they have in common, such as metrology, epigraphy, countermarking etc., manifested in the Greek cities and their colonies at different times caused by the movement of products

<sup>9</sup> Talmațchi 2013: 307-326.

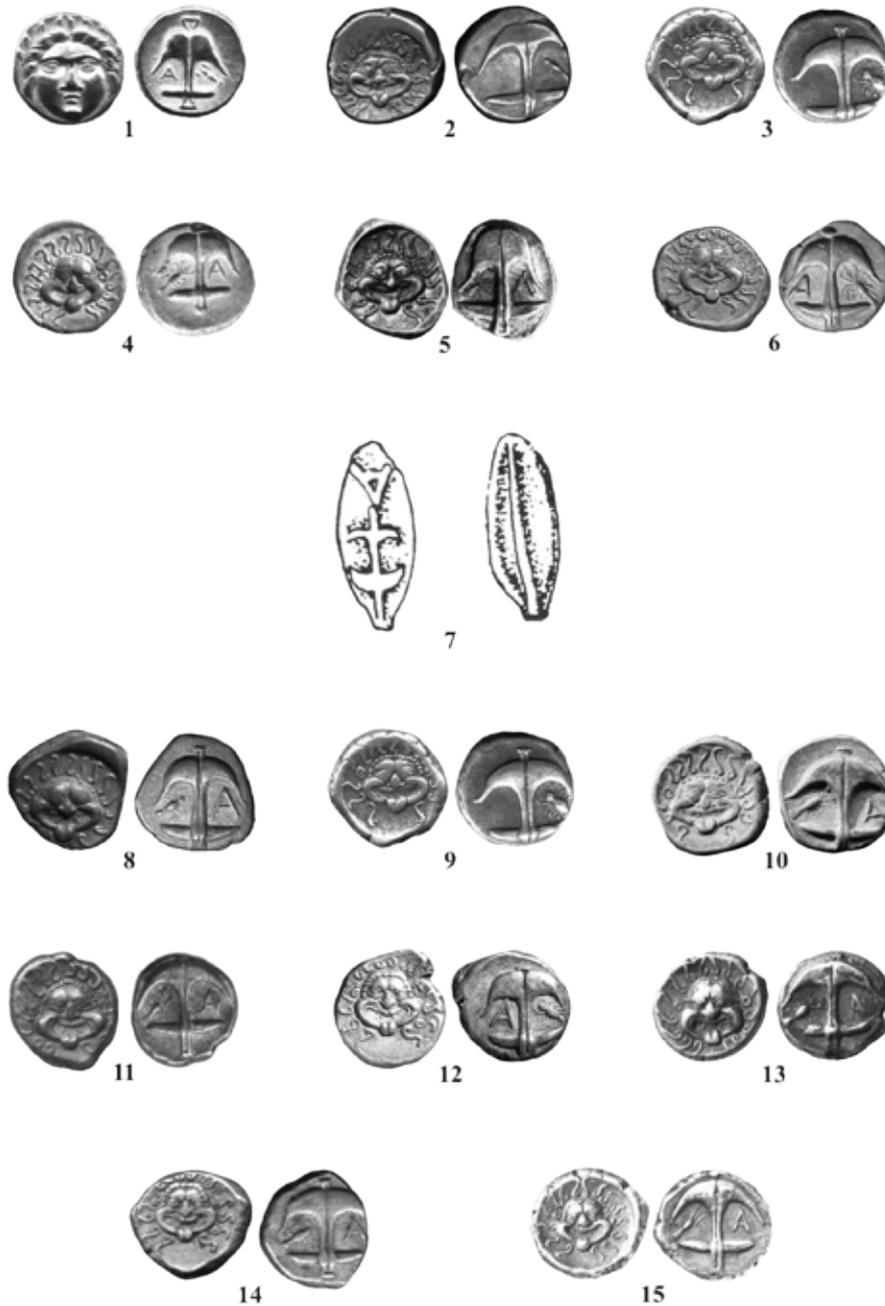


Fig. 6. Silver cast coins from the local mint of Apollonia Pontica depicting an anchor on the reverse (1-6, 8-15); “arrowheads”-monetary signs cast probably at Apollonia Pontica with the presence on the reverse of the anchor and A letter on the “reverse” (7)

and people, or by the evolution of religious, architectural, and artistic trends.

We will start with the well-known series of silver coins, tetradrachmas and the various sub-divisions issued at Leontinoi between 500-466, 476-468, 476-466, 466-460, 455-433, 450-440, and also those from 440-430 and 425-420 BC. These coins bear such monetary types as Lion/wheat grain, nude Rider, Quadriga, Nymph, Lion/ Appolo, and Appolon (with variants on the reverse)<sup>10</sup>.

What is surprising is the striking resemblance between the representations of the grains of wheat and the known shapes of the “arrowheads” specially casted for the purposes of trade. In other words their shape could portray grain of some type of, whether it be wheat or barley. As already has been mentioned, the time gap between the striking of coins bearing representation of grain, and the casting of the signs in the Black Sea area is quite small. This type of coin device was also used in the 4<sup>th</sup> century BC (around 350 BC) on a plentiful series of bronze coins issued at Neandria in Aeolis, where

<sup>10</sup> SNG Cop 342; SNG ANS 198-200, 207, 213-216, 222-231, 253, 261-263; Numismatica 2013, 316.

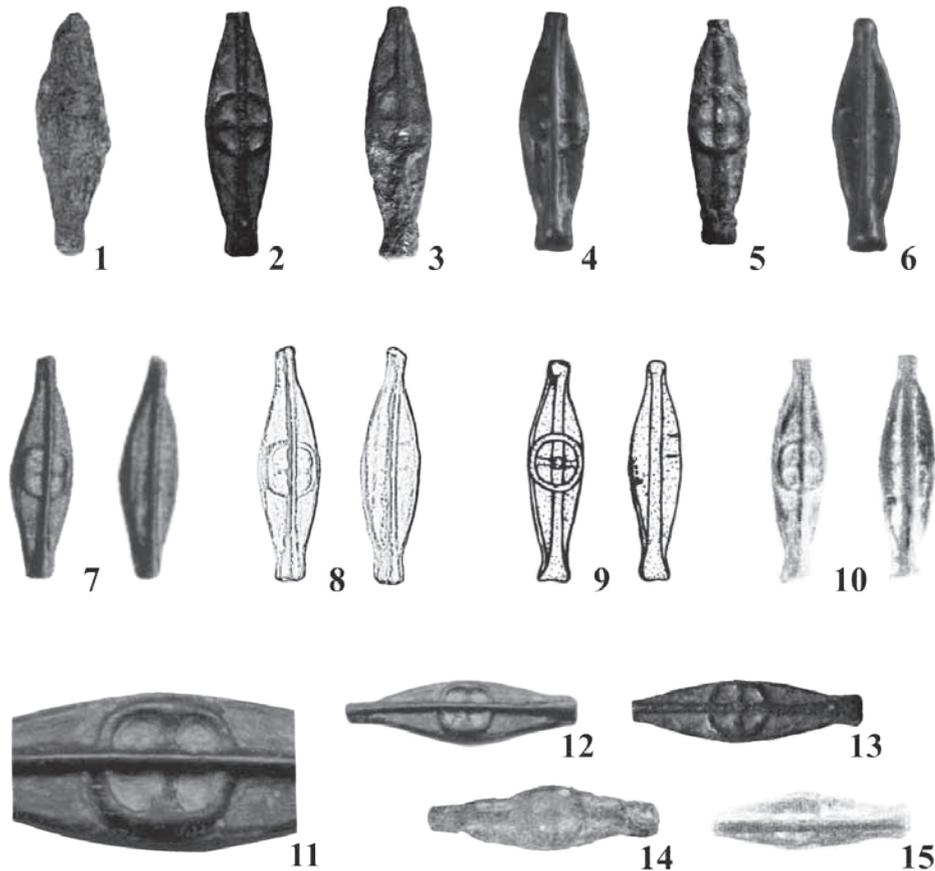


Fig. 7. “Arrowheads”—monetary signs shaped with the wheel symbol found in Dobrudja (1-15)

a “cereal grain”, is shown near a cluster of grapes on the obverse<sup>11</sup>.

We continue with an issue from the Ionian city of Magnesia on the Maeander bearing the head of Apollo crowned with a laurel wreath facing right, and a grain of wheat in the middle of the monetary field, the first issues of this type dating to around 400 BC<sup>12</sup>. At this point we can mention a silver issue that starts around 386 BC in the Thracian Chersonesos, bearing the head of a lion head facing left on the obverse, with a grain of wheat appearing in the centre also on the obverse<sup>13</sup>.

Maybe the latter series of coins mentioned, dating to 4<sup>th</sup> century may be considered too remote in time from the period when the signs were cast to be relevant. Nevertheless it is remarkable how persistent the symbol of the wheat grain is.

At Histria the local population was drawn into a Greek-native symbiosis that was based on mutual economic benefit. The presence of these cast bronze wheat grains would seem to represent the principal merchandise being traded, besides animal and fishery products. Along with the specific agricultural production of grain, in the case

of Histria its location in the Danube Delta was favourable for different species of fish, either in the Black Sea itself, or in the major waters flowing into it from the north and north-west. The site was extremely favourable for the development of a trade based on fishery products. Perhaps these economic and commercial realities led to the creation of the signs: those named “arrowheads” and those called Olbian small fish and dolphins. As regards the signs belonging to the first category, the late Professor Constantin Preda once remarked that some examples resemble “something else, harder to define” besides the few dozen specimens looking like willow, laurel, olive leaves, but that the differences existing between types “are insignificant”<sup>14</sup>. This situation is not chance. The multiplicity of variants in this category does not contradict the fact that the vast majority of them bear a close resemblance to the grains of corn, or less frequently ears of corn, shown on early Greek coins. The “circulation” and acceptance in transactions of these signs must have depended on the shape and not necessary on the weight<sup>15</sup>. Any analysis of these signs must take into account the realities of a Greek colony

<sup>11</sup> SNG Cop. 449.

<sup>12</sup> SNG Kayhan 395-396.

<sup>13</sup> SNG Cop. 844-846.

<sup>14</sup> Preda 1998: 33.

<sup>15</sup> Mănușu-Adameșteanu 1984: 22.

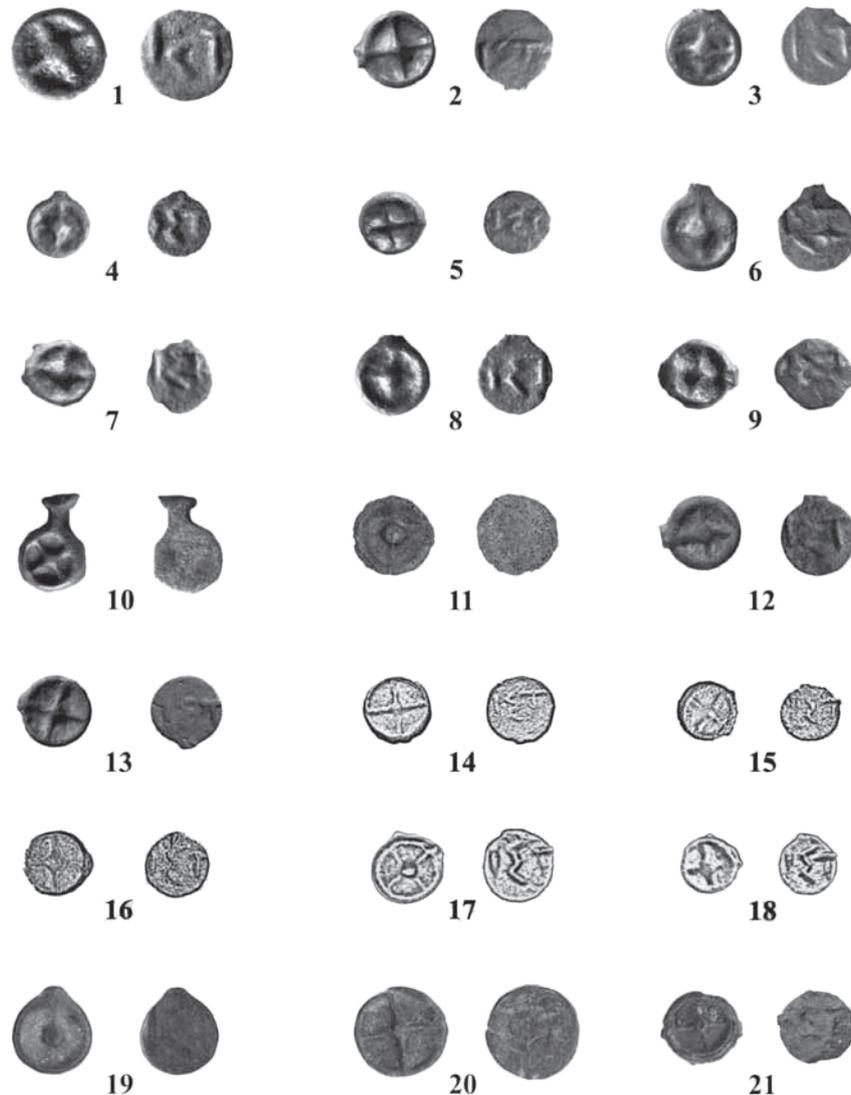


Fig. 8. Bronze cast coins with the wheel symbol on the reverse at Histria (the early period of the local mint) (1-21)

situated on the west Black Sea coast when the signs first came into use, and in particular the immediate economic and commercial needs of the two parties involved in the transaction. The use (or acceptance) of these monetary signs by the native population is an observed and proven fact, as has been attested by archaeological and numismatic discoveries. Their diffusion throughout the local hinterland coincides with the graveyards of the autochthonous population, in which Greek imported pottery was found in association with locally produced native pottery<sup>16</sup>. Moreover, the presence of these monetary signs in local cemeteries have been considered to constitute “turning point in relations between the indigenous population and the Greeks”<sup>17</sup>.

The Olbian dolphins can be distinguished from a number of variant types which can be identified as representations of fishes, on account their markedly

different shape. Differences in shape among signs have been attributed to religious or economic differences present in every city. Some stylistic changes might be caused, however, by the period of transition between two similar, but still not identical, shapes. Monetary signs adapted from the shape of arrowheads, are the second typological group, and could be the product of the local population interested in acquiring in exchange signs that are to be searched for on the local market. In this context, we have to take into account the fact that the signs are found in contexts, including archaeological ones, in which “classic” arrowheads used in battle are also found. Their number varies from a few examples to tens or even hundreds, mixed in with the monetary signs. This phenomenon could give rise to the hypotheses that in these contexts were found a number of arrowheads already transformed, alongside others that were to be subjected to the same procedure. In the final phase of production and “circulation” of these monetary signs, we cannot exclude the possibility that some arrowheads were produced to be

<sup>16</sup> Irimia 1975: 89-114.

<sup>17</sup> Stingl 2004: 8.

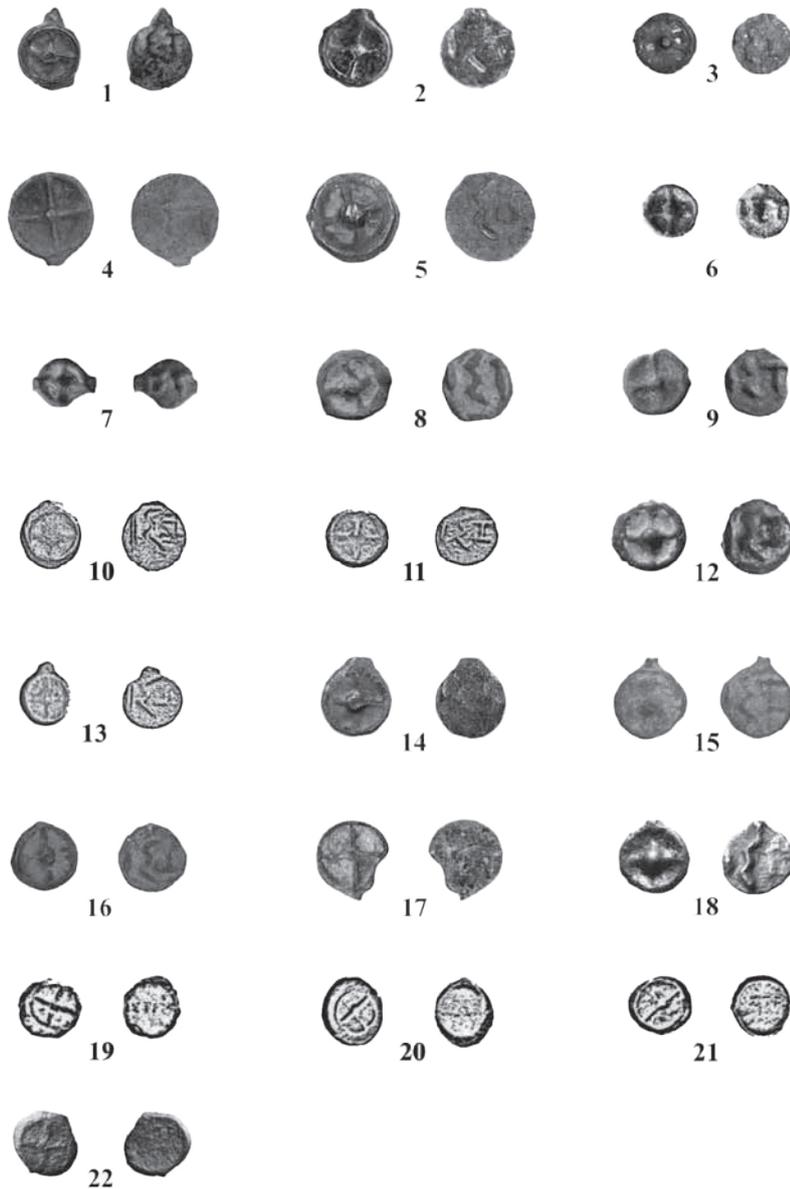


Fig. 9. Bronze cast coins with the wheel symbol on the obverse at Histria (the early period of the local mint) (1-18);  
bronze cast coins with the wheel symbol on the averse at Histria  
(the end of the early period of the local mint) (19-22)

accepted as having monetary value without being subjected to the transformation process. In such examples, from time to time they are filled with lead in order to obtain an optimum weight. It is also possible that the same craftsman produced the monetary signs and the real arrowheads used in battle, using different moulds, but at the same workshop.

The second matter to which the attention of the reader should be drawn is the presence on some “arrowhead” monetary signs of the first type, of a series of symbols which could probably be linked with certain of the mints of the West-Pontic colonies<sup>18</sup>. A symbol, generally, is defined as a “conventional representation that reproduces a notion or a local or universal tradition, the interpretation

being simplified or complicated according to many causes, subjective or objective”<sup>19</sup>. The symbols in question can be listed thus: the letter A (on the obverse and reverse of the specimens or only on one side), a fish or a pine tree in relief (on the obverse and reverse of the specimen, or on one side only), an axe, an anchor, a wheel with four spokes, and a device of a trapezoidal character. They appear, almost totally, on the group of arrowheads cast in the shape of an olive leaf, which are elongated with the central rib and edges emphasized. These were certainly produced in specially made moulds, with trial pieces first being produced in lead. The letter A was associated with the city of Apollonia Pontica,

<sup>18</sup> Talmațchi 2009b: 93.

<sup>19</sup> Kernbach 1995: 542.

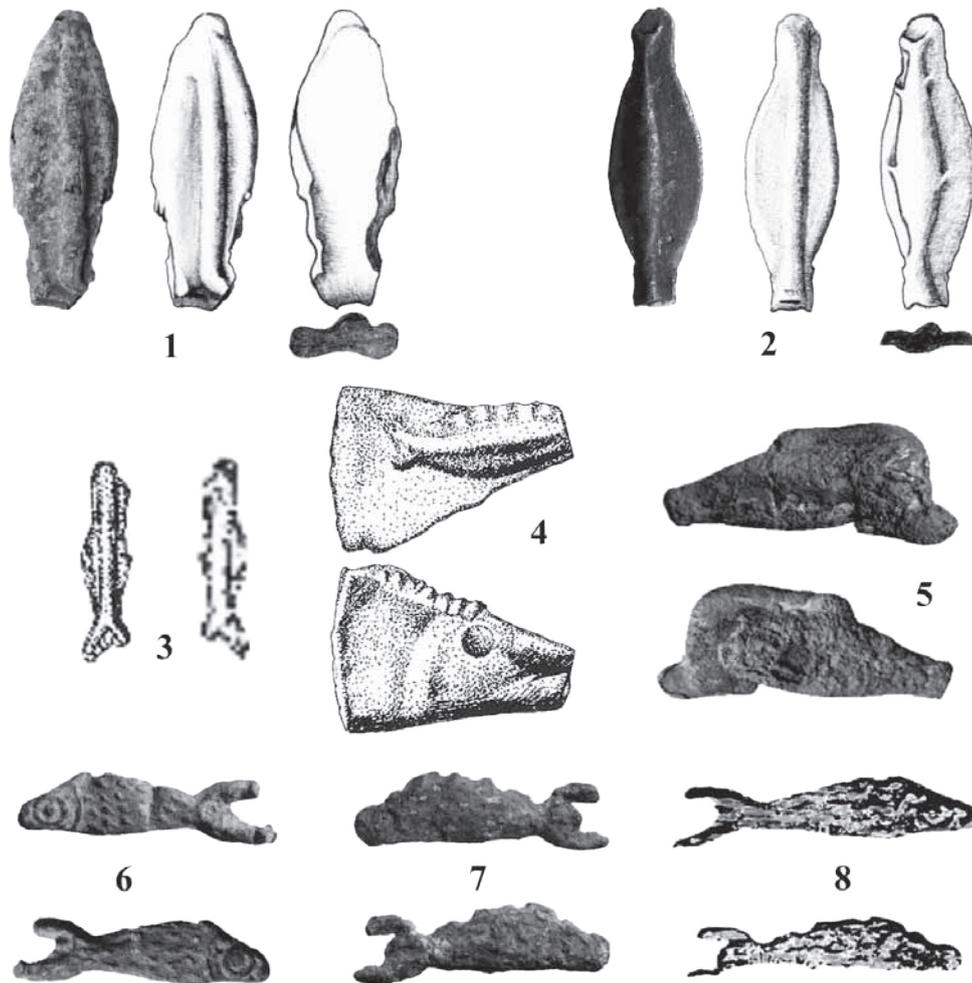


Fig. 10. Monetary signs from the west and north-west of Pontus Euxin, made out of lead (1), imprinted with fish motif (2, 3-apud Cojocaru 2010, 109, plate IV, no. 9), cast with the representation of fish head, respectively a fish body (4-apud Cojocaru 2010, 109, plate IV, no. 1), silver small dolphin (5) and small fishes (6-8)

as was the anchor,<sup>20</sup> the latter being a symbol of safety in maritime navigation. These two symbols appear on the later silver and bronze coins issued by that city, they can be interpreted as attributes of the god Apollo (Fig. 6)<sup>21</sup>. The two symbols appear together on some of the “arrowhead” monetary signs<sup>22</sup>, but also separately. The letter A (Fig. 4, no. 7-9; Fig. 5, no. 3-7) appears as the single symbol in isolated finds from Dobrudja<sup>23</sup>, in the hoard from Tomis (on one or both sides), as well as in other areas<sup>24</sup>, along with the anchor alone (Fig. 4, no. 10)<sup>25</sup>. The links between Apollonia and the West-Pontic cities are highlighted especially from

the second half of the 4<sup>th</sup> century BC onwards, as especially is the case with Tomis, but less so with Histria<sup>26</sup>. Still, silver coins issued by Histria, and discovered in the southern Thracian area could have been transmitted through the agency of Apollonia Pontica, as could have happened as early as the 6<sup>th</sup>-5<sup>th</sup> centuries BC.<sup>27</sup> The letter A can be positioned on the signs in various places: on one of the sides, or in the central area under the rib, or towards the right or left. Having said this, the workshop located in Atyia was connected to the minting activity of Apollonia, because the first name of Apollonia was Anthion, from this the current name of the peninsula on which the city lies (Athyia) is derived. In other words the “workshop” from Atyia would be a colony dependent on Apollonia Pontica. In this way the appearance of a mould of this type in that location can be explained<sup>28</sup>.

<sup>20</sup> Karayotov 1995: 397-398; Karayotov 2005: 62.

<sup>21</sup> Hind 1985: 89-104; Konova 2005: 12.

<sup>22</sup> Karayotov 2005: 48, 62; Topalov 2007: 735.

<sup>23</sup> Talmatchi 2000: 11, no. 6; Preda 2003: 20; La Galerie Numismatique 2004: 62, no. 265-266; Karayotov 2005: 62.

<sup>24</sup> Topalov 2007: 152, no. 30, 153, no. 33.

<sup>25</sup> Topalov 2007: 735.

<sup>26</sup> Popescu 1959: 235-258.

<sup>27</sup> Poenaru Bordea 1970: 137.

<sup>28</sup> Karayotov 1995: 398.



Fig. 11. Wheat grains-symbol present in the monetary specimens (Leontinoi-Syracuzza and Neandria-Aeolis)

The anchor and the letter A appear associated on “arrowhead” monetary signs which have been discovered, in general, in the close vicinity of the city of Apollonia, (Fig. 6, no. 7)<sup>29</sup> as well as at greater distances away (to the south of the ancient city of Dionysopolis (the present Balçic), up the valley of the river Batovo<sup>30</sup>). The anchor also occurs as a symbol in conjunction with the letters *KAAI*<sup>31</sup>. It is, moreover, an important symbol in the iconography of the mint of Apollonia in the pre-Roman era, as can be seen in the image in profile of the god Apollo<sup>32</sup>. The letters may stand for the name of a magistrate in abbreviated form, but this remains to be confirmed by other discoveries<sup>33</sup>.

The fish only appears on two examples found to date. One has been discovered in the Dobrudja area (Fig. 10, no. 2)<sup>34</sup>, and the second one seems to come from the North-West Pontic area (Fig. 10, no. 3)<sup>35</sup>. The representation appears on the lower part of these pieces, and is spread throughout their entire length. The upper and lower fins, and the tail are depicted in a highly individualized form.

An embossed fir or pine (Fig. 4, no. 4-6; Fig. 5, no. 1-2) appears on two specimens from the hoard from Vișina<sup>36</sup> and other discoveries<sup>37</sup>, probably isolated, and also in the hoard from Kamenka (Ukraine)<sup>38</sup>. When the symbol appears on monetary signs, its branches are represented as lateral straight lines, arranged in an ascending or descending angle, moving outwards from a central line co-located with the central<sup>39</sup>. The lateral straight lines that are

ascending or descending can be four<sup>40</sup>, but only on one side<sup>41</sup>. Also, they may be present on both sides of the specimens or on a single side only<sup>42</sup>.

The axe was identified on some pieces from a hoard that was later scattered, which was discovered in archaeological excavations conducted at Tomis<sup>43</sup>, and on two other isolated pieces<sup>44</sup>. The axe, found running in the left side of the piece towards the middle of the piece, recalls the shape of the type of axe in use at the beginning of the Iron Age, in the southern region (Fig. 4, no. 11-12; Fig. 5, nr. 8-11). The sharp edge is directed inwards, being strongly individualized and embossed in high relief towards the central area. This highlighting does not seem to be accidental, but rather specially created by the craftsman, so that the central rib is interrupted by the embossed symbol.

The wheel with spokes, we find in discoveries in the general area around Histria<sup>45</sup> and Dobrudja *passim* (Fig. 4, no. 1-3; Fig. 7, no. 1-15)<sup>46</sup>. The symbol consisting of four spokes and a rim, is embossed on the central rib. The wear on these pieces is minimal, and they seem to be the best preserved of all the monetary signs with symbols. Generally, the symbol appears on the central rib, the spokes of the wheels appearing on both sides. On the reverse, in the same place as the wheel appeared on the obverse, there generally appear three parallel stripes, all arranged under the highlighted median line of the tip. From the distribution, but also on chronological grounds, until proven otherwise, we must consider these signs as being issued at Histria<sup>47</sup>. These signs are an intermediate stage between the “arrowheads” without a symbol and the cast coins bearing a wheel which were issued by Histria (Fig. 8, no. 1-21; Fig. 9, no. 1-22)<sup>48</sup>. These latter start to be issued by Histria at the middle of 5<sup>th</sup> century BC (maybe even from the first half of the same century), and they cease in about the middle of 4<sup>th</sup> century BC<sup>49</sup>. The Histrian bronze cast

<sup>29</sup> Lazarenko 2006: 6; Topalov 2007: 735.

<sup>30</sup> Karayotov 2005: 62.

<sup>31</sup> Topalov 2007: 152.

<sup>32</sup> Konova 2005: 3-12.

<sup>33</sup> Topalov 2007: 735.

<sup>34</sup> Cojocaru 2010: plate IV, no. 9.

<sup>35</sup> Unpublished.

<sup>36</sup> Mănucu-Adameșteanu 1984: 17-24.

<sup>37</sup> Zaginailo 1982: 24; La Galerie Numismatique 2004: 61, no. 263, 62, no. 264; Lazarenko 2006: 6.

<sup>38</sup> Zaginailo 1982: pl. 2.

<sup>39</sup> La Galerie Numismatique 2004: 62, no. 263.

<sup>40</sup> Zaginailo 1982: 23-24, pl. 2, no. 11-14.

<sup>41</sup> Zaginailo 1982: 23-24, pl. 2, no. 8, 10.

<sup>42</sup> Zaginailo 1982: 24, pl. 2, no. 11-14.

<sup>43</sup> Rădulescu, Scorpan 1975: 36; Scorpan 1980: 25-34.

<sup>44</sup> La Galerie Numismatique 2004: 62, no. 267-268.

<sup>45</sup> Poenaru Bordea 1996-1998: 434, no. 12; Talmațchi 2001: 121, no. 10, pl. I, no. 10; Preda 2003: 20; Talmațchi, Matei 2003: 35, no. 1-2; Talmațchi, Băjenaru 2009: no. 3, fig. 1, no. 3.

<sup>46</sup> Poenaru Bordea 2001: 9-33; La Galerie Numismatique 2004: 61, no. 261-262.

<sup>47</sup> Poenaru Bordea 1996-1998: 425.

<sup>48</sup> Talmațchi 2001: 134; Preda 2003: 21.

<sup>49</sup> Preda 1998: 63; Talmațchi 2010: 66.

coins bearing a wheel enjoy one of most widespread of distributions, as is shown by the evidence of archaeological discoveries and chance finds. On the obverse they have a representation of a four-spoked wheel, embossed onto the flat field of the coin, with the spokes meeting in the central area in a prominent button<sup>50</sup>. In terms of symbolism, this “wheel” was considered a plastic manifestation of the solar symbol<sup>51</sup>. Because the solar symbol was very well known to the art of the Thracian-Getian cultural circle, the coins were an acceptable medium of exchange between the Greek city and the local population<sup>52</sup>. The symbolism of the wheel has an extremely complex history, and a vast distribution, regardless of the historical period and the worshiper population involved.

Finally we should mention the type of symbol considered to be trapezoidal. It is only known to us from a single copy that comes from the hoard from Kamenka (Ukraine)<sup>53</sup>. To what degree this can be integrated with the other symbols analysed in the text above remains to be established by later work.

So, symbols appear almost entirely on “arrowhead” signs of the type probably shaped as an olive leaf (or something similar), which had an elongated shape and strongly highlighted central rib and edges. That such pieces with embossed decoration were produced in specially made moulds is a fact, and we can make some suggestions regarding their places of origin (Apollonia, Tomis, Histria, Olbia etc.).

Whether we call them “ingot-coins”<sup>54</sup>, “currency but not coins”<sup>55</sup>, “pre-monetary signs”<sup>56</sup>, “objects-monetary signs”<sup>57</sup>, “coin-object”<sup>58</sup>, “pre-coins”<sup>59</sup>, “coins-arrowheads”<sup>60</sup> or “coins with a particular form”<sup>61</sup>, the pieces in question all arose in answer to the immediate needs required by the

local market, the development of local production, and the development of trade relations in areas of direct influence and control. It was necessary to find a standard for exchange, distinguishable from an artistic point of view, and perhaps from its weight<sup>62</sup>. The discovery of these monetary signs, including those bearing additional symbols, suggests that their use was widespread throughout the local populace, radiating outwards following certain geographical directions. This conclusion is valid not only for monetary signs, but also for the coins (Poenaru Bordea 1970: 133). The so-called the “arrowhead” monetary signs, or more likely “grain of wheat” monetary signs, remains an important stage in the development of the local commercial environment, as also was the role it played in different aspects of life of the West-Pontic Dobrudjan Greek colonies before the appearance of actual coinage.

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<sup>62</sup> We don't use the term of the actual coin or monetary circulation when we talk about monetary signs because the coins had more characteristics and functions as such: could pay or measure the value of a commodity, was accepted and guaranteed by a state or a city (imposed), by the simple user or merchant (by convention), being a direct expression of authority, of affirmation of prestige, political manifestation, sometimes in the limits of administrative supervision, economic and military, other times beyond this fluctuant borders, gaining a public function and not least urban-financial. The details, epigraphic, iconographic, constitutive metal, intern value, magic-religious symbolism and others were left up to the authorities (official propaganda) – all these information's can be found at Gorini 1980, 697; Borba Florenzano 1993: 71-77; Martin 1996: 257-283; von Reden 1997: 154-176; Bouyon 1998: 10-14; Cahn 2000: 33; Howgego 2005: 44; as it can be observed the monetary signs reach only partially the coin's characteristics in the ancient period (is why we don't simply call them coins but monetary signs); however the fact that they presents coins qualities (few), in general, is the reason (among others) for which we don't call them pre-monetary.

<sup>50</sup> Preda 2003: 21; Preda, Nubar 1973: 32; Mihăilescu-Bîrliba 1990: 44; Preda 1998: 61.

<sup>51</sup> Mitrea 1982: 92; Mitrea 1983: 43-45; Mitrea 1984: 1-2, 114.

<sup>52</sup> Mitrea 1982: 92.

<sup>53</sup> Zaginailo 1982: 23-24, plate 2, no. 9.

<sup>54</sup> Severeanu 1926: 2.

<sup>55</sup> Wells 1978a: 6-9 and 12; Wells 1978b: 24-26, 31; Wells 1982: 57-58; Wells 1983: 53-54.

<sup>56</sup> Aricescu 1975: 7; Sorda 1980: 61-74; Scorpan 1980: 25; Mănuclu-Adameșteanu 1984: 17.

<sup>57</sup> Mitrea 1984: 112.

<sup>58</sup> Canarache 1954: 183; Mitrea 1970: 333.

<sup>59</sup> Waşowicz 1975.

<sup>60</sup> Poenaru Bordea, Oberländer-Târnoveanu 1980: 141.

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