

SUMMARY OF THE PUBLICATION

OF ASSOC. PROF. STELA MILCHEVA DONCHEVA, PhD

for participation in a competition for the academic position of "professor" in
Shumen university "Episkop Konstantin Preslavski"

MONOGRAPHS

1. Stela Doncheva. MOULDS AND DIES FROM BULGARIAN MIDDLE AGES

(IXth – XIVth c.)

The current work examines a rare kind of artefacts of the Bulgarian Medieval jewellery art. These are the moulds and dies – the basis of the jewellery production from Antiquity to Modern times. The discovery of such objects in the country is a proof for the good practice of professionally trained craftsmen, who have perfected all the aspects of the craft. Despite the important role of moulds and dies in the process, however, they are quite rare artefacts, and it is not only in our country. That's why their storage and preservation was of huge significance. Not surprisingly, large findings of different instruments include moulds (dies), carefully hidden and protected against violation. Objects of good quality are rarely found in the places where they were used, i.e. in workshops and in art metal ateliers. They were carried away along with the most valuable properties of their owner, who was forced to leave his home due to different reasons.

Some whole objects in better condition are found only in the places with prolonged activities, mostly in the big city centres and in some accidentally found burials. All the others are usually damaged and quite worn off. During the middle ages, common practice of the goldsmiths was to leave their instruments to their sons, friends or inheritors of the craft. For example, the inheritance of John Colan from York, who died in 1490, consisted of a list with goldsmith's tools. Several types of hammers, moulds, pliers, swages, a small anvil, pair of scales and files are mentioned. Together with the important and invaluable information brought by each object, this is a sufficient reason to pay the necessary attention to them. The examination of the medieval moulds and dies from the Bulgarian lands will fill up some gaps on the theme and will enrich our notion for the jewellers' work from that period. Some disputable and unclear moments about their dating, purpose and usage will also be clarified and specified. New questions will probably be raised, which is one of the aims of the current work.

The current work is divided into several chronological sections, defined by the artefacts themselves. Often the articles have no exact dating, so the different periods should not be abruptly divided in time. The processes and the phenomena are a gradual transition and perfection of some forms into others, from one practice into another, and go beyond a century. That's why the text complies with it when it is possible. Each chapter consists of two parts – first the moulds and then the dies. This separation is imposed not only by their different material, but also by their specific usage and purpose. The final section examines the practical implementation of the production means considering the craft traditions and the aesthetics characteristic of the period. In the end there are a few concluding words for the important observations and inferences made during the study. A list of the works cited and of the abbreviations is added to the text.

The catalogue of artefacts is an important part. It includes their main characteristics and some close analogues. The images are presented through photos and graphic restorations of the objects that are not so well-preserved or miss important details.

2. Stela Doncheva. METAL ART PRODUCTION IN MEDIEVAL BULGARIA. Jewelry craftsmanship in Bulgaria at the Middle Ages. Lambert Academic Publishing, 2012, 161 pp. Saarbrücken

The investigation into the technological aspects of all the materials and archaeological evidence supporting the existence of organized production activity at the mediaeval Bulgarian complexes can be delineated into the following categories: Workshops; Instruments and guides, scales and coins; Base metals and alloys, metallurgical analysis; Technological process.

The subject of the first category is the site where production is carried out – the workshop and its connection to the complex's remaining components. The second stage of this investigation considers its separate parts – the furnace, the area surrounding the furnace, the hearth and the pit where rejected articles are discarded. Objects found during the investigation are also significant, which define the function of these separate areas. It was found that the workshops are not massive structures, but temporary installations used on a seasonal basis. The work areas are located near to one another and they are put to use during two or more periods of the year, depending upon the seasonal nature of the work being done.

Results from the investigation of the first production complexes in mediaeval Bulgaria show that the goods are primarily made of copper, copper-tin alloy (bronze) and lead. Wares made from silver alloy were also cast. The form, size and individual element of each furnace during this period are close to the specifications set out by established norms, which points to the preliminary planning used and strict organizational character inherent in this type of manufacture.

All the instruments found during the course of research, the largest share is made up of those directly connected with the casting process. In the present day metal casting is one of the most frequently used technological methods of working non-ferrous metals. There are many casting pots or crucibles (whole and fragmented), which testifies to the strictly preserved technology that has remained unchanged on the whole up to the present day. The form and construction of the crucibles contribute in no small part to reconstructing the production process and sequence of steps therein. While pots are most frequently used for melting of the metal and less commonly for pouring it, these processes are combined in the above-mentioned vessels. In cases where it was important to protect the metal from even smallest degree of oxidation, closed vessels were used from which molten metal was directly poured into the molds. The character of the large number of finds serves as evidence that mainly small objects were made, for which it was not necessary to melt and pour a large amount of metal. Also used in the manufacturing process were various instruments differing in character and usage.

The composition of alloys used in the production process is of particular interest to this investigation. Most of the articles produced in the production complexes are made of tin bronze. A substantial portion of the items that served as models were made of lead. This metal's qualities contribute to its usage in models and standards in metal sculpting. A metal's composition in large part determined the technology used to make wares. With all of these factors in mind, an effort was made to test representative specimens of a variety of the articles produced at complexes in order to obtain a clear understanding of the type and quality of the alloys used and the relationships between the individual elements from which they were made. These analyses confirm our initial assumptions about the chemical composition of the copper alloy and prove that the majority of the articles are poured from leaded tin bronze (Cu-Sn-Pb), copper comprising the largest percentage of which, while those of tin and lead vary. In most of the samples the quantity of lead exceeds 1%, which is a condition which must be met in order for the alloy to be classified as leaded bronze. The presence of more elements suggests that the re-melted alloy has a different origin. This confirms one of the primary sources of raw materials, namely the use and recycling of retired bronze wares – a practice which was widespread in jewelry manufacture not only during the medieval period, but also in earlier and later times.

The process has the following sequence: creation of a model; creation of a casting mold; preparation of the molten metal for pouring into the mold; pouring the metal into the mold; extraction and cleaning of the cast. The presence of a protruding seam or traces of its being smoothed out following the pouring of molten bronze between the two parts, which is the case with most articles, is indisputable proof of the preference for casting with paired molding boxes. Considering everything mentioned to this point, it can be concluded that jewelry production was very well-organized and suited to fulfilling all of the requirements of this craft. Local artisans mastered and applied the whole range of techniques and skills involved, further developing and perfecting many of them. Diversity of artistic metallic goods shows the gamut of small plastic articles that were popular in Bulgaria during the early medieval period, the majority of which were made with skill and a thorough understanding of their unique qualities.

3. Stela Doncheva. THE PRODUCTION OF METAL ART IN BULGARIA IN THE 10th CENTURY (according to the production centers around Preslav). Faber, Veliko Tarnovo, 2021

The subject of research is the rich collection of belt sets, received from the archaeological excavations of the three centres for the production of metal art from the early Bulgarian Middle Ages near Preslav - near Novosel, Zlatar and Nadarevo. The finds of belt sets in the three centres are the most numerous and mass-produced products, the number of which so far exceeds 3000. Along with them, the finds from the production centres received in the museum collections before the excavations were examined. This applies primarily to the third production centre near Nadarevo, Targovishte region.

The study aims to investigate the production of artistic metal in early medieval Bulgaria on the basis of the numerous production of belt sets, collected as a result of 20 years of research of the first known specialized centres for metal plastics. As a result of archaeological excavations from 2004 to 2009, the first centre was studied - the one near Novosel, Shumen region. From 2007 to the present, the second production centre near Zlatar, Preslav region, is being studied with a short break. The centre near Nadarevo, Targovishte region was partially explored in the 1990s within one season. The number of finds in the National Museum in Sofia and the museum collections from all over Northeastern Bulgaria prove the existence of large-scale and organized production, in parallel with that of the other two complexes.

The aim of the research is also to present the typesetting belt as a single and strictly organized composition, composed of separate and morphologically, technologically and stylistically related details (buckles, tips, appliquess) - elements of the decorated leather strap. A large number of items are a good basis in this regard. Added to this are the numerous finds from studies outside the country, found in synchronous cultures and proving the role of the decorated belt in the medieval costume at that time. Presented in connection with the other accessories to the belt set, as well as in view of the stylistic features of the constituent elements on it, the set belt marks an ethnocultural accessory. The dynamics of the Eurasian fashion of the decorated belt illustrates the gradual change of one compositional scheme with another, influenced by the traditions of the particular community and the popularity of the composite belt.

The set goals are related to solving the following tasks:

1. To present in a comparative plan the wide range of belt details found at the place of their production. To develop a general compositional scheme, uniting the species diversity of products, subordinated to the functional division between them, depending on the position in the belt set - buckles, belt tips, appliquess.
2. To make an attempt to reconstruct the belt set of finds from the production centres, subordinated to the ornamental style and parallels of dating sites in the country and abroad. To indicate and

substantiate the possible variants within each reconstructive order and to illustrate graphically and on a scale their form.

3. To analyze the most important studies of the elemental composition of selected samples from the findings of the three production centres, the so-called PIXE-method conducted in the laboratory of the Institute for Nuclear Research Atomki, Debrecen, Hungary. To consider the specific features of metals and alloys that are part of them. The results should be presented in tabular and graphical form and the main highlights in them should be highlighted.

4. To establish the origin and the way of the raw material to the production centres on the basis of a comparative analysis of the results of the research of the elemental composition in ore sources and finds from the workshops. To present the historical and archaeological data on the existence of raw materials and their metallurgical development, based on the information about the largest and longest existing region for copper ore mining, which is the Burgas-Strandzha region - a major source of the metal from prehistory to modern times. time for the region.

5. To present the whole set of jewelry tools found in the production of artistic metal, clarifying its practical appliques with an analysis of the technical parameters that each group of tools carries and similar examples with similar objects from related cultures. To look for parallels among the modern set of jewelry and forging tools and to analyze their use.

6. To study the technology and the individual stages in the production of artistic metal according to data from the most numerous group of finds, such as the belt details, which make up 80% of the total items of the production centres. The individual practices should be considered in the context of the development of the jewelry craft over time and to provide source data representing its diversity.

7. To present a rich pictorial material, illustrating the main generalizations on the topic and presenting the typological diversity of the findings; including images of similar objects from synchronous cultures; reconstructions of belt sets according to data from studied archaeological sites; tables and graphs with results from the elemental analysis of individual and groups of products from the three production centres.

The chronological scope of the topic is the first half and the middle of the 10th century, the time of the most massive and organized production of artistic metal in early medieval Bulgaria. Sources of information are the findings from the production centres, similar objects found in synchronous archaeological sites in Bulgaria and abroad, source data on metallurgical production in the Middle Ages and the technology of artistic metal; source data on the composition of metal products in antiquity and the Middle Ages; physical and chemical properties of metals and alloys; technical and functional characteristics of the jewelry tools.

Publications. Thematic directions

A. Cult architecture and ritual

4. Doncheva, S. The exact sciences in medieval Christian architecture. – Журнал за исторически и археологически изследвания, 1, 2013, 40-54.

My personal observation of mathematic and geometric relationships mainly in constructions of the temples of the early Middle Ages show mastery and application of both principles of proportionality and modular principals. Geometric constructions and numerical relationships derived from the facilities plan, based on the offered sample size reproductions of some of these buildings. Individual parts are multiples of the source size adopted for unit loading combinations of origin of all other elements. In the study of design relations of the Bulgarian medieval churches

observed similarity in the principles of the constructed, expressed in similar geometric system (based on the width of the naos). The most common geometric proportion is the golden section (ie division of the segment in the middle and final terms). Permanent proportion of this system forms a downward or upward progression that links together all the elements of the building - the largest to the smaller. In demonstrating geometric expression of irrational and complex relationship seemingly built to reach the system squares and circles that appear to be using a compass or a rope with two pins. The main unit was a little elbow, which is received by the large elbow . Proportional module is under construction inside width in terms of which are expressed in simple numbers the key elements of the building. This architectural space is included in the architectural volume and proportion – in harmony.

5. Doncheva, S. *Pagan cult buildings in Bulgaria. 3-D reconstruction.* – *Исторически*, 8, 2015, 15-25.

This work is an attempt to seek spatial and material view of the pagan temple with the means and opportunities provided by modern technology. Realization of this plan is based on the results of archaeological studies and graphic reconstructions of its volume.

Solid foundation are architectural plans, right technical recording and space reconstructions. They are built on the laws of harmony and geometry and on the established practice in proportional relationships and dependencies. An example of such an approach are presented in this work graphics and three-dimensional reconstructions.

6. Doncheva, S. *Conceptual planning in religious architecture of Early Christianity.* – *В: Преславска книжовна школа*, Т. 18, 2018, 321-341.

The proportions are the basis of each harmonic established architectural composition realized with a specific purpose and subject to a certain idea. To create a plan, is to define the concept. In early Christian architecture the idea is to create space to materialize the invisible divine atmosphere to Christian converts. As the architecture operates and mathematics standards, but is also the plastic figurativeness forms and ideas - most fully able to meet the requirements and demands of the new spiritual atmosphere over time after the official recognition of Christianity in the IVth century.

In the present work are made metric analyzes of twenty buildings from the Early Middle Ages. The aim is to cover almost all the major centers, where they erected such monuments. Comparative performance of planning schemes and geometric dimensioning on them show similarities and some differences that are due more to the practical application of the elements of the plan on the ground than in the basic principles of design. Emphasis is placed on the basilica buildings, which are the most numerous facilities, built after the adoption of Christianity as the official religion of the empire.

7. Doncheva, S., S. Rusev. *Architectural Reconstruction and 3D project on the Medieval Complex in Abritus.* – *В: Известия на РИМ-Разград*, Т. 2, 2016, 383-396.

Conducted over the last decade archaeological research in Abritus led to the discovery of a representative temple complex from early Middle Ages. It consists of a large basilica with a tripartite narthex and atrium and a small basilica with shortened proportions, located north of the great temple. Two buildings are connected constructively with three interim buildings. The design and construction of the complex is carried out on a stage at the end of X century, immediately after 971, after the conquest of the northeastern Bulgarian lands. Minor differences between the measured size of the plan and the results of the calculations show that Basilica No 1 is sized and built against the dependencies of the golden section and its derivatives. The height reconstruction is based on the plan. Dimensions of the small basilica are not a proportional correlation of the golden section one. The plan is built against the basic geometric relationship of the square and its derivatives - consistently aligned to the side of the square, diagonal $\sqrt{2}$ and the subsequent row $\sqrt{2}$,

$\sqrt{3}, \sqrt{4}$. All these efforts successful, as in the present case, because from the very beginning we step on the solid foundation of architectural plans and reconstructions on the laws of harmony and geometry. An example of such are presented in this work by graphics and three-dimensional reconstructions of medieval complex in Abritus.

8. Doncheva, S. *Sciences in the medieval Christian architecture. - In: Tyrageia, Vol. XI (XXVI), Chişinău, 2017, 235-251.*

From a brief overview on the dimensioning principles in the construction of some characteristic monuments of the early Middle Ages in the major areas of the Byzantine Empire, it is clear that the main stages in the architectural development during this period in all regions are the same, although expressed in different forms. Raised in Bulgaria monuments of this time is no exception. The system of aspect ratio which is found in the early Christian structures based on squares and its "derivatives" and is called "system of diagonals". One of these derivatives is the proportion of the golden section, which underlies the design and construction of the temples of this period. Practically all breaks down into separate building units on the basis of a single module. First establish basic arithmetic dependencies and their connection with geometric constructions as a starting value is a number. Through trigonometric functions or proportional multiplier is calculated another dimension (length or height), which always coincides with the actual values measured by the plan of the building. For all theorists who are builders and practitioners starting position is construction on the plane of the main schemes as listed in each other squares. The sides of these squares and their diagonals serve as modules under construction and orthogonal elements are removed from the plan. The height of the elements to express whole multiples of the module. The irrational values dominate in determining the width of the resulting structure which is obtained, the height of which is derived from the plan.

9. Doncheva, S., B. Totev. *Application of three-dimensional (3-D) design and animation in reconstruction of religious building. – In: Archaeology of the First Millennium A.D. Nomads and the autochthonous in the first millennium A.D. Bucureşti. Vol. IV, 2015, 587-600.*

Our aim here, however, is not to analyze the historical development of church architecture in our country and stop its attention on modern methods for spatial reconstruction of these buildings that give the maximum clear idea of how they looked in their natural environment. Like any renovation and new approach presented here has some degree of conditionality, which is somewhat offset by the impressive capabilities of the software itself. I think that only the combination of modern design with a three-dimensional graphic design completed architectural plans is the road leading to the development of precise and accurate reconstruction of the church building, which provides enough real idea of its appearance. In support of these arguments adduce a few examples of such an interdisciplinary approach, including classic rock churches and Christian buildings from different periods. All these efforts can end in success if from the outset to build a solid foundation of architectural plans capture the exact technical and spatial reconstructions, based on the laws of harmony and geometry of the established practice of proportional relationships and dependencies. An example of such an approach gives good results are presented in this work and three-dimensional graphic reconstructions. Interdisciplinary approach used in their implementation, which is essentially three-dimensional design and animation is a credible basis for the realization of many future projects that can provide not only individual volumes and structures, but the space in which they are placed.

10. Doncheva, S. *The Royal Institution during the Liturgy in Mediaeval Bulgaria. – In: Arhaeologia mileniului I p. chr., Vol. V, 2016, 283-308.*

The development of the liturgical practice during the different periods of the Church history has been connected with the ruler's institution and in particular – with the participation of the emperor

in the very ritual. As early as the 6th century, the Byzantine rite became “imperial”, and as its symbol it appeared the “St. Sophia”, built by Justinian (527-565 A.D.). All mentioned from this article, represents the role which the ruler’s institution had in the liturgy of the Eastern Church and the importance which had been given to the emperor’s participation in the liturgical action. The changes, which occurred in the church ritual during the Middle Ages, didn’t affect essentially the ruler’s role, but only changed the scale and the duration of his participation, in conformity with the overall minimization and concentration of the action into the new spatial dimensions of crucidomed temple. The resemblance in the ruler’s role in the liturgical practice and the parallels in the peculiarities of the architectural environment confirm the direct succession of mystics and liturgical ordinance from the Byzantine Church to the Bulgarian Church, which proofs the importance of Constantinople for the cultural and religious development of the Mediaeval Bulgarian state.

B. Production and technology of art metal in The Middle Ages. Items of small plastic

11. Дончева, С. A new center of production of art metal in the vicinity of Preslav. (Preliminary message). – В: ИИМШ, Т. 15, 2014, 54-64.

As a result of the archeological researches, the existence of a new production center for art metal in the vicinity of Preslav was established, along with the already known ones near the villages of Nadarevo, Targovishte region, and the village of Novosel, Shumen region. The entire production complex is located on a steep natural terrace in the area "Merata", which is 1.5 km north of the modern village of Zlatar and 9-10 km east of Veliki Preslav. Preliminary observations show that the complex near the village of Zlatar is one of the three leading centers for the production of artistic metal in the vicinity of the capital Preslav in the X century. They are evidence of well-organized jewelry production in accordance with all requirements of this activity.

12. Дончева, С. Сребърен пръстен-печат с митично същество от късното средновековие. – ИАИ, XL, In honorem professoris Димитър Овчаров, София, 2012, 151-159.

The object of this message is a silver ring seal, found in the late medieval settlement near the village of Gradishte, Shumen region (Shumen plateau) together with coins of Tsar Ivan Alexander (1331-1371). In shape and technology of execution, the ring resembles the mentioned monuments, but there is no analog (at least among the published and known specimens so far) of the image on it. The specific cause can be considered as an exception to the traditionally established norms and practices because in the central part of the tile of the ring the image of the mythical creature chimera is incised. Thus, the silver ring presented here can be a product of a Byzantine or Western European atelier, as well as of a local jeweler. Numerous examples of objects of various nature (stone sculpture, metal, ceramics, bone) have come down to us, on which there are images of animals and mythical creatures that make its production possible.

13. Дончева, С. Източници на суровина в производството на художествен метал през X век. – Добруджа, 30, 2015, 359-374.

The study of the first center for artistic metal near Novosel, Shumen region, which recently ended with the publication of a monographic study of its results, provides an opportunity to ask some important questions related to metallurgy in the early Bulgarian Middle Ages. A good basis for such an observation is the results obtained from the spectral analysis of objects from the production

center at Novosel. From what has been said so far, it can be safely argued that there are several sources through which the non-ferrous metal has entered the production centers. One of them is in the form of ingots supplied by the mentioned regions. The possibility of the simultaneous entry of bronze from places outside the country is not excluded. However, given a large number of finds, the main source of raw material is more likely to be local. The second line through which metal entered the workshops is through the recycling of obsolete products and those discarded in the production process. Finding quite a few similar items is convincing confirmation of this.

14. Doncheva, S. *Two Lead Icons with Christian Images.* – В: *Историк*, 5, 2012, 68-72.

The object of this work are two round lead icons (medalions) with incised images of the Christian pantheon. Both are found in the same place - near Smyadovo, the famous medieval village in the area Kachitsa, located South-West of the modern city and determined at the X-XI century. Icons have a round shape and same size - 1.5 cm in diameter and 0.1 cm thick. Images are caused by pressure on the face of soft lead plate, possibly with a matrix, as evidenced by their rounded shape. The first icon is caused frontal figure of Christ standing at full height with a patriarchal cross in his left hand resting on the body of the bird. Front surface of the second icon is occupied by the head of a saint in the middle. The eyes are almond-shaped curved and enlarged, highlighted by solid lines, which run above the eyebrows. Nimbus in the case itself is replaced by a circular icon, emerging as a mandorla image. The purpose of the two small icons can be associated with the manufacture of inlays on the larger objects - icons, crosses, temple interior, where they are frames around the central motifs and images.

15. Doncheva, S. *Bronze pendant with the Mother of God from Shumen region.* - В: *Сборник есенни четения Сборяново. От находката до витрината. Т. 8/9, 2011-2012. В. Търново, 2013, 216-218.*

This monument was found in one of the famous early medieval settlements from the X-XI century in the vicinity of the village of Srednya, Shumen region, and is currently in the Medieval Fund of the Museum in Shumen under No. 23279. It was purchased together with items from the production center in Novosel, but a study of the history of the find showed that it did not originate from there. The pendant is cast in bronze, has a round shape and a hanging ear at the top. On its obverse is the image of the Mother of God in a not so traditional type - with hands in front of the body, outlined with several incised lines. The drawing is highly schematic, with the details of the face generally conveyed.

16. Doncheva, S. *Lead models of appliques from the collection of RIM-Shumen.* – *Паметници, реставрация, музеи, 1-2, 2012, 34-41.*

The place of lead models in the process of production of small plastic objects became much clearer after the discovery and research of the first centers for art metal in early medieval Bulgaria - those at Novosel and Zlatar. It turned out that they are a large and important group among the other products, which carries the rich ornamentation of the decorative decoration of all plastic products. Moreover, lead and less often bronze models and finished products are those on which metal objects are cast, including those made of precious metals. Here are lead models from the collection of the Medieval Department of RIM-Shumen, most of which do not have an exact origin. One thing is certain, however - their presence indicates the existence of a production activity near their location.

17. Doncheva, S. *Foundry vessels from Shumen Fortress.* – В: *Известия на РИМ-Шумен, Т. 17, 2017, 63-76.*

As a result of the nearly 30 years of archeological excavations of the Shumen Fortress, sufficient evidence has been revealed for the existence of organized production activity in the medieval town

and the surrounding area. One of the popular crafts is metal casting - closely related to the manufacture of jewelry. The practice of this craft required special and rich tools, including tools of different types and purposes. Such are the molds (made of clay and stone) and the foundry vessels - pots and crucibles. It is to this important group of non-metallic tools such as the foundry vessels from the Shumen fortress that attention is paid in the present work.

18. Doncheva, S., N. Nikolov. *About wax seals in the Middle Ages.* – В: *България в световното културно наследство. Шумен, 2014, 479-485.*

In the last few years, the group of single and double stamping devices, called seals in publications, has grown significantly. These are not, in fact, the seals themselves, but only the devices used to make the seals. Because the imprint was applied to the soft surface of the melted and volatile wax, they have not survived. In the numerous publications and classifications made so far, only the sealing devices are considered, without paying attention to how the impermanent wax prints are applied and stored. The placement of this interesting problem became relevant after finding several interesting objects, representing small metal boxes for storing such wax prints.

19. Doncheva, S. *Lead medallions found at the Razgrad region.* – В: *Известия на РИМ-Разград, Т. 1, 2014, 205-219.*

The number of medallions lead in recent years has increased significantly, and while previously they were in a group of rare objects, it is now accepted that such products are widespread among Christian symbols in Early Bulgarian period. However, gathered a significant amount of new medallions, generally originating from the northeastern parts of the county. Some of them have just location – near Razgrad. It is dedicated to them and this work which aims to complement this interesting group of religious objects. Attention is directed to a general presentation of the different varieties and in particular the production and distribution of the medallions.

20. Doncheva, S. *Bronze reliquary cross with St. Nikita.* – В: *Преславска книжовна школа, Т. 13, 2013, 343-349.*

The present work is dedicated to a cross-encolpion with an image of the military saint St. Nikita Gotsky (ἁ ἅγιός Νικήτας) - a not very popular iconographic character among this type of monuments from the early Middle Ages. The reliquary is in the shape of a Latin cross with an elongated lower shoulder and an almost imperceptible slight extension at the end of the other shoulders. The image, filling the entire space of the waist, is additionally applied with a cutter. The saint is depicted standing, opposite, with his hands raised in a prayer position among the flames. Above the head, there is a three-line incised inscription "Ο ΑΓΙΙΟС ΝΗΚΙΤΑ". Some inaccuracies in the engraving of the inscription on the cross prove the provincial character of the product.

21. Doncheva, S. *Anthropomorphic amulet found at the region of Popovo.* – В: *Поломето – находки, събития, личности. VII и VIII национални научни конференции. В. Търново, 2016, 128-134.*

This work presents a copy of a rare type of anthropomorphic amulets from the time of late antiquity and the early Middle Ages. The amulet is a bronze casting prepared in a bilateral mould. This is a stylized male figure in the butt with diamond head, curved arms and legs with folded fifth. Only two similar amulets are known on the territory of our country and there is not exactly finding. Most anthropomorphic amulets found in the North Caucasus.

22. Doncheva, S. *A Touch to the Art of the Enamel in the Middle Byzantine Period.* – В: *Средновековният човек и неговият свят. Сборник в чест на 70-та годишнина на проф. д.и.н. Казимир Попконстантинов. В. Търново, 2014, 395-405.*

Enameling appears in the era of rising of the Byzantine culture and art. An example of this progress is represented here two-sided medallion with the image of Christ Pantocrator and the Virgin

Hagiosoritissa found near Preslav, at the lake Vinnitsa. All features of the medallion – repertoire, craftsmanship and technique and similar examples give us reason to attribute it to the second half of the 11th – first half of the 12th century. Medallion is entirely Byzantine artwork at the end of XI - beginning of the XII century that is prepared in some capital workshop. It is a response of the high style of the era, combining rigorous type and pure tones with a fine performance.

23. Doncheva, S. A rare type of lead crosses from the Bulgarian Middle Ages. – В: Сборник Есенни четения Сборяново. От находката до витрината. Т. 10, 2013, 76-81.

The purpose of the present work is modest and is expressed in the popularization of a less common type of crosses with the presentation of a similar object found in the Outer City of Pliska. The cross is one-sided, cut from a lead plate, with a hole hanging at the top. Of interest are its shape and decoration. It has six horizontal arms located at the top and bottom and in the middle, respectively. The difference of the known type of crosses with six arms is that in the present case the vertical arm does not protrude beyond the transverse arms at both ends, whereby the six arms are formed by the transverse horizontal arm.

24. Doncheva, S. Bronze Die with Image of Michael the Archangel. – В: Известия на НАИМ, XLIII, 2016, 423-430.

In this work is presented a bronze die for making applied ornament with embossed image of Michael the archangel, found near the village Lozarevo, Burgas County (Fig. 1). On the obverse in high relief bearing the image of Michael the archangel. Image is very schematized without noticeable detail of head and clothing due to traces of continuous use. Time of manufacture and use of the die must be determined in XIII-XIV century, because of byzantine coins and one coin of Constantine Asen (1257-1277) finding with it. The die has been designed for the preparation of thin metal embossed images of gold, silver or copper plates. Finished goods were lined of procession crosses, reliquaries, icons and books with silver or gold repousse cover.

25. Doncheva, S. Reconstruction of belt sets based on materials from the early medieval center for metal art near the village of Zlatar, Preslav region. – В: Преслав, Т. 7, 2013, 152-170.

The gradual accumulation of a variety of shapes and decorations, especially among applications (the most numerous group of products), leads to the question of their specific use. Their purpose, generally speaking, for the manufacture of belts and harnesses is not in doubt. Of interest is rather the path taken to obtain a finished product. The individual stages are related to the selection and distribution of the elements, the number and ratio between them, installation, and final design. A look in this direction is the current work, which aims to offer several attempts for reconstructions of belt sets, based on selected samples of the various materials found at the center for the production of metal plastics in Zlatar.

26. Doncheva, S., N. Nikolov. A group of late medieval locking devices. – В: Историкун, Т. 6, 2013, 69-73.

This work aims to present a number of identical locks, found with late medieval pottery from XIII-XIV century near Shumen. Locking mechanism is fully preserved in one of the locks. The use of this three locks is to keep the content of the chest (box) to which locks were attached and to prove that it was not subject to foreign interference. Very likely presented locks have existed in parallel with other larger and serious locking mechanisms. The main purpose of these objects and other similar devices is to prove the security and integrity of content.

27. Doncheva, S. Die for adornments with plant decoration from the Middle Ages. – ГНАМ, (Сборник в чест на Виолета Вълкова-Нешева), Т. 13, 2016, 255-258.

A few years ago in the museum in Shumen was bought a rare object, belonging to the group of dies for the production of jewelry. Die found in the vicinity of Preslav. It is cast of bronze, has a hemispherical shape with a solid wide border at the bottom and five leaf rosette decoration on the remaining working parts. Its function is associated with the forging of buttons which are used for the decoration of clothing from soft fabrics worn likely than the wealthy circles in society. Ornaments and similar examples refer the die at the IX–X-th century.

28. Doncheva, S., N. Nikolov. Medieval bronze ring with the image of the Gorgon Medusa. – В: Историк. Т. 7, 2014, 43-47.

Among the story repertoire of mythological images of Bulgarian Middle Ages is the image of the Gorgon Medusa. Images of the Gorgon Medusa are not many, but enough to show the penetration of Byzantine imagery, part of which is the mythological Greek heritage. We believe that presented a bronze ring, was made in some byzantine workshop. Its accessories must be connected with the personality of Byzantine dignitary resident. The examples of such rings of Corinth, and stylistic features of the image suggest its dating in the XI-XII century.

29. Doncheva, S. Silver adornments from Bulgarian centers of art metal in X century. – В: Градът в българските земи. По археологически данни. Сборник материали от Национална научна конференция, посветена на живота и делото на Вера Антонова 31 октомври – 1 ноември 2013. Шумен, 2014, 279-290.

Among the findings in production centres of metal art there are highlighted device group from a silver alloy, showing a variety of shapes and decorations. Most of them are made in a casting earth on pre-established model, and three of them are made by hammering on a matrix and then soldered and decorated with granulation. Reference point in the study are the results of chemical analysis of the alloy, which was conducted in several laboratories. Finding of silver alloy articles at the art centers in the first half of X century in Bulgaria demonstrates the use of all of the processing techniques known in the Middle Ages.

30. Doncheva, S. Metal coatings on bronze products from the production centers in the vicinity of Preslav. – Преслав, Т. 8, 2019, 339-354.

Most of the objects, received as a result of the regular archeological excavations from the metal-plastic centers in the vicinity of Preslav - near Novosel and Zlatar, were cast in bronze according to a model previously printed in a foundry. However, there are several groups of products that differ from the generally accepted practice. These are the ones cast entirely of a silver alloy, the few objects formed on a matrix, and the group with a white metal coating applied on the bronze base. It is the latter that is the subject of attention in the present work. The preliminary observations presented here are based on the analyzes of a small part of the products in this group.

31. Bonev, St., S. Doncheva. Early medieval center for metal art in the vicinity of Novosel, Shumen region (preliminary report for archeological excavations for the period 2004-2006). – В: Добруджа, 24-25, 2013, 189-200.

The article presents the preliminary results of the archaeological excavations of Old-Bulgaria center of metal ware production Novosel, Shumen region. Two workshops were discovered there with stoves and considerable quantities of metal ware (appliques, belt fittings, decorations, etc.), tools, casts, coins and other finds. Production center near Novosel is dated at the 10th century AD.

32. Doncheva, S. About a rare type of buckles from the territory of medieval Bulgaria. – В: Плиска-Преслав, Т. 11, 2015, 395-400.

Subject of this work is half of bronze buckle with image of a mythological scene (Fig. 1). Such buckles are not ever found on the territory of Bulgaria and only two copies are known to our days. The buckle is a bronze casting with single embossed on opposite birds standing in profile around Eucharistic vessel. The only part of the plate is preserved with one bird and vessel. The product belongs to the group of images with animals, which have been spread over large areas, covering the eastern Mediterranean, the North Sea and Central Europe. Among the less popular scenes are those with Christian iconography, as it is presented here.

33. Doncheva, S., N. Nikolov. Buckles with images of animals and mythical creatures from the Bulgarian Middle Ages. – В: България в европейската култура, наука, образование, религия. Част. 1, 2015, 457-478.

The present work aims to present a relatively large collection of new and unpublished objects - a total of 16. They belong to the group of bronze buckles with images of animals and mythical creatures and represent almost all popular and common types - with images of lions, griffins, winged horses, fighting animals ("torment"), as well as a hitherto unknown type in our lands - birds to the Eucharistic court. Created in the area of Byzantine culture and influenced by the new style that prevailed in Byzantine art until the end of the tenth century, the buckles with mythological images are the product of various studios. The monuments have wide chronological boundaries - from the end of VIII to the end of the 12th - the beginning of the 13th century. However, they are mainly popular in the 10th century. For the buckles made in Bulgaria, this is mostly the end of the 10th - beginning of the 11th century.

34. Doncheva, S. Stamps die with a bird image. – В: Сборник Есенни четения Сборяново, Т. 11, 2014, 61-67.

In the present work is presented a rare object of medieval art, associated with the production of metal ornaments and it is a very well-preserved bronze matrix with the image of a bird. On the work, the surface is an embossed image of a bird in profile and move to the left, with folded wings and a straight tail with a pointed end. On both sides of her head passes a vine twig (shoot) with curved leaves and fruits (clusters) at the end in the form of triangles. Such a matrix is not known until now from the territory of Bulgaria, but there are similar images on other monuments of metal, ceramics, murals, and manuscripts.

35. Doncheva, S. Late medieval bronze die with an image of Archangel Gabriel. – В: Преславска книжовна школа, Т. 15, 2015, 406-411.

In this work is presented a bronze die for making applied ornament with embossed image of Michael the archangel, found near the village Lozarevo, Burgas County (Fig. 1). On the obverse in high relief bearing the image of Michael the archangel. Time of manufacture and use of the die must be determined in XIII-XIV century, because of byzantine coins and one coin of Constantine Asen (1257-1277) finding with it. The die has been designed for the preparation of thin metal embossed images of gold, silver or copper plates. Finished goods were lined of procession crosses, reliquaries, icons and books with silver or gold repousse cover.

36. Doncheva, S., Ts. Drazheva. Two jewelry molds from the medieval fortress Akve Khalide - Therma in Burgas Mineral Baths. – Известия на Бургаския музей. Т. V. В памет на Цоня Дразева. Бургас, 2015, 140-144.

Subject of this article are two stone moulds of jewellery, found by the team of our colleague and friend Tsonya Drazheva during regular archaeological excavations of the ancient and medieval fortress Aquae Calidae Therma in Burgas in 2009 and 2012. Both moulds are made of slate. The dating of the two moulds is determined by the nature of the images and the archaeological context

of the finding, connected with the 13th century. The chronology is supported by further offered examples.

37. Doncheva, S. Iron crosses from Shumen fortress and the surrounding area. – ИИМШ, 18, 2019, 206-216.

The iron crosses marked no less diversity of shapes, sizes and purposes than those made of copper alloy and precious metals. This is evident from the presented here crosses, most of which come from Shumen Fortress. Their data is from the 30s at the XI until the end of XII century. To this group add another 15 crosses. The differences between them are related to a specific purpose. Therefore presented in this work items are separated into three groups. In the current work items are presented conventionally into 3 groups.

38. Doncheva, S. Golden ring-seal from the late Middle Ages with an image of a double-headed eagle and a monogram of the Palaeologues. – В: Великите Асеневици. В. Търново, 2016, 484-487.

The object of this work is a late medieval signet ring found in the Ovech fortress, near Provadia. Interest is the decoration on the ring. At both ends of the ring plate are outlined round medallions (shields). One is filled with geometric decoration of broken lines resembling a swastika intertwined, and the other is placed the monogram of Palaeologues. This symbol, together with the double-headed eagle, are especially popular in the XIV century. So there are many examples of that. The location of the monogram of Palaeologues determines membership of the ring. It is not a symbol (possession) of the royal dynasty of Palaeologues as the image of double-headed eagle, too. In the XIV century both symbols (double-headed eagle and monogram of Palaeologues) become an expression of royal dignity and the real power at high dignitaries.

39. Doncheva, S. Silver ring with plant decoration from the late Middle Ages. – В: Проблеми на изкуството, 3, 2016, 59-61.

This work is devoted to an object of late medieval metalwork found on the plateau near Sumen. This is a gilding silver ring with incised decoration on the plate. Peculiarity of the object is unfinished decoration on diamond field in the middle of the ring. Determination of all these objects that have been found in the country and beyond it as sphragistic items, remains an interest and give rise to scientific discussions. One of the devices are precisely such, i.e. ring-seals, but many of them were used only as jewelry. In this connection, I consider, this ring is use to as jewelry, but not as a stamping device.

40. Doncheva, S. Middle Byzantine lead eulogy from the vicinity of Drustar. – В: Владетел, държава и църква. Сборник в чест на 60-годишнината на проф. Пламен Павлов. Част 2. В. Търново, 2020, 130-138.

The object of this work is two-side lead eulogia with images of St. Constantine and St. Helena to Life-giving Cross and evangelical scene of the Annunciation. Iconographic features of images refer to the Middle Byzantine period - from the end of Xth into the beginning of XIIth century. It is assumed that this eulogia is worn as pendant to the chest. Found in the vicinity of the medieval Drustar it testifies to the popularity of the pilgrimage practice not only in the East, the Holy Land, but in the Byzantine capital in X-XI century, time when Constantinople was established as an important pilgrimage center, where were focused a lot of Christian relics.

41. Doncheva, S., N. Nikolov. Observations on a group of rings with a wish inscription. – Юбилеен сборник в чест на 70-годишнината на проф. д-р Стоян Витлянов. 4 in Honorem. Tempus fugit. Шумен, 2017, 112-118.

Between two large groups to cause metal objects such as prints of the rings, seals and stamps (single and double) sit round plates with engraved bird and prayer circle in a positive sign in Greek: „KE BOHΘH TON EXONTA ME” – „God help that which brings me”. Until now some three similar objects, two of which come from Preslav and one general from Northern Bulgaria, predicting in Varna Museum. To this group add another similar bronze plate found in the manufacturing center in Nadarevo. It turns out that it only covered a secure environment to find now. Simple plates are determined in the second half of the IX century, but after finding that in Nadarevo, dating should be extended and withdrawn by the middle of the X century when the time of operation of the production center there have been.

42. Doncheva, S. Production of rings with images of peacocks in the X century. – В: Преславска книжовна школа, Т. 17, 2017, 328-331.

During the years-long systematic archaeological excavations in Novosel gathered a large group of bronze plates with a round shape with edge lines and a bird (peacock) to move left. Among the items the group ranks with a quality lead model and several bronze castings, most of them waste products. Their size and shape have been very similar to for single stamps, which was initially suspected. After finding of ring from silver alloy, their use was exactly determined. It is presented on the same image, which conclusively demonstrates the particular purpose of the circular plates, namely ring seals. My experience to find similar rings in known and accessible publication was failed. More interesting is that they are not found among the objects of the manufacturing centers in Zlatar and Nadarevo. Available data now indicate that they are produced mainly at the center in Novosel. All items originated there, including lead models.

43. Doncheva, S. Alchemy - Science, Philosophy or Magic? – В: Историкум, Т. 10, 2019, 22-33.

Alchemy - a science or philosophy? On this issue a precise answer can not be given. Some consider alchemy of ancient is occult science, studying metals. Others - philosophical doctrine for the construction of the world. Psychoanalysis sees in her first attempts to penetrate the secrets of the unconscious. Alchemy is a philosophy and practice that contains both science and mysticism. It was adopted by modern chemistry and modern psychology. Alchemists were perceived as intermediaries between matter and spirit between organic and inorganic matter. The process of conversion of the metals located analogies with psychological and spiritual transformation.

44. Doncheva, S. Lead icon (eulogy) with the Annunciation. – В: Преславска книжовна школа, Т. 16, 2016, 261-266.

The object of this work is lead-sided icon with the scene of the Annunciation. It is found along with several anonymous Byzantine coins at the vicinity of Shumen. It is essential purpose of the device. The images are engraved, not embossed, because there is missing ring for hanging and there are metal spill in the end. These features relate lead icon rather to a group of models, than to that of the finished products. Lead model that is presented here confirm these observations. The dating of the lead model in 11-12th century is proved by the Byzantine coins, found with it.

45. Doncheva, S. Lead slotted belt ends from the region of Razgrad. – В: Културното историческо наследство – памет за бъдещето. 130 години музейно дело в Разград. В. Търново, 2019, 429-436.

Recently, the number of slotted belt mounds found on the territory of Bulgaria and mainly in its northeastern areas has significantly increase. A separate group among them is the lead mound/pendant, which in number surpassing that of bronze and there are more than one hundred specimens. The lack of such products outside the territory of Bulgaria shows in a definite way their local origin. Their prevalence is mainly in the middle, and mostly in the second half of the 9th -

beginning of the 10th century, which does not exclude their simultaneous existence and use in the later period.

46. Doncheva, S. Lead slotted belt ends from Shumen regional museum. – В: Приноси към българската археология. Т. VIII. В памет на Ирина Щерева. София, 2018, 207-214.

Recently, the number of slotted belt mounds found on the territory of Bulgaria and mainly in its northeastern areas has significantly increase. A separate group among them is the lead mound/pendant, which in number surpassing that of bronze and there are more than one hundred specimens. Their prevalence is mainly in the middle, and mostly in the second half of the 9th - beginning of the 10th century, which does not exclude their simultaneous existence and use in the later period.

47. Doncheva, S. Medieval Bulgarian belt set - warlike distinction and / or fashion item. – В: Симеонова България в историята на Европейския Югоизток: 1100 години от битката при Ахелой, Т. 2. Университетско издателство "Великотърновски университет Св. Св. Кирил и Методий". 2018, 242-266.

Belt sets refer to the group of objects with consistently high status. A basic indicator of the prestige of the belt is the material from which its components are made and their number. An additional sign is ornamentation. In the time before the conversion in Bulgaria, the belt carries its sacred functions and has a decisive importance in the hierarchy of the society at that time. It is mainly used by representatives of the aristocracy and the military caste. After the adoption of the Christian faith, the belt began to lose much of its sacral and character character. From a military and class sign, the belt gradually began to propagate and spread among the population, which is confirmed by the mass production of details of belt sets.

48. Doncheva, S., Nikolov, N. Slotted openwork belt ends with griffins. – В: История и култура на България и българите (IX–XIX в.). Исторически изследвания и археологически приноси в памет на проф. д-р Валентин Плетньов. – Acta Musei Varanensis, XIII-1, Варна, 2019, 135-152.

During the preparation of the present work, we decided to focus our attention on the core group of slotted openwork belt ends that give the name of the “griffin-tendrill style”, namely belt ends with images of griffin. To the attention of the research interests, we present six new monuments, as much as they have so far been known in the past decades. Their origin is the territory of Northeastern Bulgaria. The new belt ends are cast from copper alloy (bronze). Some have traces of additional blade processing, others are smooth and polished. In some of them, the images are precise and skillfully treated, else the drawing is inaccurate and not very sophisticated. The dated end of the belt is in the second half of the 8th and early 9th centuries and is confirmed by the numerous Avar artifacts.

49. Doncheva, S. Some metalwork finds from the excavations of Akve-kalide. Aquae Calidae. Акве калиде - любимите бани на императори, царе и султани. 2018, 79-88.

This work presents a part of metal artifacts found during archaeological excavations at the site "Aquae-kalide, Burgas mineral baths" in recent years under the leadership of Dimtcho Momtchilov and Tsonya Drazheva which, unfortunately, is not among us. Most of the objects have the exact place of finds, but others – the information is lost and can not be recovered. However, metal artifacts are an important part of the overall picture of studies of this site and can not stay outside. This first stage of their publication include items related to the Christian cult, for instance – icon, medallion and six crosses.

50. Doncheva, S., Nikolov, N. *About Late Medieval Symbolism in Jewellery Practice (Silver Ring with Lily and Inscription)*. – В: *България и българите: бит, душевност, национална идентичност*. Шумен, 2020, 139-149.

The present work is dedicated to a ring with a representation of a heraldic lily finding in Northeastern Bulgaria. Only the circled plate is saved without loop attached to it. Some of the well-known, fully-preserved artefacts of the late Middle Ages give us an idea of the type of this ring. The ring is made of silver alloy. In the central circle is a composition - the lily with cross signs. In the outer circle box is a positive left-to-right inscription. It begins with a cut cross with extended shoulders at the ends, followed by the name of the owner – “ПРЧНЪ”, cannellure and definition „ПРЪТ: “+ ПРЧНЪ ‘ПРЪТ”, i.e. Prein ring or ring of Preno. The iconography of the image, the engraving of the inscription and the familiar analogies give us reason to refer to the present monument at the end of the 13th and, most importantly, in the 14th century, and the work to connect with the traditions of Byzantine art during this period.

51. Atanasov, G., S. Doncheva. *Early Medieval Lead Medallions with Crosses from the First Bulgarian Kingdom (IX-XI century)*. – В: *Stratum-plus. No 6. Sankt-peterburg-Cisinev, 2011, 93-113.*

This study and classification of medallions lead is based on several indicators, such as type, form and decoration. This division is not arbitrary, but is related to the history and sites of distribution of such monuments. One of the monuments included in this study were found during archaeological excavations in the country and in Northern Dobrogea (Romania), while another comes from the early medieval settlements and fortresses in southern Dobruja and North-Eastern Bulgaria. The study of the mature and distribution of lead medallions showing their importance and a certain place they occupied in life and beliefs in Early Mediaeval Bulgaria. Usually dated horizons of objects from the end of the X-XI century medallions with relief images are not detected. At that time, with the inclusion of North-Eastern Bulgaria within the flow of bronze Byzantine crosses – enhancing rare and they almost completely displace lead medallions. The tradition to wear medallions extends beyond the end of the X century.

52. Doncheva, S. *Types and purpose of foundry vessels in medieval Bulgaria*. – In: *Stratum-plus. No 6. Культурные слои веры*. Sankt Peterburg-Cisinev, 2013, 243-254.

In the present article, the different types of foundry vessels from the early and late Bulgarian Middle Ages are considered, and the aim is not only their presence but also the attempt to restore the processes in them. Vessels usually reach us in a fragmentary state, and finding whole specimens is rare. This is mainly due to their structure and high temperature, which turn the dishes into brittle and fragile products. However, there are enough whole ones that are a good basis for studying their functional and technical characteristics.

53. Doncheva, S. *Production of metal art in Medieval Bulgaria in the X century. (jewelry centers, traditions, and influences)*. – В: *Ювелирное искусство и материальная культура. Сборник статей. Государственный Эрмитаж. Санкт-Петербург, 2015, 121-127.*

After the opening of the three jewelry centers for the production of artistic metal in the vicinity of the Second Bulgarian capital, Preslav from the X century - near the villages of Novosel, Shumen, Zlatar, Preslav and Nadarevo, Targovishte, the theme of medieval Bulgarian archeology was enriched with a new direction. The study of those at Novosel and Zlatar has helped to clarify a number of controversial issues regarding the place and role of a large number of metal products from archaeological excavations and donations over the past two decades. So far, more than 2,000 finds have been received from the two centers, most of which are metal products: belt sets - applications, belt ends, buckles; cult objects - crosses, medallions; jewelry - earrings, rings; single and double sealing devices.

54. Doncheva, S. Jewelry production complexes of the X century near Preslav. Production technologies. – *Stratum Plus*. No 5, “Сума технологий” по наставлениям Пресвитера Теофила“, Отв. ред. Р. Рабинович, 2017, 189-204.

The scope of this activity is evidenced not only by the territorial scope of the jewelry complexes but also by the movable monuments found in the course of the research. The rich collection of metal objects presents the whole variety of products typical for the period. It gives an idea of the more important trends in the development of the art of artistic metal at that time. The time of operation of the three production centers is determined in the first half and middle of the X century.

55. Doncheva, S. New finds of ancient Russian encolpions on the territory of Bulgaria. – В: Сб. В камне и в бронзе. Сборник статей в чест Анны Песковой. Ред. А. Мусин, О. Щеглова. СПб, 2017, 151-154.

The subject of this work is a new monument from the group of ancient Russian encolpions, found on the territory of Bulgaria and more precisely in the vicinity of Shumen Fortress. Only one-half of it has reached us with the Crucifixion of Christ and medallions with three busts of saints. However, before we look at its iconography, we must note that the present object is a discarded product, ie. poor quality casting that has not been used. This circumstance raises a very important question - about the place of its production. Apart from being brought by Russian settlers or by local pilgrims who visited Russian lands, this type of encolpion crosses was made using the technology of the original works and in the workshops of the large urban centers in medieval Bulgaria.

56. Doncheva, C. Jewelry with the image of a siren from the center of metal art near the village of Zlatar, Preslav district (production and method of application). – В: *Археологические вестни*, 25, 2019, 158-168.

Two unique objects found among the tools of one of the workshops in Zlatar prove the large-scale activity carried out at this place. One of them is a matrix and the other is an imprint of one. The findings confirm the existence of mass production of such jewelry, similar to those on the working surface of the matrix. The matrix is a bronze casting with an image of a siren. The purpose of the matrix is to make round applications of thin copper sheets, on which the gilding was subsequently applied. All this is confirmed by the fingerprint application presented here.

57. Doncheva, S., I. Penev. The use of PIXE-methods in the study of jewelry workshops in the capital Preslav. (metal coatings of bronze products). - В: *Ювелирное искусство и материальная культура*. Вып. 5. СПб: Изд-во Гос. Эрмитажа. 2019, 114-121.

PIXE methods for quantitative analysis were used to determine the main and trace elements of the artifacts and their surface. The experiment was carried out at the Institute for Nuclear Research, Debrecen. Protons with an energy of 2.5 Mev from the Van de Graaff accelerator were used to initiate X-ray emission. The X-ray spectra of elements from C to Bi were analyzed. Different spectra of the parent metal and of the sample surface metal were measured. This gives information about the gilding method used at that time and probably about the origin of the metals used.

58. Doncheva, S. On the shape and decor of belt appliques in early medieval Bulgaria. – В: *Stratum plus*. «На одно крыло — серебряная, На другое — золотая...» Сборник статей памяти Светланы Рябцевой. Отв. ред. Р. Рабинович, Н. Тельнов, Кишинев, 2020, 55-68.

The production of artistic metal in early medieval Bulgaria became famous after the opening of the three centers for metal plastics in the vicinity of the capital Preslav from the beginning and middle of the X century. The issues related to the shape, proportions, elements of the ornament, and the way of execution of the individual decorative details are meaningful of the extremely

numerous material that has been found so far. The combination of all these components leads to the creation of an extremely rich palette of the most diverse belt ornaments, which reflect at the same time the fashion trends of the era, the individual approach of the master, and the traditions in the art of artistic metal.

59. Doncheva, S. *Production of Byzantine follis in the centers of artistic metal in the vicinity of Preslav in the X century.* – *B: Stratum plus*, 5. *Властелины дорог. Отв. ред. Р. Рабинович, Ю. Стаману.* 2020, 411-424.

The present work includes 36 coin finds, of which 17 originate from the production center near Novosel, and 17 - from the center near Zlatar. Coins include follies of Leo VI (866-912), Romanos I Lekapenos (920-944), Constantine VII alone (920-931), Constantine VII and Zoe (914-919), Constantine VII and Romanos II (950-959) . Most of the coins are bronze castings-imitations of Byzantine follis, among which there is a fragment of the miliarencia of Constantine VII and Zoe (914-919), minted in Constantinople. The results of long-term archeological excavations prove that the bronze coins found were cast on site using the technology approved for the other products. Confirmation of this is both the iconography and the disturbing form of some of them.

60. Doncheva, S., G. Tsekova, I. Penev, E. Nikolova, E. Furu, Z. Szikszai, I. Uzonyi. *Elemental composition of metal artifacts from the Early Medieval center for artistic metal finds near the village of Novosel, Shumen region, Bulgaria.* – *In: Archaeologia Bulgarica*, XVI, 1, 2012, 67-82.

The use of several different methods for the analysis of metals and their alloys is extremely important, which makes it possible to make more complete comparative studies and observations on their composition and ratio. These results will give us a starting point for the study of the roads on which the raw material entered the production center, and hence for the existence of certain trade relations among the community of people engaged in this activity. The composition of the metal largely determines the technology of manufacturing the products. In the study of the structure and structural condition of metals and alloys, various research methods are used, which can be used to obtain an image of the metal structure.

61. Doncheva, S., G. Tsekova, I. Penev, E. Nikolova, E. Furu, Z. Szikszai, I. Uzonyi. *Elemental Composition of Metal Artefacts from the 10th c. Metal Art Centre Near the Village of Zlatar, Preslav region, NE Bulgaria Bulgaria.* – *In: Archaeologia Bulgarica*, 1, 2013, 71-85.

The main method of analysis of metal finds from Zlatar is the so-called PIXE (X-ray induced) method, implemented under the major European Community-funded CHARISMA project (Cultural Heritage Synergy for modern research infrastructures for a multidisciplinary approach to conservation/restoration) as a joint effort of The Institute for Nuclear Research and Nuclear Energy - Sofia and the Regional History Museum - Shumen. All measurements were performed with the proton accelerator (cyclotron) of the ATOMKI Institute for Nuclear Research at the Hungarian Academy of Sciences, Debrecen.

62. Doncheva, S., I. Bunzelov. *Buckles with Images of Animals and Mythological Creatures from Medieval Bulgaria.* – *In: Pontica*, Vol. 47, 2014, 325-342.

This work aims to present a fairly large collection of new and previously unpublished articles. They belong to the group of bronze buckles with images of animals and mythological creatures and represent almost all the popular and common types - with images of lions, griffins, winged horses, fighting animals ("agony") and one previously unknown type in our land - birds to Eucharistic vessel. Created in the area of Byzantine culture and influenced by the new style, which is imposed in Byzantine art until the end of X century buckles with mythological images are a

work of various workshops. Buckles have broad chronological range - from the end of VIII-th to the end of XII-XIII-th century. Basically, however, they are popular in the X century. Buckles that are made in Bulgaria determined mostly to the end of X and early XI century. Such is the dating of most of the monuments found outside the country. The combination of the practical role of purely utilitarian functions of apotropaic and protective equipment are the basis of their widespread popularity.

63. Doncheva, S., N. Nikolov. *Wax seals in the Early Middle Ages in Bulgaria – storage and use.* – In: *Arheologia Mileniului I P. Chr. III. Dunărea Inferioară între stepe și imperiu. Ploiești, 2014, 313-320.*

Finding these objects is very rare, although much has been known and published stamping devices. Apparently the practice to wear such stamps was dictated by purely utilitarian functions - the stamping of correspondence or personal property or providing privacy of ownership. It is known that there are not only bronze seals, but also those made of silver, which are more precise execution. Evidence for the specific situation of their owners are inscriptions on seals, though their number is so large. Besides purely utilitarian significance these objects were perceived as bearers of apotropeyni functions, as evidenced by the diverse repertoire of pictorial stamped on their surfaces. Encapsulated in them so it was not only the information for their own identity, but also faith in the protective effects of symbolic images.

64. Doncheva, S., N. Nikolov. *Moulding Practice in Bulgaria at the Middle Ages.* – In: *Arheologia mileniului I p. Chr. II. Interferențe culturale la Dunărea de Jos. București, 2011, 299-309.*

Jewelry is one of the rarest finds, but among them, the group of molds and dies have always been considered unique works of art at all times. The hitherto known similar objects found on the territory of Bulgaria are part of a small group of monuments that give an idea of some of the stages of this production. That is why the research and popularization of more such products are of special importance for the clarification of the established traditions in the medieval toretics, adopted and further developed in the Bulgarian lands. Most of the works were created on-site and according to certain models, as evidenced by the found matrices, prints, and molds.

65. Doncheva, S., I. Bunzelov. *Crosses production in the 10th century in Medieval Bulgaria.* – *Pontica, XLVIII-XLIX, 2015-2016, 305-313.*

This article focuses on the metal crosses production in the 10th century medieval Bulgaria. The recent discovery of three production centres near Preslav revises previous ideas according to which these items were products of byzantine metalworkers and were brought there by pilgrims from the eastern Christian centres (Syria, Palestine). In the first half of the 10th century, they provided almost all the artefacts typical for the period in that region: belt metal art accessories (such as decorations, buckles and tips), rings, earrings, single and double crosses, pendants. The above facts are strong evidence for the existence of a very well-developed and organized production process.

66. Doncheva, S., I. Penev, G. Tsekova, E. Furu, Z. Szikszai, I. Uzonyi. *Elemental Composition of Artefacts Found at the Xth Century Decorative Metalwork Centre near Nadarevo, Region of Targovishte, Bulgaria.* – In: *Archaeologia Bulgarica, XXI, 2017, 1, 75-88.*

The decorative metalwork centre at the village of Nadarevo, Region of Targovishte is among the three metalwork centres known to the modern archaeologists. The centres were all located in close vicinity to the medieval capital of Bulgaria, Preslav, so their active period could be precisely dated back to the first half and the middle of the 10th c. A.D. Determination of raw materials used in the metalwork production would help us make a full picture of the production processes applied in the metalwork centres. Therefore, investigation of the elemental composition of some of the numerous

artefacts found in the centres would give us answers to some fundamental questions connected with the origin of raw materials, their processing by addition of various admixtures and substances, as well as help us create general notion of the production technologies used by the local craftsmen.

67. Doncheva, S., I. Bunzelov. Signet rings with mythical creatures from Medieval Bulgaria. – In: Pontica, L, 2017, 351-363.

The object of this paper are several signet rings with mythological images found on the territory of medieval Bulgaria. There are engraved rarely occurring mythological creatures as a chimera, griffin and a dragon on them. All rings are made from a silver alloy. Most relate to the period of the Middle Ages (XII-XIV century). They are rarely encountered among the group of objects known as signet rings, bearing the inscriptions with the desirable nature. There are also animal images of a lion, an eagle, and a dove who preferred motif of these products mainly because of apotropaic significance.

68. Doncheva, S. A bronze amulet from the territory of Northeastern Bulgaria. – In: Studia Romana et Mediævalia Europænsia. Miscellanea in honorem annos LXXXV peragentis Professoris emeriti Dan Gh. Teodor oblata / ediderunt: Dan Aparaschivei, George Bilavschi - București., Editura Academiei Române; Brăila: Editura Istros a Muzeului Brăilei „Carol I”. București – Brăila, 2018, 97-106.

To the collection of cult monuments of the Medieval Department of the Shumen Museum belongs an openwork amulet with a human figure in a leaf-shaped frame with a sharp tip and an ear for hanging. The figure is highly stylized and only the most general outlines are conveyed. The amulet was made by casting in a double-sided mold, and in the process itself, there was a violation of the shape in the upper part. We must look for the place of the amulet among the monuments from earlier times. Male schematic figures included in a frame, most often round, turned out to be common for the period VI-VII centuries. It was at this time that similar images of anthropomorphic deities appeared.

69. Doncheva, S., I. Bunzelov. Lead Models of Strap Ends Appliques at the 10th century from Metalwork Centers near Preslav. – In: Pontica, LI, 2018, 389-403.

This article describes some lead models found during the excavations metalwork centres mentioned above. It chose to present 12 lead models from each of the complexes representing the most popular shapes and patterns for the particular metalwork center. The lead models differ not only on shape and decoration but also in the method of production. A main practice among Bulgarian jewelers was use of durable models such as the models made of lead. They were the intermediate form between the original artistic concept made of wax and the final product cast from bronze.

70. Doncheva, S. Slotted Openwork Strap Ends with "S" - Shape Double Palmettes from Northeastern Bulgaria. – Archaeologia Bulgarica, XXIII, 2, 2019, 79-92.

The subject of the present work is a collection of several groups of openwork slotted tips with plant ornaments from Bulgaria. The decoration generally consists of palmettes, heart-shaped medallions, symmetrical volutes, as well as S-shaped drafts of two-leafed opposite semi-palmettes. The tips are made of copper alloy and belong to the Avar style "griffins-lastari". The dating dates back to the VIII beginning of the IX century and is confirmed by monuments found in a safe archaeological environment.

C. Others

71. Konakliev, A., S. Doncheva. *Collective find of silver coins (XIV century) from Preslav*. – *B: Хумизматика, сфрагистика и епиграфика*, Т. 8, 2012, 123-133.

During the regular archeological excavations of the Patriarchate site in the Palace Center in Preslav for the period 2008-2010, a coin find consisting of 57 silver pennies was found. The content of the find of silver coins, found during the regular archeological excavations of the Palace Center in Preslav, suggests some conclusions. First of all, the presence of Venetian coins in the collective find confirms the proven role of the latter in the monetary circulation in the Balkans at the end of the XIII - first half of the XIV century, when they not only participate in trade but also require significant changes in monetary systems and the distribution places.

72. Doncheva, S., N. Nikolov. *Bronze amulet with inscriptions from the vicinity of Pliska*. – *B: Преславска книжовна школа*, Т. 20, 2020, 94-101.

The desire to protect oneself from danger with the help of various magical means is characteristic of beliefs in all historical eras. Of particular interest is the spell formula "hysteria". Applied to numerous monuments, the formula reflects the idea of the boundless metamorphosis of impure power and the defilement of evil in its various manifestations. This group of monuments is also referred to as the present monument. It is a bronze thin plate with an oval shape and an ear hook at the upper end, now broken. On one side is a schematic representation of the Gorgon with 12 snakes. On the other side is a schematic representation of the Virgin Orans. Below the figure is a three-line inscription, which is inverted and starts from the bottom of the amulet to complete the image of the Mother of God.

73. Doncheva, S. *Anonymous sphragidia of a Bulgarian ruler from Preslav*. – *B: Хумизматика, сфрагистика и епиграфика*, 2015, 11, 149-154.

During regular archaeological excavations at the site „Administrative building – south“ in Veliki Preslav in 2014 was found well preserved object. It is not a lead seals, because of the lack of channel for flex in the middle. Such object or seal has not ever known to now. Apparently this imprint was made with another bulotirion. The images on the two surfaces may be associated with the group of anonymous Bulgarian seals and particularly to those with smaller dimensions. The use of this subject have a particular significnace. Possibility this lead object is determined like a tesserae or sfragidiya is most likely. The practice of making such objects is well known in the Byzantine society, but it seems in medieval Bulgaria.

74. Doncheva, S., N. Nikolov. *Seal of the Bishop of Cephalonia from the IX century from the vicinity of Drustar*. – *B: Писменост, книжовници, книги. Шумен*, 2018, 188-202.

The focus of this work is a unique seal that has not an analogue for this time. It is a personal bronze seal found in the vicinity of Drustur and especially next to modern town Glavinitsa, Silistra district. The stamp is very good quality and preserved. It belongs to the type of single bronze seals with conical shape and stamping plate. This seal is completely identical to that one with inscription "Lord, help Petronas" in the collection of Dumbarton Oaks, Washington. Production of both seals show skillful hand and high professionalism of metropolitan Byzantine art and may have been the work of the same workshop.

75. Doncheva, S., Nikolov, N. *New evidence for the Bulgarian-Byzantine trade relations at the end of VIII - beginning of IX century*. - *Enoxu*, XXV, 1, 2017, 175-178.

The object of this work are two seals, one of which has been registered so far with one copy and the other is unmatched among the famous monuments. These are two early seals of kommerkiarios in Thessalonici and Debeltos, chronological relating to the period VIII – IX century. The new monument is the earliest known until now print imperial komerkiariya on which is printed the image of Emperor Nikifor I. However, if we exclude the probability of their random nature, finding them in such “non-traditional” for these monuments environment as appearing medieval settlement near the village Duhovets and surroundings of Kotel, indicates the presence of trade relations between those places and komerkiariya in Thessaloniki and Thrace (Adrianople). These findings and others like them, are proof of the existence of formal relationship not only with big and famous urban centers but also in smaller settlements.

76. Doncheva, S., N. Nikolov. Stamps with rare iconography from the territory of Bulgaria. – In honorem, 6. Юбилеен сборник в чест на 70-годишнината на проф. д.и.н. Иван Йорданов. Шумен, 2019, 247-253.

To the attention of the research interests we present two seals with less known images of saints found on the territory of Bulgaria. Only single specimens are known, represented mainly in the large world collections. The first is a Byzantine seal with the rare image of the prophet Samuel. The second one is with image of St Stephanos. Similar seals are not yet found in Bulgaria. We could not find such in the Dumbarton Oaks collection, too. Several personalities are known with the surname Varis of the XI century - Leon, Constantine, John (?) and Michael. A person named Vasily Varis is not known until now, but in all likelihood belongs to the same family.

77. Doncheva, S. Lead measure from the late Middle Ages. – ИАИ, Т. 46. Сборник в памет на проф. Йорданка Юркова, София, 2020, 253-258.

The work is dedicated to a very interesting object that has been found in the Shumen vicinity. It is a lead weight (a measure) with round shape and top hanging. On one side of the measure the abbreviation of Δ I ΓΩ is written. The acronym represents the title and the name – Δ(ΕCΠOΤ) IΓΩ(αvνoυ), which occurs on coins of Dobrudza rulers. This is supported by the letter type. No less interesting is the other side of the same piece. Patriarchal Cross, located in the middle is not depicted upright and perpendicular to the vertical axis passing through the eye of gravity. It is known by one of the variants of these coins that there is a cross with the title of †Δ(ΕCΠOΤ).

78. Doncheva, S., B. Totev. A New “Hungarian” Type of Saber from the Outer City of Pliska. – In: Avars, Bulgars and Magyars on the Middle and Lower Danube. Ed. By Lyudmila Doncheva-Petkova-Csilla Balogh-Attila Turk. София – Piliscsaba, Vol. 1, 2014, 133-136.

A saber found in the western part of the outskirts of Pliska entered the collection of the Shumen Historical Museum. It is almost complete: the pommel of the handle, the saber-guard and the blade are preserved. The entire length of the saber is 100 cm. The 80 cm long blade is thin and slightly curved. The handle, 20 cm long, is slanting to the blade and ends with a pear-shaped tip, which has a ring for attaching to the shoulder belt. Following the analogy with the rest of the sabers found in Bulgaria, the one presented in this article has to be dated to the 10th rather than the 11th century. The good state of preservation and the fact that almost all elements of the set are present make us believe that the saber comes from a single grave or a cemetery in the outskirts of Pliska.

79. Doncheva, S., N. Nikolov. A 9th Century Seal of the Bishop of Cephallenia Found near Durostorum. – In: Archaeologia Bulgarica, 2, 2017, 65-86.

It is a personal bronze seal found in the vicinity of Drustur and especially next to modern town Glavinitsa, Silistra district. The composition ends with a perfectly written invocative inscription in the outer belt around the central image of Virgin in a clockwise direction, starting from one end of the nimbus left and ends at the other end on the right. The inscription is as follows:

"ΘĒKR'PETR'EPISK'KEΦ", "Θε (οτό) κ (ε) β (οήθει) (τώ σώ δούλω) Ρέτρ (ω) Ἐπισκ (όπφ) Κεφ (αληνία)", translated "Mother of God, help your servant Peter, bishop of Glavinica.". The image is typical of Byzantine sigillography at the second half of the IX century. It appears mainly on the seals of the Patriarch Photios (858-867, 877-886).

80. Doncheva, S., B. Totev. Two new swords "Bulgarian" type of Shumen. - В: Военни експедиции, въоръжение и снаряжение (Античност и Средновековие). Варна, 2018, 129-132.

Recently, the Regional Historical Museum in Shumen received two sabers, found in the Shumen region. Both belong to the so-called sabers, by some researchers, "Bulgarian" type. The first saber was found folded in three places, although very good restoration, led to a slight curvature of the wedge. By the saber is preserved in most of the blade, and handle the entire guard. The second saber falls into the same typological order. Similar sabers are dated at the 9th–10th centuries.

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гр. Шумен

Подпис:



/Сте́ла Дончева/