

THE GOLD OF THE DACIANS

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Abstract: *The Dacians hoarded about 200 tons of gold and 400 tons of silver, before the Roman conquest of 105/106 AD. The exploitation of gold and silver by the Dacians is attested by the multitude of artifacts discovered in the territory inhabited by them. The work presents the most important treasures of gold and silver of the Dacians, but also the evaluation of the spoils of war taken by the Romans after the defeat of the Dacians.*

Keywords: *Dacian gold, gold and silver artefacts, Kosons, Dacian bracelets.*

1. The first metals used by the Dacians

The archaeological discoveries made in the Carpathian-Danubian area showed that the first metals used by our ancestors were copper and gold, known since the end of the Neolithic era. They were neither the first nor the last to use these metals, joining those who populated old Europe. The first metal tools and weapons were made of native copper, malleable, ductile and tenacious and particularly resistant to corrosion. Later, copper was obtained by reducing the ores, melting and casting it into pieces. The first copper objects were ornaments, small household utensils and cult objects, belonging to Cucuteni (Moldova), Boian (Muntenia), Verbicioara (Oltenia) and Turdaș (Transylvania) cultures, so that towards the end of the Neolithic, tools appeared of copper (axes and hammers), in the cultures of Gumelnița (Muntenia), Decea Mureșului and Ariusd (Transylvania), Sălcuța (Oltenia) and Cucuteni (Moldova). In 2013, in Silistra, in the south of Dobrogea, the largest deposit of copper axes in Europe was discovered, dating from the period 4,500 – 4,200 BC. The deposit contains 18 ordinary axes and 4 hammer-axes, with a total mass of 11,629 kilograms and is exhibited at the History Museum of Russe - Bulgaria. During the time of Mircea the Elder, Silistra belonged to Wallachia, under the name of Dârstor (from the Latin Durostorum).



Fig.1. The copper axes from Silistra

2. Gold treasures discovered in the territory inhabited by the Dacians [1]

Towards the end of the Neolithic, in parallel with the use of copper, gold was also used, especially to make ornaments. We assume that native gold found in river sands or vein outcrops was first used. Over the years numerous treasures have been discovered surviving from those ancient times. Thus, in 1912 a peasant from Moigrad – Sălaj, while ploughing his field near the Roman fort at Porolissum, found the oldest massive gold hoard in Romania. Later, it was established that it would be 6,000 years old, coming from the first half of the 4th millennium BC, that is, from the Neolithic era. He tried to sell the pieces of yellow metal at the fair in Zalău, but because no one bought them, he gave four of them to a curator in Cluj, for a ridiculous amount, after throwing away a few other fragments, which he did not know what to do. The four pieces, located today at the National History Museum of Romania in Bucharest, weigh 856.125 grams and represent the images of

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anthropomorphic idols, symbols of the earth's fertility. The main piece weighs 800 grams and is considered the largest Neolithic gold object discovered so far in the world.

In 1981, another gold treasure was discovered in Sultana – Călărași, dating from the last part of the Neolithic, consisting of four discoid pendants, four stallions (spiral tubes) and a chain of seven links, all weighing 36.170 grams. There are similarities with the Moigrad hoard, although the pieces were found in remote areas of the country. All the objects were arranged around a small domestic sanctuary, either on the occasion of building a new hearth, or in a funeral space. The Sultana treasure is kept in the Gumelnița Civilization Museum in Oltenița.



Fig.2. The treasure from Moigrad



Fig.3. The treasure from Sultana

An important stage in the evolution of mankind is the appearance and generalization of bronze metallurgy (3000 – 1200 BC), called the *Bronze Age*. Since the Neolithic, people have made tools and weapons from copper, a metal too soft for such uses. By alloying copper with tin, but also with other metals, bronze was obtained, a harder, elastic, corrosion-resistant material, with a lower melting temperature and which could be cast easily due to its high fluidity and lack of gas absorption. For almost two millennia, bronze was the main material for making tools (axes, hammers, sickles, knives) and weapons (battle axes, spear and arrowheads, daggers, shields). Deposits of such objects were discovered especially in Transylvania and Banat, where there were raw materials for obtaining bronze.

In parallel with bronze metallurgy, the extraction and processing of gold was perfected. The number of treasures discovered in Romania dating back to the Bronze Age is impressive. Thus, in Perșinari – Dâmbovița, several gold weapons were discovered between 1954 and 1962, estimated to be 3,700 years old: a sword weighing 3 kilograms and 12 short daggers, each weighing between 230 and 500 grams. The sword was preserved fragmentary, missing its point and handle, and was cast and finished by hammering and grinding. Unique in Europe, the sword has elements of Mycenaean influence, proving the close ties between the native population and that of Mycenaean Greece. The daggers have triangular shapes, are short and without handles, have lanceolate and flared blades arched towards the base, with a round median rib. All are kept at the National Museum of Romanian History in Bucharest (Fig. 4).

In 1980, in Hinova – Mehedinți, the largest prehistoric hoard in Romania was discovered, having 9,639 pieces and weighing almost 5 kilograms, dated to the 12th century BC. The largest piece weighs 580 grams and the smallest 7.5 mg. Excavations began in 1976, in the area of the Roman fort in the locality, before the construction of the Portile de Fier II hydroelectric plant. The treasure contains several types of ornaments for men and women: a diadem, bracelets, pendants, necklaces, earrings, rings and beads. The multitude and diversity of the pieces indicate the existence of a workshop that made such ornaments for the aristocracy of the North–Danube Thracian tribes. The objects were created with great talent, the skill of the craftsmen impressing even today with their beauty. And this treasure is kept at the National History Museum of Romania in Bucharest (Fig. 5).

Two more treasures dated to the end of the Bronze Age were discovered on the territory of Romania, one in Biia – Alba and another in Rădeni – Neamț. The gold vessel from Biia (Fig. 6) was discovered by chance in a sand quarry on the banks of the Târnava river in 1895 and dated as belonging to the 13th – 12th centuries BC. Made of hammered gold leaf, the vessel has a mass of 143.92 g, a height of 5.50 cm, a

diameter of 9.80 cm and is ornamented with concentric circles and conical projections and with zigzag incised lines, having a body flattened hemispherical, with the edge facing outwards and two arched downwards. It was probably a ritual vessel, used for sprinkling and ablation. It is kept at the Treasury Hall of the National History Museum of Romania in Bucharest.



Fig.4. The treasure from Perșinari

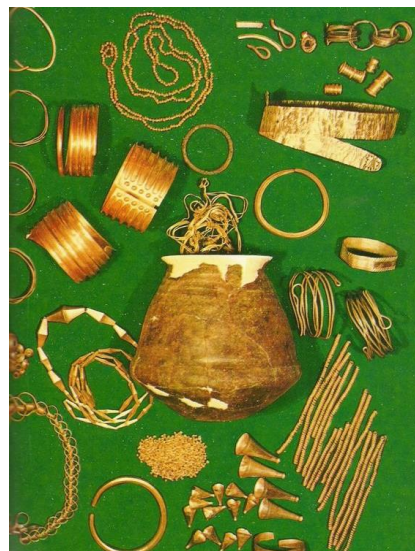


Fig.5. The treasure from Hinova



Fig.6. The golden vessel from Biia



Fig.7. The Getae treasure from Rădeni

The treasure from Rădeni – Neamț (Fig. 7) has a more special history. Discovered during some agricultural work, in 1965, it originally had eight pieces, of which only five were later recovered, the others disappearing without a trace. Three are preserved in Piatra Neamț, and two in Bucharest. From a morphological point of view, it is about cups with one or two slightly raised tops and weighing between 250 and 400 grams. Each piece was obtained from a gold leaf, by beating on a mould, and the turns were fixed by riveting. The treasure was dated to the 12th – 11th centuries BC, having a cultic purpose.

Then followed the first Iron Age (1200 – 500 BC), also called the *Hallstatt Age*, after the name of a locality in Austria where, in 1734, a well-preserved human corpse was found in salt. The main invention of the era was the metallurgy of iron, which had revolutionary effects in the field of making tools and weapons, but also in the production of goods, trade and in the development of social and political structures. At the beginning of the Hallstatt era, interest in iron was rather low, due to the fact that it was too soft for the manufacture of weapons and tools. The first improvement came with the use of natural draft, by forcing air into pits dug on steep slopes, lined with clay and filled with iron ore and charcoal. In this way the temperature in the furnaces increased, leading to the production of an iron-carbon alloy called *steel* and to the easy separation of the steel from the slag by forging. Steel has very good mechanical properties, especially resistance to breaking, elasticity, plasticity, tenacity, hardness and wear resistance.

The mining and processing of Transylvanian gold continued in the same centres as in the previous era. The hoards from Sacoșu Mare – Timiș and Peretu – Teleorman are representative of the first Iron Age. The treasure in Timiș was discovered in the fall of 1960 by a local who was digging holes for planting vineyards. The man did not realize that the unearthed pieces were made of gold, keeping them in a

warehouse for almost a year, after which he handed them over to the state. The hoard is composed of 25 pieces (ingots, jewels and spiral wires), weighs 1,298.28 grams and is dated to the Hallstatt Iron Age. It is kept at the National History Museum of Romania in Bucharest (Fig. 8).

The treasure from Peretu was found in a Thracian-Getic princely tomb following archaeological excavations in 1970–1971, in a flattened tumulus on the right bank of the Vedea River and contains 50 gold-plated silver objects, among which notice a helmet of about 750 grams. The princely tomb was discovered by a tractor driver who was levelling the earth on the mound with the blade of the tractor (Fig. 9). The treasure helmet is part of a series of five almost identical artifacts, discovered at great distances from each other (Agighiol – Tulcea, Coțofenești – Prahova, Cucuteni – Iași and Portile de Fier – Mehedinți), which demonstrates the close ties between the Thracian tribes of north of the Danube. Comparing all these helmets, the researchers concluded that the Thracians had an emblematic representation of their traditions, with faunal and plant elements.



Fig.8. The treasure from Sacoșu Mare



Fig.9. The treasure from Peretu

Speaking about the gold craft at the Geth in the Hallstatt era, Vasile Pârvan says the following: „Therefore, between the IX and VII BC, before the mass arrival of the Scythians in the Carpathians and the Danube, the Getae developed here their own art of gold, whose products filled the whole of central and northern Europe, competing with the Etruscan art of bronze and silver” [2, pp. 341–342]. Researching the inventory of some Scythian tombs, it was found the existence of some objects worked with an elementary simplicity, which means that they had no influence on the natives' art of processing gold. „The locals of Dacia remain faithful to the geometric ornament from the Bronze Age, with an increasing predominance of the straight line over the curved one. Of course, the spiral still plays a huge role. But the zigzag becomes characteristic” [2, page 366]... The inventory of Scythian tombs in Transylvania is very poor. Although the Scythian rite gives the dead and various ornaments with them in the grave, we do not find anything besides these Scythians that even remotely reminds us of the wealth of gold and the love of such ornaments of Herodotus's hangers-on. Our historical conclusion, that the Agathyrsi are no longer Scythians, but are the Geta noble class, into which the former Iranians have merged, is confirmed by the findings on the ground. Transylvania had always been rich in gold and the most beautiful Transylvanian ornaments and gold vessels are precisely from the Bronze Age. The Thracians of Herodotus' time only continued, under the name of Agathyrsi, to be rich in gold. In any case, the great gold hoards that have reached us, Firighiaz, Bihor, Șmig, Biia, Țufalău, predate the arrival of the Scythians in Dacia” [2, page 392]. In Fig. 10 and 11 show two of the artifacts mentioned by Vasile Pârvan, prior to the arrival of the Scythians in Dacia.

The Scythians came from the Black Sea steppes around 700 BC, so towards the end of the Hallstatt era. Their number was not too large, the proof being the few Scythian inhumation graves, discovered only in isolated areas of Transylvania. The Scythian invasion probably had a violent impact on the native population, taking into account their warlike character, but it did not destroy the material culture, as they were assimilated by the local population in a relatively short time.

By 550 BC the Agathyrsi also came to Transylvania, coming from the same Iranian race as the Scythians. Their graves, different from those of the locals, were discovered on the Upper Mures, at Aiud, Blaj and Băița, being included in the Ciurbrud cultural group. Herodotus mentions in his writings that the Agathyrsi settled in the valleys of Mures Superior and Târnave in the 6th century BC. Here's how he characterizes them: „The Agathyrsi are the most refined of men and especially given to wearing gold. Their intercourse with women is promiscuous, so that they may be consanguine with one another and, all being

relations, not harbour jealousy or animosity toward one another. In the rest of their customs, they are like the Thracians” [3]. More than likely, the Agathyrsi people procured the gold they loved so much from the golden sands of the rivers that flowed from the Apuseni Mountains. It is quite possible that he even reached Zlatna or even Bucium and Roşia Montană.



Fig.10. Golden axe from the Țufalău treasure (1840)
Vienna Natural History Museum



Fig.11. The treasure from Sarasău (1847)
The Hungarian National Museum in Budapest

After only two centuries or so after the arrival of the Scythians, the second Iron Age began, known as the La Tène Age (500 – 25 BC), its name coming from the archaeological site of the same name, located in the north of Lake Neuchâtel in Switzerland where, in 1957, thousands of iron objects were discovered after the lake's water level dropped. From this second iron age, fewer gold treasures were discovered, compared to the previous age, a fact also noted by the historian Vasile Pârvan: „*What should be more surprising than the lack of amber, is the lack of gold in Getic era La Tène. Dacia, the land of gold, with its countless treasures and deposits of gold objects from the IV bronze (1600 – 1200 BC – our note) and even from Hallstatt, with a particular gold art, built between 1200 and 700 BC, to a rare technical perfection and stylistic distinction, it is in La Tène the richest in silver*” [2, pp. 558 - 559].

In 1931, after what was written by Pârvan, in the locality of Agighiol located in the north of Lake Razelm in Dobrogea, at the place called *Movila lui Uță*, an impressive treasure of gilded silver objects was discovered, in a funerary complex with stone and wooden constructions, consisting of two princely burial tombs and an access corridor. The complex was located in a mound with a diameter of 32 m and a height of 2 m. Among the gold and silver pieces, a helmet, two chnemics (foot protectors), two goblets, five phiales (hemispherical vessels with an upturned lip and neck short), numerous harness appliques of various shapes, decorated with zoomorphic motifs. Archaeologists have dated the treasure as belonging to the century IV BC. It is kept at the National History Museum of Romania in Bucharest (Fig. 12).



Fig.12. The treasure from Agighiol



Fig.13. The treasure from Cucuteni

A little later, in 1959, a gold treasure of about 2.5 kilograms was discovered in Cucuteni – Iași. In its composition are artefacts with a ritual and apotropaic character, objects many of which are still present in a fragmentary state. The main parade object is the gold Mithraic helmet with various symbolic representations, two spiral bracelets (one of which is only in fragmentary form), a necklace and a number of harness appliques and clothing decorations. The lot of objects that we have today seems to represent the most important part of the original deposit, but not in its entirety. The quality of the gold from which the hoard is made is between 18 and 24 carats, whose base piece is a high helmet, worked by cold hammering through the *au repoussée* process (technique of processing a metal to obtain a decoration in relief). The height of the helmet is 34.50 cm, it has a maximum diameter of 25 cm, diameter at the base of 21 cm and weighs approximately 500 grams. Another high-value piece of the hoard is a cylindrical spiral bracelet of about 800 grams, with two bison or bour heads. The treasure also belongs to the 4th century BC and can be admired at the National History Museum of Romania in Bucharest (Fig. 13).

Vasile Pârvan does not present convincing arguments regarding the rarity of the Getic gold hoards in La Tène, compared to the predominantly silver ones, attributing this to the existence of a large amount of silver from foreign coins. „G. Téglás [Gábor Téglás (1848–1916) – Transylvanian archaeologist – our note], trying to clarify the genesis of the Dacian silver hoards, makes the observation that they begin in our country with the mass penetration of silver coins from the south: in the 4th century the coin the gold ring is replaced by the Thasian silver one (tetradrachm); then from the century III BC from now on, the Macedonian silver coins, the Apollonian and Dyrrachium coins, the Roman republican denarii, the coins of the various southern Greek cities and even of the southern Italian cities are introduced, and he could add, in an equally large number, the Celtic coins silver. So, a depth of material, quite rare in Dacia, in any case more difficult to extract than gold, which was found in the sands of the rivers in its native state and had only to be washed and selected. It is a useful explanation for the purely material state of the matter, but it leaves even further in the dark the issue of the birth of the new Dacian style” [2, page 560].

In 1913, a silver hoard with an unknown number of pieces was found in the area of the cataracts from Portile de Fier – Mehedinți, which entered a private collection in Vienna. Some pieces later ended up in the US. Among them, a silver bowl with birds and deer is at the Metropolitan Museum of Art in New York (Fig. 14) and a helmet similar to that of Peretu – Teleorman, exhibited at the Museum of Art History in Detroit (Fig. 15). The helmet has on the right cheek an eagle with a rabbit in its claws and a fish in its beak, and on the left cheek a stag.



Fig.14. The bird and deer bowl



Fig.15. Helmet similar to the one from Peretu

The hoard owned by the Museum of Art History in Detroit most likely dates from the 4th century BC, from when the hoard from Agighiol also dates, with which it is very similar, being discovered by a shipwrecked sailor in the waters of the Danube, on the rocks from the Porțile de Fier. The number of pieces in the hoard is unknown, but some of them ended up in the collection of Franz Trau in Vienna and in the Muzeul Porților de Fier in Turnu Severin. From here, also in pieces, it was acquired by various collectors, arriving, the helmet at the Museum of Art History in Detroit, and the situla-type vessel at the Metropolitan Museum in New York. At the museum in Detroit there is also an aryballos-type vessel, ornamented with specific Dacian motifs. Later, in the 70^s, the hoard from Peretu – Teleorman County was also discovered in which there is also a variant of the same type of silver helmet, which made specialists talk about a workshop where both were made helmets. Given this origin, the helmet and goblets are also known as the *Treasure from Porțile de Fier*. For a long time, this important discovery remained almost unknown to Romanian archaeologists, being for the first time treated in a specialized Romanian work, in 1969, when the historian and archaeologist Dumitru Berciu published his remarkable work “*Tracho-Getic Art*”, dedicated exactly to the aristocratic style animal from the 6th – 4th centuries BC.

Archaeologist Dorin Popescu came up with a more convincing hypothesis in 1956: “*Regarding Téglás's explanation of the origin of raw silver, it may be partly valid. We think, however, that it could be primarily due to the so-called Celtic or Dacian coins, which, being slowly taken out of circulation by the Roman coins, will be melted down and transformed into ornaments. This would also explain why the silver hoards appear so late*” [4, pp. 204 – 205].

“*To all these considerations and to the numerous hypotheses that we have shown during this quick exposition, we allow ourselves to add one more. It is known that after the conquest of Dacia, the gold mines in this province passed directly into the property of the emperor. It can be assumed that before the conquest they were the property of the Dacian king. Remembering this, we are offered yet another possibility to explain the lack of gold in the archaeological discoveries of the La Tène era and, at the same time, the rich spoils of war taken by Trajan from the Dacians. Indeed, if we assume that the mines and not only the mines, but the gold production in Dacia constituted a kind of royal monopoly, then we find a hypothesis that reconciles both the archaeological data and the historical information. According to this hypothesis, the gold entered entirely into the royal treasury – let's also take into account the feast offered by Dromichetes who had all kinds of valuable objects, but only used them on certain occasions – he being, to use modern technical terms, withdrawn from circulation and forming a kind of treasure, like the gold of state banks these days*” [4, page 206].



Fig.16. Map of ancient gold treasures discovered in Romania
Source: National History Museum of Romania

What the historian and archaeologist Dorin Popescu (1904–1987), former deputy director of the Institute of Archaeology in Bucharest (1956–1970) says is logical. Everywhere, after the establishment of state formations, the monopoly of gold was held by the leaders. The same thing happened in the Dacian ghettos.

As Herodotus writes, Dacian society consisted of priest-kings, intermediaries between the earthly and divine worlds, nobles who fought on horseback with their own weapons and commoners, who wore hair and walked with their heads uncovered (tarabostes and comas). In fact, all of them are represented on Trajan's Column and the Arch of Constantine in Rome. In their writings, Sophocles, Herodotus and Thucydides give us the first information about the Geto-Dacians and their organization into tribes and unions of tribes. Alexander Macedon himself defeated such a union of tribes from the north of the Danube, in 335 BC. Historians then mention Dromichetes (around 300 BC), Zalmodegikos (300 – 250 BC) and Remaxos (around 200 BC). From here to the appearance of the centralized Dac state was only one step. The first king of the Dacians was Burebista (82 – 44 BC). Uniting all the Geto-Dacian tribes through battles and diplomacy, with the support of the high priest Deceneu, Burebista created a powerful state that spread over an area twice that of Romania today.

It is logical and pertinent to advance the idea that following social stratification, the poor no longer had access to gold, it becoming the prerogative of the ruling class. After the appearance of the first state formations, gold became a royal monopoly, being stored in treasuries. This is the only way to explain the paucity of gold objects that come from La Tène and the huge amount of noble metal taken to Rome. But the exercise of the royal monopoly over the exploitation of gold must be viewed with certain reservations. Even after the establishment of the centralized Dac state, it did not have a sufficiently developed administrative apparatus to fully control the exploitation of precious metals. Probably the king leased their exploitation to some representatives of the gentile aristocracy, in return for a part of the acquired metals, the lessees constituting their own family treasures. We cannot know what was the fate of these treasures after the Roman conquest; perhaps some were taken by the Romans, others were hidden and later recovered, and others remained buried forever. But where did the huge amounts of gold and silver captured by the Romans come from?

Starting from what was stated by the historian and archaeologist Vasile Pârvan in *Getica*, for a long time the idea that the gold of the Dacians, captured by the Romans, would have come only from the alluvium of the rivers was accredited. Between 1999 and 2006, a team of French archaeologists and researchers from the Centre National de Recherche Scientifique (CNRS) and the Unité Toulousaine d'Archéologie et d'Histoire (UTAH), together with geologists from Cluj-Napoca and Munich, they carried out mining archaeology research in very old mining works from Roşia Montană. On this occasion, elements of wooden mining supports were also discovered. C₁₄ dating on the wood samples found is established in the period 50 BC – 80 AD, so 25 – 150 years before the Roman occupation! *"In our opinion, it is very likely that the mining activities had been undertaken on site in Roşia Montană since the Bronze Age, before the Roman conquest, although for the moment there is no archaeological evidence in this respect. The areas where the high-grade veins emerged were surely exploited at the surface, in a first stage, and then in the underground. Certain early authors thought that great superficial excavations might have been carried out in the Cetate massif beginning in the Dacian age; unfortunately, this area of the site is currently destroyed and an investigation is impossible so any investigation is impossible"* [5, page 5].

"A propping sample (Țarina-Carpeni sector) was chronologically dated to the Roman age, between –50 and +80 (mid-1st century BC and the end of the 1st century AD) and it cannot be of Roman age since the Roman conquest led by Trajanus ended in 106 AD. This wooden structure represents the first mining vestige of Dacian age attested on Roşia Montană site" [5, page 11].

Nothing prevents us from stating that the Dacians mined gold underground and in other areas, at least since then. And then let's not forget that silver is very rarely found in its native state, being combined with other elements, in various minerals, such as argentite (Ag₂S), argent pyrite (AgFe₂S₃), krennerite (AgCl) and mathildite (AgBiSb₂). Important amounts of silver are found in tellurides, along with gold and tellurium: hessite [(AuAg)₂Te] – 63% Ag, putzite (Ag₃AuTe₂) – 41.71% Ag, sylvanite [(AuAg)₂Te₄] – 6.27% Ag and krennerite (Au₃AgTe₈) – 6.27% Ag. As a result, the Dacians could not exploit the 331 tons of silver that the Romans found, only from the alluvium.

Comparing the chemical composition of the archaeological artefacts discovered on the territory of Romania from the Neolithic era until the arrival of the Romans, with that of the native alluvial or Philonian gold samples kept in mineralogical museums, it was found that most of the treasure objects come from Transylvanian gold. An exception is the extra Carpathian hoard from Rădeni – Neamţ (Fig. 7), which comes from alluvial gold mined in the south of the Danube. The chemical analyses were done with maximum

accuracy, using non-destructive methods and modern equipment, in the framework of a doctoral thesis developed in 2012 by Daniela Cristea at the University of Bucharest [4]. “The main objective of the thesis was to establish how the geological information based on the composition of the native gold from Transylvania can contribute to establishing the provenance of the gold used to make the prehistoric and Dacian artifacts discovered on the territory of Romania, as well as to explain the metallurgical processes used by the ancient craftsmen in the production of these artifacts. It started from the need to explain the presence in these artifacts of some trace elements specific to gold deposits in Transylvania, such as stibium, tellurium and tin” [6, page 46].

Analysing the chemical compositions of gold from different mines in Transylvania or from alluvial deposits, the researcher found that gold is always alloyed with silver, in different proportions, and may also contain traces of other elements (copper, tin, antimony, iron, lead). Thus, the silver content in the samples from Roşia Montană, Bucium, Barza, Săcărâmb, Baia de Aries and Almaş – Stăniţa varies between 10 and 65%, and in the river alluvium between 5 and 10%. In this way, it is possible to know almost exactly where the treasure objects kept in museums come from, by performing a spectroscopic analysis. It was also found that the gold in the analysed artefacts comes both from alluvial deposits (10–15% silver and traces of tin) and from veins (20–60% silver and traces of antimony).

The natural alloy between gold and silver, with traces of copper and other metals, is called *electrum*. It is malleable and ductile and has a colour similar to amber, a fossil resin called *electron* by the Greeks. Its colour varies from bright yellow to pale yellow, depending on the proportions of gold and silver, the gold content being 20-80%. The alloy was used in ancient times to mint coins, being harder and more resistant to wear than pure gold, but also because gold refining techniques were not known at that time.

We left behind two categories of gold artefacts that brought the Dacians fame all over the world: kosons and bracelets. Kosons are the only gold coins from the time of Dacian royalty, found only in Transylvania, in the area of the fortresses in the Orăştiei Mountains. They have not been discovered anywhere in the world, proof that they did not circulate. The obverse of the kosons represents an eagle sitting on a sceptre and holding a laurel wreath in one claw, and on the reverse three figures appear, of which the central figure is a leader, and the lateral ones, two lictors armed with a bundle of clubs and a double-edged hatchet, insignia of the magistrate who can sentence to the punishment of beating or beheading. The monogram **KOΣΩN** also appears on the reverse.

There are two types of kosons: some with the monogram **KOΣΩN**, more numerous and others without monogram, fewer. The first ones contain 94.70% gold, 5% silver and 0.30% copper, an alloy from the south of the Danube, somewhere in the Balkans, and the others come from a Transylvanian alloy with up to 88.44% gold, 10.71% silver and 0.85% copper, with traces of arsenic, tellurium and antimony. Vasile Pârvan states that the monogrammed coins were minted somewhere in the south of the Danube, having the weight of a Greek stater (8.40 – 8.50 grams), but with images inspired by the Roman republican denarius. Vasile Pârvan, Theodor Mommsen, Ludwig Friedländer, Ioan Mitrea, Hadrian Daicoviciu and Aurora Petan assume that the Roman senator Marcus Junius Brutus, the famous assassin of Caesar, would have paid a large group of Dacian mercenaries with these coins to fight alongside him at Philippi, in Macedonia, against the triumvirs Antonius, Octavian and Lepidus, in the battle of 42 BC. The assumption is logical: the kosons would have been minted in Macedonia, probably at Amphipolis, where there was a famous mint. Regarding the monogram **KOΣΩN**, there are two hypotheses: either those who minted the coins only knew Greek writing, or they were intended for mercenaries who used the Greek alphabet. As for the kosons without monogram, they were probably minted by the Dacians, in a small number of copies, imitating the first ones.



Fig.17. Dacian koson

Almost 1,600 years have passed. In 1543, some fishermen on the Strei river, near the village of Sântămăria de Piatră, discovered a cache with many gold coins and some gold objects, including a spiral snake. They shared the treasure in Băcia, in the house of one of them. The news quickly reached the ears of bishop Gheorghe Martinuzzi, the new governor of Transylvania (1541 – 1551), who arrested the discoverers and confiscated their gold. What is certain is that Martinuzzi became rich suddenly, throwing gold left and right. Moreover, it is said that the bishop would have given part of the money to the Moldavian voivode Petru Rareș, his ally against Habsburg influence. Martinuzzi did not enjoy much the brilliance of the yellows, because in 1551 he was killed in his castle in Vințu de Jos by order of the imperial general Giovanni Battista Castaldo, with the approval of Ferdinand I of Habsburg, king of Bohemia and Hungary.

The second discovery of kosons dates back to the period 1803 – 1805. In 1803, two farmers found more yellow ones in the Orăștiei Mountains, which they began to sell. The Austrian authorities were alerted and sent a team of researchers to the area, which did not find much, but discovered the ruins of the Dacian residence at Sarmisegetuza Regia.

There have been sporadic discoveries of kosons, but the last and probably the biggest occurred after the Revolution of 1989, when cultural criminality took place aggressively and non-stop in the mountains of Orăștie, with great damage to the national cultural heritage. The treasure hunters then took advantage of the lack of legislation to protect the archaeological heritage. Equipped with high-performance metal detectors, they rummaged through all the archaeological sites unhindered, discovered kosons and put them on the Western market in such large quantities that their price dropped. No one will ever know how bad these bastards have done. The state recovered some from abroad, but at very high costs.

The Dacian gold bracelets were discovered through archaeological looting, on the rocky and steep slope of a valley about 600 meters from the sacred precinct of the Dacian capital at Sarmisegetuza Regia. Treasure hunters have found 24 spiral bracelets that they fraudulently smuggled out of the country and sold on the antiquities black market for huge sums. Until 2011, the Romanian authorities managed to recover 13 bracelets, with weights of 682.30 – 1,196.03 g, unfolded lengths of 177.20 – 288 cm and with coil diameters of 91 – 123 mm. The fact that the remaining 11 bracelets are still in the possession of unknown collectors represents a huge loss for the national cultural heritage. The spirals come from rectangular bars of gold, by cold hammering, followed by perforation and engraving, to obtain the decorations, this being a typical method used by the Dacians in the 10th century IV-I BC. The spirals end at both ends with ends. zoomorphic (wolf, snake or dog), with straight cut muzzles and eyes and eyebrows represented by curved lines. The bracelets were probably votive offerings brought to a telluric god, the rightful owner of gold from the earth, being used during initiations or occult ceremonies, by certain social categories, who had important positions in the state: king, nobles from the royal entourage, aristocrats and priesthood. Historians and archaeologists estimate that the bracelets were buried – but not necessarily made – in the period 100 – 70 BC, when the first Dacian religious sanctuaries also appeared.

The Dacian bracelets represent the most important archaeological discovery of gold objects on the territory of our country, after the Treasure of Pietroasele. The 13 recovered bracelets weigh over 12 kilograms, compared to the 19 kilograms of the Treasure from Pietroasele. Their arrangement around the sanctuary and the fact that they were used very little or perhaps not at all, indicates that they were dedicated to the gods, to attract their favour in times of austerity. However, they have a much older history, going back to the Bronze Age. The first such spirals had zoomorphic heads, usually snake, wolf or ox. The spiral motif was associated with the solar cult, being a legacy of the local Chalcolithic culture or a Mycenaean influence (Sacoșu Mare, Firiteaz – Arad, Săcueni), and the animal head motif could have been brought by proto-Indo-European migrants (Pipea – Mureș, Biia – Alba, Șeica Mare, Cucuteni). All were made of unrefined gold, originating from the Apuseni Mountains or from Balkan sources, and are exhibited in warehouses or museums in Bucharest, Cluj-Napoca, Budapest, Vienna and Belgrade. Among these, two gold bracelets that are part of the Hinova – Mehedinți Treasure (12th century BC), discovered in 1980, stand out (Fig. 18).

The first bracelet is made of a single sheet of gold, weighs 580 grams and is decorated with 5 gold buttons, riveted on each end. The second has 6 spirals and weighs 469 grams, being made from a solid gold bar.

The existence in one place, at Sarmisegetuza, of the immense Dacian treasure looted by the Romans, suggests that there was a central control of the circulation of precious metals. According to most historians, this type of centralized control explains the rarity of archaeological finds consisting of gold artifacts for the period between the 3rd century BC and I AD. The existence of the treasures of the Dacian kings was also confirmed by the discovery of large spiral gold bracelets from Sarmisegetuza, which the Romans did not find.



Fig.18. Dacian gold bracelets from the Hinova Treasury (12th century BC)



Fig.19. Dacian bracelets from Sarmisegetuza Regia



Fig.20. The sacred site of Sarmisegetuza Regia

The bracelets were expertly examined in France, the USA, Germany, Italy and Romania, confirming without a doubt their Dacian origin, by comparing their chemical compositions with those of some samples from Valea Pianului – Alba and from the Brad area. All were made from a mixture of alluvial gold (which contains tin) with Philonian gold (which contains antimony). The results of the analyses are presented in the following table:

Bracelet number	Gold [%]	Silver [%]	Copper [%]	Tin [mg/kg]
1	89.8	9.5	0.6	200
2	78.2	20.3	1.5	Under 60
3	82.4	16.2	1.4	360
4	91.5	8.1	0.4	125
5	92.8	6.9	0.3	Traces
6	92.0	7.1	0.9	230
7	92.9	6.3	0.7	Traces
8	85.0	12.8	2.1	1500
9	87.1	12.2	0.6	Under 120
10	88.7	10.3	0.9	425
11	86.1	12.6	0.7	400
12	83.5	14.3	1.0	500

Source: [7, page 1036]

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