

The Preslav Treasure from Bulgaria (Tenth Century)

Historical Context, Excavations,
Objects and Technology

Antje Bosselmann-Ruickbie · Falko Daim · Susanne Greiff (eds)



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Foreword

The Preslav Treasure is one of the most impressive gold and jewellery hoards of the Middle Ages and one of the most important archaeological discoveries of Bulgaria. It was a sensation for Bulgarian archaeology and is regarded as a national treasure, but it also holds broader significance for Medieval Studies. Over 180 pieces of jewellery and appliques, coins, and spoons, made from gold and silver, adorned with precious stones, pearls and enamels, were unearthed in 1978 near the town of Preslav in Bulgaria that was for roughly eighty years, from the late ninth century to 971, the capital of the First Bulgarian Empire (681-1018). The treasure sheds light on the relations of medieval Bulgaria and its neighbour Byzantium: most objects would have come from Constantinople, and they might even be associated with a historical event, the marriage of the Bulgarian Tsar Peter I (927-969) with the Byzantine princess Marie-Irene in 927.

For the first time since its excavation, objects from the Preslav Treasure were analysed with scientific methods. To that aim, an international co-operation was established in 2017 between the Bulgarian Academy of Sciences (Prof. Stanislav Stanilov), the Museum »Veliki Preslav« (Dr Plamen Slavov) and the Leibniz-Zentrum für Archäologie (LEIZA; formerly Römisch-Deutsches Zentralmuseum [RGZM], Prof. Falko Daim). The research project »The Preslav Treasure from Bulgaria (Tenth Century)« was established at the LEIZA, generously funded by the Gerda Henkel Foundation, Düsseldorf (Germany), and also by the Society of Friends of the LEIZA. Almost all objects – except for five diadem plaques – were shipped to Mainz in two batches. The metals, enamels and precious stones were analysed with the non-destructive Micro-X-Ray-Fluorescence method, Raman Spectroscopy and X-ray radiography to specify the materials, their compositions, as well as the structure of the objects. The latter was also studied by the LEIZA goldsmiths and conservators regarding medieval goldsmithing technology. Equally important was to restore the objects, first to clean and secure the fragile artefacts, and also to remove traces of older restorations and replace them with state-of-the-art materials used today. The LEIZA's experts were Prof. Susanne Greiff, then head of the department of Scientific Archaeology and Experimental Archaeology, and Matthias Heinzel, restorer at the workshop for

Precious Metal Conservation, who conducted the restoration. Dr Marlène Aubin was in charge of the material science investigations, Stephan Patscher MA and Sabine Steidl contributed to another essential goal of the project, the photographic documentation. High-resolution photographs were taken using the focus stacking technique; additional images were produced through X-ray radiography.

Serendipity on our side, some objects from the Preslav Treasure had been requested for an exhibition in the Musée du Louvre in 2018. With the director of the Louvre's department Objets d'art, Dr Jannic Durand, Univ.-Prof. Falko Daim and project co-ordinator Dr Antje Bosselmann-Ruickbie jointly organised the conference »Autor le trésor de Preslav«, which took place in the Musée du Louvre in Paris from 19 to 20 September 2018 accompanying the exhibition. Seventeen international experts on Bulgarian history, archaeology, and art history, as well as on archaeometry and material science, from Austria, Bulgaria, the Czech Republic, France, Germany, Greece, and Italy advanced our understanding of Bulgarian Cultural History, particular aspects of the treasure and many of its objects.

This book comprises fourteen of these papers presented at the conference and includes an introduction by Jannic Durand, our host at the Louvre. The peer-reviewed contributions cover four subject areas: the first part sheds light on the historical context and Bulgaria's relations with the East and the West, specifically Byzantium and the Franks, furthermore, the Christian missioning of Bulgaria. The second part is devoted to archaeological excavations in Preslav and on a wider scope in Bulgaria, while the third part focuses on selected objects and object groups in the treasure, such as the diadem plaques, the earrings and the spherical pendants. Part four comprises papers on the technology and scientific analyses of the Preslav Treasure and related objects.

We would like to express our gratitude to all speakers at this conference and authors of this volume, to Dr Jannic Durand and his team at the Musée du Louvre, and our Bulgarian partners at the Museum Veliki Preslav, including its current director Dr Alexander Gorchev, and the Bulgarian Academy of Sciences in Sofia. Our sincere thanks also go to the Gerda Henkel Foundation and the Society of Friends of the LEIZA for their support.

Antje Bosselmann-Ruickbie · Falko Daim · Susanne Greiff

Introduction

C'est une très grande joie pour tous les participants de voir aujourd'hui publiés les *Actes des deux journées d'études Autour du trésor de Preslav* organisées les 19 et 20 septembre 2018 à l'Auditorium du Louvre en lien avec l'exposition présentée au même moment dans les salles du musée¹. Il faut évidemment remercier les éditeurs scientifiques de ce volume, Antje Bosselmann-Ruickbie, Falko Daim et Susanne Greiff, et les féliciter d'avoir réussi à mener à bien cette entreprise qui prolonge et complète, en quelque sorte, l'exposition. Il faut leur associer nos partenaires du musée archéologique de Véliki Preslav, du musée national d'histoire de Sofia et de l'Institut national d'archéologie de Sofia, ainsi que tous les intervenants qui ont bien voulu accepter de nous faire partager leur connaissance intime des œuvres et de l'archéologie en Bulgarie².

Organisée par le musée du Louvre avec nos collègues bulgares dans le cadre de la présidence du Conseil de l'Union européenne du premier semestre de 2018 par la Bulgarie, l'exposition était en effet dédiée, quarante ans exactement après sa découverte, au célèbre trésor mis au jour en 1978 sur le site de l'ancienne capitale bulgare du X^e siècle établie à Preslav (fig. 1). Le trésor avait pris place pour quelques mois au cœur des salles médiévales du département des Objets d'art (figs 2-3), là même où avaient été présentés le « Trésor de Conques » durant l'hiver 2001-2002³ et les « Reliques de saint Césaire d'Arles » en 2011-2012⁴.

Le choix de privilégier la période médiévale pour cette exposition s'est imposé, puisque la richesse de l'archéologie et des collections bulgares pour la période antique avait déjà, de son côté, été évoquée au Louvre en 2015 par l'exposition « L'Épopée des rois thraces » et son catalogue⁵. Toutefois, à l'intérieur même de la période médiévale, d'une richesse tout aussi remarquable, il fallait encore opérer un choix. Les objets mis au jour sur les sites des monuments paléochrétiens de Bulgarie, par exemple, auraient suffi à eux seuls pour fournir la

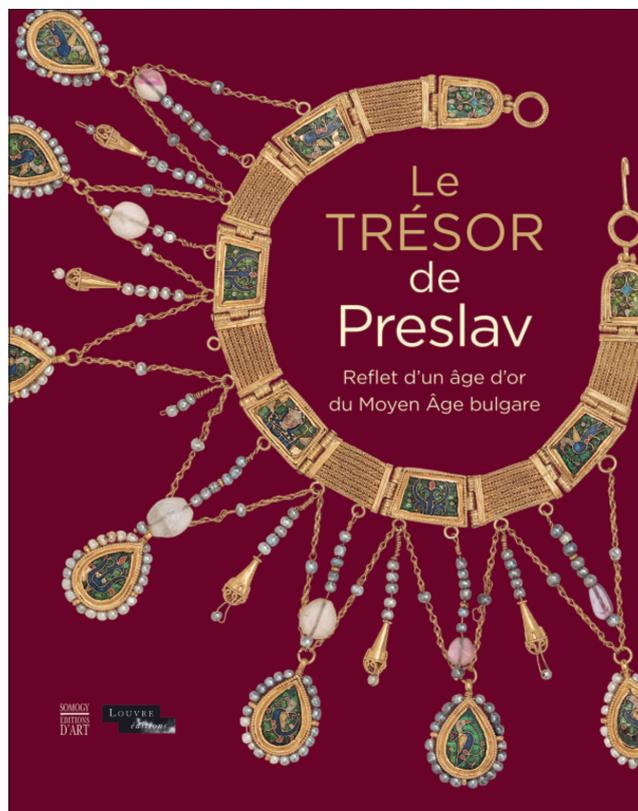


Fig. 1 Couverture du catalogue de l'exposition « Le trésor de Preslav ». – (Photo musée du Louvre, Paris 2018).

matière d'une exposition, à l'instar de celle sur les reliquaires paléochrétiens de Bulgarie présentée en 2003 au musée de Varna⁶. On aurait pu aussi concevoir d'évoquer au Louvre Pliska, la première « capitale » de l'État bulgare qui se forme au VII^e siècle aux portes de Byzance, et où fut notamment retrouvée en 1973 la précieuse croix-reliquaire byzantine en or

1 Le trésor de Preslav. Reflet d'un âge d'or du Moyen Âge bulgare, sous la direction de Jannic Durand, Dorota Giovannoni, Plamen Slavov, Andrey Aladjov et Mariela Inkova. Catalogue de l'exposition présentée au musée du Louvre à Paris du 27 juin au 5 novembre 2018 : Cat. Paris 2018.
 2 Il faut également dire toute notre gratitude à l'endroit de la Fondation Gerda Henkel de Düsseldorf qui a bien voulu prendre en charge le financement de ces deux journées. Je voudrais aussi remercier, au nom des organisateurs de ces journées, Yukiko Kamijima et le Service de l'Auditorium et sa Régie.
 3 Le Trésor de Conques, sous la direction de Danielle Gaborit-Chopin et Élisabeth Taburet-Delahaye, Catalogue de l'exposition présentée au musée du Louvre du 2 novembre 2001 au 11 mars 2002 : Cat. Paris 2001.

4 Durand, Les Reliques.
 5 L'Épopée des rois thraces, des guerres médiéves aux invasions celtiques 479-278 avant J.-C. Découvertes archéologiques en Bulgarie, sous la direction de Jean-Luc Martinez, Néguine Mathieux, Alexandre Baralis, Milena Tonkova et Totko Stoyanov. Catalogue de l'exposition présentée au musée du Louvre du 16 avril au 20 juillet 2015 : Cat. Paris 2015.
 6 Minchev, Early Christian Reliquaries.



Fig. 2 Exposition « Le trésor de Preslav » au musée du Louvre 2018. – (Photo M. Heinzel, LEIZA).



Fig. 3 Exposition « Le trésor de Preslav » au musée du Louvre 2018. – (Photo M. Heinzel, LEIZA).



Fig. 4 Exposition « Le trésor de Preslav » au musée du Louvre 2018 : présentation du projet de recherche sur le trésor de Preslav au Leibniz-Zentrum für Archäologie (LEIZA, anciennement Römisch-Germanisches Zentralmuseum, RGZM) à Mayence. – (Photo H. Kempkens, Paderborn).



Fig. 5 Croix reliquaire en or niellé avec scènes christologiques, Constantinople, deuxième moitié du IX^e/X^e siècle, trouvée à la porte ouest de la ville de Pliska, Bulgarie, H. 4,2 cm, poids 42 g, Sofia, National Archaeological Museum, inv. n° 4882. – (Extrait de Cat. Magdeburg 2001, n° VI.57).

niellé du musée archéologique de Sofia (fig. 5), plus ou moins contemporaine de la conversion du roi Boris au christianisme au milieu du IX^e siècle⁷. À l'inverse, on aurait sans doute pu facilement organiser une exposition consacrée à l'empire bulgare des XIII^e et XIV^e siècles autour des objets trouvés en fouilles sur le site de sa nouvelle capitale, la cité-forteresse de Véliko Tarnovo, ou sur d'autres sites, mais aussi, au besoin, en réunissant à leurs côtés des manuscrits, des icônes, des œuvres d'orfèvrerie précieuses religieuses et profanes abritées dans les collections des musées et institutions bulgares⁸.

Le choix s'est toutefois orienté vers un autre âge d'or de l'histoire bulgare médiévale : les quelque 150 ans qui séparent la conversion du roi Boris en 864 et l'annexion de la Bulgarie par les Byzantins sous Basile II en 1018. Une ville symbolise cet âge d'or : Preslav ou Véliki Preslav, devenue la « capitale » des Bulgares à la fin du IX^e siècle, prise par Sviatoslav de Kiev en 969 puis en 971 par les Byzantins et finalement privée de

ce rôle après la ruine du premier royaume bulgare en 1018. En ce cas, aucun ensemble n'était plus emblématique que le trésor de Preslav, la plus importante découverte jamais faite de bijoux médiévaux princiers du Moyen Âge byzantin (figs 6-7). Exposer le trésor au Louvre, c'était aussi pour Paris une manière de renouer avec la grande exposition d'art de la Bulgarie médiévale au Grand Palais en 1980, à l'occasion de laquelle les Parisiens avaient eu la primeur du trésor qui venait d'être retrouvé et tout juste restauré⁹.

Enfin, dans le cadre d'un partenariat entre les instances patrimoniales bulgares et le Römisch-Germanisches Zentralmuseum (RGZM) à Mayence, depuis devenu le Leibniz-Zentrum für Archäologie (LEIZA), le trésor de Preslav avait fait l'objet d'un projet de recherche interdisciplinaire au Laboratoire de Mayence de mars 2017 à avril 2018 (fig. 8). Les œuvres ont alors bénéficié d'une série d'examen et d'analyses scientifiques et d'une étude exhaustive des matériaux

7 Doncheva-Petkova, Croix pectorale reliquaire. – Cat. Rome 2001 no. 35. – Cat. London 2010.

8 De nombreux exemples dans Cat. Rome 2001.
9 Cat. Paris 1980 nos 156-190.



Fig. 6 Une partie des objets du trésor de Preslav en 2017 rassemblés pour examen au Leibniz-Zentrum für Archäologie (LEIZA, anciennement RGZM) à Mayence. – (Photo S. Steidl, LEIZA).



Fig. 7 Grand collier en émail de Preslav dans l'exposition « Le trésor de Preslav » au musée du Louvre 2018, au-dessus d'un miroir destiné à rendre visible la bilatéralité du bijou. – (Photo H. Kempkens, Paderborn).

Fig. 8 Objets du trésor de Preslav en 2017 rassemblés pour examen au Leibniz-Zentrum für Archäologie (LEIZA, anciennement RGZM) à Mayence. – (Photo S. Steidl, LEIZA).



et des techniques sur lesquels s'appuient ici même dans cet ouvrage plusieurs interventions. Les objets ont également été à cette occasion nettoyés et, au besoin, restaurés. C'était évidemment pour le Louvre, en accord avec le musée de Mayence et nos collègues bulgares, une opportunité exceptionnelle que de pouvoir montrer le trésor dans toute sa splendeur et d'évoquer les premiers résultats obtenus à l'issue de ces nouvelles investigations¹⁰.

Le trésor de Preslav – sauf les rares pièces trop fragiles ou trop lacunaires – avait donc pris place en 2018 pour quelques mois au cœur des collections médiévales du département, occupant les vitrines tables au centre de la salle. Tout autour, était évoqué le contexte plus général du site archéologique de l'ancienne capitale bulgare à l'aide de quelques photographies et, surtout, de plusieurs fragments d'architecture et de décor monumental provenant des palais et églises de Preslav

¹⁰ Je tiens à remercier ici nos collègues du LEIZA et nos collègues bulgares de nous avoir permis en amont de l'exposition d'examiner avec eux l'ensemble du trésor

en cours d'étude et d'avoir bien voulu donner les premiers éléments de leurs recherches dans le catalogue de l'exposition : Greiff et al., *Projet de recherche*.



Fig. 9 Iconostase en céramique de Veliki Preslav dans l'exposition « Le trésor de Preslav », musée du Louvre, Paris, 2018. – (Photo H. Kempkens, Paderborn).



Fig. 10 Patène d'or de Veliki Preslav, or, martelé, gravé, diam. 20,5 cm, poids 336 g, trouvée devant la porte sud de la citadelle, National Archaeological Museum Sofia, inv. n° 3770. – (Photo K. Georgiev, Sofia).



Fig. 11 Grand émail cloisonné en forme de palmette ou de queue de paon, Constantinople, X^e siècle, trouvé à Veliki Preslav. – (Photo S. Steidl, LEIZA). – H. c. 7,3 cm.

(fig. 9), particulièrement évocateurs des liens avec les modèles méditerranéens et byzantins¹¹. Il a paru nécessaire d'évoquer aussi les fameux décors de céramique architecturale de Preslav¹² et de faire venir une nouvelle fois à Paris les éléments d'un temple – ou d'une maquette de temple – reconstitué dès 1987 par son découvreur, Totiu Totev, à partir des éléments trouvés dans les décombres d'un atelier de céramique peinte dans la zone dite du Monastère royal¹³: ils faisaient écho pour le visiteur aux fragments de céramique architecturale byzantine polychrome d'origine stambouliote exposés dans une des salles voisines et que se partagent depuis les années 1950 le musée du Louvre et le Walters Art Museum de Baltimore¹⁴. En périphérie des vitrines centrales réservées au trésor, la patène en or mise au jour en 1949 (fig. 10)¹⁵, la coupe en argent du grand *jupan* Sivin trouvée dans une tombe en 1963¹⁶ ou encore deux trouvailles plus récentes indépendantes d'émaux cloisonnés sur or en 1987 (fig. 11) et en 2016 (fig. 12)¹⁷ rappelaient que ce trésor s'inscrit lui-même au sein d'une série exceptionnelle de découvertes sur le site de Preslav, tandis que des moules à bijoux également exhumés sur le site évoquaient la présence d'orfèvres¹⁸. Enfin, la juxtaposition d'inscriptions bulgares¹⁹, d'inscriptions grecques²⁰ et d'un fragment d'inscription latine de la seconde moitié ou de la fin du IX^e siècle²¹ rendait compte avec une certaine évidence de l'étendue des échanges du premier État chrétien bulgare, au moment de sa formation et de son essor, avec le monde grec, mais aussi latin.

11 Cat. Paris 2018 nos 1-12.

12 Stanilov, Céramique peinte. – Cat. Paris 2018, nos 13-22.

13 Totev, L'atelier de céramique peinte. – Cat. Paris 2018 no. 20.

14 Durand, Plaques de céramique byzantines. – Gerstel/Lauffenburger, A Lost Art.

15 Cat. Paris 2018 no. 24.

16 Cat. Paris 2018 no. 25.

17 Cat. Paris 2018 nos 26. 27.

18 Cat. Paris 2018 nos 29-32.

19 Cat. Paris 2018 nos 22. 34. 35.

20 Cat. Paris 2018 nos 20. 24. 25.

21 Cat. Paris 2018 nos 36.



Fig. 12 Émail cloisonné, découverte archéologique de Veliki Preslav indépendante de celle du trésor, IX^e ou X^e siècle, dans l'exposition « Le trésor de Preslav », Musée du Louvre 2018. – (Photo H. Kempkens, Paderborn).



Fig. 13 Plaque d'émail cloisonné avec Senmurv (créature fabuleuse ailée à queue de paon) provenant du trésor de Preslav; l'une des cinq plaques d'émail de même taille (h. c. 5,5 cm), considérées comme des parties d'un diadème ou d'une couronne, Constantinople, avant 971 (927 ?). – (Photo S. Steidl, LEIZA).

En proposant une approche à la fois historique, contextuelle et archéologique du trésor de Preslav, l'exposition souhaitait donc contribuer à renouveler notre regard et à susciter de nouvelles interrogations. Beaucoup de questions se posent encore, en effet. Elles tiennent d'abord aux circonstances de la découverte, toujours entourée d'une part d'inconnu en l'absence de notes ou de rapports de fouilles et des trop rares photographies publiées²². On ne sait presque rien sur l'état des objets au moment de leur découverte ni sur leur restauration entre 1978 et 1980²³, et il n'est pas impossible que quelques-uns aient pu être alors distraits de l'ensemble, attendant, aujourd'hui anonymes, d'être identifiés. Il est aussi permis de s'interroger sur la typologie de plusieurs de ces bijoux et sur leur usage²⁴. La datation du trésor au X^e siècle, lorsque florissait Preslav la capitale des Bulgares, paraît en revanche à priori assurée par la date probable de leur enfouissement : le raid de Sviatoslav en 969 ou la chute de la ville aux mains des Byzantins en 971, ce que confirment les monnaies retrouvées – des *miliaresia* d'argent des règnes conjoints de Constantin VII et Romain II, entre 945 et 959. Cependant, le trésor, au caractère assurément princier, est-il pour autant parfaitement homogène et tous ses composants

sont-ils strictement contemporains? Sans compter que la présence au sein du trésor de quelques modestes objets en alliage cuivreux – s'il s'agit bien aussi de pièces retrouvées en 1978 dans les débris d'un coffret en bois et non de trouvailles annexes – peut surprendre.

Le trésor est également célèbre pour les somptueux bijoux émaillés qu'il abrite : plaques de diadème (fig. 13), boutons, boucles ou pendants d'oreilles (fig. 14) et collier (fig. 7. 15), où se côtoient des émaux sur or cloisonnés (*Zellenschmelz*) en « plein émail » (*Vollschmelz*) et « enfoncés » (*Senkschmelz*). Les liens des deux techniques avec l'émaillerie byzantine sont évidents et semblent plaider, par le luxe même des objets comme par le travail des montures et la typologie du collier et des boucles d'oreilles, pour une origine constantino-politaine de l'ensemble. Les émaux enfoncés des plaques de diadème, en tout état de cause antérieurs à 971, comptent même parmi les plus anciens émaux enfoncés byzantins datés. Toutefois, l'antériorité des deux techniques en Occident dans l'orfèvrerie carolingienne, comme leur existence contemporaine dans l'orfèvrerie ottonienne ou en Italie, mérite d'être relevée²⁵ et interdit d'exclure totalement, de façon plus large, l'hypothèse d'apports ponctuels d'éléments précieux venus

22 Aladjov, Le trésor de Preslav, 38-41 et figs 2-3. Voir ici même dans ce volume la contribution de Plamen Slavov et Stoycho Bonev.

23 Problème abordé notamment à l'issue de la première journée d'études par la conférence sur l'archéologie médiévale en Bulgarie d'Irina Vaklinova à l'Auditorium. Voir ici même les deux contributions de Mariela Inkova et de Stela Doncheva.

24 Voir ici même, outre la contribution de Mariela Inkova, celles d'Andrey Aladjov et Stanislav Stanilov.

25 Voir notamment : Bosselmann-Ruickbie, *Byzantinischer Schmuck*, en particulier 87-89, et passim. – Voir aussi Durand, *Remarques sur l'orfèvrerie*, en particulier 57-58. – Bosselmann-Ruickbie, *Contact between Byzantium and the West 73-104*, en particulier 78-81. – Bosselmann-Ruickbie, *Senkschmelz*.



Fig. 14 Boucle d'oreille en or ornée d'émeraudes, de rubis et de perles provenant du trésor de Preslav (une boucle d'oreille d'une paire), Constantinople, avant 971 (927 ?). – (Photo S. Steidl, LEIZA). – L. 9,95 cm.

d'Occident jusqu'à Preslav. On serait volontiers tenté de le croire, par exemple, pour l'applique en forme de cœur au décor de palmette stylisée trouvée en 2016 dans le secteur palatial (fig. 12), au regard de l'aspect des émaux et du dessin ample des cloisons relativement épaisses qui rappellent ceux de quelques émaux qui ont pu être attribués à l'Italie et à l'espace carolingien du IX^e siècle²⁶. Il était en tous cas possible aux visiteurs de l'exposition de confronter visuellement les émaux de Preslav et les quelques émaux cloisonnés byzantins, carolingiens et ottoniens des collections du Louvre présentés dans les salles adjacentes. Quant aux éléments de bijoux en or ou ornements de costume non émaillés, boutons, pendoques, médaillons, appliques (figs 16-17), les liens avec les arts du luxe byzantin semblent évidents. Pourtant, ils offrent aussi une grande parenté avec d'autres, créés dans toute l'aire de la Grande Moravie entre les VIII^e-IX^e siècles et l'an 1000, aux confins de l'Occident carolingien et du monde slave, et dont les liens avec les sources méditerranéennes posent à leur tour problème²⁷. Enfin, les moules d'orfèvre et les moules à sceaux de plomb retrouvés à Preslav même soulèvent à leur tour insidieusement la question du rôle éventuel d'ateliers locaux susceptibles de produire, au cœur de la capitale bulgare, des pièces de ce type, même précieuses et complexes²⁸.

26 Pour ces émaux « italiens » : Durand, À propos d'orfèvrerie.

27 Voir ici même les deux contributions de Šárka Krupičková et Šimon Ungerman.

28 Cat. Paris 2018, 6 et nos 29-33.



Fig. 15 Collier en or avec incrustations d'émail provenant du trésor de Preslav, Constantinople, avant 971 (927 ?). – (Photo S. Steidl, LEIZA).

Fig. 16 Pendentif en or en forme de fuséau avec granulations provenant du trésor de Preslav, avant 971 (927 ?). – (Photo S. Steidl, LEIZA). – L. 3,1-3,3 cm.



Fig. 17 Appliques de vêtement en tôle d'or provenant du trésor de Preslav, avant 971 (927 ?). – (Photo S. Steidl, LEIZA). – L. des côtés c. 1,6 cm.



Pour plusieurs de ces questions, les études en laboratoire effectuées sur le trésor à Mayence, regroupées dans ce volume sous le titre « Restoration and Materials Science », confrontées à celles faites dans d'autres institutions sur des objets comparables à Paris, à New York ou encore à Berlin durant les deux dernières décennies, constituent à l'évidence un apport nouveau considérable²⁹.

Il a toutefois paru indispensable, durant ces deux journées d'études, comme dans l'exposition, de replacer l'étude du trésor et les avancées obtenues au laboratoire dans le contexte historique très particulier de la Bulgarie du X^e siècle et de ses relations avec Byzance et le monde slave, mais aussi sans doute avec le monde franc et carolingien qu'évoquaient concrètement, à l'exposition, le voisinage d'inscriptions grecques et d'une inscription latine provenant d'une église, plus haut déjà mentionnées. Ce sont les interventions de Panos Sophoulis et de Daniel Ziemann, pour Byzance, sui-

vies par celle de Marcello Garzaniti sur le développement de la première langue slave et de son écriture, et l'intervention de Thomas Lienhard sur les relations entre royaumes francs et bulgare³⁰. À cet égard, et quitte à être peu provocateur, on pourrait presque être tenté de rapprocher dans leur symbolique comme dans une certaine mesure leur aspect formel, indépendamment des regards tournés vers Byzance et Constantinople, le palais et la chapelle palatine édifiés à Aix-la-Chapelle par Charlemagne et ceux de la « ville intérieure » élevée moins d'un siècle plus tard à Preslav par Siméon I^{er}.

Les deux journées d'études du Louvre n'ont évidemment pas pu aborder toutes ces questions, ni même répondre à toutes celles qu'elles ont posées et que sous-tendait l'exposition. Elles entendaient néanmoins, ensemble, constituer des signes du renouveau des recherches sur le trésor de Preslav qui, aujourd'hui, dans les pages qui suivent, a pris la forme d'un livre.

²⁹ Voir ici-même les contributions de Matthias Heinzl, Marlène Aubin et Isabelle Biron.

³⁰ Voir ici-même, les quatre interventions de Panos Sophoulis, Daniel Ziemann, Marcello Garzaniti et Thomas Lienhard regroupées sous le titre « Historical Context ».

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Summary

Introduction

This introduction presents an overview of the 2018 symposium on the Preslav Treasure, held in conjunction with an exhibition on Bulgaria and the Preslav Treasure at the Musée du Louvre, Paris. The symposium was organised in collaboration with the Leibniz-Zentrum für Archäologie in Mainz, Germany. The Bulgarian partners were the Archaeological Museum »Veliki Preslav«, the National Museum of History and the Bulgarian Academy of Sciences Sofia. Together with experts from the Czech Republic, Germany, Greece, France, Hungary, and Italy, the symposium explored the discovery of the treasure in 1978 and its significance as a key example of medieval Bulgarian

heritage. The Preslav Treasure, comprising exquisite Byzantine jewellery, reflects a golden period in Bulgarian history, marked by strong cultural exchanges with Byzantium. The publication discusses the interdisciplinary research conducted on the artefacts, focusing on their historical, artistic, and archaeological value. By examining the treasure within the broader context of Byzantine-Bulgarian relations, the introduction highlights the ongoing scholarly interest in these objects and their role in understanding the medieval world. The work underscores the importance of the treasure in medieval archaeology and its contribution to the cultural heritage of Bulgaria and beyond.

I. Historical Context

Setting the Scene: An Overview of Byzantine-Bulgar Relations between the Eighth and the Eleventh Centuries

By all accounts, the establishment of the Bulgar state in the Lower Danube region at the end of the seventh century constituted a major political revolution. For centuries, various tribes and ethnic groups – Goths, Huns, Slavs, Avars – had invaded the eastern provinces of the Roman Empire, and some of them had even managed to set up their own ephemeral polities there. However, the peace treaty concluded between the Emperor Constantine IV and the Bulgar Khan Asparuch in the late summer or autumn of 681 was the first in which the Byzantine Empire effectively relinquished imperial territories to a foreign power, although the Byzantines would have argued that Asparuch's acceptance of an annual tribute was a recognition that the Bulgars were only there by permission of the emperor¹. In any case, the history of the next three-and-a-half centuries is dominated by the political and military competition between the two states – a competition that existed side by side with intense and equally important cultural, religious and economic contacts.

Despite the treaty, the Byzantines continued to regard the whole area south of the Lower Danube as an ancient part of the Empire, and accordingly made repeated attempts to either subdue the newcomers or expel them from their new homeland². For the Empire, however, the demands of the Balkans were secondary to those of the eastern front and the war with the Caliphate. The Byzantines, as a rule, only organised offensive operations in the Balkans during intermissions in the Arabian conflict, when they could re-deploy troops there from other parts of the Empire; a situation that prevailed until approximately the middle of the ninth century³. Nevertheless, due to a combination of geographical and strategic factors, a campaign against the Bulgars was a particularly daunting task

for any emperor at any given time. Indeed, the central lands of the Bulgar state were positioned between two natural protective barriers: the Haimos Mountains (Stara Planina) to the south and the Danube River to the north. The Haimos, it must be noted, is far more difficult to cross from the south than the north, mainly because the southern slopes facing Byzantium rise steeply from the plain of Thrace. In addition, the passes of this mountain are narrow and densely forested, and are, therefore, easily blocked by human agency or weather⁴. To prevent the passage of the Byzantine armies, the Bulgars constructed an elaborate system of earthworks and palisades above or behind these passes, the remains of which are still visible today in several places⁵. At the same time, the Black Sea shore was defended by a series of fortifications and ditches, intended to prevent landing and bar access to the coastal road that afforded easy access to the interior⁶. Along the southern banks of the Danube, another system of earthen ramparts, ditches with embankment, and stone-built defences served as a deterrent to attacks from the north⁷. This defensive system was supplemented by the construction, in the eighth, ninth and tenth centuries, of a series of monumental barriers of embankments and ditches, which seem to have functioned as both defensive installations and symbolic lines of demarcation⁸. Along the southern frontier, facing Byzantium, the most important of these was the so-called Great Earthen Rampart or »Erkesija«, which ran for some 130 km⁹. Similar barriers were also built along the northern border¹⁰.

A key aspect of Bulgar defensive strategy was the movement of population groups to the regions behind the frontier. A number of Byzantine sources report that Asparuch

1 The secondary literature on Asparuch's migration to the Balkans and the subsequent establishment of the Bulgar state is immense. See for instance Beševliev, *Periode* 186-190; Božilov/Gjuzelev, *Istorija* 86-93; Cankova-Petkova, *Beležki* 328-334; Chrysos, *Gründung* 7-13; Dujčev, *Les sept tribus* 100-108; Vojnov, *Za pǎrvija dopir* 453-478; Whittow, *Orthodox Byzantium* 272-273; Ziemann, *Wandervolk* 161-172. – For an overview of developments in the Balkans, see now Prinzing/Sokolov, *Der Balkan* 1104-1115.

2 For an overview of these events, see now Hupchick, *Bulgarian-Byzantine Wars* 47-122; Primov, *Bulgaria* 7-41.

3 Whittow, *Orthodox Byzantium* 274.

4 Penčev et al., *Staroplaninska Oblast* 85-113. – Soustal, *Thrakien* 53-54. – Marinow, *Haemus* 17-18. 25.

5 See for example Rašev, *Ukrepnenija* 55-65, 199; Wendel, *Karasura* 205. 216. 211. 217. 223. – For the fortresses (some of them dating from the late Roman and

Byzantine times) used by the Bulgars in that region, see Rabovyanov, *Kreposti* 45-51.

6 Rašev, *Ukrepnenija* 32-50. – Rašev, *Černomorieto* 20-49. – Georgiev, *Beležki* 167-182.

7 Rašev, *Ukrepnenija* 67-75. – Koledarov, *Structure* 134-135.

8 Squatriti, *Dikes* 65-71. 87-90. – Rašev, *Ukrepnenija* 77-95. 123. – Fiedler, *Datierung* 463. – Curta, *Dyke* 145-146. – Marinow, *Haemus* 26.

9 Rašev, *Ukrepnenija* 60-62. 64-65. – Fiedler, *Datierung* 457. 461. – Squatriti, *Dikes* 34-35. 49. 56-57. – Momčilov, *Erkesijata* 94-96. – Curta, *Linear Frontiers* 19-23.

10 For the so-called North and South Bessarabian Ramparts (the former running for 106 km in all, the latter covering an area of 126 km, see Rašev, *Ukrepnenija* 28-29. 32. 74. 123; Fiedler, *Datierung* 463.

transferred the Slavic tribe of the Severoi from its home to the eastern borders of the state, near the Black Sea coast; another group of Slavs, the so-called »Seven Tribes«, was established on two different parts of the Haimos Mountains¹¹. The task of the Slavic populations was, not only to warn of invasion, but also to meet and repel their opponents before they gained access to the Bulgar heartland¹². On the whole, the fundamental principle of Bulgar strategy was to establish successive lines of defence in order to prevent the Byzantines from reaching the central urban settlements such as Pliska and, later, Preslav. However, an important factor affecting its application was that of human resources. In the eighth and ninth centuries, the Bulgars may have been able to raise armies of several thousand men, but even then the Byzantine forces are very likely to have been greatly superior in numbers. Thus, as successive Byzantine emperors were clearly aware, a co-ordinated assault on Bulgaria from several fronts could easily overstretch the Bulgars' defences. In the light of this strategic situation, maintaining, if not expanding, the size of the population in Bulgaria was one of the primary concerns of its rulers. Much of the antagonism with Byzantium arose exactly from Bulgar attempts to conquer the Slavic tribes of the southern Balkan peninsula¹³.

From the moment of Asparuch's arrival in the Lower Danube region in the late seventh century and until the final conquest and dissolution of the First Bulgarian state by the armies of Emperor Basil II in the second decade of the eleventh century, the Byzantines mounted dozens of campaigns against the Bulgars. Some of these were particularly successful, while others resulted in spectacular disasters. Given the geo-strategic considerations outlined above, three alternative courses of military action were open to Byzantine emperors operating against Bulgaria, and all three were applied during this period with varying results. The first entailed simultaneous attacks on several fronts along the Thracian border. The army would march across the frontier by different routes, with some of its units moving directly over different mountain passes, and others following the coastal route around the lower, eastern edge of the Haimos¹⁴. The second alternative constituted a slight variation of the first: a co-ordinated assault by land and sea. One part of the army would move across the mountains, while another, transported by the imperial navy, would land on the Black Sea coast or on the south bank of the Danube,

attacking the Bulgars on their rear¹⁵. The third option entailed, once again, a synchronised assault from both north and south, only that this time the northern offensive would be carried out by a foreign power, with which the Byzantine Empire would have previously struck a deal. This ally was usually one of the nomadic or sedentary peoples of the south Russian steppes, such as the Magyars, the Pechenegs or the Rus', who could easily be persuaded by Byzantine gifts to attack from the north¹⁶. However, as the Byzantines were well aware, and the occupation of the Bulgar lands by Prince Sviatoslav of Kiev reaffirmed in 969, these were utterly unreliable partners and any arrangement with them could easily backfire¹⁷.

Without going into much detail, it should be noted that between the late seventh and early eleventh century there were four main waves of Byzantine aggression against Bulgaria. The first wave came about right after the establishment of the Bulgar state by Asparuch, when the imperial government at Constantinople organised a series of unsuccessful military expeditions in order to expel the Bulgars from the Lower Danube region¹⁸. The second wave coincided with the second half of the long reign of Emperor Constantine V (741-775). Taking advantage of the Abbāsid revolution in the Caliphate, and having already banned icon veneration, Constantine V diverted his military resources to the Balkans in a concerted effort to eradicate the Bulgar state¹⁹. Thus, from approximately 760 to 775 he launched at least nine campaigns, winning a number of major victories, which threw the Bulgars into a prolonged period of instability. Nevertheless, he was unable to deal the final blow and either conquer the Bulgar state or impose a lasting peace²⁰. The third wave was initiated by the Byzantine emperors of the late eighth and early ninth centuries and culminated in the year 811 with the grand expedition of Nikephoros I, which ended in complete disaster, with the death of that emperor and thousands of his troops in the narrow defiles of Haimos²¹. The final wave extended from 966 to 1018, covering the period in which successive emperors of the Macedonian dynasty – Nikephoros Phocas, John Tzimiskes and Basil II – once more attempted, and eventually accomplished in two stages (in 971 and again in 1018) the complete subjugation of the Bulgar polity²².

For their part, the Bulgars frequently launched raiding expeditions into Byzantine territory; on three occasions these developed into prolonged phases of large-scale mili-

11 Theoph. Chron. 359,12-17. – Nikēphoros, Short History 36,23-26. – Obolensky, Commonwealth 64-65. – Dujčev, Les sept tribus 100-108. – Ziemann, Wandervolk 167-179.

12 Nicol. resp. 581.

13 See for instance Theoph. Chron. 447,10-13, for the unsuccessful attempt of *khan* Telerig to resettle in Bulgaria the tribe of the Slav Berzitai.

14 As was the case with Nikēphoros I's disastrous campaign in the summer of 811; see in particular Theoph. Chron. 490,10-11.

15 A strategy frequently applied by Constantine V; for instance, see Nikēphoros, Short History 73,11-20.

16 For the collaboration with the Magyars in 894 (including the references to the sources describing these events), see Kristó, Hungarian History 183-190; Mladjov, Magyars 63-84. – For the alliance with the Pechenegs, see Const. Porph. admin. imp. 52,3-13; Theoph. Cont. 389,22-390,12. – For the Rus, see Leon. Diac. hist. 63,5-12. – See also Stephenson, Balkan Frontier 30-31. 39. 48.

17 For a discussion, see Stephenson, Balkan Frontier 49-51; Hanak, Svjatoslav 138-151.

18 For an account of these events, see Hupchick, Bulgarian-Byzantine Wars 50-52; Ziemann, Wandervolk 180-184.

19 For the prohibition of icon veneration, see in particular Rochow, Kaiser Konstantin V. 43-72. For the downfall of the Ummayyad dynasty, see Kennedy, Prophet 112-123.

20 For this phase of the conflict, see Božilov/Gjuzelev, Istorija 114-120; Rochow, Kaiser Konstantin V. 89-105; Primov, Bulgaria 24-35; Soustal, Thrakien 79-81; Ziemann, Wandervolk 213-234.

21 For a detailed survey, see Sophoulis, Byzantium and Bulgaria 146-216.

22 Stephenson, Balkan Frontier 48-55. 62-66. – Hupchick, Bulgarian-Byzantine Wars 247-319. – Holmes, Basil II 395-420.

tary aggression against Byzantium. The first phase occurred following the unsuccessful Byzantine campaign of 811: for the next five years, Krum and his successor Omurtag took the strategic initiative, temporarily annexing large parts of Byzantine Thrace and Macedonia²³. The second and most important phase came about during the reign of Symeon (894-927), when Bulgaria emerged as the greatest power in the Balkans²⁴. The third was under Samuel (997-1014), who not only led the uprising against Byzantine authority (c. 976), but also managed to re-establish the Bulgar state, incorporating territories controlled by the Byzantines in the southern and western Balkans²⁵. The strategic objective of the Bulgars seemed to be different in each of these phases. In the case of Krum, the goal was to stabilise the frontier and secure, through a policy of aggression, a peace settlement with favourable terms²⁶. Symeon, on the other hand, is known to have harboured imperial ambitions. He envisaged, not necessarily the subordination of Byzantium to Bulgaria, but the creation of a unified empire with himself at its head²⁷. Samuel may have temporarily created a huge state, but his vision appears to have been more modest – and perhaps more realistic – than that of Symeon. His primary objective was to retain independence from Byzantium, and for this reason, he relocated the centre of his state to the west, in Macedonia, further away from the imperial capital²⁸.

As is well known, despite his military successes early on, Samuel's position was bound to become insecure once Basil II, determined to restore Byzantine control over Bulgaria, transferred the bulk of his military resources from the East (c. 1001). Although for more than a decade none of the two sides could deliver a decisive blow, the Byzantine victory at the battle of Kleidion in October 1014 and the death of Samuel, shortly thereafter, effectively signalled the collapse of Bulgar resistance and the beginning – officially from 1018 – of almost 170 years of Byzantine rule²⁹.

Even though the relations between the two powers were dominated throughout the period in question by political competition and warfare, economic and cultural contact also played a major role, leaving a deep imprint on the history of

both states. Indeed, traders from both countries engaged in a lively and wide-ranging commercial activity that seems to have continued even during the most troubled times. Items of exchange included, on the one hand, foodstuffs, raw materials and possibly slaves from the Black Sea steppes, and on the other, Byzantine manufactured goods³⁰. Examples are finds of seals of Byzantine *kommerkiarioi* (the officers charged with the collection of the imperial sales tax) who were stationed in several cities across Thrace and the Black Sea coast until the mid-eighth century and again from the early ninth century onwards, and also finds of Byzantine coinage, glass and ceramic vessels in the territories controlled by the khans. They constitute significant evidence for the existence of direct trade between Byzantines and Bulgars, both on an official level and among the ordinary population³¹. At the same time, Christianity was gradually gaining ground in Bulgaria, and in the 860s, Khan Boris finally decided to convert to the new faith³². While the Bulgar ruler seriously considered the possibility of receiving baptism from Rome, he was eventually forced to adopt the Orthodox creed, a decision that, inevitably, opened up another avenue for Byzantine cultural influence on his realm³³. Closely connected with this event was the Bulgar's adoption of the Glagolitic script (*glagolitsa*) and, somewhat later, the creation of the Cyrillic alphabet, both of which served as cultural intermediaries between Byzantium and the Slavic world, particularly Bulgaria, as well as becoming vehicles for the development of a unique literary tradition³⁴.

To conclude, the relations between Byzantium and Bulgaria were always vibrant, multifarious and ambivalent. They were characterised, on the one hand, by mutual suspicion and hostility, and, on the other, by interdependence and co-operation. They ranged, during this period, from reciprocal respect and admiration to fear and distrust. Perhaps more than anything else, this inherent contradiction in the attitudes of Byzantine and Bulgar elites towards each other that varied widely according to circumstances represents an important area of research to which more attention needs to be devoted in the future.

23 A detailed discussion in Sophoulis, *Byzantium and Bulgaria* 221-245. 249-264. 265-269.

24 See in particular Božilov/Gjuzelev, *Istorija* 246-260; Stephenson, *Balkan Frontier* 18-28; Hupchick, *Bulgarian-Byzantine Wars* 149-210; Shepard, *The Other Balkan Empire* 570-571. 574-576; Obolensky, *Commonwealth* 97-115.

25 Božilov/Gjuzelev, *Istorija* 308-326. – Stephenson, *Balkan Frontier* 58-79. – Pirivatrić, *Samuilova država* 57-132. – Hupchick, *Bulgarian-Byzantine Wars* 247-307.

26 See Sophoulis, *Byzantium and Bulgaria* 251.

27 Dölger, *Reg.* 1,2 n° 606. – Obolensky, *Commonwealth* 104-106. – Pavlov, *Beležki* 199-207.

28 Shepard, *Communications* 218-219.

29 For the battle of Kleidion, see *Io. Scyl. syn. hist.* 348,9-349,4; *Io. Zonar. Epit. Hist.* 563,6-564,10. – Tomov, *Bitkata* 142-169; Stephenson, *Bulgar-Slayer* 2-7. 33-34.

30 See for instance Theoph. *Chron.* 497,24-26; Dölger, *Reg.* 1,1 n° 276; *Io. Camen. expugn. Thessal.* 10,57-11,66. – Marinow, *The Economy* 217-220; Berov, *Ikonomičeskoto razvitiie* 29-30; Curta, *Southeastern Europe* 219. 224; Primov, *Certain Aspects* 195-197. – For the slave trade, see Henning, *Gefangenensesseln* 416; Simeonova, *Pätuvane* 137-140; Vučetić, *Novelle*.

31 Dujčev, *Treaty* 217-295. For the seals of *kommerkiarioi* (at Mesēmbria, Adrianople, Didymoteichon Debeltos and Thessalonikē), see Brandes, *Finanzverwaltung in Krisenzeiten* 393; Ivanov, *Komerkiarii* 17-24; *Oikonomides, Kommerkiarioi* 33-53. – For the discovery in Preslav of the seal of a certain Philotheos, a Byzantine official in charge of supervising the export of silk robes, see Kiučukova/Jordanov, *Vizantijskite tākan* 155-165. – For the numismatic evidence, see Sophoulis, *Byzantium and Bulgaria* 139-141; Oberländer-Tärnoveanu, *Monnaie* 344-447. 376-377. – For the Byzantine pottery/glassware in Bulgaria, see Manolova, *Kām vāprosa* 1-15; Vogt/Bouquillon, *Technologie* 105-116; Kostova, *Polychrome Ceramics* 97-98.

32 For a general outline of these events, see Božilov/Gjuzelev, *Istorija* 169-175; Cankova-Petkova, *Contribution* 21-39; Fine, *Early Medieval Balkans* 117-120; Shepard, *Slavs and Bulgars* 238-241; Podskalsky, *Theologische Literatur* 48-58.

33 Gjuzelev, *Christianity* 128-159. – Curta, *Southeastern Europe* 169-174. – Sullivan, *Conversion* 60-74.

34 Obolensky, *Commonwealth* 95-96. 324-336. – Podskalsky, *Theologische Literatur* 53f. and further. See also Dobrev, *Kirilo-Metodievite učenitsi* 25-48, for the work of Cyril's and Methodios's disciples in Bulgaria. Furthermore, see M. Garzaniti's contribution in this volume.

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Summary / Zusammenfassung / Résumé

Setting the Scene: An Overview of Byzantine-Bulgar Relations between the Eighth and the Eleventh Centuries

This chapter provides a brief overview of the relations between the Byzantine Empire and the first Bulgarian state from the eighth to the eleventh centuries, focusing in particular on the geo-strategic framework of the military and political confrontation between the two powers. Throughout this period, the Byzantines continued to regard the whole area south of the Lower Danube as an ancient part of the empire due for re-conquest and accordingly made repeated attempts to subdue them. Attempts to that effect were mainly made during interruptions of Arab pressure, when the imperial government could transfer troops from the eastern front to the Balkans. Nevertheless, due to the strategic advantage, which the Haimos Mountains and the Danube River offered to the Bulgars, any campaign against them was bound to be a particularly difficult and risky affair. For the Byzantines, the preferred course of action entailed a co-ordinated assault from both north and south, for which a military alliance with one of the peoples of the south Russian steppes was usually necessary. However effective, such alliances often backfired, as Prince Sviatoslav's occupation of Bulgaria in 969 clearly demonstrates.

The Bulgars themselves also took the initiative to attack the Empire, and in three cases, under Krum, Symeon and Samuel, their aggression culminated in full-scale war with Byzantium.

Nevertheless, the frequent and intensive warfare reported in the sources is only one side of the story. There is sufficient evidence pointing to a growing economic and cultural interaction across the Byzantine-Bulgar border – an interaction that existed side by side with the political and military competition between the two neighbours.

Die Ausgangslage: Ein Überblick über die byzantinisch-bulgarischen Beziehungen zwischen dem 8. und 11. Jahrhundert

Dieses Kapitel vermittelt eine kurze Übersicht über die Beziehungen zwischen dem Byzantinischen Reich und dem Ersten Bulgarischen Reich vom 8. bis zum 11. Jahrhundert, wobei der Fokus insbesondere auf dem geostrategischen Rahmen der militärischen und politischen Konfrontation zwischen den zwei Mächten liegt. In diesem Zeitraum betrachteten die Byzantiner das gesamte untere Donauebiet als alten Bestandteil ihres Reiches, den es zurückzuerobern galt. Dementsprechend wurden wiederholte Versuche unternommen, die Gebiete zu unterwerfen. Diese Versuche fallen vornehmlich in Phasen nachlassenden Drucks von arabischer Seite, als die kaiserliche Regierung Truppen von der Ostfront abziehen konnte. Dennoch war jeder Angriff auf die Bulgaren schwierig und riskant, weil ihnen das Haimos-Gebirge und die Donau strategische Vorteile bot. Die bevorzugte Strategie der Byzantiner war ein koordinierter Angriff von Norden und Süden, wofür üblicherweise eine Allianz mit Völkern der südrussischen Steppe nötig wurde. Obwohl dieses Vorgehen effektiv war, konnten diese Allianzen auch fehlschlagen, wie die Besetzung von Bulgarien durch Fürst Svjatoslav im Jahre 969 deutlich belegt.

Die Bulgaren selbst ergriffen ebenfalls immer wieder die Initiative und attackierten das Byzantinische Reich. In drei Fällen – unter Krum, Simeon und Samuel – kulminierten die Angriffe in ausgedehnten Kriegen gegen Byzanz.

Nichtsdestoweniger sind die häufigen und intensiven kriegerischen Auseinandersetzungen, von denen die Quellen berichten, nur eine Seite der Geschichte. Hinreichende Belege weisen auf einen florierenden wirtschaftlichen und kulturellen Austausch über die byzantinisch-bulgarische Grenze – ein Austausch, der parallel zu den politischen und militärischen Rivalitäten der zwei Nachbarn stattfand.

Plantons le décor: Aperçu des relations entre Byzantins et Bulgares entre le VIII^e et le XI^e siècle

Ce chapitre donne un bref aperçu des relations entre l'Empire byzantin et le premier État bulgare du VIII^e au XI^e siècle, en se concentrant en particulier sur le cadre géostratégique de la confrontation militaire et politique entre les deux puissances. Tout au long de cette période, les Byzantins ont continué à considérer l'ensemble de la région située au sud du Danube inférieur comme une ancienne partie de l'empire à reconquérir et ont donc tenté à plusieurs reprises de la soumettre. Ces tentatives ont surtout eu lieu lors des interruptions de la pression arabe, lorsque le gouvernement impérial pouvait transférer des troupes du front oriental vers les Balkans. Néanmoins, en raison de l'avantage stratégique que les monts Haimos et le Danube offraient aux Bulgares, toute campagne contre eux était vouée à être particulièrement difficile et risquée. Pour

les Byzantins, la ligne de conduite privilégiée impliquait un assaut coordonné depuis le nord et le sud, pour lequel une alliance militaire avec l'un des peuples des steppes de la Rus' méridionale était généralement nécessaire. Aussi efficaces soient-elles, ces alliances se retournaient souvent contre leurs auteurs, comme le montre clairement l'occupation de la Bulgarie par le prince Sviatoslav en 969.

Les Bulgares eux-mêmes ont également pris l'initiative d'attaquer l'Empire, et dans trois cas, sous Krum, Syméon et Samuel, leur agression a abouti à une guerre totale avec Byzance.

Néanmoins, les guerres fréquentes et intensives rapportées dans les sources ne représentent qu'une partie de l'histoire. Il existe suffisamment d'éléments indiquant une interaction économique et culturelle croissante de part et d'autre de la frontière byzantino-bulgare – une interaction qui coexistait avec la compétition politique et militaire entre les deux voisins.

Bulgaria and Byzantium in the Ninth and Tenth Centuries: Symeon, Peter and the Byzantine Princess

The article will outline the political history of Bulgaria during the ninth and tenth centuries with a special focus on Bulgarian-Byzantine relations in order to provide the historical context for the Preslav Treasure. The close cultural contact with the Byzantine world plays a decisive role in the interpretation of the Preslav Treasure. This is, of course, true for almost the whole history of the First Bulgarian Empire. All important developments in Bulgaria were somehow linked to its south-eastern neighbour. While the available sources emphasise numerous military confrontations, the cultural, economic and religious contact between Byzantium and Bulgaria had a much deeper impact on the region by providing the preconditions for the unfolding of a specific type of Slavo-orthodox culture that outlived the downfall of the First Bulgarian Empire in 1018. The close cultural ties between Bulgaria and Byzantium had their roots in the eighth century and became more intensive during the ninth century, long before Preslav Treasure found its way to the place where it was hidden for centuries to come.

The Christianisation under Boris / Michael

This short overview of the Byzantine-Bulgarian relations in the ninth and tenth centuries will start with the Christianisation. Though a peace treaty between the two neighbours marked the beginning of the First Bulgarian Empire in 680/681, the Christianisation of Bulgaria can be taken as a new period in the history of south-eastern Europe. While the Byzantine influence increased in the ninth century, the way in which the new faith was transmitted and implemented laid the foundations for a new type of culture that spread from Bulgaria to other regions of south-eastern and eastern Europe. It is

therefore justifiable to take the baptism of Khan Boris in 864 or 865 as a starting point¹.

As in other realms in East Central and Eastern Europe, especially in regions beyond the former boundaries of the Roman Empire, Christianisation was a top-down phenomenon, a process that was promoted by the ruler and the ruling elites who were connected with their peers outside their own political entity. Although the core territory of the First Bulgarian Empire – situated between the Danube and the Balkan Mountains – had been a Christianised region within the former Roman Empire, the upheavals of the fifth to seventh centuries largely effaced the traces of its Roman Christian past. The population of this region was obviously ethnically and linguistically different from the former inhabitants and had entered the region from the North². When the First Bulgarian Empire was established in 680/681, the population, as well as the settlements, had no or very little connection to the Roman Christian past. What remained were the ruins of cities such as Markianopolis³. From the beginning of the ninth century, at least, *spolia* from antique ruins were used for the large-scale building programmes that were conducted by the Khans Krum (803-814) and Omurtag (c. 815 - c. 831). One of the most prominent examples is the town of Pliska, a key site and the location of the rulers' residences from the beginning of the ninth century⁴. The usage of antique *spolia* led some scholars to the assumption that Pliska was originally a Roman foundation, but this view is no longer current as there are no traces of any settlement before the Early Middle Ages⁵.

The beginning of what is generally called »The First Bulgarian Empire« was the result of military success: the defeat of the Byzantine army led by Emperor Constantine IV in 680 or 681 by the invading Bulgars, a group that had its origins most

1 The exact date of the baptism of Khan Boris is debated: the abundant literature on this topic is listed in Podskalsky, *Theologische Literatur* 51-53; see also Canakova-Petkova, *Contribution* 21-39; Praschniker, *Zwei mittelalterliche Inschriften* 73-81; Beševliev, *Die protobulgarischen Inschriften* 175 no. 15; *Chron. min.* 50, l. 6-7; *Chron. min.* 2, 104-105; Hannick, *Die byzantinischen Missionen* 279-359; Ziemann, *Wandervolk* 361-364; Ivanov, *Pearls Before Swine* 95-100; Nikolov, *Christianisierung der Bulgaren*.

2 Concerning the onomastic sources see, Schramm, *Ein Damm bricht*.

3 Soustal, *Markianopolis* 305.

4 Concerning Pliska see: Škorpiľ/Uspenskiy, *Materialy dlja bolgarskih'* 30-172; the contributions of the journal *Pliska-Preslav*, vols. 1-13; Dimitrov/Rašev, *Pliska*; Dončeva-Petkova/Henning, *Pärvoprestolna Pliska*; Prinzing, *Pliska in the view*, 241-251; Rašev, *Bälgarskata ezičeska kultura* 45-104; Aladžov, *Arheološkička karta*; Prinzing, *Pliska*; Browning/Schwartz, *Pliska*.

5 See the history of the excavations summarized in Dončeva-Petkova/Henning, *Pärvoprestolna Pliska*; Dimitrov/Rašev, *Pliska*.

probably in Central Asia⁶. Scholars use the term »Bulgars« or »Protobulgarians« in order to distinguish them from the »Bulgarians« of later periods after Christianisation in the middle of the ninth century when the great majority spoke a Slavic language and adopted the Christian religion⁷. The Bulgars of the seventh and eighth centuries, however, probably spoke a Turkic language and were pagans, with a religious belief that might be reconstructed by comparing it with religions of Central Asia. Scholars assume that the highest god was Tangra, and archaeologists have interpreted some buildings in Pliska as pagan temples, though some doubts remain⁸. Interesting information on pagan beliefs is provided by the Responses of Pope Nicholas I to the questions of the Bulgarians from 866, a list of questions presented by the Bulgarians soon after their conversion. These questions give insight into various customs among the Bulgarians, some of which are certainly related to religious beliefs⁹.

While the information about the pagan religion is somewhat limited, it seems that even inside the realm of the pagan Bulgars, some Christian elements and traditions persisted. Christians from the Byzantine Empire may also have entered the Bulgar realm in various ways. Already at the beginning of the ninth century, we find high military functionaries with Christian names, maybe Byzantines who worked for the Bulgar khan or maybe people stemming from a local population with a Christian-Byzantine background¹⁰. Despite the numerous military conflicts between the two neighbours, the cultural contacts with Byzantium remained quite strong. The military expansion towards the Black Sea coast and the territory of Thrace¹¹, south of the Balkan Mountains, intensified the influence of Christianity and Byzantine culture as the Bulgars now ruled over inhabitants who had lived inside the Byzantine Empire. This Christian Byzantine influence is visible most significantly in the architecture of the building projects in Pliska and elsewhere that were conducted under the rule of Khan Krum (c. 802-814) and – more intensively – under Khan Omurtag (c. 815-831)¹². The ruler himself took over Byzantine models of self-representation as can be seen in a medallion of Khan Omurtag, where he is styled like a Byzantine Emperor, including the Christian cross¹³. In Protobulgarian inscriptions,

one of the rare sources that stem from inside the Bulgarian realm, the ruler calls himself, *khana sūbigi* and ὁ ἐκ θεοῦ ἄρχων, »ruler by the grace of God«¹⁴. It is debated, which god is meant by this formulation. What is striking, however, is the fact that this title has its origin once again in the title of the Byzantine Emperor¹⁵. Crosses as decorative elements can be found in some inscriptions, which are, by the way, mostly written in Greek, which poses the question of the audience of these inscriptions as they were carved at central places of the Bulgar realm¹⁶.

In the course of the military campaigns, when the inhabitants of Thracian towns, such as Adrianopolis¹⁷, were deported to the Northern core regions of the Bulgars, we read about the persecution of Christians. One of the most prominent Christians who apparently died for his faith was the eldest son of Khan Omurtag, Enrabotas¹⁸. Some scholars interpret a building, which was later extended to the so-called »basilica« and a monastery next to it, as the burial place of Enrabotas, who may have been venerated as a martyr after the Christianisation¹⁹. This interpretation has not been conclusively proven. It is likely, however, that the Christianisation process was prepared for by missionary activities conducted by Byzantine captives and other Christians living in the Bulgarian realm. From the middle of the ninth century, we find the first traces of missionary activities from the West, mainly from the Eastern Frankish kingdom of Louis the German. Shortly before the conversion of Khan Boris to the Christian faith, a letter by Pope Nicholas I seems to suggest that the Bulgarian ruler communicated his wish to convert in his correspondence with Louis the German²⁰.

The conversion itself was the result of a successful military campaign by the Byzantines against Bulgaria²¹. Additionally, some Byzantine sources also mention a famine in Bulgaria²². With the promise to convert to Christianity, Boris achieved peace. He was baptised together with some of his nobles and changed his name to Michael, the name of his godfather, the Byzantine Emperor Michael III (842-867)²³. The exact date – either in 864 or 865²⁴ – and the circumstances of the baptism are not clear. A partially destroyed inscription from Ballsh in Albania mentions a great event in 865 that could refer to the

6 On the origins of the Bulgars and the respective discussions: Atanasov/Rašev/Vojnikov, *Balgarska nacionalna istorija* 2, 15-106; Bakalov, *Istorija na balgarite* 1, 15-46; Momčilov, *Pismeno-ezikov*; Vasilev, *Drevnite balgari*. – For a general overview of the origin and prehistory of the First Bulgarian Empire Zlatarski, *Istorija* 7-71; Angelov, *Obrazuvane na balgarskata narodnost* 1-211; Beševliev, *Protobulgarische Periode* 299-328; Angelov/Petrov/Primov, *Istorija na Balgarija* 23-90; Božilov/Gjuzelev, *Istorija* 57-73; Ziemann, *Wandervolk* 9-66. – For the discussion of the exact year 680 or 681 see: Gregorio/Kresten, *Ἐπέτοç* 21-56.

7 Bulgarian scholars use different terms for the Bulgars like »prabalgari« (Rašev, *Prabalgariite prez V-VII vek*), »pārvobālgari« (Beševliev, *Pārvobālgarski nadpisi*), or »drevnite balgari« (Vasilev, *Drevnite balgari*). – In English-speaking scholarship the term Bulgars is frequently used, see, e. g., Fiedler, *Bulgars in the Lower Danube Region* 151-236.

8 Moskov, *Prabalgarski* 15-22.

9 Nicol. resp. 568-600. – Dečev, *Otvorite*. – Heiser, *Responsa*. – Dujčev, *Responsa* 125-148.

10 Beševliev, *Die protobulgarischen Inschriften* 220-229 no. 47.

11 For Thrace under Bulgarian rule see Soustal, *Thrakien* 74-95.

12 Dončeva-Petkova/Henning, *Pārvoprestolna Pliska* 8-11. – Rašev, *Balgarskata ezičeska kultura* 70-97.

13 Škorpil/Uspenskiy, *Materialy dlja bolgarskih* 151. – Slavčev/Jordanov, *Zlatnite medaljoni* 25-31. – Jordanov, *Korpus* 23-26.

14 Beševliev, *Die protobulgarischen Inschriften* 76-77 no. 56, 260-265. – Beševliev, *Pārvobālgarski nadpisi* 216-217. – Stepanov, *The Bulgar Title KANASUBIGI* 1-19.

15 Beševliev, *Die protobulgarischen Inschriften* 71-72.

16 See the introduction in Beševliev, *Die protobulgarischen Inschriften* 84-86. 91-92. – Beševliev, *Pārvobālgarski nadpisi* 47-49. 94-95.

17 Soustal, *Thrakien*, 161-167.

18 PmbZ 1518. – Theophyl. Achrid., *Hist. martyr.* 42-79, 63-64.

19 Georgiev, *Martiriumät*.

20 *Annal. Bertin.* 72, a. 864.

21 *Ios. Genes.* IV, 16, 69. – Symeon mag. chron. 131,25, 243.

22 *Ps-Symeon* 665.

23 *Ios. Genes.* IV, 16, 69. – Symeon mag. chron. 131,25, 243.

24 The discussion with the literature is easily accessible in Podskalsky, *Theologische Literatur* 51-53; Cankova-Petkova, *Contribution*; see also the literature in n. 1.

baptism²⁵. Some Byzantine sources mention that the baptism took place in Constantinople²⁶.

The immediate motivation for the conversion has also been elaborated in a novelist way by some sources who consider the sister of Boris, who lived as a hostage at the Byzantine court, as crucial for the decision. Another version mentions a painting of the last judgement that frightened Boris when he saw it in his palace²⁷. Be this as it may, the consequences were far reaching. Boris/Michael invited clerics from Byzantium and entrusted them with the Christianisation of his people. Some of these clerics, however, stayed at his court as advisors and achieved positions of a considerable influence on the ruler's policy. Boris/Michael used the conversion for centralising governance and reducing the previously significant influence of his nobles²⁸. This attitude is also revealed in minor details such as the new dining custom by which the ruler sat at a separate table instead of joining his nobles at a common table as he had before²⁹. Immediately after the baptism, Boris/Michael, as well as many in his entourage, was uncertain about the requirements and benefits of the new faith. Shortly after the baptism, resistance among the nobles resulted in a revolt against the neophyte, which was quickly and brutally suppressed³⁰. The sources presented the ruler's victory over the rebels as a typical miracle story. Terrified by deceptive appearances the large army of rebels was unable to resist the ruler and his small entourage of Christian companions³¹. Boris/Michael ordered the execution of the principal leaders of the rebellion, who belonged to the highest ranks, together with their families. He seems to have been proud of having saved the lesser participants from such a punishment, considering such a deed to be in line with a Christian spirit³².

Soon after the suppression of the rebellion, the Bulgarians turned to the papal court with 115 questions on the Christian way of life. This original document has not survived, but the answering text re-states them³³. They comprise the request to have a patriarch ordained for Bulgaria, as well as a question about what sign to use when going on a military campaign, or on what days to fast, and so on³⁴. It seems that the turn to Rome and the pope was the result of a growing dissatisfaction with the Byzantine clerics present in Bulgaria. Boris/Michael and his entourage hoped to get an easier form of Christianity from Rome than from Byzantium, perhaps together with more privileges and independence.

While the responses of Pope Nicholas I were direct answers to the Bulgarians' many questions, Boris/Michael received detailed instructions on how to behave as a Christian ruler from the Byzantine Patriarch Photios. In a long letter, he outlined the history of the ecumenical councils before presenting a type of »mirror of princes« describing the ideal virtues of a Christian ruler. The letter is a good example of the erudition of Photios. It was relatively popular and was later copied and translated into other languages³⁵. The effect it had on Boris/Michael is, however, difficult to ascertain. It is telling that in the period shortly after the rebellion, Boris/Michael turned to Rome instead of Constantinople.

Between East and West

After the Bulgarian embassy to Pope Nicholas I, a papal mission led by Bishop Formosus of Porto was sent to Bulgaria. The Latin missionaries were probably quite successful³⁶. An inscription from Preslav in northern Bulgaria testifies to the presence of the Latin missionaries³⁷. The crucial point was, however, the ordination of a patriarch or an archbishop for Bulgaria. For Boris/Michael this point was important, because he obviously hoped for the creation of a more or less independent Christian church in Bulgaria, independent from Rome as well as from Constantinople. Pope Nicholas I rejected this request, desiring to wait for the results of the mission³⁸. After the first mission returned, Boris/Michael repeated his request and even suggested a candidate, bishop Formosus of Porto, the leader of the first missionary envoy to Bulgaria³⁹. The request was denied and, instead, another mission was dispatched under the leadership of Dominicus of Trivento and Grimoald of Polimartium. Boris/Michael was told to select another candidate from the papal missionaries⁴⁰. Pope Hadrian II (867-872), who succeeded to the papal throne after the death of Nicholas in November 867, continued in the same spirit. Though Boris/Michael indeed suggested another candidate, Cardinal Deacon Marinus (a member of the first mission), Pope Hadrian refused his wish. Instead, Hadrian tried to promote a certain Sylvester, who did not get the approval of the Bulgarian ruler⁴¹. He was quickly sent back to Rome. The attitude towards Rome had changed in the meantime. Now, after some failed attempts to get Formosus or another

25 Praschniker, *Zwei mittelalterliche Inschriften*.

26 Symeon mag. chron. 131,25, 243.

27 Theoph. Cont. chron. 230-235.

28 Ziemann, *Rebellion of the Nobles* 613-624.

29 Nicol. resp. 42,583.

30 Annal. Bertin. 85-86, a. 866. – *Annales de Saint-Bertin* 133. – Zlatarski, *Istorija* 51-59. – Gjuzelev, *Knjaz Boris* 114-122. – Angelov/Petrov/Primov, *Istorija na Bălgarija* 218-219. – Božilov/Gjuzelev, *Istorija* 176.

31 See n. 28.

32 Nicol. resp. 17, 577.

33 See n. 9.

34 Heiser, *Responsa*.

35 Phot. Epist. 1-39 no. 1. – Berrigan/White, *The Patriarch and the Prince* 7-90. – *Regestes de Constantinople I* no. 478. – Hergenröther, *Photius* 601-604. –

Zlatarski, *Istorija* 71-83. – Gjuzelev, *Knjaz Boris* 186-187. – Podskalsky, *Theologische Literatur* 53-54 with n. 228-229. – *PmbZ* 6253, n. 69.

36 Anast. interpr. synod. – Anast. epist. 395-442, 412. – Gjuzelev, *Knjaz Boris* 209-240. – Božilov/Gjuzelev, *Istorija* 180-184. – Ziemann, *Wandervolk* 390-392.

37 Škorpiil/Uspenskiy, *Materiali dlja bolgarskih'* 509, n. 1, pl. XCVIII, 8. – Beševliev, *Spätgriechische und spätlateinische Inschriften* 39-40, no. 54. – Dujčev, *Testimonianza* 183-192.

38 Nicol. resp. 72-73, 592-593; 92-93, 596-597. – Ziemann, *Wandervolk* 387-389.

39 Lib. pontif. II, 107,73-74; 165.

40 Lib. pontif. II, 107,74; 165.

41 Lib. pontif. II, 108, 61-62, 185. – Hergenröther, *Photius* 150. – Zlatarski, *Istorija* 126. – Gjuzelev, *Knjaz Boris* 239. – Ziemann, *Wandervolk* 398.

candidate of Boris/Michael's choice as patriarch or archbishop for the Bulgarian church, the Bulgarians lost their patience.

In 870, at a meeting of the papal and the Bulgarian envoys with the Byzantine Emperor after the eighth ecumenical council in Constantinople, it was decided that Bulgaria would belong to the Byzantine hemisphere⁴². The decision was made by the Byzantine Emperor and the oriental patriarchs who were present at the meeting, but it is unlikely that this was possible without Boris/Michael's consent. The decision was a final one. The protests of the papal legates were of no avail. Boris/Michael had made his choice. Despite short periods under Roman obedience, mainly at the end of the twelfth and beginning of the thirteenth century, Bulgaria remained an Orthodox country, keeping close contact with the church of Constantinople. This result was most probably attained by some compromises on the part of the Byzantines, certainly affording a degree of independence, perhaps even the autocephality of the Bulgarian church, which may have been acknowledged some years later⁴³. An archbishop of Bulgaria is mentioned in some sources, although his name is not entirely clear, as some have Josif and others mention Stephan⁴⁴. The first archiepiscopal see was most probably in Pliska⁴⁵; seals of an archbishop have been discovered in Pliska, but they refer to later archbishops⁴⁶. What is important is the fact that the Bulgarian church now started to develop more or less independently, while at the same time, it was structurally still dependent on its neighbour.

Boris/Michael made use of the – at least practical – independence and took the chance of letting the students of Cyril and Methodius, Naum, Climent, Angelarius and others to Bulgaria in order to spread the Christian faith and to build up ecclesiastical structures⁴⁷. Climent was later promoted as bishop of Dremvica and Velica in Macedonia, a region in the south-western part of the country. Once at the margins of the Bulgarian Empire, the region now became increasingly important. The most enduring effect was the creation of new scripts for the Slavic language of the Bulgarians that were developed to adapt them to the specific needs of the language. Inscriptions from Bulgaria testify to the usage of these scripts, first Glagolitic then more and more Cyrillic⁴⁸.

These developments were accompanied by other activities, the building of monasteries and churches that soon spread over the whole realm⁴⁹.

Boris/Michael's later years were turbulent ones. Probably in 889, he decided to take the monastic habit and to cede the throne to his son Vladimir (also called Rasate in some sources)⁵⁰. According to the Western chronicler Regino of Prüm, Vladimir intended to abandon the Christian faith and return to the old beliefs⁵¹. Scholars often link this event with sources mentioning contact with the Eastern Frankish kingdom under Arnulf of Carinthia and suggest a complete change of Bulgaria's political orientation after the abdication of Boris/Michael. However, whether this was really the case and whether it was connected to Vladimir's assumed rejection of Christianity is difficult to ascertain⁵². The source material does not allow for a more detailed analysis.

What we know is mainly what Regino of Prüm tells us about the events. He continued by describing how the old Boris/Michael left his monastery, put on his sword, deposed his son and ordered his blinding. Then he elevated Symeon, his third son, to the Bulgarian throne⁵³. Scholars date this event to 893⁵⁴. Whether the events happened in the way Regino presented them is hard to say. The role of Boris/Michael, who, after having accomplished these things, returned to his monastery and lived there until 907⁵⁵, is dubious and possibly not as prominent as Regino described it. It may have been more of a fight between brothers. Scholars see in the events of 893 more than just the deposition of Vladislav and the enthronement of Symeon. Most believe that this was done at a general assembly of the people, who also decided to move the capital from Pliska to Preslav and to declare Old Bulgarian as the official language⁵⁶. For the last point, there is absolutely no evidence, no source confirms this assumption. The relocation of the capital is also not mentioned. Pliska's prominent role in the ninth century has already been mentioned and Preslav became the centre of Symeon's Empire in the tenth century, this seems to be clear, but an official relocation did not take place, there is no source that could affirm such an assumption. The situation may have been more complex, perhaps with several centres, which were then slowly replaced by a single capital⁵⁷.

42 Anast. interpr. synod. – Anast. epist. 413-414. – A longer version is presented in Lib. pontif. II, 108, 46-58, 182-184. – Hergenröther, Photius 63-75. – Zlatarski, Istorija 133-140. – Hans-Dieter Döppmann, Bedeutung Bulgariens 96-104. – Gjuzeev, Knjaz Boris 183-185. – Ziemann, Wandervolk 404-408.

43 See the discussion in Podskalsky, Theologische Literatur 67 with n. 284; Oikonomides, Les listes de préséance byzantines 137. 245.

44 Podskalsky, Theologische Literatur 67 n. 285; these two different names appear in manuscripts containing the so-called »Miracle of St. George with the Bulgarian«, see Loparev, Čudo svjatago Georgija; Snegarov, »Čudo na sv. Georgi s bălgarina« 220, 225.

45 Georgiev/Vitjanov, Archiepiskopijata.

46 Totev, Dva novootkriti 198-199.

47 The building of churches is mentioned in the life of Climent of Ochrid by Theophylakt of Ochrid: Theophyl. Achrid. Vita S. Clementis (BHG 355) 99, XIX, 60, 101, XXIII, 67; Dončeva-Petkova, Archeologičeski svedenija 196-205. – For Climent of Ochrid see the abundant literature listed in Stančev, Kliment Ohridski 320-335 and Podskalsky, Theologische Literatur 104 with n. 415; PmbZ 23704;

Iliev, Kliment. – For Naum: Kožucharov, Naum Ochridski 795-798; Pop-Atanasov, Naum Ochridski 1024-1025; PmbZ 25501. – For Angelarios, see PmbZ 20422.

48 An edition of numerous inscriptions can be found in: Kronsteiner/Popkonstantinov, Altbulgarische Inschriften.

49 Kostova, Bulgarian Monasteries 190-202. – Popkonstantinov/Kostova, Architecture of Conversion 118-132. – Kostova, Topography of Three Early Medieval Monasteries 108-125.

50 Zlatarski, Istorija 243-252. – Božilov/Gjuzelev, Istorija 221-224.

51 Regino chron. 96.

52 Annal. Fuld. 125, 130.

53 Regino chron. 96.

54 Zlatarski, Istorija 253. – Božilov/Gjuzelev, Istorija 224-225.

55 Gjuzeev, Knjaz Boris 496-497.

56 Zlatarski, Istorija 253-258. – Božilov/Gjuzelev, Istorija 224-225 without mentioning the change of the language.

57 Ziemann, Pliska and Preslav 172-187.

The Restless Ruler: Bulgaria under Symeon

Symeon's reign is regarded as the most splendid one of all Bulgarian rulers of the First Bulgarian Empire⁵⁸. Due to his military successes, he expanded the territory of his realm and controlled regions that his predecessors had never reached. While his military successes faded away shortly after his death, the cultural achievements had a more sustainable future. His reign is commonly called »The Golden Age«, which refers mainly to the intellectual culture and the remaining architectural objects.

The beginning of Symeon's reign was turbulent. The dislocation of the trade station of the Bulgarian merchants from Constantinople to Thessaloniki together with higher customs duties caused major dissatisfaction on the part of the Bulgarians. The Byzantine sources present a detailed and complicated story about the people involved in this action⁵⁹. The result was a major campaign by Symeon in 894 and a victory on the battlefield. Symeon, however, did not continue to march towards Constantinople. Instead, he ordered that the captured *hetaireia*, a corps of bodyguards of the emperor (mostly Khazars), have their noses cut off.

The Byzantine court reacted with large-scale diplomatic activity. They persuaded the Hungarians who had settled north of the Danube to take up arms against the Bulgarians. Ships were organised to transport the Hungarians to the southern shore of the Danube, from where they invaded Bulgaria. The Bulgarians were defenceless against the fast-moving horsemen as they devastated the land. The Bulgarian forces were defeated. Symeon himself had to hide behind the walls of Silistra or Mundraga until the Hungarians left his realm. He managed, however, to induce the Pechenegs, the northern neighbours of the Hungarians, to invade the Hungarians' homeland and lay waste to it while their armies were absent on campaign. According to Constantine Porphyrogenitus, the Hungarians decided to move to the West and to settle in the Carpathian Basin after finding their territory devastated.

It is difficult to ascertain whether this happened exactly in the way described by Constantine Porphyrogenitus. The Hungarian conquest of the Carpathian Basin was probably a more complex process. The Bulgarians, however, were indeed relieved from the dangerous neighbour. By 896 Symeon was

able to gather an army and march against Constantinople. At Bulgarophygon, the Bulgarians managed to defeat the Byzantines once again. Many Byzantine soldiers fell captive to the Bulgarians⁶⁰. It is unclear whether a peace treaty was concluded in the aftermath of the campaign⁶¹. An inscription that has been found in Narăș (Nea Philadelphieia), 22 km north of Thessaloniki, mentions the year 6412 (904) and outlines the frontier between Byzantium and Bulgaria⁶². This may well have been the outcome of a specific peace treaty.

The following years seem to have been peaceful. There are only a few hints to potential conflicts. After Leo of Tripolis sacked Thessaloniki in 905, Symeon may have considered occupying the city, but this plan was not realised⁶³. The Byzantine diplomat Leo Choerosphaktes mentioned that he managed to prevent Symeon from taking the thirty forts of Dyrrhachium (Durrës) in today's Albania⁶⁴. There are no signs of larger military confrontations.

The situation changed with the death of Emperor Leon VI in 912. Alexander⁶⁵, the brother and successor of Leon, initiated confrontation by humiliating Bulgarian ambassadors. Consequently, Symeon marched his army towards Constantinople. As they approached, the young emperor, who ruled only one year and 22 days, suddenly died. When Symeon reached the walls of Constantinople with his army, negotiations started under the direction of Patriarch Nikolaos Mystikos. They resulted in some sort of agreement, which, due to the following events, is not entirely clear. The agreement obviously contained a proposed marriage between one of Symeon's daughters and the young emperor Constantine Porphyrogenitus⁶⁶, who had officially assumed rule, but was still a minor as he was born in 905⁶⁷. What followed after the negotiations was a famous and intensively discussed ceremony, which remains, however, enigmatic. What we learn from the sources is that Patriarch Nikolaos Mystikos put his own *epirription*⁶⁸, a scarf-like cloth, with which the patriarch covered his head, on Symeon's head⁶⁹. Scholars debated the meaning of this ceremony⁷⁰. Was it the coronation as emperor or *kaisar*? There are no sources that definitely confirm this assumption. On the other hand, it is likely that the sources might have presented the events in a distorted way as they were written long afterwards when the traces of the agreement had already been eradicated. Seals from Symeon

58 For Symeon (PmbZ 27467) see the following monographs and chapters: Božilov, Simeon; Zlatarski, Istorija 278-515; Angelov/Petrov/Primov, Istorija na Bălgarija 278-335; Shepard, Bulgaria 567-585; Božilov/Gjuzelev, Istorija 229-270; Leszka, Symeon I; Atanasov/Rašev/Vojnikov, Bălgarska nacionalna istorija 2, 313-402; Nenov/Gjuzelev/Iliev, Bălgarskijat zlaten vek.

59 Theoph. Cont., lib. VI, 16-17. – Georg. Hamart. chron. 771-772. – Io. Scyl. syn. hist. 175-176. – Symeon mag. chron. 275-276. – Zlatarski, Istorija 282-289. – Božilov, Simeon 87-89. – Božilov/Gjuzelev, Istorija 247. – Oikonomides, Le kommerkion d'Abydos 241-248.

60 Theoph. Cont., lib. VI, 20-21. – Io. Scyl. syn. hist. 176-178. – Symeon mag. chron. 276-277. – Const. Porph. admin. imp. 40,174-177. – Zlatarski, Istorija 292-342. – Božilov, Simeon 89-94. – Božilov/Gjuzelev, Istorija 247-248. – Shepard, Bulgaria 570.

61 Zlatarski, Istorija 320-323. – Koledarov, Politička 46. – Božilov, Simeon 94-95. – Božilov/Gjuzelev, Istorija 249.

62 Beševliev, Părvobălgarski nadpisi 170-172.

63 Kolias, Léon Choerosphactès 6.

64 Kolias, Léon Choerosphactès 113. – Zlatarski, Istorija 324-325. – Božilov, Simeon 94-95. – Božilov/Gjuzelev, Istorija 249.

65 PmbZ 20228.

66 PmbZ 23734.

67 Treadgold, History of the Byzantine State 471-473.

68 For epirription see LBG 1: A-K, 579: s. v. ἐπιρριπτάριον, τό. – John Skylitzes, A Synopsis, 194-195 fn. 22.

69 Theoph. Cont., lib. VI, 70-73. – Leon Gramm. Chronogr. 292. – Symeon mag. chron. 301.

70 Dölger, Reg. I no. 572. – PmbZ 25885 (Nikolaos I. Mystikos), n. 24-25. – Loud, »Coronation« of Symeon 109-120. – Shepard, Symeon of Bulgaria 22. – Drews, Grenzen der Legitimationskraft 125-140 with further literature. – Vučetić, Missverständnis.

that have been dated roughly to this period might suggest that Symeon started to call himself emperor, *basileus*⁷¹. Whatever agreement had been concluded, it did not last.

Empress Zoë Karbonopsina took over the regency and excluded Patriarch Nikolaos Mystikos from the government. Concerning the Bulgarians, Empress Zoë switched to a policy of confrontation. The result was most probably another campaign by Symeon, possibly resulting in the conquest of Adrianople, which was bought back from the Bulgarians by the empress later in 914⁷². The attempt to invade Bulgaria in 917 under the general Leon Phokas⁷³ resulted in disaster for the Byzantines. Symeon marched towards Byzantium and achieved a major victory near the river Acheloos at the Black Sea coast, close to today's town of Pomorie⁷⁴. The Bulgarians continued their campaign and sacked the suburbs of Constantinople. In 918 and 919, further campaigns were conducted, reaching the Gulf of Corinth⁷⁵. In 919, Zoë⁷⁶ was expelled from her position by her son Constantine Porphyrogenitus and Emperor Romanos I Lakapenos (r. 920-944)⁷⁷, who became the leading figure in Byzantium for the next decades⁷⁸. Romanos' daughter Helene⁷⁹ married the young Emperor Constantine Porphyrogenitus. It was, therefore, Romanos Lakapenos who took over the role that might have been envisaged by Symeon in 913.

The following years were marked by constant military campaigns by Symeon. Large areas of Thrace were plundered and devastated, but the imperial city remained unreachable. Symeon's attempt to conclude an alliance with the Arab rulers and to conquer Constantinople by land and sea could not be realised. In 924, a meeting took place between Symeon, Patriarch Nikolaos Mystikos and Romanos Lakapenos near Constantinople, but it ended without any significant result⁸⁰. Symeon, however, began to call himself »Emperor of the Romans«⁸¹. In a letter to Symeon, Romanos Lakapenos rebuked him for calling himself »Emperor of the Bulgarians and Romans«⁸².

The policy of expansion was not limited to the south-eastern border with Byzantium. Symeon also extended his rule to the west. In 917, Symeon invaded Serbia and installed a certain Paul as the Serbian ruler⁸³. In 924, the Bulgarians again undertook a campaign in Serbia, this time against Prince Zacharias⁸⁴. Constantine Porphyrogenitus wrote about how the Bulgarians captured the inhabitants and depopulated the whole region⁸⁵. Towards the end of Symeon's reign, the Bulgarians suffered from a significant defeat against the Croats under Prince Tomislav⁸⁶. A peace was negotiated through papal missionaries.

Symeon died on 27 May 927⁸⁷. At the time of his death, Bulgaria was a leading political power in south-eastern Europe, but its resources were exhausted. Symeon's son and successor Peter I was not able to maintain the sequence of successful military campaigns and he finally reached a peace agreement with Byzantium that would last for more than three decades⁸⁸.

The Golden Age

Much of Symeon's reign was dedicated to military campaigns and war against Byzantium. The battles and campaigns sometimes overshadow the periods of peace, e.g., during the first 13 years of the tenth century, and the manifold paths of cultural exchange. The period of Symeon saw the flourishing of the so called »school of Preslav«, a circle of intellectuals probably gathered around Symeon's court in Preslav, who translated mostly theological works from Greek to Old Church Slavonic (sometimes referred to as Old Bulgarian). They also produced original works of their own. Although preserved in later manuscripts, they can be traced back to the figures at Symeon's court⁸⁹. The most prominent representatives of this circle are Constantine of Preslav, with his »didactic gospel book«⁹⁰, and John the Exarch, with the

71 Gerasimov, Tri starobalgarski 350-356. – Beševliev, Die protobulgarischen Inschriften 330-331. – Jurukova/Penčev, Bălgarski srednovekovni 30. – Jordanov, Korpus 46-54. – Nicol. patr. ep 10, 33-37.

72 PmbZ 28506. – Theoph. Cont., lib. VI, 76-77. – Leon Gramm. Chronogr. 293. – Io. Scyl. syn. hist. 211. – Treadgold, History of the Byzantine State 473-474.

73 PmbZ 24408.

74 Theoph. Cont., lib. VI, 78-81. – Leon Gramm. Chronogr. 294-296. – Io. Scyl. syn. hist. 203-204. – Symeon mag. chron. 304-305. – Zlatarski, Istorija 383-388. – Angelov/Petrov/Primov, Istorija na Bălgarija 287-288. – Božilov, Simeon 124-126. – Božilov/Gjuzelev, Istorija 258-260. – See the contributions of the proceedings of the conference held at the 1100th anniversary of the battle of Anchialos: Nikolov/Kănev, Simeonova.

75 Zlatarski, Istorija 392-395. – Angelov/Petrov/Primov, Istorija na Bălgarija 289. – Božilov, Simeon 126. – Božilov/Gjuzelev, Istorija 256-257.

76 PmbZ 28506.

77 PmbZ 26833.

78 Theoph. Cont., lib. VI, 82-89. – Symeon mag. chron. 308. – Georg. Hamart. chron. 1141.

79 PmbZ 22574.

80 For the events from 922-927: Zlatarski, Istorija 430-515; Angelov/Petrov/Primov, Istorija na Bălgarija 292-295; Božilov, Simeon 138-148; Božilov/Gjuzelev, Istorija 258-260.

81 Jordanov, Korpus 48-49. – Jordanov, Pečatite na car Simeon I Veliki 77-114.

82 Regestes de Constantinople I 5,59.

83 PmbZ # 26399. – Const. Porph. admin. imp. 32,156-159. – Zlatarski, Istorija 388. 392-395. – Božilov, Simeon 123. 126. – Božilov/Gjuzelev, Istorija 256-257.

84 For Zacharias: PmbZ 28480. – Atanasov/Vačkova/Pavlov, Bălgarska nacionalna istorija 3, 398.

85 Const. Porph. admin. imp. 32,158-159.

86 Mandić, Croatian King 32-43.

87 For a connection between the defeat against the Croats and Symeon's death: Theoph. Cont., lib. VI, 116-119; other Byzantine chronicles just mention the death of Symeon, see, e.g., Symeon mag. chron. 326.

88 The Bulgarian State in 927-969. The epoch of Tsar Peter I, ed. by Mirosław J. Leszka and Kiril Marinov. Byzantina Lodziensia 34 (Łódź 2018).

89 See the publications of the series Preslavka knižovna škola vol. 1-18 (1995-2018), there, e.g., Georgiev, Văznikvaneto 7-18; Graševa/Slavova, Preslavsko knižovno središte 312-327. One of the most recent overviews: Anguševa/Gagova/Miltanova, Knižovnostta po vremeto 213-276.

90 Graševa, Konstantin Preslavski 426-440. – Konstantin Preslavski, Starobalgarskoto.

Slavic version of the Hexaëmeron that had originally been composed by Basil the Great⁹¹. Chernorizets Hrabăr wrote an apology of the Old Bulgarian language and scripture called »O pismenekh'«⁹². The so-called »Symeonov sbornik«, which contains Byzantine works in Slavic translation, could have been compiled by Symeon himself⁹³. He was probably also involved in the compilation of sermons called »Zlatostruj« (in Greek »Chrysorrhoes«)⁹⁴.

Still visible today are the ruins of Symeon's residence, the city of Preslav⁹⁵. There is no clear mention of Preslav as Bulgaria's capital, but archaeological research has delivered sufficient evidence for assuming that it was at least the most important city of Symeon's empire. As it has already been mentioned, the question of capitals and residences is less clear than is presented in some textbooks on Bulgarian history. In the course of Symeon's rule, however, Preslav seems to have attained the status of some sort of capital.

Preslav has an outer and an inner city surrounded by stone walls. The outer city comprises an area of 3.5 km². In the middle of this fortified area, a second fortification surrounds the inner city. The most impressive building is the so-called Golden Church or Round Church. It has a round nave and twelve niches in a semicircle form. It is also mentioned by the monk Tudor Doksov⁹⁶. Preslav was certainly a splendid and richly ornamented city. The role model was Constantinople, the imperial centre where Symeon was brought up before he returned to Bulgaria. Preslav has many interesting features, which are connected to its function, such as the aqueduct, which supplied the city with drinking water. Archaeologists have also excavated a building complex that is commonly interpreted as the palace of Symeon. Seals and other remains of administrative activities have been found⁹⁷; however, most of these findings belong to the period of Byzantine occupation after the end of the First Bulgarian Empire.

The cruel and brutal wars against Byzantium seem sometimes to be incompatible with the admiration for Byzantine culture, literature and architecture, but this is an anachronistic view. Symeon was raised in Byzantium, Liutprand of Cremona called him a »half-Greek«⁹⁸. For him, Bulgaria and Byzantium belonged to the same common world, his continuous attempts to be accepted, not just as the Bulgarian, but also as the Roman Emperor reveal that he considered himself to be both, a Roman and a Bulgarian ruler, which was no contradic-

tion for him. He obviously styled himself as a pious man and displayed certain forms of religiosity⁹⁹ while at the same time, he ordered the cruel treatment of captives and inhabitants of conquered regions, as well as a systematic destruction of precious buildings. His image is, of course, distorted by the Byzantine perspective, the only perspective that has left literary traces and, therefore, the only perspective that is accessible to historians¹⁰⁰. He himself wanted to be seen as a peace maker¹⁰¹. Therefore, scholars have attempted to reverse the image provided by the Byzantine sources and to emphasise the idea of peace, but this might sometimes just replace one fiction with another¹⁰². It is difficult to put Symeon's reign under one coherent term, as the contradictory tendencies have to be left unsolved.

The Peace of 927 and Maria, the Byzantine Princess

The transition to the Bulgarian throne was turbulent. John¹⁰³, another son of Symeon, rebelled against the succession of his brother Peter¹⁰⁴; the nobility was divided. That the conflict had something to do with the future policy towards Byzantium is possible, but it has to be acknowledged that we lack detailed information about the struggles within Bulgaria. It is likely that many factors unknown to us played a role. Peter finally prevailed and immediately started to conduct the next campaign against Byzantium, but things quickly changed. Negotiations started and, finally, both sides reached an agreement¹⁰⁵. The details have not been transmitted by the historians, but the outcome is quite clear. Peter married a Byzantine princess, Maria Lakapene¹⁰⁶, a granddaughter of Romanos Lakapenos and the oldest daughter of Christophoros Lakapenos¹⁰⁷ and Sophia¹⁰⁸. By this marriage, Peter acknowledged the position of Romanos Lakapenos and accepted him as legitimate Emperor. This means that at the same time the position of Constantine Porphyrogenitus, in principle the legitimate ruler, was no longer relevant for the Bulgarians. It was only Liutprand of Cremona who stated that Maria was renamed Eirene, meaning »peace«¹⁰⁹. All other sources call her simply Maria, including seals from Bulgaria¹¹⁰.

Maria Lakapene was renowned for her beauty; this is what Byzantine chronicles tell us¹¹¹. The wedding took place on 8

91 Ikononova, Joan Ekzarch 169-194. – Ioh. Exarch. Hexaem.

92 Graševa, Černorizets Hrabăr 497-505. – Podskalsky, Theologische Literatur 237-241 with the most relevant editions (239).

93 Ivanova, Izbornik ot 1073, 50-59. – Podskalsky, Theologische Literatur 474-475.

94 Podskalsky, Theologische Literatur 194-195.

95 For Preslav see Prinzing, Preslav; Browning, Preslav; Totev, Preslav 301-311 with the abundant literature; Vaklinov, Vtorata bălgarska stolica Preslav 49-76; most recently: Vaklinova, Vėliki Preslav 12-17, and the articles in the journals Preslav vol. 1-8 (1968-2019) and Pliska-Preslav vol. 1-13 (1979-2018).

96 Kovačeva, Tudor Doksov 200-202. – Podskalsky, Theologische Literatur. – Athan. apol. c. Arian. 52,6-7.

97 Jordanov, Pečatite na car Simeon I Veliki 77-114.

98 Liutpr. legat. 185-218, III,29, 66. – von Falkenhausen, Symeon.

99 Nicol. patr. ep 14,94.

100 Angelov, Obrazăt na Car Simeon 331-346.

101 Jordanov, Korpus 46.

102 Božilov, Simeon 106-117.

103 PmbZ # 22903.

104 PmbZ # 26409.

105 Zlatarski, Istorija 516-525. – Božilov/Gjuzelev, Istorija 271-273. – Leszka, Peter's Way 23-34. – Dölger, Reg. I no. 612 with further literature.

106 PmbZ 24919.

107 PmbZ 21275.

108 PmbZ 27152.

109 Liutpr. antap. 5-150, III,38, 86.

110 Jordanov, Korpus 58-60.

111 Theoph. Cont., lib. VI, 120-121. – Symeon mag. chron. 327. – Io. Scyl. syn. hist. 223.

October 927, lasting for several days, in the church consecrated to the Mother of God in Pegai near Constantinople¹¹². Patriarch Stephanos conducted the ceremony¹¹³. The *protobestiarios* Theophanes¹¹⁴ and the whole senate of Constantinople were present and entered the church together with the bridal couple. Theophanes and Georgios Sursubules¹¹⁵, a high Bulgarian functionary, acted as witnesses to the marriage. After three days, Maria returned to Constantinople, and after the banquet, Maria and Theophanes returned to Constantinople. After a feast on the third day in Pegai, the Bulgarians caused a scandal by insisting on hailing Christophoros, the co-emperor and son of Romanos Lakapenos, before Constantine VII Porphyrogenitus who nominally had the higher rank¹¹⁶. Christophoros was, of course, Maria's father, his pre-eminence would reflect on his daughter Maria as the new Bulgarian empress.

Maria left for Bulgaria after the end of the celebrations. Theophanes and her parents accompanied her to the Hebdomon. The chronicles mention that she was sad to leave her parents but happy to rule over the Bulgarians. It is explicitly mentioned that she took much treasure and accoutrements with her¹¹⁷, which provides us with a possible background for the Preslav Treasure.

Though it is not explicitly mentioned, it is quite likely that the Byzantines officially recognised the imperial title of Peter, *basileus* in Greek and *tsar* in Bulgarian, during the course of the peace treaty¹¹⁸.

Maria played a special role in Bulgaria, possibly a more prominent role than previous wives of Bulgarian rulers. One seal mentions her together with her husband as emperor and empress¹¹⁹. She had four children with Peter, two daughters and two sons, Boris¹²⁰ and Romanos¹²¹. In 931, she visited Constantinople together with three of her children to visit her father and grandfather. Her father was, however, already dead. She returned to Bulgaria with presents from her grandfather Romanos Lakapenos, something that would also provide a possible background for the Preslav Treasure¹²². The sources remain silent about the rest of Maria's life. She probably died in 963, which means that she did not witness the downfall of the Bulgarian Empire. Archaeological research provides some further information mainly in form of seals that

have been found, depicting Maria with her husband Peter¹²³. Compared to their predecessors, the number of seals is quite significant.

Tsar Peter and the Decline of the Bulgarian Empire

The peaceful relationship between Byzantium and Bulgaria turned the interest of Byzantine historiography away from their northern neighbours. Archaeology cannot compensate for this lack of information. In Preslav, building activities seem to have increased: monasteries flourished and churches were built¹²⁴. Peter himself seems to have supported monastic communities. He might have played a role in promulgating the cult of John of Rila, whose body was transferred to Sofia after John's death in 946¹²⁵. One of the versions of the life of John of Rila mentioned a meeting with Tsar Peter¹²⁶; Peter called himself a pious ruler on one of his seals¹²⁷. The period of Peter's rule is also associated with the emergence and dissemination of the Bogomils, an ascetic sect with a dualist theology that may have been influenced by neo-Manichaean ideas¹²⁸. The name stems allegedly from a priest called Bogomil. As in similar cases, the theology of the Bogomils has to be reconstructed through the sources of their persecutors. In 972, a presbyter called Cosmas wrote a treatise against the Bogomils that now serves as one of the most important sources¹²⁹. According to the available information, the Bogomils regarded material things as an outcome of the Devil's activities and promoted an extreme form of asceticism. Theophylaktos of Constantinople (933-956) mentioned the Bogomils in Bulgaria in a letter to Tsar Peter¹³⁰. Cosmas criticised, not only the Bogomils, but also the Orthodox Church and the conduct of their representatives. Some characteristics of the Church and certain clerical behaviour could have influenced the emergence of the sect.

Towards the end of Peter's reign, especially, signs of political decline were visible. A constant threat were the Hungarians, who now dwelt in the north-west of Bulgaria. After the battle of Lechfeld, the way to the West was closed. It seems that the Hungarians increasingly turned to the south-

112 The events are described in: Theoph. Cont., lib. VI, 118-123; Georg. Hamart. chron. 831-834; Symeon mag. chron. 327-329. – See the more recent research in: Shepard, A Marriage Too Far 121-149; Brzozowska, Byzantine Consort 55-90 esp. 60-63.

113 PmbZ 27245.

114 PmbZ 28087.

115 PmbZ 22137.

116 Theoph. Cont., lib. VI, 122-123. – Georg. Hamart. chron. 833. – Symeon mag. chron. 328. – Leonis, Grammatici Chronographia 317. – Shepard, A Marriage Too Far 132. – Brzozowska, Byzantine Consort 62.

117 Georg. Hamart. chron. 834; see the sources concerning her departure in PmbZ 24919 n. 1; Bosselmann-Ruickbie, Byzantinischer Schmuck 18f. 34-40.

118 Bakalov, Srednovekovnijat bǎlgarski vladetel 169-172. – Atanasov, Insigniite 96-99. – Nikolov, Politicheska 234. – Todorov, Vladetelskijat statut i titla na car Petăr I, 93-108. – Leszka/Marinov, Peace 47-53 esp. 51.

119 Jordanov, Korpus III, 58-60.

120 PmbZ 21198.

121 PmbZ 26847.

122 Theoph. Cont., lib. VI, 136-137. – Symeon mag. chron. 334. – Georg. Hamart. chron. 840. – Brzozowska, Byzantine Consort 75.

123 See the discussion and literature in Brzozowska, Byzantine Consort 84-87.

124 Brzozowska/Nikolov, Culture 347-400 esp. 380-391 with further literature.

125 Dinekov, Ivan Rilski 25-33. – Podskalsky, Theologische Literatur 105-108.

126 Podskalsky, Theologische Literatur 289. – Leszka, The Portrayal of Peter 405-434 esp. 421-425.

127 Jurukova/Penčev, Bǎlgarski srednovekovni 34. – Jurukova, Srebären 3-12.

128 Leszka/Wolski, Church 303-345 esp. 335-345.

129 Popruženko, Kozma Presviter. – Begunov, Kozma Presviter. – Podskalsky, Theologische Literatur 134-141.

130 Regestes de Constantinople I 223-224 no. 789. – Petrovskii, Pis'mo patriarcha Konstantinopol'skogo Feofilakta 356-372.

east, towards Byzantium. To reach Byzantium, the Hungarians had to cross Bulgarian territory. Byzantine sources mentioned Hungarian incursions in 934 and 943. A certain *patrikios* Theophanes negotiated with them and reached some sort of agreement¹³¹. We find Hungarians in Thrace in 958/959, 961/962, and 968, plundering and devastating the region¹³². Emperor Nikephoros II Phokas (963-969)¹³³ accused Tsar Peter of allowing the Hungarians to cross the Danube. Peter's situation was, however, quite hopeless¹³⁴. He complained that he was left alone without any support against the Hungarians. He felt himself, therefore, obliged to honour the agreements with them. It was certainly not a voluntary act to let them cross the Bulgarian lands, but a lack of necessary means to provide protection. Scholars have speculated whether in 965 the Bulgarian embassy at Emperor Otto's court in Magdeburg or Merseburg looked for support against the Hungarians, a mission, for which Otto the Great seemed to have been the right addressee. The sources, however, mentioned just the presence of the Bulgarian ambassadors and nothing more¹³⁵.

The final blow for the Bulgarian Empire, at least for its north-eastern parts came from an unexpected direction. Emperor Nikephoros II Phokas contacted the Kievan Rus', then under the rule of Svjatoslav of Kiev¹³⁶, and suggested a campaign against the Bulgarians. The outcome exceeded, however, even the aims of Nikephoros Phokas. In the summer of 968, the Kievan Rus' invaded Bulgaria, plundered the territory and seized several towns. It was only the news of a Pecheneg incursion that persuaded Svjatoslav to return. But after having reached an agreement, the Kievan Rus' returned¹³⁷. Tsar Peter had died in the meantime (969), leaving Bulgaria in a disastrous situation. His son Boris II¹³⁸ succeeded him, but he was unable to defend his Empire against the second invasion of Svjatoslav, who soon controlled large parts of the country.

This was, however, not in accordance with the agreement with Byzantium, where the goal had been to weaken Bulgaria, not replace it with another dangerous neighbour. In 971, the Byzantine Emperor John Tsimiskes organised a campaign against Svjatoslav. The Byzantine army crossed the Balkan Mountains and took Preslav and Silistra, forcing the Kievan Rus' to return to the regions north of the Danube. Some Bulgarians had joined the Kievan Rus' and John Tsimiskes's intention was, not to restore Bulgaria to Tsar Boris II, but to

incorporate it into the Byzantine Empire as a province. Tsar Boris II and his family were captured and taken to Constantinople. Preslav was renamed Ioannoupolis, but remained the administrative centre of the new province. Boris was forced to remove his imperial insignia and had to be content with the title of *magistros*¹³⁹. The Bulgarian Empire survived in its south-western regions under the reign of the Komitopuli with Tsar Samuil¹⁴⁰, but Preslav and the north-east became, with some temporary exceptions, a Byzantine province.

Concluding Remarks

The outline of some aspects of the political events of the ninth and tenth centuries tried to focus on the Byzantine-Bulgarian relations in order to contextualise the Preslav Treasure and to provide the general background for its interpretation. While Christianisation occurred during a period of political weakness in the middle of the ninth century, Bulgaria regained its strength during the second half of the ninth century, especially under the rule of Symeon the Great, whose military successes against the Byzantine neighbour were unrivalled. During the reign of Tsar Peter, Bulgaria had already passed its political and military peak. It is, however, still an unsolved problem why, after the long and peaceful reign of Tsar Peter and his wife Maria, Bulgaria collapsed so quickly under the attack of the Kievan Rus' and Emperor John Tsimiskes¹⁴¹ in 971.

The influence of Byzantine culture has a long history, starting long before Christianisation. When Maria arrived in Bulgaria in 927, specific forms of representing the ruler had already been practiced at the Bulgarian court for a century. It is, therefore, not clear whether the arrival of Tsaritsa Maria really increased the »Byzantinisation« of Bulgaria. Her role was certainly specific and more powerful than that of her predecessors, but it is doubtful whether it had a significant impact beyond the Bulgarian court. While the sources are less abundant concerning the rule of Tsar Peter, it seems that some cultural and religious trends developed quite independently in Bulgaria. In terms of art and culture, Bulgaria had already created a specific character that made it distinct from all other regions in south-eastern Europe.

131 PmbZ # 28087.

132 Ziemann, *Der schwächernde Nachbar* 367-382. – Dimitrov, *Bälgaro-ungarski otnošenija* 74-78. – Moravcsik, *Byzantium and the Magyars*.

133 PmbZ # 25535.

134 Dölger, *Reg. I* 130, no. 710. – *Io. Scyl. syn. hist.* 276-277.

135 Jacob, *Arabische Berichte* 11-12.

136 PmbZ # 27440.

137 Zlatarski, *Istorija* 567-587. – Angelov/Petrov/Primov, *Istorija na Bälgarija* 389-390. – Božilov/Gjuzelev, *Istorija* 295-297.

138 PmbZ # 21198.

139 Zlatarski, *Istorija* 587-632. – Angelov/Petrov/Primov, *Istorija na Bälgarija* 390-397. – Božilov/Gjuzelev, *Istorija* 297-300.

140 Pirivatrić, *Samuilovata dăržava*. – Säbotinov, *Bälgarija pri car Samuil*; see also the contributions of the proceedings of a conference in 2014: Gjuzelev/Nikolov, *Evropejskijat*.

141 PmbZ # 22778 (Ioannes Tsimiskes).

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Summary / Zusammenfassung / Résumé

Bulgaria and Byzantium in the Ninth and Tenth Centuries: Symeon, Peter and the Byzantine Princess

The proximity to the Byzantine Empire was, in many respects, a decisive factor in the development of the First Bulgarian Empire, founded in 680/681. While the history of the Bulgarian state until its fall in 1018 was marked by recurring conflicts with its powerful south-eastern neighbour – whose actions ultimately contributed to its demise –, it was also profoundly shaped by cultural and religious interactions with Byzantium. A key moment in this process was the Christianisation of Bulgaria in the mid-ninth century, largely orchestrated by Byzantium. This event marked a crucial epochal shift, initiating the formation of ecclesiastical structures and fostering the emergence of a distinct Bulgarian culture, expressed across literature, art, and architecture. A particularly notable

example was the literary activity of the Preslav School, which played a central role in translating and producing important theological texts. It is noteworthy that the heyday of this school coincided with the expansionist policy of the Bulgarian Tsar Symeon the Great (893-927), a period marked by frequent military conflicts between Bulgaria and Byzantium. This period is regarded in Bulgarian historical memory as the »Golden Age«. In 927, Symeon's son, Tsar Peter I (927-969), signalled his intent for a lasting peace with the Byzantine Empire by marrying the Byzantine princess Maria Lakapene. Her lavish endowments mentioned in the written sources could provide a background for the Preslav Treasure. The long reign of Tsar Peter I nevertheless marked the beginning of the Bulgarian Empire's decline.

Bulgarien und Byzanz im 9. und 10. Jahrhundert: Symeon, Peter und die byzantinische Prinzessin

Für die Entwicklung des 680/681 gegründeten Ersten Bulgarischen Reiches war die Nachbarschaft mit dem Byzantinischen Reich ein in vieler Hinsicht entscheidender Faktor. Während die Geschichte des Ersten Bulgarischen Reiches bis zu seinem von Byzanz vollzogenen Ende im Jahre 1018 durch zahlreiche Konflikte mit dem südöstlichen Nachbarn gekennzeichnet war, sind zugleich die kulturellen und religiösen Einflüsse und Wechselwirkungen unübersehbar. Die maßgeblich von Byzanz organisierte Christianisierung Bulgariens Mitte des 9. Jahrhunderts stellte dabei eine entscheidende Epochen-grenze für das Erste Bulgarische Reich dar, da sie den Beginn nicht nur der Errichtung kirchlicher Organisationsstrukturen darstellte, sondern auch im Zusammenspiel von bulgarischen und byzantinischen Elementen zur Entstehung einer eigenen und in ihrer künstlerischen Ausgestaltung speziellen bulgarischen Kultur führte, die sich auf unterschiedlichen Ebenen wie der Literatur, Kunst oder Architektur widerspiegelte. In literarischer Hinsicht mag hierbei die Schule von Preslav, die für die Übersetzung und Abfassung wichtiger, vor allem theologischer Texte verantwortlich war, als herausragendes Beispiel dienen. Dabei ist es bezeichnend, dass die Blütezeit dieser Schule mit der Expansionspolitik des bulgarischen Zaren Symeon des Großen (893-927) zusammenfiel, die durch zahlreiche militärische Auseinandersetzungen zwischen Bulgarien und Byzanz gekennzeichnet war. Im bulgarischen Geschichtsbewusstsein wird diese Zeit als »goldenes Zeitalter« bezeichnet. Symeons Sohn, Zar Peter I. (927-969), setzte im Jahr 927 mit der Heirat der byzantinischen Prinzessin Maria Lakapene ein Zeichen für den angestrebten dauerhaften Frieden mit dem Byzantinischen Reich. Die in den schriftlichen Quellen erwähnte reiche Ausstattung der byzantinischen Prinzessin könnte einen Hintergrund für den Schatz von Preslav liefern. Dennoch mündete die lange Regentschaft Zar Peters I. schließlich in den beginnenden Niedergang des bulgarischen Reiches.

La Bulgarie et Byzance aux IX^e et X^e siècles: Syméon, Pierre et la princesse byzantine

Le voisinage avec l'Empire byzantin a constitué, à bien des égards, un facteur décisif pour le développement du Premier Empire bulgare, fondé en 680/681. Si l'histoire de ce royaume a été marquée, jusqu'à sa fin en 1018, par de nombreux conflits avec son voisin du sud-est (qui causa sa chute ultime), les influences et interactions culturelles et religieuses n'en sont pas moins manifestes. La christianisation de la Bulgarie au milieu du IX^e siècle – entreprise en grande partie sous l'égide de Byzance – représente une césure majeure dans l'histoire du Premier Empire bulgare: elle marque non seulement le début de l'instauration d'institutions ecclésiastiques, mais conduit également, par l'interaction entre éléments byzantins et bulgares, à l'émergence d'une culture spécifiquement bulgare, originale dans ses formes artistiques, et visible à travers la littérature, l'art et l'architecture. Sur le plan littéraire, l'école de Preslav, responsable de la traduction et de la rédaction de textes majeurs – notamment théologiques –, constitue un exemple particulièrement remarquable. Il est significatif que l'apogée de cette école ait coïncidé avec la politique expansionniste du tsar bulgare Syméon le Grand (893-927), marquée par de nombreux affrontements militaires entre la Bulgarie et Byzance. Dans la mémoire historique bulgare, cette époque est désignée comme »l'âge d'or«. En 927, le fils de Syméon, le tsar Pierre I^{er} (927-969), manifesta sa volonté de paix durable avec l'Empire byzantin en épousant la princesse byzantine Marie Lécapène. La dot somptueuse de cette dernière, évoquée dans les sources écrites, pourrait fournir un arrière-plan possible au trésor de Preslav. Malgré tout, le long règne du tsar Pierre I^{er} aboutit finalement au début du déclin du royaume bulgare.

The Legacy of Cyril and Methodius and the Development of the First Slavic Literary Language in the Bulgarian Empire: A European Perspective

The Cyrillo-Methodian Sources

In the last two centuries, rivers of ink have been written about the mission of Cyril and Methodius and the birth of the first Slavic literary language, but the interpretation of their work and of their legacy remains open¹. Both the nature of the sources and the quality of the scientific editions certainly play a role. The available Slavic, Latin and Greek sources mostly have a late manuscript tradition, starting with the Life of Constantine-Cyril, whose first witnesses date back to the fifteenth century and whose reliability is still discussed despite the extraordinary efforts made in the last century². Its complex manuscript tradition continues to be the subject of research, but we still do not have a totally reliable, critical edition³.

In Slavonic literature, there are also writings that are attributed directly to Cyril, such as the Prologue (*Proglas*), which would therefore be the first poetic composition in Slavic, but the scientific community does not unanimously recognise its paternity and its textual reconstruction remains very difficult⁴. To orientate ourselves in this complex picture, in addition to the traditional collections of sources⁵, at least with regard to the »Slavonic sources on Cyril and Methodius and their disciples«, we now have a fundamental map available⁶. However, already at first glance, it must be recognised that they are largely liturgical texts that do not offer reliable material for historical reconstruction.

A great contribution is provided by Latin sources, especially the papal correspondence of the period, as recently demonstrated by M. Betti's scrupulous study⁷, although attention is generally focused on Moravia and Pannonia, to which the Slavic mission of the Thessalonian brothers was directed. It

should be remembered that Rome claimed the entire ancient province of Illyricum, including the Bulgarian Khanate⁸. In defence of its rights, the Roman curia was confronted with a resurgent Eastern Roman Empire that was taking on the characteristics of the Byzantine tradition in cultural, social and religious dimensions. It was also confronted with the expansion of the East Frankish kingdom, which sought control over the Danube basin, while its eastern territories were occupied by Slavic peoples who converted to Christianity of the Latin tradition in the form adopted in the Germanic-Celtic world.

The Christianisation of the Slavs and the New Geopolitics of the Middle Age Era

The legacy of Cyril and Methodius and the development of the first Slavic literary language have their initial starting point in the Slavic mission, prepared in Constantinople at the time of Patriarch Photius (863) and then passed under the aegis of Pope Adrian II (869). The Cyrillo-Methodian mission took place in the heart of the European continent, where the interests of the Carolingian and Byzantine Empires and the different religious authorities clashed, while the Mediterranean basin appeared increasingly dominated by Islamic power, especially with the gradual conquest of Sicily (827-902). Often, the focus is on papal politics and the East Frankish Kingdom, but one should consider the extensive Byzantine influence and in particular the comprehensive design of a Constantinopolitan project from the Khazar and Arabic east to the Danube basin. There, the conversion of the Slavs to Christianity would have had an important weight and would have had to

1 Along with the weighty Cyrillo-Methodian bibliographies published in the past, the Kirilo-Metodievaska enciklopedija (KME) should be consulted in order to realise the vastness of the scientific literature on the subject. Of course, the extensive bibliography of the past two decades must be added.

2 Reference should be made to the classic study by F. Dvornik (Dvornik), a work written in Paris inspired by the Byzantinist C. Diehl (Garzaniti, *The Cyrillo-Methodian Mission*).

3 See Ivanova, *Konstantin-Kiril 7-62*. Italian Slavists have contributed to the debate by studying the complexity of the reconstruction of the different branches of the manuscript tradition, see Diddi, *Vita Constantini*.

4 See Garzaniti, »Proglas k svetemu Evangeliju«.

5 The most recent collection of the Cyrillo-Methodian sources remains the *Magna Moraviae fontes historici*, which is now available in a comprehensive new edition (a third is in preparation), but in general it still refers to Grivec/Tomšič, *Constantinus et Methodius*.

6 See Mirčeva, *Kiril i Metodij*.

7 See Betti, *Christian Moravia*. For a more traditional approach see Vavřínek, *Cyryl a Metoděj*. In addition to the papal correspondences, we must first add the so-called »Italic Legend«, the most important Latin source on the activity of the Thessalonian brothers (Grivec/Tomšič, *Constantinus et Methodius 59-64*).

8 See Dvornik 249-283.

rebalance the adherence to the Western Christianity of the Germanic peoples⁹. The Cyrillo-Methodian mission in Moravia and Pannonia and the adherence to Christianity of Khan Boris, not only coincide temporally in the mid-860s, but must also be considered within this complex political and ecclesiastical framework to understand subsequent developments¹⁰.

In the restoration of the geopolitical and religious balance, before the new upheaval produced by the invasion of the Hungarians in the tenth century, the Pannonian and Moravian area submitted, with alternating vicissitudes, to the hegemony of the East Frankish Kingdom and episcopate; Dalmatia strengthened its ties to the Roman papacy. The Bulgarian Khanate began a process of Christianisation that was increasingly orientated towards Constantinople, which, after the reception of the disciples of Methodius (885), would have had unexpected cultural, social and political consequences, not only for the Balkans, but also for Eastern Europe as a whole in the following centuries.

For these reasons, at the turn of the nineteenth and twentieth centuries, when the Austro-Hungarian, Russian and Ottoman Empires were in deep crisis and the new Slavic national states were born on their ashes, the study of the mission of Cyril and Methodius and their legacy took on a fundamental role in the construction of various national identities. The different ideological orientations, both national and religious, have naturally influenced scientific research, even that which seems to focus on philological and literary questions¹¹. In this way, a complex »Cyrillo-Methodian question« has been created in which contemporary problems are intertwined with the construction of different national and religious memories, while scientific research often tends to confine itself within the limits of a rigorous, but often reductive, factual analysis¹².

The Slavic Mission and its Developments

To orientate ourselves in the complexity of the Cyrillo-Methodian question and its Bulgarian heritage, we should start from certain fixed points that are indispensable for the interpretation of the mission of the Thessalonian brothers, which are widely reflected in the sources. The first is that the mission was conceived in Constantinople in the early 860s and produced a special alphabet for the Slavs, the Glagolitic, and some proofs of translation. The second is that the mission took place in Great Moravia, an area considered to be under the jurisdiction of Rome, where Latin and Germanic mission-

aries were already active, even if it seems difficult to define its precise boundaries. The third factor concerns the transformation of the Byzantine mission into a Roman mission after the death of Cyril (869) and the consecration of Methodius as archbishop of Moravia on the initiative of Pope Hadrian II¹³. In any case, it must be emphasised that Cyril belonged to the circle of the Patriarch Photius, who has gone down in history largely because of his schism with Rome, and that he, like his elder brother Methodius, had received the best education of the Byzantine imperial bureaucracy. Both remained faithful to the Constantinopolitan tradition in their missionary activity¹⁴.

The Paleo-Slavic Lives of Cyril and Methodius (abbreviated VC, VM), written by their disciples, remain the most important testimonies to this very complex history. Despite the fact that they are hagiographic narratives, contemporary research has increasingly demonstrated their historical reliability. These testimonies, however, do not tell us what happened after the death of Methodius (885), when most of the Slavic clergy were sold as slaves and the closest disciples found refuge in the First Bulgarian Empire, as witnessed by the *Extended Life of Clement* (written in Greek by Theophylact (d. 1107/1108)) and the *Life of Naum*, another of his disciples¹⁵. With their expulsion, the Germanic Latin clergy, dependent on the episcopal seats of the East Frankish Kingdom, imposed themselves on Moravia, as they had previously done in Pannonia, and the religious and cultural orientation of the Western Slavic populations was determined, as it would later be for the Hungarians, although the Cyrillo-Methodian memory does not seem to have been completely erased.

The mission of Cyril and Methodius would have been one of the many failures in the work of Christianising the Slavic populations had it not been for a new factor that brought about a decisive turning point in the history of the Balkans. The disciples of Methodius found refuge in the First Bulgarian Empire, where Proto-Bulgarian and Slavic peoples coexisted. Here, they were able to continue their activities and realise an ecclesiastical structure similar to that created by Methodius in Moravia. This time, the archbishopric was no longer dependent on Rome, but in close connection with Byzantium, even if it was in fact becoming increasingly autonomous.

It is an event of extraordinary importance in Church history because it gave birth to the first true medieval autocephaly, which led to the erection of the Bulgarian Patriarchate in the course of just thirty years (925)¹⁶. It was even more fundamental in the eventual development of the Slavic literary language, the first European vernacular, which asserted itself

9 See Garzaniti, *The Constantinopolitan Project*, and Garzaniti, *Byzantine Missionary Strategies*.

10 On the sources and historical circumstances of the conversion of the Khan Boris to Christianity see Sullivan, *Khan Boris*, and Gjuzelev, *The Adoption of Christianity*.

11 Consider the role of the encyclical of Pope Leo XIII (1880), dedicated to the Thessalonian brothers, when the unionist tendencies of Catholicism and the action of the Eastern Catholic Churches within Austria-Hungary were renewed (Tamborra, *Riscoperta di Cirillo e Metodio*).

12 On the national memories related to Cyril and Methodius in the Balkan area, see Rohdewald, *Götter der Nationen* 233-341. 610-702.

13 According to the *Life of Methodius*, the prelate was consecrated in Rome as archbishop for the Slavs in the chair of Saint Andronicus, a disciple of Paul, generally identified with ancient Sirmium. This is one of the more obscure and debated points of our question (see Betti, *Christian Moravia* 192-203).

14 See Garzaniti, *Byzantine Missionary Strategies*.

15 For the *Extended Life of Clement* see Tunickij, *Materialy dlja istorii* and Milev, *Kliment Ochridski*.

16 See Gjuzelev, *Beležki vărču*.

at the same level as Latin and Greek in religious use and cultural formation. In comparison to the Moravian period, these processes involved a series of transformations, which had as their protagonists the disciples of Methodius. First of all, we must remember Clement of Ohrid and Constantine of Preslav, who produced, not only new translations, but also original works¹⁷. Among the most remarkable developments, the most important was the creation of the Cyrillic alphabet, which was modelled on the Greek capital letters, abandoning the symbolic and graphic complexity of the Glagolitic alphabet, but using it to be able to write typically Slavic sounds. The transmission of manuscripts was thus complicated by the transcription from Glagolitic to Cyrillic¹⁸.

The Preparatory Phases of the Slavic Acculturation Process

At the level of European cultural, religious and philosophical history, the importance of the project conceived in Constantinople in the years of the Patriarch Photius, in the environment of the Magnaura, the great Roman-Eastern academy, cannot be overlooked¹⁹. It was not a purely linguistic operation, which was in itself extraordinary for the time, in other words it was also the invention of an alphabet, with the creation of a linguistic standard based on speech, which was capable of becoming a written language for the translation of complex texts. By far the most important fact is that this instrument, which was intended to facilitate the adherence of the Slavic populations to Christianity, gradually became a powerful tool for the transmission of Hellenistic-Christian culture, providing the essential tools for understanding the tradition of the Christian East.

The first round of Cyrillian translations, begun in Constantinople and carried out in Great Moravia, ended in Rome, not only with the Slavic celebrations in the Roman basilicas, but also with the deposition of the books in the Church of Santa Maria Maggiore, mentioned in both the Life of Constantine-Cyril (VC XVII, 5) and the Life of Clement (III, 10)²⁰. The veneration of Jesus' manger in this Roman basilica highlights the symbolic recognition of the sacredness of Slavic books, which, not by chance, goes completely without mention in Latin sources. This is an elaboration that follows the controversy with the Latin clergy concerning the so-called »trilingualist heresy« when Cyril, on the basis of scriptural

exegesis, demonstrated, first in Venice and then in Rome, the legitimacy of the use of the Slavic language in liturgy. His teaching was based on the concept that man, beyond all race, language and culture, was a creature made in the »image« and »likeness« of God« (see Gen 1:26)²¹ and on the idea of the universality of the Christian message, which was closely connected to the Greek concept of »knowledge of the truth«²².

Thus began, already in the time of Cyril, a process of sacralisation of the alphabet and books, inseparable realities between them, which was fulfilled with the brief treatise *On the Letters* of the monk Chrabr, written in Bulgaria at the beginning of the tenth century, when the memory of the disciples of the Thessalonian brothers was still alive²³. This season, therefore, contained within itself the fruits of subsequent developments, not only for the obvious purpose of translations for public worship, but also for the cultural operation, unprecedented for the Latin West, which finds a fundamental manifesto in the aforementioned *Prologue*, attributed to Cyril²⁴. Beyond any pedagogical realism and with absolute confidence in man's rational abilities, the Byzantine intellectual had composed a poem in verses similar to those of Greek tragedy (iambic tetrameter), in which the most daring metaphors of the Hellenistic tradition alternate to the forms of the evangelical parable to proclaim that »without the letters all peoples are naked«²⁵. This reflection could help us, for example, to understand whether the definition of διδάσκαλος, with which the Vita Clemente designates Cyril, can be interpreted with the concept of διδάσκαλος τῶν ἔθνῶν, from the letters of St Paul (1 Tm 2,7; 2 Tm 1,11)²⁶.

The second phase of the writer's work in Moravia developed under the direction of his older brother Methodius, who – although he was an archbishop consecrated in Rome – was nevertheless completely reconciled with the patriarch Photius, who had regained the Constantinopolitan throne (878). The Life of Methodius briefly illustrates this activity, from which we can deduce the existence of a translation school that, according to the Byzantine vision, had to prepare some necessary tools to establish a complex ecclesiastical structure and train monks and clerics who had to learn the indispensable knowledge of the books of the Bible and the major sources of ecclesiastical tradition²⁷. We do not have the manuscript testimony of the Bible of Methodius, but only fragments of it in liturgical books or in miscellanies, at least in the earliest phase. Nevertheless, the awareness was clearly

17 On the figure and work of Clement, see Kujumdžijeva et al., Sv. Kliment Ochridski; Stantchev/Calusio, San Clemente di Ocrida.

18 This question emerges clearly in the alphabetic acrostics, among which the best known is the Alphabetical Prayer of Constantine of Preslav (Kuev, Azbučnata molitva).

19 See Garzaniti, The Constantinopolitan Project. Generally, slavishly following the hagiographic sources, the birth of the first Slavic literary language is simply attributed to the personal effort of Cyril.

20 See Garzaniti, La liturgia in slavo 34.

21 See also the disputes of Cyril with Arab Muslims and Khazars narrated in his Life (VC VI, IX-XI; see the English version with commentary in Tachiaos, Original Biographies) and the German version in Bujnoch, Zwischen Rom und Byzanz.

22 This idea is contained in one of the main quotations of the Slavonic lives and of the Cyrillo-Methodian sources: »God wants everyone to be saved and come to the knowledge of the truth« (1 Tm 2,4; see Garzaniti, Sacre scrittura). It is only now that we begin the study of the complex Byzantine biblical exegesis that underlies the teaching of Cyril and Methodius. See for example Garzaniti, Parlare in lingue.

23 See Kuev, Černorizec Chrabr.

24 See Garzaniti, »Proglas k svetemu Evangeliju«.

25 See verse 80 in Vaillant, Une poésie vieux-slave 12.

26 See Tunickij, Materialy dlja istorii 76; Hannick, Die byzantinischen Missionen 297; Iliev, Sv. Kliment 54.

27 See VM XV; see Tachiaos, Original Biographies.

maintained of the existence of the book that contained all holy scriptures, and at the same time the necessity that the clergy and monks should possess the biblical and patristic knowledge necessary to access the foundations of the traditional heritage of Eastern Christianity. This was an undertaking that occupied the last years of the Great Moravian archbishop's activity²⁸.

The Formation of a New Cultural Memory

Regarding the question of the language and the production of writing there is no doubt that we can speak of Old Church Slavonic or Old Bulgarian language. Unfortunately, there are very few testimonies showing linguistic characters belonging to the Western Slavic area. In recent decades, attention has been focused not only on the paleographic and linguistic aspects, but above all on the function of the language and the book forms that characterised the first production of writing. It is absolutely evident that this was a language that had a dominant function in worship and was characterised by book forms more or less necessary for the celebration of the liturgy, as well as for monastic life and the formation of the clergy. In any case, it would be anachronistic to project our idea of religious experience in a secularised society into the past.

The introduction of the Slavic language into the Byzantine liturgy had to be gradual, beginning with translations that had mainly a pastoral and catechetical purpose intended to instruct the clergy in the education of Methodius, and later gradually acquiring a full liturgical purpose in Bulgaria. Clement, who assumed the role of bishop in the western regions of the Bulgarian Empire, devoted himself to the translation and composition of Slavonic texts that had a direct liturgical function, especially of a hymnographic nature, or with a paraliturgical function as in the case of the homilies²⁹.

The sacralisation of the Slavic language through worship deeply affected the aristocracy, as well as the population, and presupposed the formation of a literate clergy who became the upholders of a new social memory. They, whether Slavs or Proto-Bulgarians, no longer referred to ancestral cults and the memory of their ancestors, who had led the conquest of the new lands, but entered a Mediterranean and Middle-Eastern culture with a complex and stratified philosophical, historical and geographical vision. In this perspective, the effort to create a specialised lexicon or to create linguistic registers that belonged to the complex cultural synthesis of Christian Hellenism appears astonishing³⁰.

In the Latin-Germanic world, to which a significant portion of the Slavic peoples belonged, forming the so-called »Slavia Latina«, a unique linguistic medium was imposed on different peoples and ethnic groups. In the First Bulgarian Empire, a form of communication was established, similar to the Slavic vernacular, which was perceived as a sacred language and as an expression of ethnicity, and which aspired to rise to the same level as Greek. From this perspective, the most complex aspect of education was not to learn a foreign language, as in the case of Latin in the West, but to acquire the ability to translate from Greek into Slavic. In this way, a symbiosis was created between the two languages and cultures that did not weaken over the centuries, but rather deepened. This cultural elite, composed essentially of monks, had the task of selecting books and texts of various contents and forms, which were indispensable for bringing the liturgical and monastic life ever closer to the Eastern tradition. Although the Byzantine monastic culture is clearly dominant, the First Bulgarian Empire inherited the main foundations of classical culture through patristic elaboration³¹.

The First Bulgarian Empire and Bulgarian Written Production

This extraordinary period of ancient Bulgarian written production was possible because the Bulgarian khanate was transformed into the first Bulgarian Empire by adopting Constantinople as a model. The chief architect of these transformations was the son of the Khan Boris, Simeon, who grew up in Constantinople in Photius's time. Here he received an excellent education and ascended the throne at the behest of his father against the legitimate heir (893)³². The work of translating the texts from Greek into Slavonic increased thanks to the contribution of Clement, who became the first Slavic bishop of the Bulgarian Church in the eparchy of Velica³³, but also of Constantine, who was active in the new capital of Preslav in continuity with the Moravian experience. At that time, a veritable Byzantine-Slavonic liturgical tradition came into being, accompanied by the creation of original texts in the fields of hymnography and homiletics, but also hagiography and exegetics³⁴. Among these are the work of translating and adapting the Hexameron or the Slavonic version of the theological treatises of John of Damascus³⁵. In the light of these processes, and taking into account the territorial expansion of the first Bulgarian Empire, which stretched from the Black Sea to the Adriatic Sea, it is easy to understand how, in the tenth

28 See Garzaniti, *Die slavische Bibel*, and Garzaniti, *Methodius between Rome and Constantinople*.

29 On the liturgy in Slavonic at the time of Clement of Ohrid see Garzaniti, *Biblija i bogosluženie*.

30 See Garzaniti, »Cerkovna pamjat«.

31 On the different cultural dynamics between »Slavia Latina« and »Slavia Orthodoxa« see Garzaniti, *Slavia latina e Slavia ortodossa*. About the acculturation process, our vision differs at least in part from Živov, *Osobnosti recepcii vizantijskoj kul'tury*.

32 See Gjuzeev, *Beležki vărchu*.

33 See Peri, *Velika (Dragvišta)*. – Delikari, Hl. Klemens.

34 On the Slavic liturgy at the time of Clement of Ohrid see Garzaniti, *Biblija i bogosluženie*.

35 For an introduction in a Western language to Old Bulgarian literature and its legacy in the Balkans, see Podskalsky, *Theologische Literatur des Mittelalters*.

century, the foundations were laid for a Byzantine-Slavic world orientated to the Constantinopolitan model, a turning point in the history of the Balkans (and not only there).

Consequently, the preservation and development of the Methodian legacy in the first Bulgarian Empire experienced an extraordinarily productive period under the protection of Tsar Simeon, who sought to reproduce the Byzantine model. At the same time, however, this extraordinary cultural effort ended up anchoring this legacy in a precise ethnic and confessional affiliation. This is clearly shown by the reaction of the Latin bishops of Dalmatia, starting with the archiepiscopal see of Split, who, with the support of the Holy See, convened two councils in the Adriatic city (925, 927) to sanction the condemnation of the memory of Methodius and to try to limit the use of the Slavonic language in the liturgy as much as possible³⁶. In order to survive in the Dalmatian area, Glagolitic and its literature were reinterpreted in the light of the pious lie that transferred the invention of Glagolitic to St Jerome, the translator of the Latin Vulgate³⁷.

It was a cultural process that took place in the territories of the ancient Roman Empire, but in which the protagonists were those populations from beyond the Danube that the Mediterranean world considered barbaric. In reality, as we well know, a new Europe was being created, built on the basis of the cultures of the Mediterranean and the Middle East, but also benefiting from the original contribution of new peoples.

The importance of the Old Bulgarian period for the cultural history of Europe, therefore, seems to us to be underestimated, because its role beyond national destiny is not perceived and was limited to a »peripheral area«. Without a solid linguistic and literary cultural model with Byzantine roots, the history of the Balkans and of Europe as a whole would have been different. The transplantation of Bulgarian book culture into the Kievan Rus' at the end of the tenth century would not have taken place, nor would Serbian medieval culture have developed, with all the historical and cultural consequences that these processes have entailed. The echo of the Methodian heritage in the Western Balkans and in Dalmatia, with the Croatian-Glagolitic tradition, would have lost all relevance. The existence of this competitor to the Bulgarian and Serbian traditions made it possible to revive the memory of Great Moravia and the first written Slavic vernacular during Charles IV's reign as King of Bohemia and Emperor of the Holy Roman Empire, by providing them with a space in the heart of Europe in Prague. Here, the Croatian-Glagolitic tradition made a fundamental contribution to the development of the Czech vernacular and the Czech version of the Bible, a model for other vernacular language versions and further impetus

for the Hussite religious reformism, which is another crucial and often overlooked aspect of European culture.

A Paradigmatic Example of Byzantine Acculturation in the Bulgarian Empire: the Miscellany of Simeon

During the Patriarchate of Photius, probably in its second phase (878-886), a successful anthology was created in Constantinople, which we know under the name of *Soterios*. This anthology contained the fundamental tools for understanding the Christian message as elaborated by the first councils and for developing an adequate exegesis of the Bible. It is probable that the young Simeon of Bulgaria was familiar with this work during his sojourn in Constantinople, where he was presumably preparing for an ecclesiastical career. After his accession to the Bulgarian throne, the miscellany was translated into Slavonic in the same capital, Preslav³⁸. Like other ancient Old Bulgarian works, they survive only in the manuscript copies made in the Rus' during the process of transplanting the Byzantine-Slavonic culture to the East Slavic area. The so-called *Izbornik* of Svjatoslav (1073), which is the first example of a Slavic anthology, is, in fact, the Miscellany of Simeon, a translation of the Greek Florilegium *Soterios*³⁹.

The work does not serve as a simple catechesis addressed to the uneducated or to neophytes, nor does it even function as a treatise of Christian erudition in encyclopaedic form, as it is often described. This collection of texts, which date back to the most classical tradition of patristic thought, was intended to offer a series of indispensable tools to illustrate the traditional doctrine of the Christian East through the understanding and exegesis of the Bible, in terms of content and on the level of form, in its aspects both doctrinal and moral. The work appears, therefore, extraordinarily useful for the formation of a clergy occupied in pastoral activity or in missionary work by presenting the fundamental message of Orthodox teaching in the model of Church Fathers⁴⁰.

We have paid particular attention to the *Quaestio* 65 of the miscellany, a precious cento of quotations from the Bible and patristic literature, which constitutes a true apology of the Bible, in which Christian wisdom is set against pagan wisdom, but also a meaningful reflection on its linguistic and oratorical formulation. A precise analysis that examines numerous a themes, beginning with the »speaking in tongues«, rightfully positions the *Soterios* and its Slavonic version between the testimonies of the Cyrillo-Methodian question and its inheritance in Bulgaria⁴¹.

36 See Garzaniti, Ohrid, Split.

37 See Verkholantsev, Slavic Letters of St. Jerome.

38 The panegyric verse in his honour contained therein helps to understand the reasons that led to the production of the Slavonic version of this anthology in the time of Tsar Simeon. See Garzaniti, The Eulogy of Symeon's Miscellany.

39 See the edition of the Greek and Slavonic texts in Dinekov/Janeva, Simeonov Sbornik. For an introduction to the manuscript tradition of *Soterios*, see Dine-

kov/Janeva, Simeonov Sbornik 9-110. On the project for a new edition of the Greek miscellany, see De Groote, The Soterios.

40 See Garzaniti, Missionerskoe nasledie.

41 See Garzaniti, Parlare in lingue. More generally on the main exegetical issues in Simeon's Miscellany, see Garzaniti, Questions on the Old and New Testaments.

Conclusion

Unfortunately, the well-known events of the Byzantine-Bulgarian wars in the tenth and eleventh centuries inevitably interrupted a promising cultural development, a warning for the following centuries that only peaceful relations between ethnic groups and religious traditions can allow a positive evolution of our civilisation. The memory of the Old Bulgarian era has been preserved mainly, as we have said, thanks to the transplantation of its manuscript tradition to Kievan Rus'.

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In the overall reconstruction of a European cultural history capable of encompassing both Western and Eastern Europe, many questions remain unanswered and many ideological prejudices still persist.

However, it is an undeniable fact that the presence in the Balkans of a language of worship and cultural use other than Latin and Greek, already in the ninth and tenth centuries, was not only a peripheral phenomenon of medieval Europe, but also a cultural ferment of crucial importance that continues to bear fruit that is still ripening today.

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Summary / Zusammenfassung / Résumé

The Legacy of Cyril and Methodius and the Development of the First Slavic Literary Language in the Bulgarian Empire: A European Perspective

With broad reference to sources, the author presents the Slavic mission of Cyril and Methodius and its developments in the context of the Christianisation of the Slavs and the complicated geopolitics of the Middle Ages. In particular, the essay focuses on different phases of the Slavic acculturation process, starting with the first Cyrillian translations and original works up until the formation of a new cultural memory in the First Bulgarian Empire. The copious Bulgarian written production, an overlooked page of European cultural history, is examined through the paradigmatic example of the Miscellany of Simeon, a collection of texts with the most classical tradition of patristic thought, which intended to offer a series of indispensable tools to illustrate the traditional doctrine of the Christian East, but at the same time made available the basic elements of classical culture.

Das Erbe von Kyrill und Methodius und die Entwicklung der ersten slawischen Literatursprache im Bulgarischen Reich: Eine europäische Perspektive

Der Autor stellt die Slawenmission von Kyrill und Methodius und ihre Entwicklung im Kontext der Christianisierung der Slawen und der komplizierten geopolitischen Verhältnisse des Mittelalters auf breiter Quellengrundlage dar. Der Aufsatz konzentriert sich insbesondere auf die verschiedenen Phasen des slawischen Akkulturationsprozesses, beginnend mit den ersten kyrillischen Übersetzungen und Originalwerken bis hin zur Herausbildung eines neuen kulturellen Gedächtnisses im Ersten Bulgarischen Reich. Die reiche bulgarische Schriftproduktion, eine übersehene Seite der europäischen Kulturgeschichte, wird am paradigmatischen Beispiel des Simeon-Florilegs betrachtet, einer Textsammlung in der klassischsten Tradition des patristischen Denkens, die eine Reihe unentbehrlicher Hilfsmittel zur Veranschaulichung der traditionellen Lehre des christlichen Ostens bieten sollte, gleichzeitig aber auch die grundlegenden Elemente der klassischen Kultur zur Verfügung stellte.

L'héritage de Cyrille et Méthode et le développement de la première langue littéraire slave dans l'empire bulgare: une perspective européenne

En se référant largement aux sources, l'auteur présente la mission slave de Cyrille et Méthode et ses développements dans le contexte de la christianisation des Slaves et de la géopolitique complexe du Moyen Âge. En particulier, l'article se concentre sur différentes phases de l'acculturation slave, depuis les premières traductions et œuvres originales par Cyrille jusqu'à la formation d'une nouvelle mémoire culturelle dans le Premier Empire bulgare. L'abondante production écrite bulgare, page méconnue de l'histoire culturelle européenne, est examinée à travers l'exemple paradigmatique du Florilège de Siméon, un recueil de textes portant sur la tradition la plus classique de la pensée patristique, qui entendait offrir une série d'outils indispensables pour illustrer la doctrine traditionnelle de l'Orient chrétien, mais qui, en même temps, mettait à disposition les éléments de base de la culture classique.

The Relations between the Frankish Kingdoms and Bulgaria (Seventh to Ninth Centuries)

Studying the relations between the Franks and the Bulgarians from the time when they were first attested (from the seventh century until the end of the Carolingian Empire towards the end of the ninth century) requires focusing mainly on political aspects since these are best attested in the written sources. Frankish diplomacy towards Bulgaria has been less studied than Byzantine or papal diplomacy¹. This is partly because the sources are scarcer (we know that the acts of the Aachen chancery are less well preserved than those of Constantinople or Rome) and partly because we often imagine the Frankish world and Bulgaria to be geographically more distant than they actually were, which will be discussed below. The analysis can be divided into several chronological stages that are linked to the progressive weakening of the Avar Empire and, consequently, to the emergence of Bulgaria as an autonomous power.

When the Bulgarians appeared in written sources in the seventh century, the northern shore of the Mediterranean Sea was characterised by a balance between three great powers: the Merovingian Franks, the Avars and the Byzantines (fig. 1). Other less influential groups can be seen along a corridor from Saxony to the Adriatic Sea, including the Germanic peoples on the eastern borders of the Franks (in light blue on the map), and the first known Slavic peoples (in dark green). Within the Avar area, we can also add the Bulgarians to these secondary groups. These peoples tried to develop or survive between the strongholds of the great powers, which, in turn, tried to subjugate them. In this context, for example, the so-called *Fredegar Chronicle*, written in the second half of the seventh century, describes the itinerary of a group of 9000 Bulgarians who fled from the Avar Empire around 630 and took refuge in Bavaria, a region politically subject to the Franks². The Merovingian royalty was embarrassed by these migrants, whose presence threatened to disrupt relations between Franks and Avars, and therefore ordered the Bavarians to kill the 9000 Bulgarians in a single night, which was effectively perpetrated. Thus, as far as we know, the

relations between the Franks and the Bulgarians began with this abominable scene, marked by violence and disdain, since a minority group was obviously sacrificed in order to preserve relations between the great powers.

Things changed radically around 795, when the Frankish kingdom (now under Carolingian rule) won several important victories against the Avar Empire, leading to its collapse³. These military events had two crucial consequences for our purposes: first, they pushed the Carolingian borders far eastwards (fig. 2); second, they freed from Avar control ethnic groups that had hitherto existed only as subcategories of this vast empire. Among these emerging groups were the Moravians and the Bulgarians, who became the two main eastern counterparts of the Franks throughout the ninth century. The exact geography of this Frankish expansion to the South-East is still highly debated among historians; but it seems clear that it created a common border with Bulgaria. At the beginning of the ninth century, the sources located the Franks around the Tisza, Sirmium, and Timok rivers⁴, that is, at the gates of Bulgaria. At the end of the same century, an author called the »Bavarian Geographer« still presented the Bulgarians as direct counterparts of the Franks, on the same basis as the Moravians⁵. Thus, at the turn of the ninth century, the Bulgarians had become both a great power that had to be taken seriously by the Franks, and also their immediate neighbour.

This geographical proximity did not necessarily imply an improvement in relations, at least not at first. Indeed, the first decades of coexistence were still marked by conflicts over common borders, which still had to be defined within the former Avar Empire. In particular, the sources mentioned several peoples who sought to leave the Bulgarian authority and to place themselves under the Frankish influence, which was now very close. This was the case, in particular, of two peoples mentioned in the years 810 and 820 who lived in what is now Serbia: the Timociani (who obviously took their name from the Timok River) and the *Pradenecenti* (who probably gave their name to the present-day Serbian district

1 About the Byzantine relations with Bulgaria, cf. Ziemann, *Wandervolk*. – For the papal diplomacy in that area, see Nikolov, *Bishops; Sansterre, Missionnaires*.

2 *Fredegar, Chron.* 4,72.

3 Pohl, *Avars*.

4 The Tisza and Sirmium are named in 796 by Paulinus of Aquileia about Eric of Friuli's death: Paulinus, *Carmen*. Sirmium is the current Serbian city of Sremska Mitrovica. On the Timok, see below.

5 *Geogr. Baw.* On the text, see Rossignol, *Manuscrit; Betti, Descriptio*.

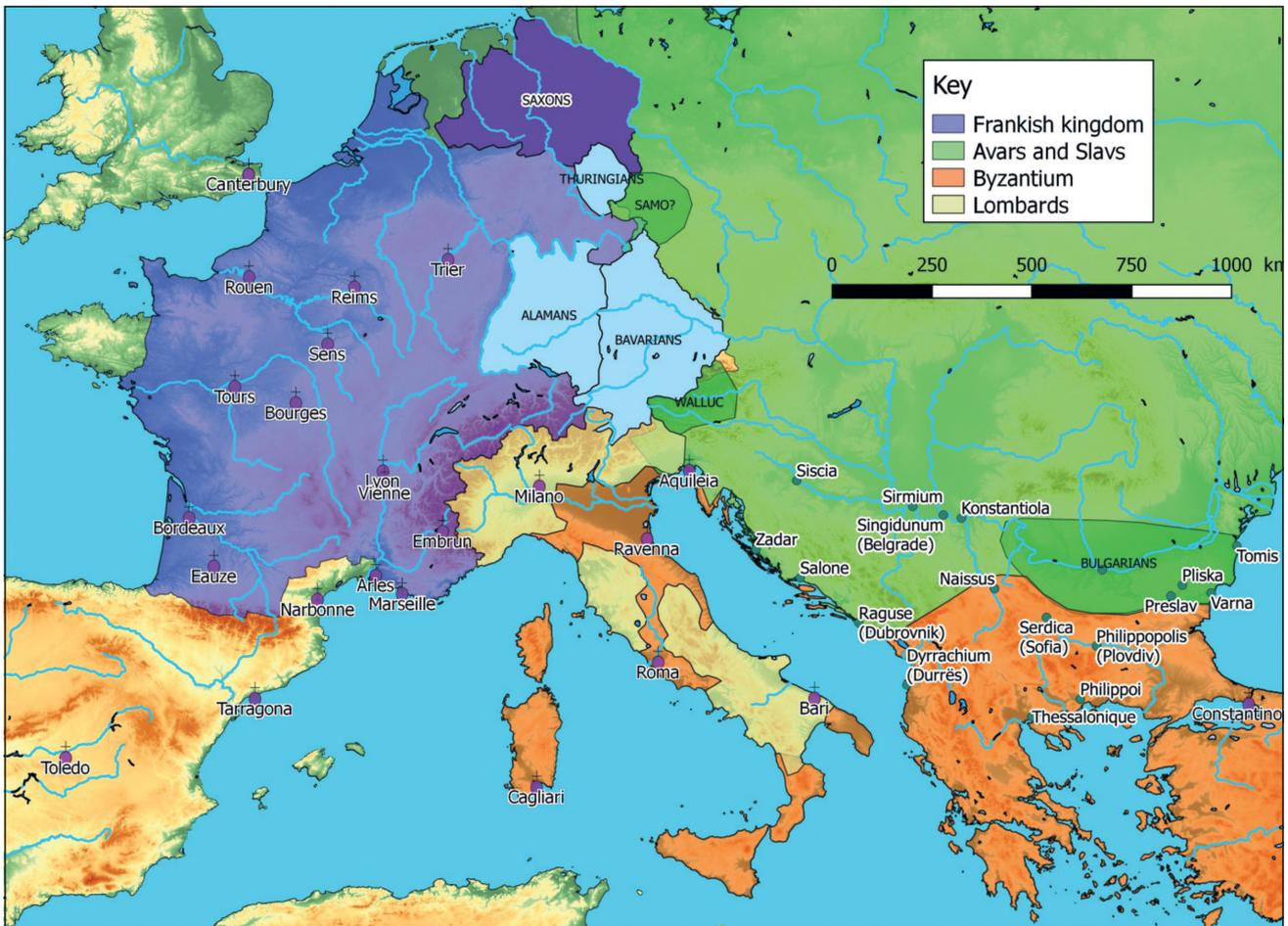


Fig. 1 Main European kingdoms and empires in the seventh century. – (Map T. Lienhard).

of Braničevo)⁶. We do not know why these groups preferred Frankish domination over that of the Bulgarians. Nevertheless, the Bulgarians opposed it, first through diplomatic channels by protesting to the Franks, then by launching a vast and victorious military operation against the Carolingians in 827⁷. At that time, the Timociani and Praedenecenti were forced to return under the authority of Khan Omurtag and the disputed territory returned to the Bulgarian orbit throughout the ninth century. In the longer term, this event marked the region's embeddedness in the Eastern world (especially the Orthodox world, once that category became a reality) for the subsequent centuries.

In these tense relations at the beginning of the ninth century, a striking element is the relative ignorance shown by the Franks towards their Bulgarian counterparts. As mentioned above, the latter had sent several embassies; however, the treatment given to these diplomats was remarkable. The

Frankish Emperor Louis the Pious (813-840) avoided answering for three years, either by making the Bulgarian envoys wait for a long time, or by sending them home with an evasive answer⁸. It was these hesitations that finally led the Bulgarian leader to launch the military campaign of 827, leading to the defeat of the Franks. Why had the Frankish Emperor neglected the Bulgarian ambassadors in that way? As justification, the annalists in 826 proposed the fact that »a rumour said that the king of the Bulgarians had been driven out of his kingdom, or killed, by one of the magnates of his kingdom«. Therefore, the Franks were obviously waiting to know who the actual leader was in order to determine which policy had to be followed. It can be deduced that, for three years, Louis the Pious failed to obtain reliable information about the identity of the Bulgarian king, although this was one of the main military powers in the northern Mediterranean, capable of shaking both Frankish and Byzantine security. Clearly, during

6 The Timociani are mentioned in the Frankish royal annals for the years 818 and 819; the Praedenecenti for the years 822 and 824. *Annal. regni Franc.* 149-150. 159. 165. The identification of the latter with the district of Braničevo had been already suggested by Šafařík, *Starožitnosti* 612 and is still generally accepted. The Timok is a tributary on the right of the Danube in modern Serbia.

7 *Annal. regni Franc.* 173.

8 *Annal. regni Franc.* 164. 167-168. 173 (for the years 824 to 827).

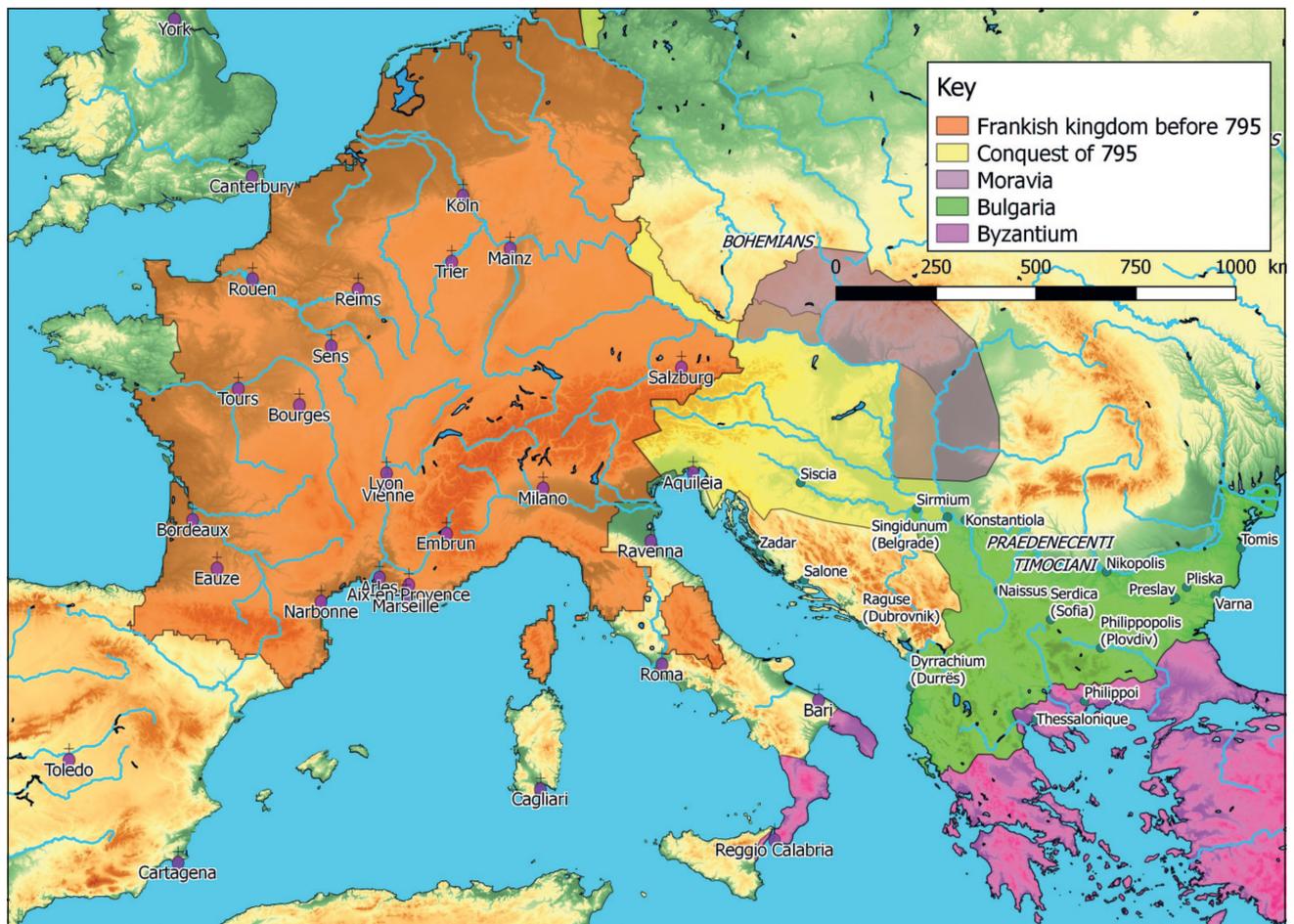


Fig. 2 Franks and Bulgars after 795. – (Map T. Lienhard).

the 820s, the Carolingians still had difficulty in understanding and properly assessing the powers in the region they had wrested from the Avar Empire, and that lack of knowledge influenced their diplomatic practices.

However, in the following decades of the ninth century, relations between Franks and Bulgarians became more normal. The territorial question was now settled and the Carolingians had become aware of the military importance of this adversary. They were too busy with other eastern conflicts, particularly against the Moravians, to hope to expand into the Balkans. This led to relations, which were characteristic for great powers seeking mutual recognition as such, despite Bulgaria not being a Christian realm, theoretically a *sine qua non* for the Franks to accept lasting peace.

The recognition of the *de facto* status was based on several aspects: first, Bulgaria at times served as a refuge for the Franks when they were in dispute with their own authorities. For example, towards the end of the 830s, a Moravian aristocrat named Priwina managed to be accepted into the Frankish world, but for unknown reasons, he quarrelled with

the count who had welcomed him and fled to the Bulgarians for a while before reconciling himself with the Carolingians⁹. Such behaviour certainly did not promote diplomatic relations between the Frankish and Bulgarian rulers, but it at least showed that the Franks did not consider it possible to pursue such a fugitive in the Bulgarian kingdom, which was a form of minimal recognition between two states. It may be pointed out in that respect that the fugitive's Moravian origin may not have been insignificant. Priwina certainly spoke a Slavic language, which could have facilitated his integration into Bulgaria and, more generally, he was undoubtedly in a situation of relative familiarity with that kingdom as it neighbored Moravia. At least for the Franks, Bulgaria therefore represented a region that Carolingian authority could not encroach.

In the same decade, an allusive source sheds some light on exchanges that were both diplomatic and religious. A Saxon monk named Gottschalk had fled to the court of the duke of Friuli to escape persecution for his theological views¹⁰. In doing so, he travelled into Bulgarian territory, although we do

9 Libell. Baw. et Car. 10-11. See Wolfram, Weißbuch 166-211.

10 Pezé, Virus 55.

not know whether this was a religious mission, or, more likely, whether he was accompanying a Frankish embassy. In any case, according to him, »one day, in the land of the Bulgars, a powerful and noble pagan asked me to drink in homage to this god who transformed wine into blood«¹¹. Clearly, the Bulgarian had launched a joke as a pretext for a drink, and Gottschalk used it to suggest that the idea of transubstantiation was gaining ground among pagans¹². The mention is fleeting and reflects some misunderstandings, but also illustrates the possibility of dialogue across religious differences.

In the second half of the ninth century, the Bulgarians also became military allies of the Franks, first against the Moravians and then against the Hungarians (the latter sometimes supported by the Byzantines). This partnership is attested as early as 863, when the Franks and Bulgarians launched a joint campaign against the Moravian Duke Rastiz¹³. The date is remarkable, since it predates the official conversion of the Bulgarians to Christianity in 864 and, therefore, confirms the mutual recognition between those two powers notwithstanding the difference of religion. Nevertheless, the military alliance intensified after Boris's conversion in 864, with the Franks now making more frequent use of this eastern ally. For example, around 884, the Moravian Duke Svatopluk explicitly feared such a military alliance between the armies of the Carolingian Arnulf and the Bulgarians¹⁴. In the following decade, Frankish sources still welcomed a success qualified as a »Christian victory« when the Bulgarians won a battle¹⁵.

Should we consider that Boris's conversion was a turning point for our subject? It is worth noting that the Franks played a role in this process, even though to a lesser extent than the Byzantines or the Papacy. First, in 867, Bishop Ermenrich of Passau (866-874), who was under Frankish authority, was sent to Bulgaria where he hoped to participate in the deployment of the clergy as missionaries, which would have amounted to anchoring Bulgaria in the Bavarian obedience. This first attempt was a failure, since Ermenrich was overtaken by the legates of Pope Nicholas I (858-867) who were pursuing the same goal¹⁶. Second, in 875, Charles the Bald made a journey to Rome, where he led a trial between two Roman factions and decided for the faction that was most favourable to Constantinople¹⁷. Indeed, since the early 860s, Roman diplomats active in the Balkans had been divided between »falcons«, very hostile to Byzantine influence in Bulgaria

(Formosus of Porto, Marin of Cerveteri, Paul of Populonia), and »doves«, willing to negotiate with Patriarch Photios I of Constantinople (858-867/877-886) on that subject (Zacharias of Anagni, Gauderich of Velletri)¹⁸. In 875, it was the latter camp that was favoured by Charles the Bald. By doing so in the name of a policy of appeasement with Byzantium, the Frankish emperor had made concessions and encouraged the Western clergy to renounce jurisdiction in the Balkans, thus opposing the grand project of Nicholas I, or Ermenrich of Passau. Ecclesiastical jurisdiction over this area has, therefore, not been a major issue for the Carolingians, even if the Christianisation of Bulgaria officially facilitated exchanges between Franks and Bulgarians.

Finally, it was in this same period (the last third of the ninth century) that the few references to commercial relations between these two kingdoms appeared. The sources are scarce, as always when it comes to the foreign trade of the Franks, but not insignificant. In the text attributed to the Bavarian Geographer mentioned above, the author listed the immediate neighbours of the Franks, probably from a commercial perspective, and included the Bulgarians. The latter were, therefore, considered a possible outlet, but it should be noted that the hopes expressed in this text were low. Indeed, for all the peoples he mentioned in the east, the author indicated a number of cities that probably corresponded to the points of reception known to Frankish travellers, such as commercial counters. For many peoples mentioned in the Geographer, the number of these cities was relatively high, between 20 and 200. For the Bulgarians, on the contrary, it was reported with frustration that, although their region was immense, they had only five cities, which seems to illustrate the paucity of exchanges envisaged by the author¹⁹. Finally, and always on the commercial level, at the very end of the century the Frankish King Arnulf asked the Bulgarians to stop selling salt to the Moravians, hoping to place them in a situation of blockade²⁰. We know that the Franks themselves sold salt to the Moravians²¹, and they were obviously aware that the Bulgarians traded in the same areas, which put the two kingdoms in a situation of competition, but also of possible co-operation when it came to organising an economic blockade. Thus, there were forms of economic exchange, especially at the time when the military alliance also reached its peak.

11 Godesc. Sax. corp. Dom. 325.

12 Gautier, Beowulf 218.

13 Annal. Fuld. II 56 (863). In fact, the campaign was simulated and did not actually happen. In the end, Louis the German attacked his son Carloman rather than the Moravians. However, the alliance between Franks and Bulgarians was strong enough to allow such a situation.

14 Annal. Fuld. Ratisb. 112.

15 Annal. Fuld. Ratisb. 130 (896).

16 Annal. Fuld. II. (Mogunt.) 65.

17 Jégou, Compétition 505.

18 The notions of falcons and doves are inspired by the current diplomacy of the USA and do not appear in the sources. About those bishops, see Nikolov, Bishops; Sansterre, Missionnaires.

19 Geogr. Baw. 220: *Vulgarii regio est inmensa et populus multus habens ciuitates V, eo quod multitudo magna ex eis sit et non sit eis opus ciuitates habere*. Betti, Descriptio suggests a military (and not commercial) function for that text.

20 AF (Bavarian continuation) 121.

21 Inqu. Raffelst. 252. The document was written around 905.

Conclusion

To summarise these few points, the attitude of the Franks towards the Bulgarians went from disdain in the seventh century to a surprised discovery at the beginning of the ninth century, and then to more frequent and friendly relations during the same century. This process was accelerated by the religious conversion of the Bulgarians, although that was not essential, both because exchanges are attested before that date and because the Christianisation of Bulgaria had placed it under Byzantine obedience, which did not favour exchanges with the Franks, at least on a religious

level. In other fields, at the end of the ninth century, the relations between Franks and Bulgarians were regularly attested as those of great allied powers seemingly destined to last. However, they vanished at the turn of the tenth century, notably under the effect of the Hungarian invasion, which created an intermediate territory between the Bulgarians and Franks, and considerably weakened the latter in the eastern area. The relationship between the Franks and the Bulgarians can therefore be described as a stable but ephemeral idyll.

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Summary / Zusammenfassung / Résumé

The Relations between the Frankish Kingdoms and Bulgaria (Seventh to Ninth Centuries)

The relations between Franks and Bulgarians during the Early Middle Ages can be divided into major phases, whose chronology is linked to the Avar Empire. As long as the latter exists, Bulgarians appear only rarely in Frankish sources, mainly as subjects of the Avars. When these are conquered by Charlemagne's armies around 796, the Franks come into direct contact with the Bulgarians. At first, the relationship is tense, determined by the definition of common borders and, in a large part, by ignorance. In the course of the ninth century, relations normalise, Bulgaria becoming either a reception area for Frankish refugees, a military ally for the Carolingians or a trading partner. Finally, at the end of the century, the Franks participate, actively but unsuccessfully, in the competition between Christian powers for the Christianisation of the Bulgarian kingdom.

Die Beziehungen zwischen Franken und Bulgaren (7.-9. Jahrhundert)

Die Beziehungen zwischen Franken und Bulgaren im Frühmittelalter lassen sich in Hauptphasen einteilen, deren Chronologie mit dem Awarenreich zusammenhängt. Während der Existenz des Awarenreiches erscheinen Bulgaren in fränkischen Quellen nur selten, und dann überwiegend als Untertanen der Awaren. Als diese um 796 von den Heeren Karls des Großen erobert werden, kommen die Franken in direkten Kontakt mit den Bulgaren. Das Verhältnis ist zunächst angespannt, gekennzeichnet durch die Festlegung gemeinsamer Grenzen und zum großen Teil durch Ignoranz. Im Laufe des 9. Jahrhunderts normalisieren sich die Beziehungen, Bulgarien wird entweder Aufnahmegebiet für fränkische Flüchtlinge, militärischer Verbündeter der Karolinger oder Handelspartner. Schließlich beteiligen sich die Franken am Ende des Jahrhunderts aktiv, jedoch erfolglos am Wettbewerb zwischen christlichen Mächten um die Christianisierung des bulgarischen Reiches.

Les relations entre les royaumes francs et la Bulgarie (VII^e-IX^e siècle)

Les relations entre Francs et Bulgares durant le haut Moyen Âge peuvent se décomposer en plusieurs grandes phases, dont la chronologie est liée à celle de l'empire avar. Aussi longtemps que celui-ci existe, les Bulgares n'apparaissent que très rarement dans les sources franques, principalement comme sujets des Avars. Lorsque ces derniers sont conquis par les troupes de Charlemagne vers 796, les Francs entrent en contact direct avec les Bulgares; la relation est d'abord tendue, déterminée par la définition de frontières communes et par une grande part d'ignorance. Dans le courant du IX^e siècle, les échanges se normalisent, la Bulgarie devenant tantôt une zone d'accueil pour les réfugiés francs, tantôt un allié militaire pour les Carolingiens, tantôt un partenaire commercial. Enfin, à la fin du siècle, les Francs participent, activement mais sans succès, à la compétition que se livrent les puissances chrétiennes pour la christianisation du royaume bulgare.

II. Excavations

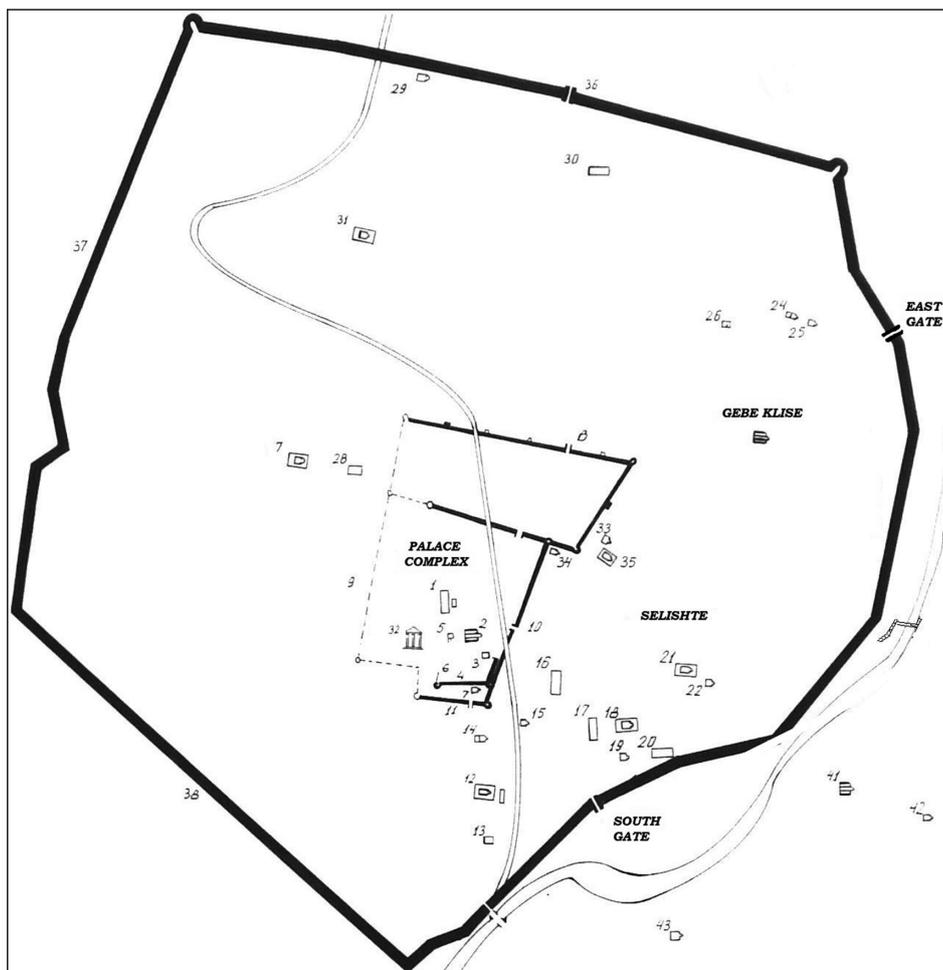
Archaeological Investigations at Veliki Preslav

Excavations in Veliki Preslav have been going on for 120 years (figs 1-2). During this time, many monuments of Old Bulgarian architecture and a large amount of archaeological material have been discovered, outlining the overall picture of a large medieval city centre. This requires an overview of archaeological research to formulate conclusions on the appearance of the second Bulgarian capital. There are two ways to approach this task, which we will try to combine: first, to focus on the chronological order of the excavations; and second, to focus on the topography, starting from the palace centre, passing through the main fortified city, looking at the

right bank of the river Ticha and other more distant suburbs to reach the ring of satellite villages.

While studying the antiquities in Preslav, several stages of archaeological investigation can be observed, each with its own characteristics and content. The first stage is from the beginning of the twentieth century to 1944. These excavations were led by the patriarchs of Bulgarian medieval archaeology, Karel Shkorpil, Yordan Gospodinov, Krastyo Mitiev and Vera Ivanova, and were characterised by some long interruptions. However, all of the most significant monuments in Preslav were explored in this period, at least in part, provid-

Fig. 1 General plan of medieval Preslav: 1 »Throne room« with church. – 2 Patriarchal church. – 3 Administrative building. – 4 Fortress wall. – 5 Large bath building. – 6 Small bath building. – 7 Chapel. – 8 North gate of the »inner city«. – 9 West fortress wall of the »inner city«. – 10 East gate of the »inner city«. – 11 South gate of the »inner city«. – 12 »Round church« with monastery. – 13 Workshop for painted ceramics. – 14 Pagan temple. – 15 Chapel. – 16 Boyar's houses. – 17 Secular building. – 18 Secular complex with church. – 19 Chapel. – 20 Secular building. – 21 Monastery complex. – 22 Mostich's church. – 23 Basilica »Gebe klise«. – 24-25 Churches of Varenitsite. – 26 Pagan shrine. – 27 Palace monastery. – 28 Houses. – 29 Chapel. – 30 Secular building. – 31 Monastery Chereshto. – 32 The personal residence of the rulers of Preslav. – 33 Church. – 34 Churches of Chupkata. – 35 Church with buildings. – 36 North gate of the »outer city«. – 37-38 West fortress wall of the »outer city«. – 39 South-east gate of the »outer city«. – 40 Church. – 41 Basilica Delidushka. – 42 Tomb's church. – 43 Church. – (Map Museum Veliki Preslav).



1 Stanchev, Dvadeset 18.
2 Gospodinov, Razkopki na Patlejna 113-117.
3 Dzhumaliev, Shestdest 14-17.

4 Vazharova, Slavyani.
5 Stanchev, Yordan 7-13.
6 Totev, Trideset 51.



Fig. 2 »Throne room«, 1927. – (Photo Archive of NAIM-BAS).

ing the direction for archaeological investigations today. One of the achievements of these researchers was the discovery of a large part of the central palace ensemble¹ (fig. 2), the monastery in Patleina, with the initial data on the production of painted white clay ceramics², and the architectural masterpiece, the Round Church³, also known as the Golden Church (figs 3-4). Large sections of the fortress walls around the palace centre and the northern gate, the great basilica Gebe Klise⁴ and the first town monastery in Chereshto⁵ were revealed. In the locality of Selishte, more than ten churches were registered without further investigations⁶.

These studies indicated that future investigations should be concentrated in these areas: the construction of the fortress, the palace centre, monastery and church architecture, and secular buildings and complexes.

A new stage in the study of Preslav began after 1944 with systematic excavations and intensified publishing activity. The field studies were carried out on different plots inside and outside the fortified city, as well as in the nearer and further surroundings, where a significant number of monuments were discovered. Gradually, the appearance of the old city of Preslav was uncovered to an even greater extent. The management of the excavations included a team from the National Archaeological Museum (AIM) at the Bulgarian Academy of Sciences (BAS), headed by Vera Ivanova.

The excavations focused mainly on the low riverside district of the capital in the area of Selishte and along the right bank of the river Ticha. A group of monasteries characterise the area as a spiritual centre outside the city walls. The monastery in the area of Avradaka deserves special attention: it was equipped with two churches, one of which is a cross-in-square church of the complex Constantinopolitan type⁷. The

picture is complemented by two more monasteries in the area of Tuzlalaka⁸ (fig. 5). They appear to have been a production centre for painted ceramics. In the area of Valkashina⁹, remnants of a church represent the cross-in-square construction type characteristic for Preslav, with two free-standing supports for the dome. Another church with the same plan was discovered in the north-east part of the monastery enclosure. In the White Coast valley, two cross-in-square churches were found that were built successively in the same place¹⁰. The older one has wall panels with built-in semi-columns. Yet another church nearby has the shape of a shortened basilica. In the same area, a secular building with a complex ground plan was revealed, which has a close connection with the large building excavated outside of the monastery fence of the complex in the area of Avradaka. About 15 km south of the old city near the village of Vinnitsa, a village was excavated, comprising a church, and an adjoining building from the ninth to tenth centuries¹¹.

Since 1949, the efforts of the team who led the archaeological research in Preslav have focused on areas within the boundaries of the fortified city. In the south-eastern part of the outer city, known as Selishte, the foundations of three large complexes were revealed. The residential and outbuildings of one of them are located around church no. 4¹². At the west end of the terrace, a small church of the cross-in-square building type is located. After a nearly twenty-year interruption, an architectural complex was discovered¹³ around the small church previously mentioned. Particular attention should be paid to the complex around the church with the tomb of Mostich. Attached to the north side of the temple was a chapel, in which an open tomb was found in 1954 with an inscription of the Chargobilya Mostich¹⁴. The attention

7 Totev, Trideset 50.

8 Totev, Manastirat.

9 Totev, Trideset 51.

10 Gospodinov, Razkopki iz dolinata 71-76.

11 Totev, Srednovekovna.

12 Totev, Trideset 51.

13 Bonev, Arhitekturen 56-79.

14 Vaklinov/Ivanova-Mavrodinova, Nadpisa.

Fig. 3 Plan of the monastery ensemble of the »Round Church«, ninth-tenth centuries: **1** Monastery church. – **2** Monastery society. – **3** Painted ceramics and glass-making workshops. – **4** Monastery scriptorium with workshop. – (Plan by T. Totev).



Fig. 4 The »Round Church« after the discovery. – (Photo Archive of NAIM-BAS).



Fig. 5 The monastery complex, Tuzlalaka. – (Archive of NAIM-BAS).



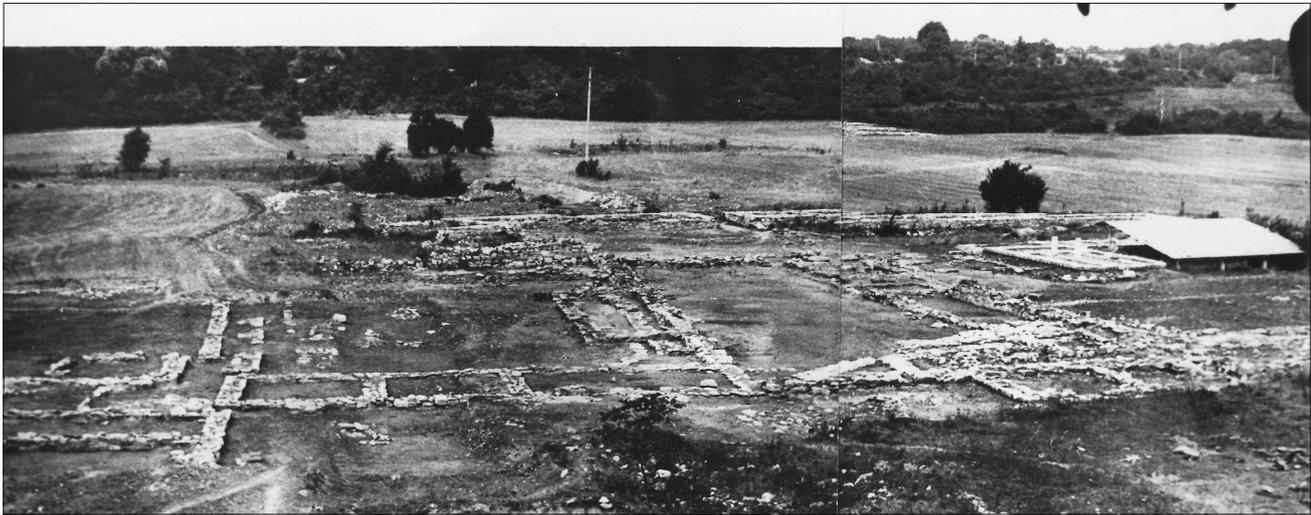


Fig. 6 Citizens' complex, Selishte. – (Photo Archive of NAIM-BAS).



Fig. 7 The south gate of the inner city, 1951. – (Photo Archive of NAIM-BAS).

of the researchers was then focused on excavating another large residential complex in the shape of a yard open to the west. In the centre of this yard was a church of the cross-in-square type. A crypt was located next to the northern side of the church, comprising eight tombs with skeletons of children and adults, which has been interpreted as a private structure¹⁵ (fig. 6).

An important part of the study of Preslav during this period was excavating different areas of the fortifications. One

of the gates of the outer city wall was discovered at the south-east end of the area of Selishte, not far from church no. 4. The southern gate of the inner fortress was completely uncovered¹⁶ (fig. 7). To the west, on the outer side of the wall, a building with eighteen rooms was found, which overlooked a market square. It was interpreted as a chain of commercial premises¹⁷. A building with a similar structure was also found on the inside along the eastern wall.

Excavations of the central palace district in the large royal palace were also resumed. A more complete picture of the Preslav palace centre was formed after the discovery of the so-called »throne room«. It took fifteen years to finish the research on this room, its building history, and the reconstruction of the ground plan. This large ensemble had a complex plan: the rooms were grouped around two main areas in the east and the west, which, until this day, researchers refer to as the »grand palace«, the »throne room« (fig. 2), the »small palace« or »residential complex« without justification¹⁸. In the southern part of the palace centre, a bath was discovered¹⁹, which was the first of its kind to be found in Preslav. According to its plan and setup, it was similar to a bath later excavated in the monastery in the north-western part of the outer city²⁰.

Archaeological research was also conducted in areas located in the northern part of the outer city. In the area of the »new« cemeteries of Preslav which date back to the second half of the twentieth century, the silver cup of Župan Sivin was discovered in a tenth-century grave²¹. After a rescue excavation, a building with four segments, part of a complex, was revealed. Not far from it, a necropolis was located, with two burial types of the ninth to tenth centuries. The exca-

15 Popkonstantinov, Razkopki 98.

16 Vitlyanov, Yuzhnata 177-188.

17 Changova, Za grazhdanskite 139-157.

18 Vaklinova, Preslavskiyat dvorets 49-54.

19 Akrabova-Zhandova/Vasileva, Banya 258-270.

20 Totev, Dvortsoviyat.

21 Totev, Silver Cup 5-15.

Fig. 8 The east fortress of the palace complex. – (Photo Archive of NAIM-BAS).



vations of the northern gate of the outer city wall in 1969 closed a stage of research in this part of the capital²². The gate is similar in size and structure to the southern gate of the fortress, which has already been excavated.

In the 1960s, excavations were conducted on the left bank of the river Ticha, in the area of Pod stanciata. There, the remains of a large secular complex were found: the foundations of two units showed that they comprised chain-linked rooms of different sizes²³. In the area of Sakalova mogila, 4-5 km east of the old city, a basilica was located²⁴. Nearby, in the area of Stambol yolu another large three-nave basilica from the ninth to tenth centuries was found²⁵. These two and the basilica in the village of Khan Krum form a group of monuments constructed in the active church building phase under Knyaz Boris I (852-889).

During the 1960s, excavations took place in two more urban monasteries. One was located to the south of the Round Church. The other occupied a steep terrace in the northwestern part of the outer city, in the area of Pod manastira. In the northern part of the monastery yard, a cross-in-square church was excavated. The crypt ran along the entire length of the north side of this church. In the western part of the complex, a bath and the dwelling of the hegumen (abbot) were located²⁶.

After 1975, a new excavation phase began at Preslav. These excavations were related to the celebrations of the 1300th anniversary of the establishment of the First Bulgarian State in 1981. Large-scale projects on the art and culture of Preslav were initiated. They lasted for nearly a decade after

the anniversary. These focused mostly on the fortifications of the capital. The excavations on the eastern wall were concentrated on three areas: at the two bends of the wall and along its length in the southern part, where a hitherto unknown gate was discovered. In the second section of the bend to the east, the base of a round tower was found. West of the tower, a fortified wall marked an area similar to the already known ones. Opinions about its interpretation vary: for some, it was part of the fortification belt of Preslav's »aul« (a fortified state residence from the pagan period of 681-864); for others, the wall functioned as the northern fortification belt of the original Preslav palace built in the 870s to 880s. Later, an extension of the fortress wall to the north was added to the tower, which can be dated to the middle of the tenth century.

The third area of the excavation included tower no. 3 and the fortified wall to its west, i.e., the curtain wall between towers no. 2 and no. 3 (**fig. 8**)²⁷. Most of the wall between towers no. 3 and no. 4 was also found²⁸. At the same time, excavations took place in the area of the south fortress wall of the palace. There, the remnants of the southern wall were uncovered together with the south-west round tower²⁹.

In 1977, the investigation of the so-called »Archbishopric« began. A complex of churches and buildings constructed at different periods and in different sequences was excavated. In the middle of the ensemble, the foundations of the central church were preserved. It is a three-nave, triple-apse basilica with narthex and exonarthex. From the west, it is connected to the archepiscopal palace by two rows of pillars bearing a

22 Rashev, Prouchvaniya 215-222.

23 Totev/Staniolov, Grazhdanski 56-76.

24 Totev, Bazilikata 38-61.

25 Totev, Sondazhni 229-243.

26 Totev, Dvortsoviyat.

27 Ovcharov, Razkopki 131-161.

28 Lisitsov, Razkopki 177-184.

29 Vitlyanov, Yuzhnata 177-188.



Fig. 9 The find-spot of the Preslav Treasure in the Kastana area, 1978. – (Photo Archive of NAIM-BAS).

covered gallery. It dates back to the end of the ninth century, but the exonarthex and the marble flooring were added at the beginning of the tenth century. To the south of the basilica, a bath was revealed consisting of several rooms. To the south and east, a series of buildings followed. The archbishopric complex was equipped with plumbing and a drainage system. A small church was built next to the enclosing wall around the basilica in the south-west corner. Around the two religious buildings a Christian necropolis was found that was in use until the middle of the thirteenth century³⁰. East of the »Archbishopric« in the southern part of the »royal palace«, excavations were conducted in the area of the »administrative building«, which lasted until 2011 and revealed a complex of buildings and facilities, constructed in the tenth and eleventh centuries. In the buildings, over 500 Byzantine lead seals were discovered³¹.

From 1980 to 1990, the excavations in the south-eastern part of the »royal palace« were particularly intense. The famous »Preslav phiale«³² and, to the east of it, a triple-apse cross-in-square church were discovered, both part of the same architectural ensemble³³. These two masterpieces are a central part of a square connecting the south-eastern part of the ruler's courtyard with the main communication channels to its centre from the end of the ninth and during the tenth century. Several buildings, consisting of a different number of rooms aligned one after the other, are also part of the same square. Two of them are located along the southern fortress wall where a passage was left between them³⁴, and a third

one extends to the front, opposite the south gate. It consists of eighteen identical rooms, among which was included the above-mentioned bath discovered in the 1970s³⁵. At various sites of the outer city, the excavations continued, and new monuments were discovered: an Old Bulgarian pagan temple in the area of Selishte³⁶, a massive group of connected buildings to the east of the palace monastery and at the Gebe Klise basilica³⁷.

In 1978, unique ornaments of gold and silver objects were found in the vicinity of Preslav: the Preslav Treasure, which is the focus of this volume. It was discovered by agricultural workers in the area of Kastana, situated 3-4 km north-west of the »royal palace« (fig. 9). Part of the treasure was brought to the surface during agricultural work, at which point the precious find was scattered over an area of 300-400 m². Traces of buildings along with numerous materials indicated that life here was most active in the time of the First Bulgarian State when a large Old Bulgarian settlement was established. During the excavations, a semi-dugout dwelling was brought to light with a rectangular shape and dimensions of 3.55 m x 2.9 m. This is where the extraordinary jewellery of the Preslav Treasure was found. On the floor, six postholes were preserved with diameters of 0.15-0.22 m each, which were distributed along the eastern and the two short walls. In the north-west corner of the dwelling was a furnace made of quarry rock material. Judging by the features of its heating equipment, the building can be classified as belonging to one of the main groups of the most common dwelling

30 Ovcharov et al., *Golemiyat tsarski*.

31 Mihaylova, *Administrativnata 40-56*; Yordanov, *Pechatite*.

32 Bonev, *Tsarskiyat dvorets (IX-XIV)*.

33 Bonev, *Tsarkva 44-49*.

34 Vitlyanov, *Voennoadministrativni*.

35 Akrabova-Zhandova/Vasileva, *Banya 258-270*.

36 Totev/Bonev, *Novorazkrit 222*.

37 Totev, *Razkopki 183-184*.

Fig. 10 a-b Byzantine silver coin from the Preslav Treasure (avers/revers, one of 15 coins); issued under Emperors Constantine VII Prophyrogenetos and Romanos II (945-969). – (Photos S. Steidl, LEIZA).



Fig. 11 Two-sided necklace from the Preslav Treasure. – (Photo S. Steidl, LEIZA).



constructions in north-eastern Bulgaria. The treasure is not associated with a burial or with everyday life in the buildings, but was hidden in a wooden chest. Some of the excavated silver and silvered casings, appliques and silver clasps of the container can be connected to the treasure. The chest was placed over the stove under the roof, and when the building burned down, the objects were scattered all over the floor. The discovery of fifteen Byzantine silver coins of Emperors Constantine VII Porphyrogenetos and Romanos II (945-959, example in **fig. 10a-b**) and other evidence support the interpretation that the concealment of the jewellery (examples in **figs 11-13**) took place during the conquest of Preslav by the Byzantine Emperor John I Tzimiskes in 971³⁸.

The fourth phase of the investigations in Preslav began at the end of the twentieth century and continues to this day. It is marked by large-scale field studies mostly in the large area of the »royal palace«. Over the last twenty years, the



Fig. 12 Diadem plaque from the Preslav Treasure, showing the »Ascension of Alexander the Great«. – (Photo © Museum Veliki Preslav).

38 Totev, Preslavskoto; Totev, Preslav Treasure.



Fig. 13 a-c Three pendants from the Preslav Treasure. – (Photos S. Steidl, LEIZA).



Fig. 14 The palace complex, aerial view: 1 »Royal basilica«, – 2 »Throne room«, – 3 »Small palace«, – 4 Patriarch's reception hall. – 5 Patriarchal church. – 6 Tomb church. – 7 Large bath building. – 8 Building serving clergy. – 9 Administrative building. – 10 East gate of the »inner city«. – 11 Representative building. – 12 Church with »phiale«. – 13 South gate of the »inner city«. – 14 Commercial premises. – 15 The personal residence of the rulers of Preslav. – (Photo B. Kolev, Šumen)

south-western part of the palace was excavated, comprising an extensive architectural ensemble that was important for the urban planning of the capital's centre (fig. 14). This ensemble was built in the last quarter of the ninth century and destroyed at the end of the tenth century after the Byzantine

invasion. In its southern part, an east-west orientated building was erected, comprising three large rooms on the ground floor. A portico built on massive stone pillars was found at about 2.8m on the northern facade. On top of them, in front of the upper floor, a wide gallery was positioned. A small

Fig. 15 Eastern part of the ruler's residence. – (Photo R. Blagoeva, Veliki Preslav).



room at the western end of the building was (along its northern wall) in line with the pilaster row. In front of the second room of the main part of the building was a trail of four large slabs, which led to the southern wall of the water facility of the »royal chancery«. The »chancery« itself was located at a distance of 1.8 m north of the portico and had a rectangular shape with dimensions of 12 m × 15 m. The walls of nine cells divide the inner space of the ground floor.

In 2010, the impressive structure of the royal family's »residential palace« was excavated, which was the core of the entire architectural complex in the western direction of the »chancery« (fig. 15). The unearthed part of this building includes a central hall floored with marble slabs and surrounded by three pairs of rooms to the south and north. The size of the building, the richness of its architectural sculptural decoration and its location dominating the entire territory of the palace defines it as the private residential palace or the chambers of the ruler's family in Preslav (fig. 16)³⁹.

The remains of a Christian church were found 30 m north-east of the palace complex, where the excavations have been going on for a decade. The building is a basilica with three naves, three apses, a narthex and an exonarthex. The impressive dimensions of the building, its exquisite construction and decoration, and its central location in the capital suggest that the church was part of the royal palace complex⁴⁰.

Research was also conducted in the area north-east of the »Patriarchate« and south of the »ruler's church«, where the foundations of several monumental buildings were revealed.

Two of the walls are from different connected buildings which surrounded the patriarchal complex and the ruler's basilica on the east side during the times when Preslav was the capital. A fortified wall with a length of 145 m⁴⁰ was discovered. At its north side, a building was attached. This »aul« dates from the earliest pre-capital construction period⁴¹.

Excavations were continued in the outer city around the Old Bulgarian temple of Rumska reka. A semi-dugout dwelling dating from the beginning of the ninth century was found. Its existence near the temple at about 1.5 km from the stone fortress of the Preslav settlement (»aul«) allows us to assume that there was a neighbourhood here dating from the earliest years of the »aul's« construction. The presence of this neighbourhood explains to a large extent the reasons behind the inclusion of the vast riverside terrace in the fortified parts of the capital⁴².

The investigations in the surroundings of the church of Mostich in the area of Selishte were also resumed. Long complexes of several connected buildings were uncovered, and they imply that the complex was a city monastery to which the ruler Chargubilya Mostich retired at the end of his life⁴³.

The remains of a medieval monastery were brought to light near Veliki Preslav in the area of Manastircheto, 2.5 km south of the outer fortress wall. Until today, the excavations revealed a small cross-in-square church and two other buildings south and south-west of the Christian building, dating from the middle of the tenth to the beginning of the thirteenth centuries⁴⁴.

39 Bonev, Veliki 175-189.

40 Vaklinova/Shtereva, Vladetelskata 30.

41 Balabanov/Slavov, Razkopki 409-411.

42 Bonev et al., Selište okolo 7-23.

43 Popkonstantinov, Arheologicheski 184-185.

44 Balabanov et al., Arheologičeski 125-126.



Fig. 16 The personal residence of the rulers of Preslav, south-east corner. – (Photo R. Blagoeva, Veliki Preslav).

The review of the excavations in Preslav allows us to outline the structure and appearance of a significant medieval city. It has all the characteristics necessary for an urban organism: a clear urban planning strategy, a complex communication system, and synchronised plumbing and drainage systems with public facilities, and an active social, spiritual and creative life. The implementation of these requirements by architects, builders and intellectuals made the Bulgarian capital one of the leading political and cultural centres in early medieval Europe in the tenth century.

The area, which by some researchers is still defined as the outer city, follows a precise plan and is surrounded by a long fortified wall. Within this area, residential buildings were erected, arranged as quarters or neighbourhoods, with separate aristocratic complexes and urban monasteries with churches. Private churches intended for the use of the inhabitants were located in distinct areas, and poorer neighbourhoods as well as several marketplaces can be identified. In fact, this was the city proper, in which the numerous residents lived and worked⁴⁵, and where visitors to the capital stayed⁴⁶.

The large »royal palace« was built in the middle of the political centre on a high terrace, which, until recently, was often thought to be the inner city. It was built in the same place where, more than half a century before, the »aul« of Preslav had developed. The building activities did not start *ex nihilo* at the end of the ninth century. On the layout of the old »aul«, they found buildings, hygiene facilities and a centralised plumbing system. Thus, when planning the interior space in the areas where the palace coincides with the area of the

»aul«, existing architectural and urban constructions had to be considered. Some of them were successfully implemented in the new palace centre⁴⁷.

The new palace area designed here was much more spectacular. A new throne hall was built, which, together with the palace area of the »aul«, defined the core, official part of the ruler's residence. South of the hall, a large square was located. The western end of this »forum« abutted the royal stables where horses of the royalty were bred, guarded and taken care of. Two huge basilicas surrounded by a long row of connected buildings were located to the east and south of the representative reception hall⁴⁸. Other buildings that had an administrative purpose were also constructed⁴⁹. The urban structure was created by combining the traditions of the old construction with new architectural concepts.

New urban planning solutions were implemented in the areas recently incorporated into the palace. In its southern part, the new fortress wall was moved 40 m south of the already ruined wall of the »aul«. In the space delimited by the new fortress wall, several impressive buildings were erected, forming a new ceremonial square⁵⁰. The highlights in the silhouette of this square are a cross-in-square church and the famous »phiale« of Preslav.

To the west of the square with the »phiale« was an architectural ensemble that shaped the south-west district of the »royal palace«. Three buildings dominated the ensemble, creating a harmonious structure. Each of the buildings had its characteristics, presenting different types of medieval secular architecture.

45 Based on the available sources, an estimation of the actual number of inhabitants is not possible.

46 Vaklinova et al., *Preslavskiya* 11-23.

47 Bonev, *Tsarskiyat* 181-185.

48 Ovcharov et al., *Golemiyat*; Vaklinova et al., *Vladetelskata* 30-40.

49 Mihaylova, »Administrativnata« 114-123.

50 Bonev, *Tsarskiyat dvorets* (IX-XIV).

One of the buildings consisted of three rooms arranged in a row from east to west. A portico built on solid square steps was in front of its northern façade. The second building was developed north of the portico. The inner space at the base level was divided by two pairs of walls into three rows with a total of nine cells. The south-eastern corner of the building was occupied by a »water mirror« (reflecting pool). The appearance and purpose of the ensemble were completed by an impressive building situated on an elevated terrace from where it rose above the entire »royal palace«. This was a palace equal to the two central palace buildings, in which the »throne rooms« were located. This palace, together with the other two buildings, was the personal residence of the Preslav royal dynasty. In the residence was the »office«, in which the rulers performed their daily state duties. The palace also provided chambers for the ruler and the royal family. The Preslav ruler's residence was an urban planning phenomenon of the utmost importance for Old Bulgarian culture, and also for the culture of the whole Eastern Orthodox world⁵¹.

In its original form completed by the time of the relocation of the capital, the large »royal palace« in Preslav was the southern part of the complex known as the »inner city« until recently, without its extension from the north known as Chupkata on the eastern fortress wall. The planning and construction of the palace began no later than the 670s, immediately after the Christianisation of the state, and it continued intensively over the next three decades. The architectural design of the palace was new at the time, with the initial plan to cover a large territory. The different areas of the ensemble are not isolated or even separated, but are in direct dependence and functionally connected. The palace buildings were a harmonic ensemble with communicating rooms, centralised plumbing and drainage systems.

The two parts of the capital formed a remarkable medieval city, which together with the surrounding satellite settlements constituted a large urban concentration. Numerous monasteries were built in the south and east, reminiscent of Mount Athos. They were used for religious activities, but were at the same time centres of the arts and crafts.

The large estates of the aristocracy stretched out to the east and north of the urban centre⁵². This is also the situation in the area of Pod Stancyata and on the Byal Bryag. To the west, suburbs developed for the population that could not be accommodated within the walls of the capital. These suburbs are mainly characterised by dwellings dug into the ground. The Preslav Treasure was hidden in one of these suburbs in the area of Kastana⁵³. Not far from there, in the area of Byal Grad, a large aristocratic residential complex with stone architecture and its own church was established.

Everything reviewed so far was revealed during the excavations undertaken throughout the twentieth century. The archaeological investigations have uncovered large sections of the tenth-century urban fabric of the Bulgarian capital (fig. 1). The great *polis*, however, appears to have been more extensive, which became clear in the beginning of the twenty-first century after the study of the Old Bulgarian artistic production centre for metal works at the village of Novosel⁵⁴. The appearance and development of the Novosel production centre was directly related to Veliki Preslav. The Novosel products seem to have been made especially for the Preslav market. Finds from the excavations of the urban residential areas, of the secular buildings and the monastery complexes provide examples of this. The products of the small metal workshops made there are, not only similar, but, in most cases, exactly the same as the ones cast in the workshops of the above-mentioned centre, proving their relation to the needs and tastes of the capital.

With the expansion of the scope of the archaeological research in several other places, it could be concluded that the Novosel production centre was only a small part of the whole picture. In recent years, two similar centres were discovered in the village of Nadar Evo in the Targovishte municipality⁵⁵ (unfortunately abandoned in the early stages of research) and at the village of Zlatan, which is being excavated systematically⁵⁶ – all in the hinterland of Veliki Preslav. All of them are located at an equal distance from the capital to the north, west and east and hardly differ in structure, equipment and stylistic characteristics of the objects. Thus, Preslav was surrounded by artistic production centres fulfilling the capital's needs and working to its tastes. There were also workshops for architectural ceramics located at the Vinnitsa dam⁵⁷ and the huge quarry for stone blocks at the modern villages of Srednya and Novosel (Šumen municipality), which was used for building the entire »royal palace«⁵⁸.

According to the results of the latest excavations, the Bulgarian capital Preslav appears in a new light: it was the centre and driving force of a large region, an area with a strong focus on manufacturing of the arts and crafts, distributing its products to a wide market. The development, location and professional specialisation were directed by certain circles in the capital, but apparently under a central state authority. By the tenth century, the village of Preslav had become a large centre around which conglomerated a significant number of smaller and larger villages with numerous production centres, benefiting from the economic centre. In turn, the capital benefited from the satellites and was able to care for the needs of its inhabitants. Both became a commercial hot spot for the wider area.

51 Bonev, Lichniyat 29-43; Bonev, Vtora 243-258.

52 Popkonstantinov, Razkopki 98.

53 Totev, Preslavskoto; Totev, Preslav Treasure.

54 Bonev/Doncheva, Starobalgarski.

55 Konakliev, Kolanni 230-242; Konakliev, Instrument 184-190.

56 Doncheva, Arheologicheski 576-577; Doncheva, Proizvodstven 523-525; Doncheva, Rekonstruktsiya 152-170.

57 Totev, Srednovekovna 39-73.

58 Maystorski, Srednovekovna 578-580.

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Summary / Zusammenfassung / Résumé

Archaeological Investigations at Veliki Preslav

This chapter reviews the archaeological excavations in Veliki Preslav in the last 120 years. Methodologically, the analyses are based on the only two possible approaches, chronological and thematic. The chapter refers mostly to the time when Preslav was the capital of the First Bulgarian State (end of ninth to tenth centuries). These findings include fortifications, secular buildings and monastery complexes, residential neighbourhoods, public waterworks, and craft workshops. Special attention is paid to the ensemble of buildings, which form the large »royal palace«. The hinterland of Preslav with its production centres is also addressed. In the second part of the study, the conclusions drawn outline Preslav as one of the most significant urban centres in South-east Europe during the Early Middle Ages based on the results of the excavations. In this way, Preslav contributed to the cultural heritage of Europe and the Orthodox world.

Archäologische Untersuchungen in Veliki Preslav

Dieses Kapitel bietet einen Überblick über die archäologischen Ausgrabungen in Veliki Preslav in den letzten 120 Jahren. Methodisch stützen sich die Analysen auf die beiden möglichen Ansätze, nämlich den chronologischen und den thematischen. Der Aufsatz bezieht sich hauptsächlich auf die Zeit, als Preslav die Hauptstadt des Ersten Bulgarischen Reiches war (Ende des 9.-10. Jahrhunderts). Zu den Funden gehören Befestigungsanlagen, Profanbauten und Klosterkomplexe, Wohnviertel, Abwasseranlagen sowie Werkstätten. Besondere Aufmerksamkeit wird dem Gebäudeensemble gewidmet, das den großen »Königspalast« bildet. Das Hinterland von Preslav mit seinen Produktionszentren wird ebenfalls berücksichtigt. Im zweiten Teil der Studie kann anhand der Ausgrabungsergebnisse der Schluss gezogen werden, dass Preslav eines der bedeutendsten urbanen Zentren Südosteuropas im Frühmittelalter war. Auf diese Weise trug Preslav zum kulturellen Erbe Europas und der orthodoxen Welt bei.

Fouilles archéologiques à Veliki Preslav

Ce chapitre passe en revue les fouilles archéologiques menées à Veliki Preslav au cours des 120 dernières années. D'un point de vue méthodologique, les analyses sont basées sur les deux seules approches possibles, chronologique et thématique. Le chapitre porte principalement sur l'époque où Preslav était la capitale du Premier Empire bulgare (fin du IX^e au X^e siècle). Les découvertes comprennent des fortifications, des bâtiments séculiers et des complexes monastiques, des quartiers résidentiels, des installations hydrauliques publiques et des ateliers d'artisans. Une attention particulière est accordée à l'ensemble des bâtiments qui forment le grand »palais royal«. L'arrière-pays de Preslav, avec ses centres de production, est également abordé. Dans la deuxième partie de l'étude, les conclusions tirées des résultats des fouilles montrent que Preslav est l'un des centres urbains les plus importants du sud-est de l'Europe au cours du haut Moyen Âge. Preslav a ainsi contribué au patrimoine culturel de l'Europe et du monde orthodoxe.

Archaeology and Metalwork in Early Medieval Bulgaria

The discovery of tenth-century centres of metalwork in the vicinities of the capital of Preslav, i. e., near the villages of Novosel in the municipality of Shumen and Zlatar in the municipality of Preslav, created a new trend in the investigation of medieval Bulgarian archaeology (fig. 1). The production centre at Novosel is spread over an area of 170 ha and operated with great intensity in the first half of the tenth century. At the same time, the centre at Zlatar was smaller in size, occupying an area of 40 ha. Both centres specialised in the casting of non-ferrous metals and the manufacture of fine metalwork. The main activity of the centres around Preslav was

metalworking. There is no smelt ore here, so there were no remains of smelting furnaces, from the ore itself, or of waste from accompanying metallurgical activity. The third centre of metalwork in the vicinity of Nadarevo (Targovishte municipality) has not yet been studied systematically. The investigations at Novosel and Zlatar have helped clarify some controversial issues concerning the place and the role of a large number of metal items found by archaeologists or donated to museums in the past two decades. The results from the successful completion of the excavations at the Novosel metalwork centre are now the subject of a printed monograph¹. The

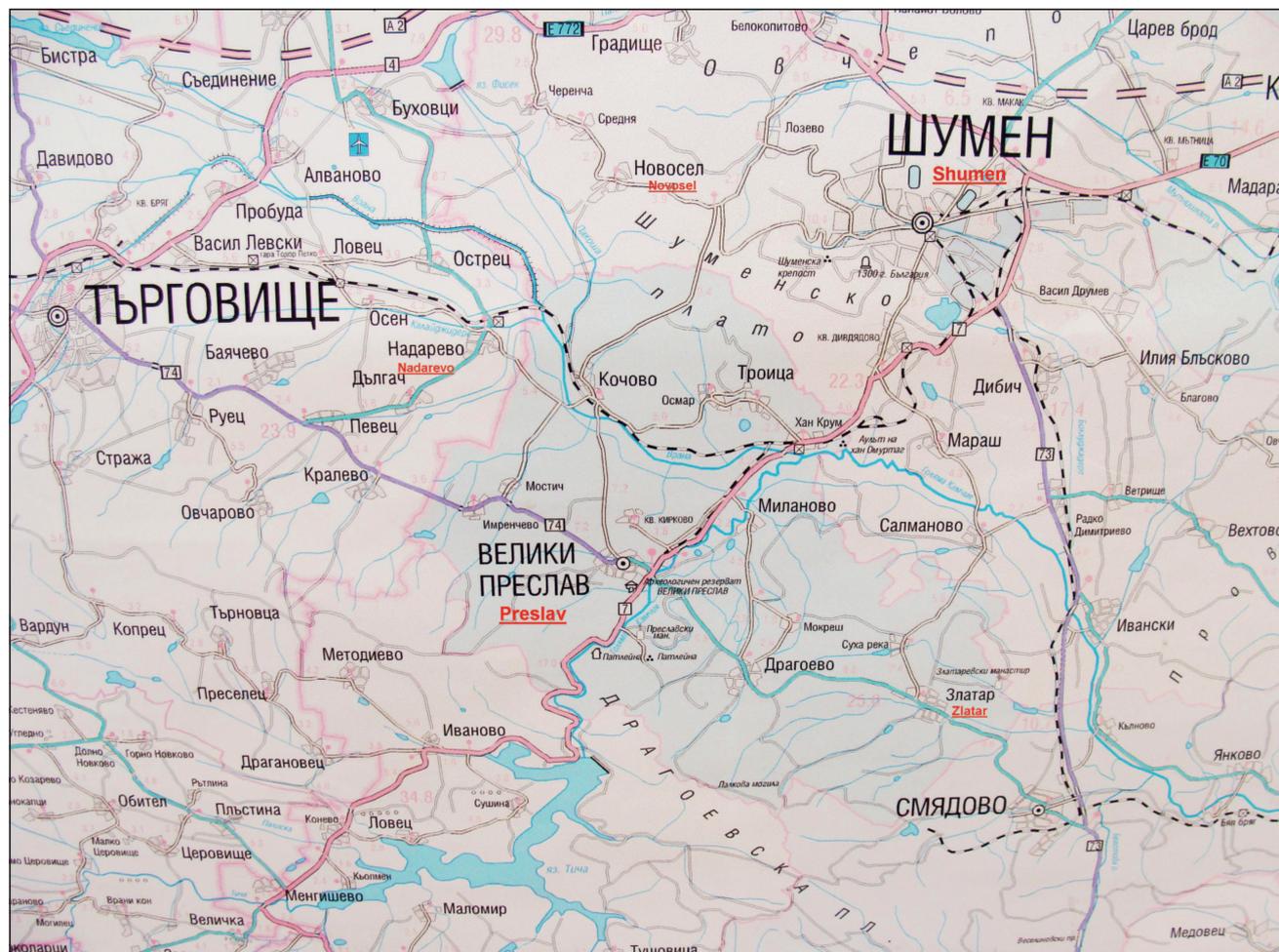


Fig. 1 Preslav and the surrounding metalwork centres. – (Map S. Doncheva).

1 Bonev/Doncheva, Starobalgarski.



Fig. 2 Typical ceramic found at the metal-work centres. – (Photos S. Doncheva).



Fig. 3 Coins produced at the metal-work centres. – (Photos S. Doncheva).

excavations on the second centre near Zlatar started in 2007 and are still in progress. A total of 2200 artefacts have been found at both sites so far. Most of them are metal items, such as belt decorations (mounts, strap ends, buckles), cult objects (crosses and medallions), jewellery (rings and earrings), and

single- and double-sided stamps. Typical ceramics (**fig. 2**) and coin finds – folles of Leo VI (866-912), Romanos I Lakapenos (920-944), Constantine VII and Romanos II (945-950) – allow us to date the activity of all the metalworking centres to the first half of the tenth century (**fig. 3**).

Fig. 4 Zlatar, complex III, workshop 2. – (Photo S. Doncheva).



Fig. 5 Novosel, complex I, workshop 3. – (Photo S. Doncheva).



Workshops

The workshops are partially dug structures with a rectangular plan arranged in a north-south direction that together form larger complexes. Each workshop complex consists of three to five interconnected dwellings, separated only by temporary seasonal hedges enclosed by clay. The most important thing, however, is that all their elements are connected along an absolutely straight line in one axis and correspond to precisely defined elements in the other ensembles. There have been many traces of piles that have supported these clay skeleton constructions (fig. 4). The location of the individual work-

shops in the complexes follows the terrain. At the production centre in Novosel, they are 80-100m apart, and 50-60m apart at Zlatar.

Furnaces occupy the central space in the elements that make up each workshop (fig. 5). Most of them are located at the northern end of the workshop, sitting about 0.2-0.3 m higher than the floor level. Their design and dimensions are the same. They have circular bases with a diameter of 0.6-0.7 m; the diameter of the larger ovens reaches to 0.8-0.9 m. They are also similarly constructed. The oval is outlined on a higher elevation site designed with small limestones. The stones themselves, as well as the inside of the oven, are em-



Fig. 6 Zlatar, complex IV, workshop 3. – (Photo S. Doncheva).



Fig. 7 Crucibles. – (Photos S. Doncheva).

bossed and then coated with clay. The furnace body is built on the stone row, also with loose soil, by overlaying layers on a prepared base. All preserved specimens have a domed shape, accurately delineated as a profile whose height varies from 0.6-0.7 m to the base.

The second element directly connected to oven is the area in front of the furnace (**fig. 6**). The holes were irregularly shaped and had oval contours. A large amount of coal, sometimes unburned wood debris, burned animal bones and wood ash was found in front of the furnace areas. From the same places, whole and fragmented casting vessels (crucibles) were found. It is curious that in areas in front of the furnaces were discovered also highly burned bronze mounts, numerous melts and waste products from casting.

The last element forming the workshops, which is necessarily present in their structure, is the waste pits. More of them are dug at one of the corners of the workshop. The plan has an oval shape, whose diameter varies between 1.2 and 1.4 m. They narrow slightly in depth and generally have a

cylindrical shape without lining or reinforcement of the walls. They are about 0.5-1.2 m deep as measured from the floor level. They were filled with fragmented household ceramics, animal bones, whole, but used and broken crucibles, defective items, damaged lead models and iron tools. It is clear that these are waste products from the production process.

As a group, these crucibles, together with ceramics, were found in the largest numbers (**fig. 7**). Results related to the number of crucibles are very reliable on a single element in their design: the single rear handle. On the basis of this feature, it was discovered that more than 600 foundry vessels were used in the two complexes excavated. The crucibles are made of clay, which, after being subjected to a thermal impact, has burned to such an extent that the shape, 3-4 mm thick, has become very fragile. Their outer surface has been burned by high temperatures to take on a glazed appearance. Some of the fragments inside have traces of melted bronze. The crucibles were made in a mould, probably wooden. Their length is between 9 and 11 cm, with a height of 6-7 cm.

There is a hole on the top of each crucible that, after raw material was placed inside, was sealed with a stopper of the same material. The fact that closed or sealed vessels were found is clear evidence that they were used only once. Simple as a device, the crucibles had perfect functionality.

Products of the Metalwork Centres

A significant result of the studies is the rich collection of magnificent examples of metalwork. Their number amounts to more than 2200 items, which can be divided into two

main groups. The first includes finished bronze articles and the second, the models for their workmanship. Preference is given to the belt-set elements in their three main varieties: buckles, strap ends and mounts. Among these, the quantity of mounts is the greatest, which is determined by the number of required items on a single belt set (from 30 to over 50 mounts). Mounts are divided into different groups according to their shape and decoration. The differences in shape span shield-shaped, heart-shaped and leaf-shaped (embossed and engraved decoration), geometric shaped and single specimens (fig. 8). Heart-shaped mounts are the most popular. The lack of extra pimples on the subject's outline,



Fig. 8 a Artefacts of non-ferrous metal. – (Photos S. Doncheva). – Scale 1:1.

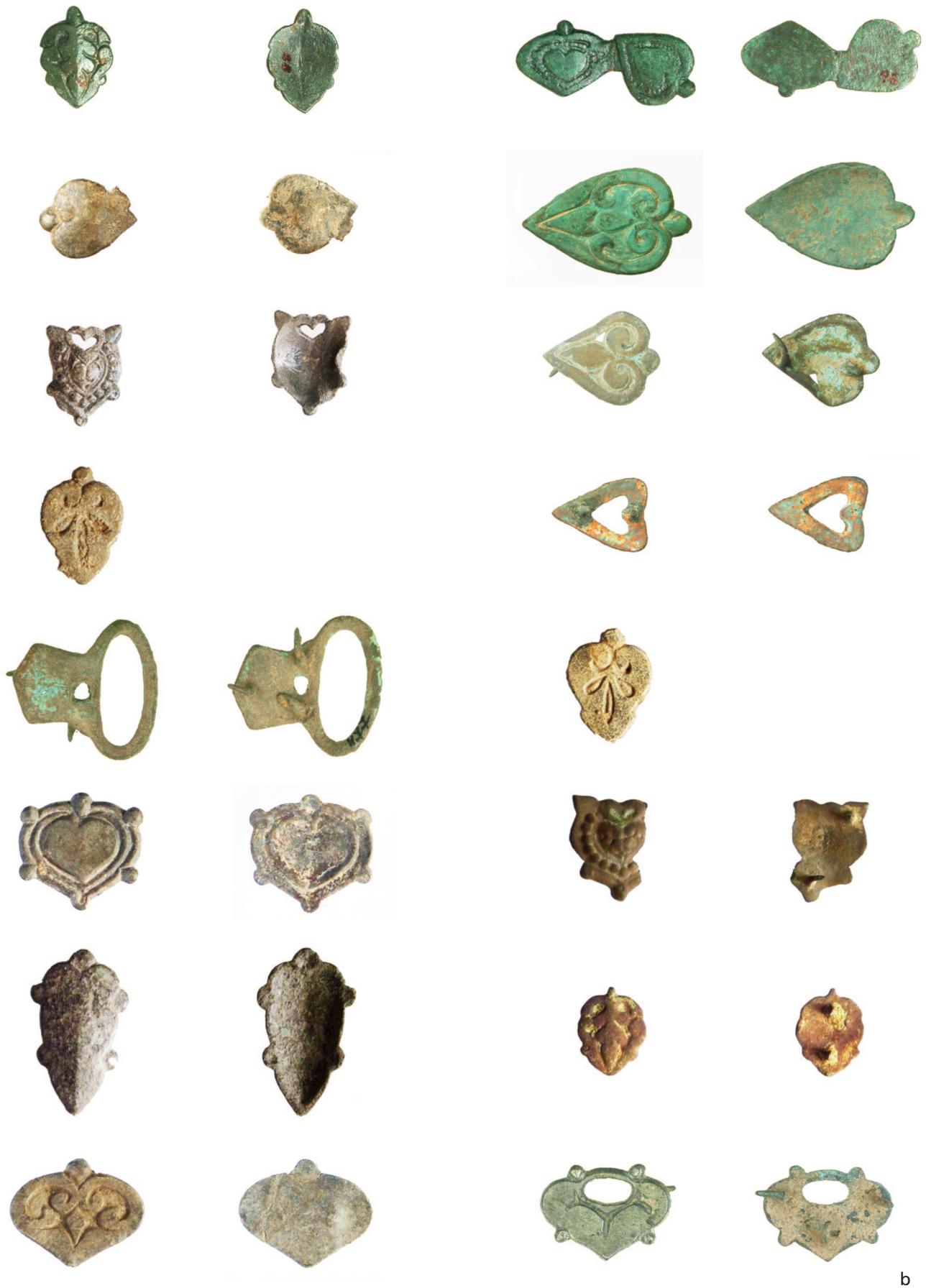


Fig. 8 b Artefacts of non-ferrous metal. – (Photos S. Doncheva). – Scale 1:1.



Fig. 9 Artefacts of non-ferrous metal. – (Photos S. Doncheva). – Scale 1:1.

except at the base, is significant. The other mounts are mostly leaf-shaped. There is no strict separation between the two groups, which is confirmed by the different variants of the mounts. Thus, from the heart-shaped to the leaf-shaped mounts, ornamentation gradually becomes complicated and modified, although the forms remain similar.

The remaining items produced in the workshops are stamp-amulets with animal images, earrings, rings, book clasps, embroidery crosses and cross-encolpions. The quantity

and variety of this group of articles is less than that of the belt sets. Thus, in practice, it appears that the main activity of the metalwork workshops in the vicinity of Preslav is precisely the production of elements for belt sets (fig. 9).

Another category of articles is made of lead and more rarely of bronze. These are models for the making of items (fig. 10). The complex use of casting practices leads to the pursuit of serial production and, in many cases, mass production. The position of the lead models in the metalworking



Fig. 10 Lead models of sand-casting. – (Photos S. Doncheva).

process was largely clarified after the discovery of metalwork centres in Novosel and Zlatar². It turned out that they are a small and important group among other articles that provide the rich ornamentation of finished items. Moreover, lead and rarely bronze models and finished articles are those on which metal objects, including those made of precious metals, are cast. Lead models have several advantages: they are easily manufactured due to the low melting temperature of the metal, are amenable to additional shaping and are easily detached from the moulding earth³. Their presence indicates the existence of active production. This activity does not necessarily have to be concentrated only in the mentioned production centres. More likely, there are similar complexes or single workshops in many settlements in the region that have yet to be explored.

The models of lead differ, not only in shape and decoration, but also in the way of making. The technology used for their production is evident from the peculiarities that are visible both on the face and on the opposite side. Several techniques were used, beginning with the use of wax. With reason in the history of casting, it is noted that there is hardly

any more suitable material for making models than beeswax⁴. It is highly malleable, allowing changes to be made to the original design and the correction of mistakes during the process of production. A number of decorative elements can be placed on the surface of the model, which can then guide the engraver upon finishing the metal surface. More lead moulds have been used to make the wax patterns, too; clay moulds were used less often. An example is a lead mould found in the vicinity of the production complex at Zlatar. It is identical in form and decoration to some bronze mounts and lead models found in the same place⁵.

Tools and Technology

An essential point in the subject of the production of artistic metal in the Old Bulgarian jewellery complexes is that related to the different tools used. In craft development, the quantity of tools and jewellery products is approximately 1:100 in living culture. Casting and tools make up the full set of tools needed by medieval craftsmen. They are also reflected in some key stages in the production process (fig. 11). Tools designed for specific operations and rarely used in everyday life are an indicator of the level of craft development practised in metalwork centres (fig. 11). On the one hand, they are a product of craft activity, and on the other hand for this activity. This allows us to talk about the technological opportunities of both the society as a whole and the particular groups related to specific archaeological monuments.

First of all, it is appropriate to pay attention to the tools related to the preparation and implementation of casting, which is a basic practice for jewellery production in the complexes around Preslav.

Models are made by craftsmen who possess the necessary knowledge and skills, and have a creative approach and a sense of style embodied in an exquisite way in their works. To create the source model, a special set of tools was used. They have specific shapes and are associated with the individual stages of production. Instruments have a rectangular section and characteristic curvature at one or both ends, which is tapered on most of them. They are used to cut or engrave the decoration on the pattern surface and to smooth the wax outbursts along incision edges (fig. 12).

Some tools are also used for the model processing. In addition to shaping lead and bronze models, all these tools are also used for artistic engraving on metal, because the tools and activities themselves are somewhat similar. Most of these tools were found in the workshops at Novosel and Zlatar⁶.

A next and very important stage, after making the models, is manual moulding. The bulk of the finished product was

2 Doncheva, Centar 2007; 2008; 2010.

3 Georgieva/Buchinski, Staroto 40. – Sotirov, Chiprovka 185.

4 Vasilev, Bronzovi 22.

5 Doncheva/Nikolov, An Early 81-92. – Doncheva, Metal 43-56.

6 Bonev/Doncheva, Starobalgarski 257 Tab. XV, 9-10; 259 Tab. XVII, 22-24. 26-33; 266 Tab. XXIV, 113-117; 267 Tab. XXV, 120-128.



Fig. 11 Iron tools. – (Photos S. Doncheva). – Not to scale.

Fig. 12 Iron tools. – (Photos S. Doncheva). – Not to scale.



obtained by moulding in double sand-cast boxes filled with moulding mixture. The choice of the frame size depended on the cast articles, but it is obvious that these metal shapes were not large – the width of fittings varies from 0.5-2cm. Remains of such elements correspond to the sand-cast boxes

from the later period⁷. There is no fully preserved form among them, but all fragments show their intense use in casting practice⁸. The non-durability of the material from which most of the moulding tools were made is the reason why some of them were not found during excavation of the production

7 Georgieva/Buchinski, Staroto 261 Tab. XC.

8 Bonev/Doncheva, Starobalgarski 262-262 Tab. XX, 66-73; Tab. XXI, 74-76.



Fig. 13 Bone and iron tools. – (Photos S. Doncheva). – Scale 1:1.

centres. These included the wood in hammers and tambours for sealing the moulding mixture in the sand-casting boxes, the cleaning brushes used for the mould surface, etc.

Concerning tools here, we must also refer to the group of bone awls, which is also the most numerous. Due to the ready availability of the material and its ease of working, they are widely used in the practice of jewellery production in the Middle Ages. Among the findings from the two centres, there are large and small shapes, with more or less pointed tips, with roughly shaped or precisely polished surfaces. The bone awls are used for modelling and forming sand-cast box surface – gasket and thimble, angle shapers, casting channels (fig. 13).

After the casting moulds are removed, the surface is cleaned, which is never perfectly smooth and needs to be

refined to remove the founders, outbursts of metal, bays and roughness. The products become smooth and are subsequently sanded and polished. Various shapes and sizes of files, cutters, knives, special tools for cleaning, grinding stones, and wooden sticks have been used for this purpose. Files, curved knives for smoothing, a large number of knives of different size and a dozen grinding stones were found in the workshops at Novosel and Zlatar⁹. The grinding stones are an auxiliary tool, which, after being used, remained at the place of production (fig. 14).

The remaining set of tools characterising individual manufacturing operations, made of metal and especially valuable, is less common. Forged relief, for instance, is one of the oldest metal processing techniques that has not changed sig-

⁹ Bonev/Doncheva, *Starobalgarski* 259 Tab. XVII, 34-38; 260 Tab. XVIII, 39-49; 264 Tab. XXII, 82-92; 265 Tab. XXIII, 93-97.



Fig. 14 Grinding stones. – (Photos S. Doncheva). – Scale 1:2.

nificantly over the years. The practice of this activity is related to a certain set of tools, among which are basic cutting and decorating implements. The metal sheet receives the desired shape with the help of various types of dies, punches, pads and prints.

Some of the silver objects are gilded, and copper and bronze objects are gilded or silver-plated. This is one of the means to give an aesthetic appearance to metallic alloys of base metals. It is known that copper products and their alloys are the best source. There are a number of items on which gold is applied. Much of the bronze cast has a greyish white metallic finish on the face. The chemical composition of the metal coating proves that the use of silver alloy and tin amalgam was cheaper than silver alloy alone. Prior to coating, the castings were carefully polished and the clean, smooth surface became mandatory not only for the coating, but also for all other parts of items.

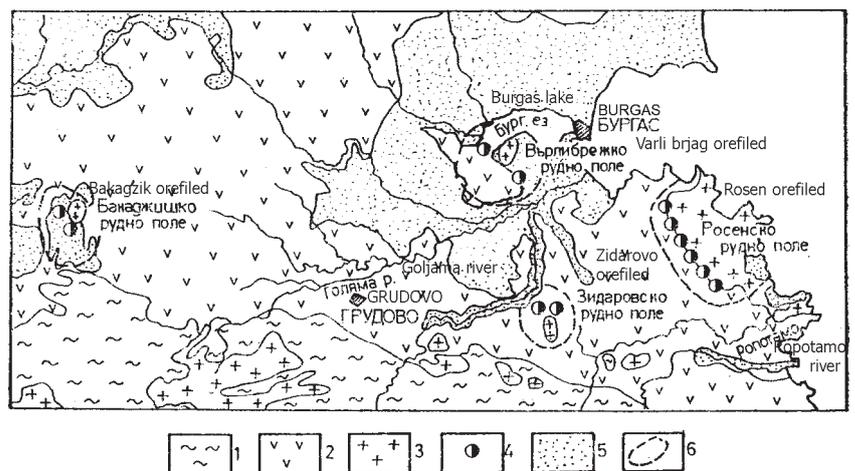
Tool sets reflect the full diversity in the process of cold and hot metal making and their alloys. In the tenth century, the Old Bulgarian workshops were equipped with a large variety of tools. The good equipment of the workshops testifies to the wide range of various technological operations and the high quality of the production, which is a reliable indicator of state of the jewellery craft during this period.

Origin of Raw Materials

The analysis results give us some idea of the origin of the raw materials used by medieval craftsmen, as well as the possible supply routes to the metalwork centres. Along with recycling scrapped items, the jewellers used ingots of precious metals. A considerable number of such ingots have been found in the metalwork centre of Zlatar. A well-known fact is that in Bulgaria there were native silver and copper deposits (fig. 15)¹⁰. Silver and some silver-containing sulfosalt minerals (such as tetrahedrite, pyrargyrite, polybasite, etc.) can be found near Chiprovtsi. The highest silver content deposits are found near Yavorov dol. They belong to the so-called Balkan metallogenetic belt, where there are two basic types of mineralisation: lead-zinc mineralisation, with key representatives of galena, sphalerite, chalcopyrite, pyrite (there were found some ancient galena mines); and gold-bearing polymetal minerals, represented by galena, sphalerite and gold-bearing pyrite. Gold is placed in the oxidising zone of the galena and pyrite and was mined from open pits along the ore veins.

There are more than 50 mines remaining from copper mining and smelting in the Burgas region dating from the Early Bronze Age through Classical Antiquity to the modern period. It is difficult to accept the idea of an interruption to

Fig. 15 Location of the ore fields in the Bourgas ore region. 1 Foundation of metamorphic, intrusion and sedimentary rocks. – 2 Upper cretaceous volcano-sediment complex. – 3 Upper cretaceous intrusion rocks. – 4 Deposits of a copper polymetal ore formation. – 5 Tertiary and quaternary deposits. – 6 Boundaries of minefields. – (After Bogdanov 1987).



¹⁰ Georgiev, Polezni 21.

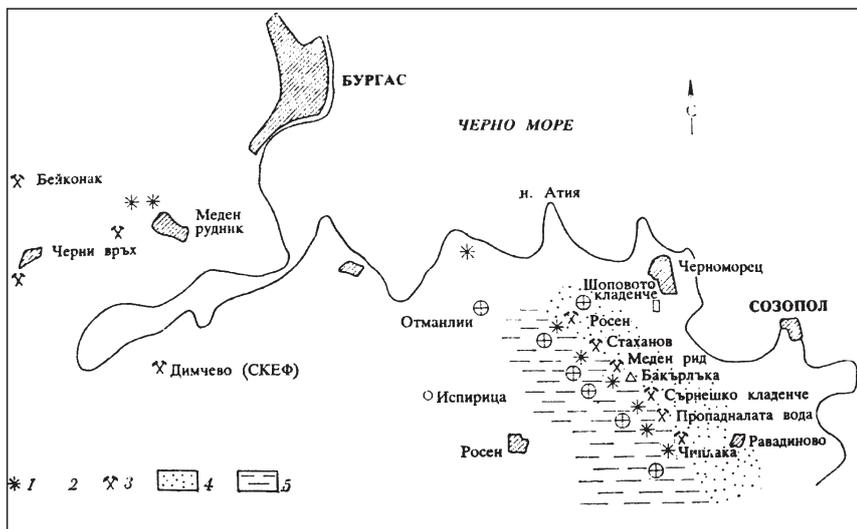


Fig. 16 Fields of ancient works of copper ores and slags in Burgas-Strandzha region: 1 old mine workings. – 2 slag. – 3 ore veins. – 4 Rosen pluton – 5 contact-altered rocks. – (After Georgiev 1987).

metallurgy activity here from the ninth to fourteenth centuries because of the enormous need for fresh ore for the production centres of metalwork and separated workshops in other settlements.

Silver mining remained almost unchanged from Antiquity to the late Middle Ages¹¹. Cupellation, which is the melting of silver-bearing lead in an oxidising air stream, was the only known way to separate precious metals (silver [Ag] and gold [Au]) from base metals and for the production of pure silver. The cupellation of a lead bath, not only oxidises lead itself, but also all inclusions. The cupellation continues until all the lead is removed. The silver remaining contains 94-96% of Ag. The remaining elements are bismuth (Bi), copper (Cu), lead (Pb) and gold (Au). At the next stage, the silver so extracted is subjected to purification in special furnaces by the addition of copper (Cu). During this oxidising or refinement »baking« of silver, the inclusions of lead (Pb), copper (Cu) and bismuth (Bi) which have remained in the precious metal after the primary processing are separated to give way to the purest silver with minimum impurities.

Investigations into the remains of the antique copper mines indicate, with great certainty, that the major portion of the raw materials (copper and bronze) came from the Burgas-Strandzha mining region¹². Numerous traces of mining activities were found in that region. In the Burgas sub-region there are more than 250 ancient ore mines (fig. 16). The antique metallurgy in the region of Burgas was mentioned by O. Davies¹³. The inclined shafts are especially notable. At the Varli Briag and »Lenko« vein, the inclined shafts reach a depth of 100m, at the »Rossen« mine the depth is 75m, while at Meden rid, the inclined shaft depth is 72m. The numerous piles of slag or traces of them are evidence of metallurgy in ancient times. It is not possible to say with certainty what exactly the copper and iron furnaces were, or what

the metallurgical and chemical processes in those furnaces were. We can only judge them from their by-product – the slag. Remains of furnaces were found near the Gradishteto (a ruined furnace with metal parts around it) and on other sites in the Strandzha mountains, such as Balgare, Slivarovo and near Ahtopol. There were furnaces in the Mishkova niva place near the village of Delchevo – Municipality of Malko Tarnovo. Crucibles were found near the »Rossen« mine¹⁴.

We do not know the exact composition of the copper and the destination of the hundreds of thousands of kilograms produced in those furnaces. We can judge for the type and scale of the ancient metallurgy from the multiple piles of copper slag, some of them huge even in modern terms. The weight of the pile of slag near the »Rossen« mine is calculated to be 300 000 tonnes. This slag contains 0.3-1.04% copper and about 30% iron. At the Tyasna Barchina River near Gramatikovo, there is a whole hill of slag, some 1000 m long and 50 m high. The slag deposits near the »Iglika« ore field take up an area of 18 000 m² and has an average depth of 2 m. They contain 0.44% copper and 0.50% zinc. The investigations made on the work of the ancient geologists, miners and metallurgists ascertain that work continued without interruption from 1000 BC to AD 1000, i.e., through Classical, Roman, Late Antiquity and the early Middle Ages¹⁵. The traced histogram in the distribution of the concentration of the elements in the ores from these and other ancient ore developments are the starting point for the current observations (fig. 17)¹⁶.

Geochemical copper ores are homogeneous and practically appear monometallic. From micro impurities, only lead, zinc, bismuth, silver, nickel, and some others are found in hundredths of percent. The chemical composition of the slag confirms the assumption that ore was melted here. If we rely on the chemical composition of local malachites and azurites,

11 Agricola, De re Metallica 439-490.

12 Konjarov, Prinos 126.

13 Davies, Roman.

14 Konjarov, Prinos 29-30.

15 Georgiev, Polezni 49.

16 Chernih, Gornoe.

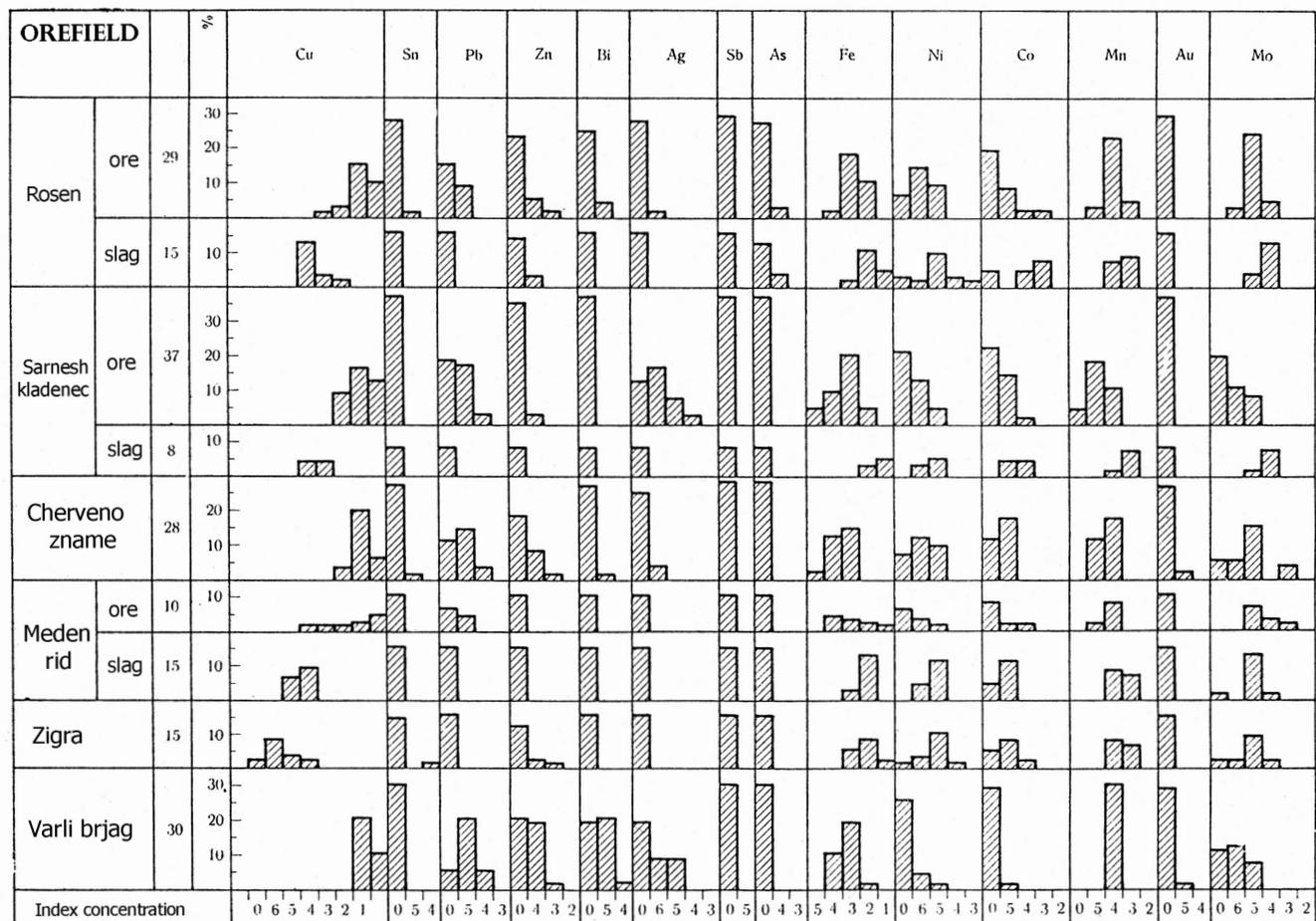


Fig. 17 Histogram of the concentration of the elements in the ores from Burgas, Strandza region – (After Chernich 1987).

copper of considerable purity, with small amounts of micro impurities of silver, nickel and possibly bismuth, gold, arsenic, is to be expected. Analysis has proven a connection between this metallurgical group and the products found at the metalwork centres. Therefore, in view of the above facts, we can assume that the Burgas-Strandja mining region continued functioning during the Early Bulgarian Middle Ages, when the need for metal was significant.

Lead extraction was linked to the areas of silver extraction and the presence of copper-zinc ores. The most prominent mining and metallurgy has existed during the Middle Ages. Since then, there has been much evidence of this activity. The main metallogenic provinces are Rhodope and Balkan metallogenic zones¹⁷, where the ore is mainly silver-lead-zinc. They are represented by hydrothermal stems and metasomatic bulks. Typical of these are the metals Pb, Ag, Zn (Cd, Cu, W, Mo, Fe). There are 42 old mines from Antiquity and the Middle Ages. Rhodope Polymetal ore province is remarkable, not only in Bulgaria, but also in the Balkan Peninsula and Europe.

There are numerous ore veins, some of which are hundreds of metres in length, with a breadth of up to 20-30m. In the Sakar ore region, which is part of the Burgas-Strandzha ore region and relatively close to Preslav, there are 12 hydrothermal polymetal ore veins. The main ore minerals are galena and sphalerite; the secondary ones are pyrite, chalcopryite, etc. Old mining galleries have been identified with a height of 1.6m and a width of 1.4m. Tools and piles of slag from the Middle Ages were found.

In the Balkan metallogenic zone, the Etropole ore region with Dolna Kamenitsa deposit should be mentioned. There are two types of ores: first, lead-zinc with major ore minerals galena, sphalerite, chalcopryite. Old galleries were found here. Perhaps it was not only lead extraction, but also silver extraction; second, golden polymetallic ore, represented by galena, sphalerite and golden pyrite. Gold is located in the oxidation zone, where the galena and pyrite are oxidised. More than 50 overground developments have been found from the surface mining of gold.

17 Georgiev, Pomezni 85. 98.

Elemental Composition of the Found Items

Some investigated bronze items give us an idea of the huge variety of copper alloys used by the medieval jewellers in the first half of the tenth century. Among them there are such made of leaded copper, lead-tin bronze and tin-lead bronze, brass, arsenic copper bronze, multi-component alloy. The first type of items has a lead-copper (Pb/Cu) relation, the second type has a lead-tin (Pb/Sn) correlation and the third type has a tin-lead (Sn/Pb) correlation (fig. 18). One can distinctively note the threshold of artificial lead insertion (alloying): the concentration of 0.5% can be taken as a threshold value between naturally occurring impurities and artificial alloy. The higher lead content is an indicator of a deliberate addition to the alloy, as is the case with lead bronze. Adding lead to the alloy makes it more malleable and forgeable.

The remaining artefacts have a low arsenic content, which was obviously not intentionally introduced by the craftsmen, but resulted from the melting of arsenic bronze ingots (fig. 19a-b). The arsenic bronzes contain from 0.5-5% of arsenic (As) and usually have increased nickel content. We can assume that the threshold for artificial introduction of arsenic in copper alloys is 0.5%. The lower concentrations might have resulted from introduction of arsenic bronze to the copper.

The arsenic content suggests that the craftsmen used old or scrapped items containing arsenic. When the arsenic content reaches more than about 5 wt% the item produced resembles that of silver. Such methods were used in the Hellenistic period (second to first centuries BC), especially by alchemists¹⁸. The arsenic was probably introduced through sulphide ores that had not been subjected to sulphur extraction by roasting and the sulphides had not been transformed into oxides. The correlation between arsenic (As), cobalt (Co), nickel (Ni), antimony (Sb) and lead (Pb) shows that the arsenic might have been introduced through minerals. The close values of bismuth (Bi) and nickel (Ni) confirm the similar origin of the used metal. The analysis clearly demonstrated that there is a positive relationship between the tin-lead complex copper alloys and arsenic-antimony concentrations (fig. 20).

Copper alloys containing lead have been known since the Bronze Age and were only found in the second phase of the Iron Age in connection with the lead extraction technique, i. e., cupellation¹⁹. The main advantage of these alloys is to improve their flowability, which makes well filling moulds possible. During Antiquity, another notable advantage was the fact that the presence of lead causes a significant decrease in the melting temperature of the whole alloy, which is of great importance, given the difficulties involved in achieving the necessary reduction conditions. The main disadvantage is the impossibility of forging such alloys. This is because the granules formed by lead, which are insoluble in the copper, create

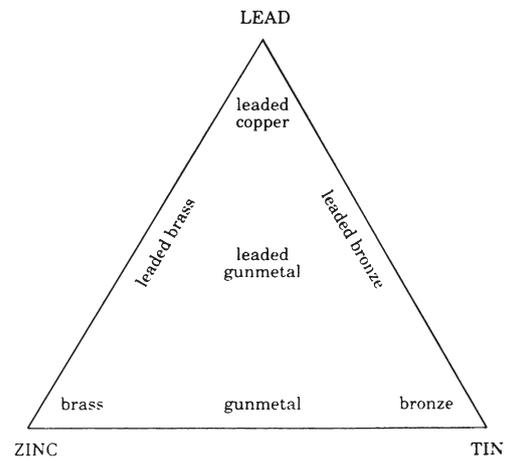


Fig. 18 Distribution of copper-alloy definitions in the ternary graph of Pb, Sn, and Zn. – (After Bayley/Butcher 2004).

fractures on the surface of the metal. Ancient craftsmen were familiar with all these alloy manifestations. That is why only alloys with a lead content of less than 1-2% Pb were used for forged items. As a rule, objects made of foil (plates) do not contain lead. Regardless of the lead content in copper, it has a significant impact on the technological properties of the metal. It is known that lead is insoluble in copper; its addition improves the casting properties of copper, but the plasticity of the metal is reduced from 6% Pb onwards. If lead levels are above 3% Pb, then it has been added to the copper alloy. If the correlation coefficient between the silver and lead concentrations is high, then this means that the silver (Ag) did not come from copper ore, but from lead (Pb) through a process of cupellation.

Lead can be referred to as artificial impurity when it is within the range of 0.3-1% Pb. Therefore, low-lead products refer to the group of natural alloys resulting from the penetration of this element from the ores or as a result of the melting of lead copper. The tin and lead content in a large part of the objects below a certain limit indicates their alloy as a result of the transition from the ores. The influence of lead on the copper structure resembles that of bismuth (Bi). Lead, as well as bismuth, forms an eutectic. As the lead content increases, the morphology changes to a droplet shape. At lead concentrations of up to 0.05% Pb, a marked decrease in the plasticity of copper is observed.

Some of the items are made of multi-component alloys, which, in addition to the tin and lead, contains all remaining elements in just fractions of a percent. The admixtures were either introduced through the source ores, or as a result of adding old bronze items to the mix. Thus, some metals were introduced to the alloy accidentally by using scrap.

18 Puasson, Teorii 75-89.

19 Pernicka, Sastojanje 37.

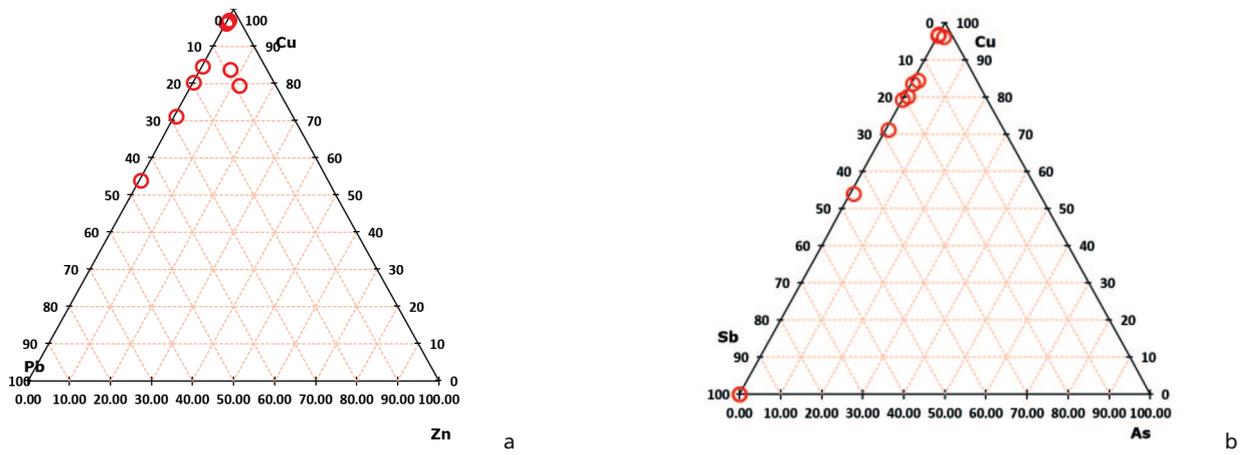


Fig. 19 a Ternary graph of copper, zinc, and lead concentrations measured in the artefacts. – b Ternary graph of copper, antimony, and arsenic concentrations measured in the artefacts. – (Copyright S. Doncheva).

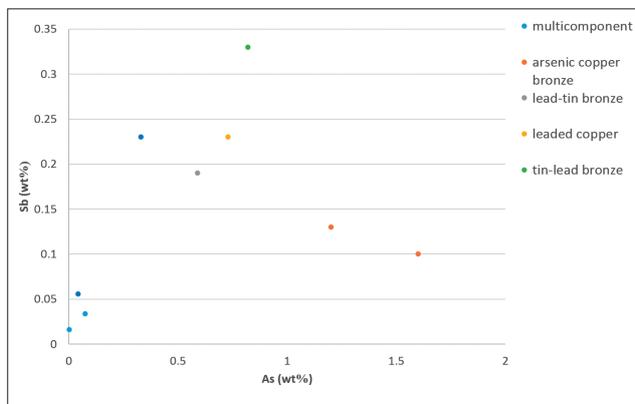


Fig. 20a Scatter-graph of copper and lead concentrations measured in the artefacts from the 10 c. AD production centres near Preslav, north-eastern Bulgaria. The separation of three main compositional groups within the assemblage is presented – lead, brass, and a broader cluster of various multi-component copper alloys. Note the logarithmic scale of the lead values. – (Copyright S. Doncheva).

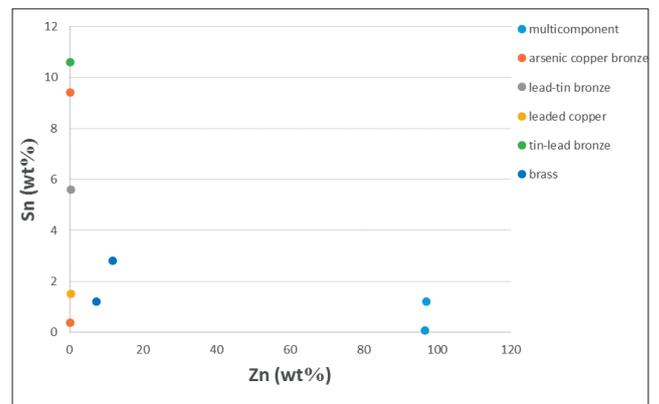


Fig. 20c Scatter-graph of arsenic and antimony concentrations measured in the artefacts from the tenth-century production centres near Preslav, north-eastern Bulgaria. – (Copyright S. Doncheva).

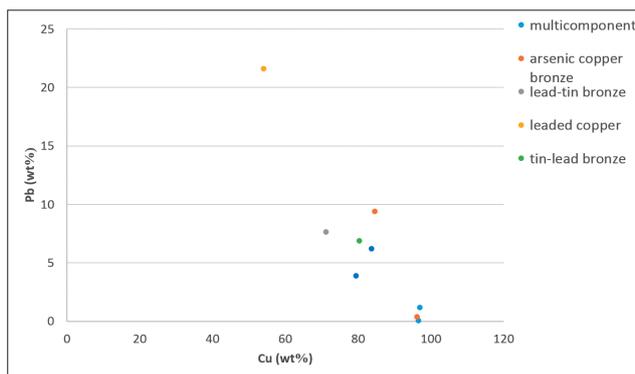


Fig. 20b Scatter-graph of zinc and tin concentrations measured in the artefacts from the tenth-century production centres near Preslav, Northeastern Bulgaria. – (Copyright S. Doncheva).

Analysis of most items found on centres of metalwork demonstrate low percentage of trace elements (Co, Ni, As, Sb, etc.) in alloys, which is an indicator of the high level of metal refinement achieved by the Bulgarian craftsmen. The average iron Fe content of 0.1-0.3% in items is an evidence of highly effective reduction in the process of smelting²⁰.

20 Craddock/Meeks, Iron 187-190.

Conclusion

The sophisticated organisation of metalwork production was the result of government policy. Only the government could have had a clear idea of the formation and realisation of such a large corporation specialising in the serial production of metalwork items. In this situation, the question arises as to whether it was necessary to introduce such a manufacture, that combines high artistic criteria with mass production. An important part of this is the extremely varied forms and rich repertoire of bronze objects.

The tenth century was a period of great popularity for this type of accessory, which became the dominant fashion trend. The foremost market for their consumption was the capital, where the refined tastes of the aristocracy created demand. It is very likely that these objects were made by the craftsmen and traders themselves, as was the common practice in neighbouring Byzantium, where the jeweller and the trader were one and the same person²¹. The combination of these two activities – the production and marketing of finished products – is the basis of the word *ergasteriion*, *ergasteria*, which has been used since the seventh or eighth century to describe both the workshop itself and the point of sale²². The meaning of this concept is rooted in the economic tradition in which the craftsmen tried to reconcile different types of activity, including dealing with trade. Actually, the manufacturers, *vanavsi* (*banausoi*), were separated from the market traders (*agoraios anthropoi*), but that did not always prevent trade being closely involved with production²³. Craftsmen (*technites*) were often both sellers of their products and owners of the workshops in which they worked. Comment: There is no reference to the Chronicon Paschale, and there is nothing in the text, both a colleague and I looked it up. Hagiographical sources from the seventh to tenth centuries contain examples indicating that craftsmen traded what they produced²⁴.

The combination of the jeweller and the trader in one and the same person is a characteristic feature of these different activities. Such dependence existed, not only in Byzantium, but undoubtedly in the neighbouring countries influenced

by it. In this respect, it must be assumed that such an organisation existed in the early to middle Bulgarian metalworking centres, especially here, given the proximity to the capital Preslav. Some of the goods would have reached the market through intermediaries and resellers, but, when making jewellery and small metalwork objects, it is more likely that the craftsmen themselves took care of the placement of their produce. It is clear that the exercise of a commercial activity implies the continuous movement of produce to market.

In the tenth century, the fashion for ornamental metal belts was widespread, and the large population of the medieval city centre required a constant supply of such items in the marketplace. It is no coincidence that the metalwork objects discovered sporadically in various places in Preslav were the same as those made in the production centres around the town and obviously originated from these places. In addition, there are several other settlements, some of considerable size, in the vicinity of the production centres. With the growing interest in metalworking products, especially those related to belt and garment decorations, their inhabitants must also have been among the potential users of these products.

Under these circumstances, we must conclude that in the middle of the tenth century, the capital of Preslav was surrounded by settlements whose inhabitants had different livelihoods, including the manufacture of jewellery. The picture sketched above implies intense contact between people and a sufficient and secure road network. Routes are difficult to establish, but archaeological surveys show that life in the area was uninterrupted from the tenth century to the present day, and that the inhabited places underwent only minor changes. Significantly, the settlement area is still densely populated today.

According to this brief overview of the research on the two metalworking centres near Preslav (Novosel and Zlatar), it is clear that issues related to the organisation and individual stages of production and the connection with nearby settlements are only part of their essence. Their location in the vicinity of the capital and their trade links with it are a much broader issue, involving economic relations and political power.

21 Bonev/Doncheva, Centarat 382-389.

22 Sorochan, Vizantia 116.

23 Gurevich, Iz ekonomicheskoi 135. – Suzumov, Remeslo 31.

24 Moschos, Spiritual Meadow chap. 114. 194. – Rudakov, Ocherki 150.

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Summary / Zusammenfassung / Résumé

Archaeology and Metalwork in Early Medieval Bulgaria

The discovery of tenth-century centres of metalwork in the vicinity of the capital of Preslav, i. e., near the villages of Novosel (Šumen municipality) and Zlatar (Preslav municipality), has led to a new trend in medieval Bulgarian archaeology. Both centres were specialised in metalworking, i. e., in the casting of non-ferrous metals and the manufacture of fine metalwork. There was no smeltable ore here, so there were no remains of smelting furnaces, from the ore itself or the accompanying waste. The excavations at Novosel and Zlatar could clarify some issues concerning the production locations and role of a large number of metal items found there in the past two decades. A total of 3000 artefacts have been found at these two sites so far. Most of them are belt decorations (mounts, strap ends, buckles), cult objects (crosses and medallions), jewellery (rings and earrings), and single- and double-sided stamps. Typical ceramics and folles of Leo VI (866-912), Romanos I Lakapenos (920-944), Constantine VII and Romanos II (945 -950) date the activity of the metalwork centres to the tenth century.

Archäologie und Metallverarbeitung im frühmittelalterlichen Bulgarien

Die Entdeckung von Metallverarbeitungszentren des 10. Jahrhunderts in der Nähe der Hauptstadt Preslav, d. h. in der Nähe der Dörfer Novosel (Gemeinde Šumen) und Zlatar (Gemeinde Preslav), hat zu einem neuen Trend in der bulgarischen Mittelalterarchäologie geführt. Beide Zentren waren auf die Metallverarbeitung spezialisiert, d. h. den Guss von Nichteisenmetallen und die Herstellung von Feinmetallarbeiten. Da es hier kein Schmelzerz gab, fanden sich auch keine Überreste von Schmelzöfen, weder vom Erz selbst noch von dem damit verbundenen Abfall. Die Ausgrabungen in Novosel und Zlatar konnten einige Fragen klären bezüglich der Produktionsorte und die Rolle einer großen Anzahl von Metallgegenständen, die dort in den letzten zwei Jahrzehnten gefunden worden sind. An beiden Standorten wurden bisher insgesamt 3000 Artefakte gefunden. Es handelt sich überwiegend um Gürtelverzierungen (Beschlüge, Riemenenden, Schnallen), Kultgegenstände (Kreuze und Medaillons), Schmuck (Ringe und Ohringe) sowie ein- und zweiseitige Stempel. Typische Keramik und Folles von Leo VI. (866-912), Romanos I. Lakapenos (920-944), Konstantin VII. und Romanos II. (945-950) datieren die Tätigkeit der Metallverarbeitungszentren in das 10. Jahrhundert.

Archéologie et travail des métaux en Bulgarie au haut Moyen Âge

La découverte de centres de métallurgie du X^e siècle près des villages de Novosel (municipalité de Šumen) et de Zlatar (municipalité de Preslav), c'est-à-dire près de la capitale Preslav, a fait émerger un nouveau champ de l'archéologie médiévale bulgare. Ces deux centres étaient spécialisés dans la métallurgie, plus précisément dans la fonte de métaux non ferreux et la fabrication d'objets en métal fin. Dans ces espaces, il n'y avait pas de minerai de fonte, et donc pas de vestiges de fours de fonte, ni du minerai lui-même, ni des déchets qui l'accompagnent. Les fouilles de Novosel et de Zlatar ont permis de clarifier certaines questions concernant ces lieux de production et le rôle d'un grand nombre d'objets métalliques trouvés dans ces centres au cours des deux dernières décennies. À ce jour, 3000 objets ont été découverts sur les deux sites. La plupart d'entre eux sont des décorations de ceinture (montures, extrémités de sangle, boucles), des objets de culte (croix et médaillons), des bijoux (bagues et boucles d'oreilles) et des tampons à une ou deux faces. Les céramiques typiques et les follès de Léon VI (866-912), Romain I^{er} Lécapène (920-944), Constantin VII et Romain II (945-950) permettent de dater l'activité de ces centres métallurgiques au X^e siècle.

III. Object Studies

The Enamel Earrings in the Preslav Treasure

The earrings in the Preslav Treasure belong to two main types: earrings with *cloisonné* enamel; and filigree earrings with pearls and precious stones. The enamel earrings are decorated with floral and zoomorphic motifs, which are the main topic of my paper (figs 1-12). This text consists of two parts: the first part provides a brief description of each item, while the second part is devoted to the discussion of the earrings' decoration and workmanship.

The Preslav Treasure was discovered in 1978 in the outer city of the medieval Bulgarian capital Preslav, today Veliki Preslav (district of Šumen, Bulgaria). This extraordinary convolute of medieval gold jewellery came to light in two stages¹: in 1978, workmen found parts of the treasure while ploughing the fields in the area of Kastana, 3 km north-west of the medieval centre of Preslav (the location of the tsars' palace). The following year, extensive archaeological excavations under the direction of Professor Totyu Totev were undertaken in the area. The excavations yielded comprehensive information on the circumstances of the treasure's discovery and its archaeological context. The golden jewellery was in a wooden box with silver fittings that had been placed inside a stone-built oven in one of the dwellings of the early medieval settlement that existed on both banks of the Dervishka River. The archaeological context of the treasure indicates that it was deliberately hidden in this place. As to the date of hiding such a valuable treasure, it is usually assumed that it was connected to the turbulent events of 971, when the Byzantine Emperor John I Tzimiskes captured the city of Preslav². The hoard included a group of 15 Byzantine silver coins minted in the years 945-959 during the reign of the emperors Constantine VII Porphyrogenetos and Romanos II³, thus providing a *terminus post quem* for the concealment of the Preslav Treasure.

The treasure consists of more than 180 objects made of gold, silver, precious and semi-precious stones, enamels and bronze. It comprises five enamelled gold plaques reconstructed as a diadem, a two-sided necklace, three gold medallions with precious stones and pearls, also reconstructed as a necklace, five pairs of earrings made of gold and *cloisonné* enamel, as well as gold filigree and pearls, two spherical pendants with *cloisonné* enamel, a rock crystal bead, a rock

crystal seal set in gold, rings, and gold pendants, buttons, appliques, and two thin silver bracelets.

The Preslav earrings with enamel have been examined in several studies. The most comprehensive analysis so far has been provided by Antje Bosselmann-Ruickbie, who also included analogies for the Preslav earrings⁴.

Descriptions

1. Earring (inv. no 3381/8), forming of a pair with no. 2 (inv. no. 3381/11), made of gold, pearls and *cloisonné* enamel (figs 1-4). Composed of a crescent-shaped element, decorated with enamels set within a beaded wire frame on each side, a round medallion and three two-sided pendants, embellished with the *cloisonné* enamel technique. The hoop is mounted on two golden bi-conical beads attached to the short sides of the cassette. The hoop ends in a hook that fastens into an eye attached to a bead on the earring. Rising from the centre of the arc is an enamelled medallion framed with beaded wire and pearls. A blue and white peacock with a tapering tail fills the medallion. The plate is filled with a whitish tendril with bunches of grapes twisted over the blue background. Three pendants are suspended from the lower edge of the plate, the middle one with five, and the ones on the side with three almond-shaped leaves framed with beaded wire. Whitish drops set against a green background fill the pendants (figs 1-3). Enamels with blue, green and white colours are used for the decoration. Dimensions: height 10.7 cm, arched frame 4.3 cm × 1.1 cm, medallion diameter 2 cm, weight 42.2 g.

2. Earring (inv. no. 3381/11), forming a pair with earring no. 1 (inv. no. 3381/8), made of gold, pearls and *cloisonné* enamel (fig. 5). Only the hoop, the arched frame and one of the leaf-shaped pendants are preserved.

3. Earring (inv. no. 3381/9), forming a pair with no. 4 (inv. no. 3381/10), made of gold, pearls and *cloisonné* enamel (figs 6-9). The earrings are composed of crescent-shaped

1 Cf. the contribution by S. Bonev and P. Slavov in this volume.

2 Totev, Preslav Treasure 6-15. – Totev, Preslavskoto sakrovishhte 26-28. – Totev, Preslavskoto 101-102.

3 Yordanov, Monetite 8-11. – Totev, Preslavskoto sakrovishhte 12. – Totev, Preslavskoto 83. – Totev, Preslav Treasure 82.

4 Cat. New York 1997 no. 228. – Bosselmann-Ruickbie, Byzantinischer Schmuck 25-26. – Grigorov, Metalni nakiti 37-39.



Fig. 1 Gold earring with enamel (one of a pair), decorated with a peacock, Preslav Treasure, Constantinople, tenth century (before 971, 927?), Museum Veliki Preslav, inv. no. 3381/8. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 2 Gold earring with enamel (one of a pair) as in fig. 1, reverse, main enamels lost. – (Photo S. Steidl, LEIZA). – Scale 1:1.

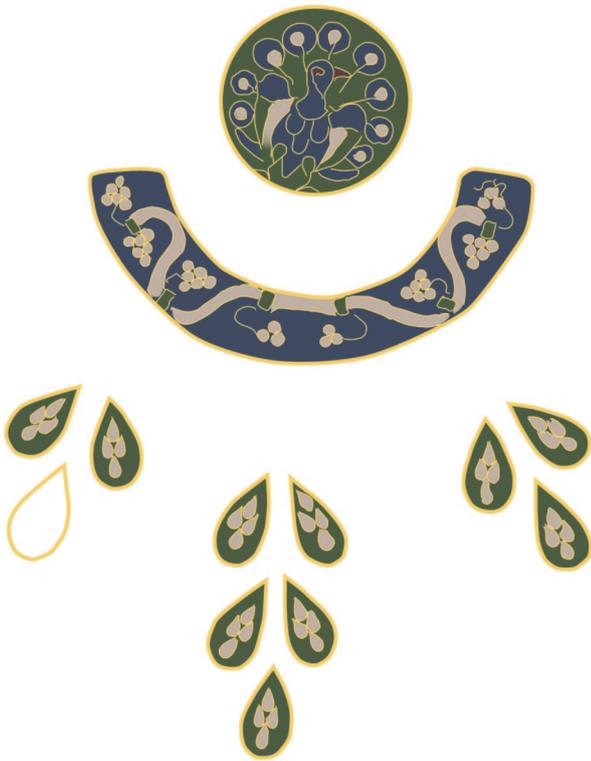


Fig. 3 Colour distribution of the earring in figs 1, 2 and 4. – (Drawing L. Vidanova).



Fig. 4 Detail of fig. 1 with peacock enamel (see also cover illustration). – (Photo S. Steidl, LEIZA).



Fig. 5 Gold earring with enamel (damaged counterpart of the earring in figs 1-4), Preslav Treasure, Museum Veliki Preslav, inv. no. 3381/8. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 6 Gold earring with enamel (one of a pair), decorated with confronted peacocks (central medallion missing), Preslav Treasure, Constantinople, tenth century (before 971, 927?), Museum Veliki Preslav, inv. no. 3381/9. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 7 Gold earring with enamel as in fig. 6, other side, decorated with running dogs. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 8 Gold earring with enamel, detail of fig. 7, dog. – (Photo S. Steidl, LEIZA).



Fig. 9 Colour scheme of the earring in **figs 6-8**. – (Drawing L. Videnova).

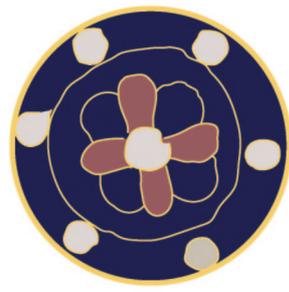


Fig. 12 Colour scheme of the enamel medallion (front and back) in **figs 10-11**. – (Drawing L. Videnova).



Fig. 10 Gold earring with enamel (counterpart of the earring in **figs 6-9**), medallion decorated with a rosette on a dark blue background (other enamels missing), Preslav Treasure, Constantinople, tenth century (before 971, 927?), Museum Veliki Preslav, inv. no. 3381/10. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 11 Gold earring with enamel as in **fig. 10**, other side, decorated with a rosette on an emerald green background (other enamel parts missing). – (Photo S. Steidl, LEIZA). – Scale 1:1.

plates decorated on both sides with enamel, a hoop and pendants suspended from the lower arc of the plates. A medallion on the top of the crescent is missing today (compare no. 4). On the short sides of the crescent, two golden bi-conical beads are attached. In one of them, the end of the earring's hoop is fixed, while the other end can be pushed into the other bead to close the hoop (as opposed to nos 1 and 2 with a hook-and-eye fastening). The crescent-shaped plates are double-faced, embellished with *cloisonné* enamel and originally framed by rows of pearls (only the rings to hold the strung pearls are preserved). One side of the crescent is decorated with a plant and two peacocks with twigs in their beaks, facing opposite directions (fig. 6). The figures are filled with light green and yellow enamel on a dark blue background. On the other side, there is a palm tree in the centre, surrounded by two hunting dogs running towards the left and the right (figs 7-9). Dark blue, yellow, light blue and red enamel were used on a light green background. Five (of originally six) pendants consisting of golden bi-conical beads with a pearl at each end are attached to the lower end of the crescent. Another pendant that would have been in the centre is now lost and only a hinge construction testifies to its former presence.

Dimensions: height 8 cm, width 4.5 cm, thickness 0.6-0.8 cm, weight 15.89 g.

4. Earring (inv. no. 3381/10, forming a pair with no. 3 (inv. no. 3381/9), made of gold, pearls and *cloisonné* enamel (figs 9-10). Of this earring, only the crescent-shaped frame is preserved today, but as opposed to the earring's counterpart no. 3, the round medallion framed by beaded wire on top of the crescent has survived, decorated with *cloisonné* enamel. On one side is an eight-leafed rosette in blue and red on a blue background (figs 10. 12). The rosette is surrounded by a ring-shaped enamel cell with six white dots. The enamel on the other side (figs 11-12) is decorated with a multi-faceted rosette with four white almond-shaped leaves on the top against a green background. Four (of originally six) bi-conical beads with pearls are preserved on the underside of the frame.

Dimensions: height (with beads) 7 cm, width (with arched frame) 4.5 cm, weight 17.9 g.

Discussion

The design of the first earring consists of three elements, arranged from top to bottom as follows: a circular medallion, a crescent-shaped plate, and leaf-shaped pendants in which three images are placed (figs 1. 3). A visually striking peacock with broad wings and tail fills the medallion (fig. 4 and cover). On the plate, there is a vine scroll with grapes. The leaves of the pendants are decorated with stylised drops. Three colours are used: blue, green and white. The bird is blue with white on the wings and tail on a green background. The tendril is entirely white on a blue background. The drops are white on a green background. These are not just images of a peacock, a tendril with grapes, and leaves with drops. This pictorial scheme can be described as a bird of paradise perched in a fertile vineyard, from which drops fall – perhaps as a symbol of youth and fertility.

The use of peacocks to decorate ornaments began in the Late Roman period, but reached significant popularity in Early Byzantine jewellery. In the sixth to the seventh centuries, crescent-shaped type earrings with peacock images, most often two, standing around a bowl, palm tree, or cross⁵ became particularly fashionable. Baldini Lippolis includes over 20 pairs of earrings with two peacocks in her Early Byzantine earrings catalogue⁶. According to Marvin Ross, the frequent use of this iconography derives from the notion that peacocks symbolise paradise⁷. The crescent-shaped earrings with the image of a bird were, however, not only widespread in Early Christian and Byzantine art, but also popular in sixth- to eleventh-century jewellery of the Islamic lands. Thus, the crescent-shaped type could be characterised as a »universal« type⁸.

Another example comes from the excavations in Chersoneses, which is a part of a *cloisonné* enamel earring: a half-moon with two peacocks facing a goblet⁹ (fig. 13). However,



Fig. 13 Gold plaque decorated in *Senkschmelz* (*émail enfoncé*) with two confronted peacocks, found in Cherson in a tenth- to eleventh-century stratum. – (From Cat. Sevastopol/Austin no. 72, fig. on p. 179).

5 Deppert-Lippitz, *Jewellery* 55-56.

6 Baldini Lippolis, *L'oreficeria* 100-105. See also Yeroulanou, *Diatrita*.

7 Ross, *Goldsmith-work* 362-363.

8 Albani, *Elegance Over the Borders* 194-195.

9 Cat. Sevastopol/Austin 2011 no. 72 (D. Zhuravlev / E. Novikova / V. Zaleskaya).



Fig. 14 Gold earring with enamels, decorated with peacocks, found on Crete, Constantinople, tenth century (before 961), National Archaeological Museum, Stathatos Collection, inv. no. Στ 485. – (Photo A. Bosselmann-Ruickbie).



Fig. 15 Gold earring with enamels, decorated with dogs, found on Crete, Constantinople, tenth century (before 961), National Archaeological Museum, Stathatos Collection, inv. no. Στ 483. – (Photo A. Bosselmann-Ruickbie).

the Byzantine crescent-shaped earrings from Crete with the image of two peacocks facing a palm tree in the centre are the closest *comparanda* to the Preslav earring with peacocks¹⁰ (fig. 14). The similarities continue in the medallions: both the Preslav and the Crete specimens are round and with four, five-leaved rosettes with a circle in the middle. Very similar is also the medallion rosette applied to the icon of Mary from Georgia, dating back to the tenth century. It is framed with

an outer circle of granules and golden round wire inside, has four almond-shaped leaves and a red dot in the centre¹¹.

The similarities of the Preslav earrings and the ones found on Crete are also transferred to the opposite side, depicting running dogs with open mouths¹² (figs 7. 8. 15). They are the closest *comparanda* to the Preslav pieces. They feature identical triangles that seem to support the palm trees. In the Crete earrings, clearly, similar triangles represent the hind legs.

10 Ross, *Goldsmith-work* fig. 440. – Cat. Athens 1985 no. 192 (M. Borboudakis). – Cat. Thessaloniki 2011, nos 5. 7. 72 (K. Sidiropoulos / M. Vasileiadou). – Bosselmann-Ruickbie, *Byzantinischer Schmuck* no. 66.

11 Dshawachischwili/Abramischwili, *Goldschmiedekunst* 8-24.

12 Coche de la Ferté, *Collection Stathatos* 18-19 fig. 5 pl. 2.

The plant between the dogs is almost identical to the Preslav example. On the Cretan earrings, the dogs' tongues hang out. What distinguishes the dogs from Crete and Preslav is that the former run towards each other, while the latter run in opposite directions. There are also two more crescent-shaped earrings from Crete with three birds with twigs in their beaks and a round medallion with a bird¹³, as well as other examples, such as the earrings in London with three birds and round medallions with a bird¹⁴.

The contours of the birds and plants on Preslav and Crete earrings are executed in a similar fashion. The same golden beads hold the ring. The plant between the animals has the same triangular base and identical leaves. The visualisation of peacocks, vines, palm trees and dogs is undoubtedly due to popular narratives and the universal symbolism of these images. It can be assumed that peacocks would have been a symbol of paradise, while the dogs represented bravery and power. Apart from the symbolism of the images, however, it is clear that the makers of the ornaments have used common patterns and technologies.

There are two views regarding the origin of the Crete earrings: either they were produced in Constantinople; or they were products of a local Cretan workshop. The arguments for the second hypothesis are, above all, the (legible) Kufic inscription on the Cretan earrings, as well as the depiction of running dogs, which point to the hybrid character of their decoration, closely related to both Byzantine and Fatimid traditions. Coche de la Ferté suggested that these earrings were made in the tenth-century Crete for Islamic residents¹⁵, while Bosselmann-Ruickbie argued that the earrings were of Constantinopolitan origin, however, displaying Arabic inscriptions to accommodate the recipient of a supposed imperial gift, which would have been given to one of the rulers of Arab-occupied Crete in the mid-tenth century¹⁶. In the case of the Preslav Treasure, however, one earring would combine two cultural traditions and, at first sight, two conflicting symbols – peacocks can be read as an emblem of aristocratic origin for women in Byzantium, and hunting dogs are a sign of the ruler's power in the Islamic and Sasanian cultures¹⁷.

Going beyond the jewellery, we will see that borrowing Islamic motifs in art and architecture is not unusual for the Middle Byzantine culture¹⁸, nor is it something incidental in the First Bulgarian Kingdom. The clearest example is the Large Palace in Pliska. Its dimensions, plan and manner of construction follow exactly those of the Umayyad palaces¹⁹. The same happened in Constantinople. It was as late as the early ninth century when the construction initiatives of the Byzantine Empire were renewed. The newly constructed buildings were the product of different cultural parameters and broke the traditional classic pattern. The style of the palaces built during this period reflects the inspiring influence of Islamic architecture. The most famous example is the Abbasid-style palace of Emperor Theophilos in the Asian suburbs of Constantinople²⁰.

Looking at the Preslav earring, we can clearly see the combination of cultural influences from both Byzantium and the Arabs²¹. One explanation for the wide geographical distribution of crescent-shaped earrings, especially those with peacocks, could be that all of them were made in Constantinople. Yvonne Stolz, however, stated with regard to the Early Byzantine period and some jewellery from Egypt that »it can be excluded that all high-quality jewellery with »interregionale« techniques, shapes, motifs, and styles was made in Constantinople«²². However, the situation in the tenth century was different in many aspects, and more research is needed.

The question remains where the Preslav earrings were produced. Part of the answer may be in the chemical composition of the enamels, particularly the trace element pattern²³. As to the date, the earrings are comparable with the other jewellery from the treasure and should be dated according to the coins deposited together with the jewellery. The latest ones belong to Emperor Constantin VII and his son and co-Emperor Romanos, struck in 945-959. This is *terminus post quem* for the burial of the treasure. The production of the jewellery could be connected with the events of 927 when the Byzantine princess Maria became a Bulgarian queen. The wedding took place in Constantinople and, although explicit proof is lacking, it is likely that the jewellery, especially the earrings, came to Preslav with the Byzantine princess²⁴.

13 Bosselmann-Ruickbie, *Byzantinischer Schmuck* nos 65, 67.

14 Earrings in the British Museum London: Cat. London 1994 no. 142 (D. Buckton). – Other examples, see Bosselmann-Ruickbie, *Byzantinischer Schmuck* figs 115-124.

15 Coche de la Ferté, *Collection Stathatos* 19.

16 Bosselmann-Ruickbie, *Email- und Körbchenohrringe* 97-107.

17 Stanilov, *Risano »Capsule«* 27-31.

18 See, e. g., Walker, *Courtly Objects*.

19 Vaklinov, *Kontaktite* 33.

20 Brubaker/Haldon, *Byzantium* 18.

21 See generally on Byzantium and the Arabs, e. g., Cat. Thessaloniki 2011.

22 Stolz, *Jewellery Production* 33-34.

23 See the contribution by M. Aubin, S. Greiff and R. Schwab in this volume.

24 See Bosselmann-Ruickbie, *Byzantinischer Schmuck* esp. 36-38.

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Summary / Zusammenfassung / Résumé

The Enamel Earrings in the Preslav Treasure

About 20 examples of luxury gold earrings made using the technique of *cloisonné* enamel are known to date. The only complete earrings with a solid provenance are the two pairs from the Preslav Treasure that are discussed in this paper. They were found during archaeological excavations, together with 15 Byzantine silver coins dating to 945-959, and are, consequently, the only ones that can be dated with some certainty. It is usually assumed that the jewellery was concealed in 971, when the Bulgarian capital of Veliki Preslav was conquered by the Byzantine army of Emperor John I Tzimiskes (969-976). As far as the date is concerned, this is most likely 927, when the Byzantine princess Maria married the Bulgarian King Peter I (927-969) in the Byzantine capital Constantinople. The question of their exact manufacturing date is, however, still open.

Die Email-Ohrringe aus dem Preslav-Schatz

Bisher sind etwa 20 prächtige Goldohrringe bekannt, die in der Technik des Cloisonné-Emails hergestellt wurden. Die einzigen vollständigen Ohrringe mit gesicherter Provenienz sind die beiden Paare aus dem Preslav-Schatz, die in diesem Beitrag besprochen werden. Sie wurden bei archäologischen Ausgrabungen zusammen mit 15 byzantinischen Silbermünzen aus den Jahren 945-959 gefunden und sind somit die einzigen, die mit einiger Sicherheit datiert werden können. In der Regel wird davon ausgegangen, dass der Schmuck im Jahr 971 versteckt worden ist, als die bulgarische Hauptstadt Veliki Preslav von der byzantinischen Armee des Kaisers Johannes I. Tzimiskes (969-976) erobert wurde. Was das Entstehungsdatum anbelangt, so handelt es sich höchstwahrscheinlich um das Jahr 927, als die byzantinische Prinzessin Maria den bulgarischen König Peter I. (927-969) in der byzantinischen Hauptstadt Konstantinopel heiratete. Die Frage nach dem genauen Herstellungsdatum ist jedoch noch offen.

Les boucles d'oreilles en émail du trésor de Preslav

À ce jour, on connaît une vingtaine de boucles d'oreilles de luxe en or réalisées selon la technique de l'émail cloisonné. Les seules boucles d'oreilles complètes dont la provenance est bien attestée sont les deux paires du trésor de Preslav qui sont évoquées dans cet article. Elles ont été trouvées lors de fouilles archéologiques, en même temps que 15 pièces d'argent byzantines datées entre 945-959, et sont donc les seules à pouvoir être datées avec une relative certitude. On suppose généralement que les bijoux ont été dissimulés en 971, lorsque la capitale bulgare de Veliki Preslav a été conquise par l'armée byzantine de l'empereur Jean I^{er} Tzimiskès (969-976). La date de fabrication est probablement 927, lorsque la princesse byzantine Marie épousa le tsar bulgare Pierre I^{er} (927-969) dans la capitale byzantine, à Constantinople. Cependant, la date exacte de fabrication reste sujette à discussion.

Three Gold Pendants with Precious Stones from the Preslav Treasure

The three gold pendants in the Preslav Treasure have hitherto been dated to the same period as the other jewellery objects, i. e., to the tenth century. The dating was particularly based on the presumed burial date of the treasure in 971 (capture of Preslav) and the fifteen Byzantine silver coins found together with the jewellery, issued under the co-emperors Constantine VII Porphyrogenetos and Romanos II (945-959)¹. This chronology was adopted for the presentation in the Veliki Preslav Museum and for seven international exhibitions of the Preslav Treasure (or parts of it) outside Bulgaria². The same is true of the only detailed study of the treasure by Antje Bosselmann-Ruickbie in her book on Byzantine jewellery³. The present study puts forward a new date for the three pendants in the Early Byzantine period, based on morphological and stylistic analyses.

Two Round Pendants with Emeralds (figs 1a-c. 2a-c)

Height 6.61 cm, width 5.16 cm, thickness 0.53 cm, weight 33.7 g
 Height 6.45 cm, width 5.05 cm, thickness 0.53 cm, weight 32.0 g
 Veliki Preslav Archaeological Museum, inv. no. 3381/3 A-B

The pendants consist of a concentric structure formed by three hoops. The core is a deep circular setting with a profiled strip on the rim holding the now lost stone. Remnants of an unidentified dark filling material have survived in the central setting of the first pendant, while such is completely missing on the second one.

The first hoop is made of a flat wire set on edge, creating a wavy appearance on the front of the pendant like a double-sided festoon. The hoop that surrounds the setting in the centre is connected with it through ten relatively equally distanced spokes of round wire, radially pointing outwards. The spokes are fixed in small gold ringlets soldered on the inner side of the hoop. The spokes are not perpendicular to the curved planes of the hoop strips, but are slanting slightly to the right, thus not adding any aesthetic value, but rather set in this way due to the assembly method. Nine grey and one white pearl mounted on the spokes of the first pendant have survived, while the pearls of the second pendant are entirely missing.

The second hoop strip again holds spokes, this time 15, made of the same round wire and soldered radially along the outer face of the first hoop. These too are fixed in gold ringlets on the inner face of the second hoop, which is made



Fig. 1 a-c Round pendant from the Preslav Treasure. – (Photo S. Steidl, LEIZA). – Scale 1:1.

1 Totev, Zlatno sākrovište 26-27. 72-75 figs 25-26. – Totev, Preslavskoto sākrovište 101-102 pl. XVII, 1-3. – Totev, Veliki Preslav 107 no. 96. – Totev, Sākrovište 60 figs 33-35; 70-73.

2 Cat. Paris 1980 nos 158-159. – Cat. Paris 2018 no. 63. – Cat. Rom 2001 no. 58.8-9. – Cat. Magdeburg 2001 no. VI.58. (A. Bosselmann-Ruickbie). – Cat. Schallaburg 2012 no. XI.25-26. – Cat. Paris 2018 nos 38-39.

3 Bosselmann-Ruickbie, Byzantinischer Schmuck 21-22.



Fig. 2 a-c Round pendant from the Preslav Treasure (pair of fig. 1). – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 3 Round pendants from the Preslav Treasure: computer reconstructions. – (Photo S. Steidl, LEIZA; reconstruction by E. Boyadzhieva). – Scale 1:1.

out of sheet metal with a wavy upper rim. There are 15 precious stones (emeralds) of different sizes and shapes mounted on the spokes. Most of them have the shape of an irregular truncated pyramid with rounded corners or a multi-faceted cylinder with deformed edges. Two of the emeralds on the first pendant and three on the second are partially broken, and parts of the stones are missing⁴, so that in some cases the wire on which the gemstones are strung is exposed. Again, the spokes are slightly slanting to the right, but less so than the inner ones.

On the outside, 23 gold eyelets with elongated »feet« are soldered radially onto the second hoop. Made of thick semi-circular wire to shape loops, they are cut open at the reverse of the pendant to receive the round wires holding the threaded pearls (both pearls and wire are now missing). At the top of the pendants, a hinge construction is attached to two of the eyelets that connects the pendant to a solid ring of semi-circular profile, set in a right angle to meet a chain or a string to fasten it. The outer surface of the suspension ring on the first pendant is perforated with a row of 13 squares that originally were likely to have been filled. Although the first and second pendant are clearly made as a pair, this decorative feature is missing in the second pendant.

On the basis of their state of preservation, the two round pendants can be reconstructed with the help of computer animation to a high degree of reliability, visually restoring the missing wire elements and pearls (fig. 3). As to the stone in the centre, we can assume that it was the same smooth and slightly convex flake like that preserved in one of the almond-shaped bezel settings of the rhomboid pendant (fig. 4a-c).

⁴ See the contribution by M. Heinzel in this volume on the restoration and re-arrangement of the emeralds.



Fig. 4 a-c Rhomboid pendant from the Preslav Treasure. – (Photo S. Steidl, LEIZA). – Scale 1:1.

Rhomboid Pendant (fig. 4a-c)

Height 6.99 cm, width 5.94 cm, thickness 0.45 cm, weight 29.2 g
Veliki Preslav Archaeological Museum, inv. no. 3381/4

This pendant is composed similarly to the two round pendants. In the centre is an oval bezel setting, surrounded by two rhomboid frames of thick sheet metal with a wavy edge. The oval setting is today empty apart from a dark filling material. The edge of the setting has a profiled rim similar to the round pendants that was supposed to keep the now lost stone in place.

In contrast to the round pendants, the internal space between the oval setting and the inner frame is occupied by four settings in the shape of pointed ovals, each made of a thin strip of metal, set in the middle of each side of the rhomboid. The corners are filled with rings, with two short wires holding pearls. At the corners between the two frames, four almond-shaped settings with flat emeralds are fixed, and three violet stones (one is lost) of different shape and size are mounted between them on each side. The stones – rubies and one amethyst (perhaps dating from a later repair) – are pierced and mounted on round wire pegs, which are soldered to the inner frame, while the ends are unfixed. Three stones are instead strung on thin wires whose ends are somewhat carelessly coiled around the inner and outer frames. The large frame holds 19 eyelets, very similar to those of the round pendants and also cut at the back to allow wire to be slid in. On one of the two corners of the pendant, there is a small ring instead of an eyelet, made of the same metal strip with a wavy edge. The round wire running along the outside of the pendant, on which the grey pearls are strung, passes through holes in the ring, and inside there is a pearl similar to those on the outside. Originally, there must have been a total of 21 pearls, but only eleven have survived. There are



Fig. 5 Rhomboid pendant from the Preslav Treasure: digital reconstruction. – (Photo S. Steidl, LEIZA; reconstruction by E. Boyadzhieva). – Scale 1:1.

two more holes in the strip of the ring made apart from those used for the string. This might be due to a jeweller's error in construction. The ends of the wire are fixed with a single coil around the eyelets where the preserved string of pearls ends.

The pendant has a hinge construction at the top similar to the round pendants, but the suspension ring is lost. In contrast to the round pendants, however, the hinges are connected with the pendant via the round pearl holder, constructed of a metal strip with the characteristic wavy rim.

The rhomboid pendant has been reconstructed digitally (fig. 5). I assume that the same type of flat emerald was used, similar to the one preserved (albeit cracked) in one of the almond-shaped bezel settings. It remains unclear what was set into the leaf-shaped cells that are arranged around the oval centre setting.

Analysis of the Pendants

The two round pendants have no direct parallels in the medieval jewellery of the chronological period of the Preslav Treasure. There are analogies regarding the general morphology, such as the round shape and the suspension loops (which indicate their function as pendants). In the following, we meticulously compare the morphology of the Preslav pendants and analyse their separate elements. The same applies to the rhomboid pendant, which likewise has no direct parallels. Thus, the evaluation of the three pieces of medieval jewellery is based on the method of comparing certain details in other artefacts, along with their general morphology. This method has been applied successfully in the work of Yvonne Stolz on the necklace from Assiût (Egypt)⁵. For this study, I have selected details of the three jewels that are not found in the – rather few – surviving pieces of Byzantine jewellery from the ninth and tenth centuries.

As to the circular and rhomboid pendants, they differ little in size, but rather in the diameters of the wire used for these. This could mean that they are either made in different workshops or by different craftsmen, or that they were made at different times. Judging by their similar execution (construction, morphology and style), they are likely from the same chronological period.

A direct *comparandum* is the crescent-shaped earring in the Benaki Museum in Athens with its gemstones and pearls strung on a wire (fig. 6a)⁶. The earring has not been treated yet in a detailed study, but it was described in catalogues and commented on in the last century. Aimilia Yeroulanou dated it to the seventh century, mainly based on its distinctive decorative style of two birds (peacocks?) that flank (or hold in their beaks) an openwork monogram. The row of gemstones and pearls along the periphery of the earring is strung on a wire that runs through »holders« that resemble those on the Preslav pendants, this time formed from nearly flat sheet-metal strips. The distance between the loop-holders is irregular and corresponds with the size of the four pearls and the four green beads. If they are not genuine emeralds, they are certainly imitations in glass.

The wire's ends are fixed with a one-and-a-half coil at the loop-holders at the end. How this string was mounted, however, cannot be understood because the reverse of the earring has not been published (perhaps the wire just passed through the loops). What is remarkable here is the lack of something usual for Byzantine jewellery: centred symmetry. This could have been achieved by using nine beads/pearls instead of eight. In the publications that mention the earring, the monogram has been deciphered differently, such as N.A.E.T.O.⁷,

which makes no sense. Georgi Sengalevich reads the name ΛEONTHA, Empress of Byzantium⁸ and wife of Emperor Phocas (602-612). If this reading were correct, it would match the stylistic dating of the earring to the early seventh century. The inscription would further link the piece of jewellery to the imperial family. Yvonne Stolz mentioned the Edict of Emperor Justinian I (527-565), the *Codex Iustinianus*⁹, according to which certain precious stones were reserved for the decoration of imperial insignia of the ruling dynasty. Emeralds were reserved in this manner, although they might in this case be glass imitations. The earring is a representative of the typical openwork style of Early Byzantine jewellery, called in Greek διατρίτα (*diatrita*), and in Latin *opus interrasile*. Jewellery of this technique is made of thin sheet gold that was punched out from the front to create different motifs, the contours of which are contrasted against the openings in the metal. Precious stones mounted in bezel settings can be added (see discussion below).

A second parallel for the type of strung wire is found on two luxury gold bracelets, which are part of the collection of the Metropolitan Museum in New York¹⁰ (one of them is depicted in fig. 6b). Each earring consists of two halves of a hoop, made of flat wide bands connected by a hinge, and on the opposite side, a round plaque is mounted, again connected with two hinges. The exterior of this structure is densely covered with two rows of pearls framing a row of precious stones in high cabochon settings containing glass inlays on an inorganic filler. The two rows of pearls are strung on a wire, which passes through extended loops. They are soldered onto the solid band of the hoop along both sides of the rows of claw settings and nearly square settings. The decoration of the round plaque is similar, made from two elements: an openwork back and solid front. The latter is decorated with a rosette-shaped composition. In the middle sits a smooth hemispherical gemstone in a small round setting, fitted on each of the four sides with a pair of claws and surrounded by a string of ten pearls passing through ten loop-holders whose feet are soldered around the bezel in a way that they are slanting towards the stone. They are slightly longer than the extended loops-holders on the pendants in the Preslav Treasure. They are made in the same way, i.e., made of semi-circular wires, which on the string of the rosette are cut on the outside. On the hoop, however, they are cut at the top and are folded more carefully so that they fit very closely with barely noticeable gaps. Moreover, the holders of the pearl strings are set at a wider distance with four pearls between them and not between each pearl. To retain the effect of the alternating loops and pearls, golden beads of the same semi-circular wire are strung between the pearls.

5 Stolz, *Juwelenkragen*.

6 Yeroulanou, *Diatrita* 168-169 fig. 322; 290 no. 554.

7 Yeroulanou, *Diatrita* 169 fig. 322; 290 no. 554.

8 Stanilov/Sengalevich, *Earring with Monogram*.

9 Stolz, *Juwelenkragen* 552-554.

10 Dennison, *Gold Treasure 157-159* figs 53-55 pl. XLIX, 28-29. – Peirce/Tyler, *L'art byzantine* 41. 110 pl. 200a-b. – Weitzman, *Late Roman World* 57. – Cat. New York 1979 no. 300 (K. R. Brown). – Brown, *Morgan Bracelets* fig. 9. – Yeroulanou, *Diatrita* 63-64 fig. 90; 69. 97. 100-102 fig. 175; 127. 154. 161. 177. 195. 245 no. 228. – Stolz, *Juwelenkragen*.



Fig. 6 Early Byzantine jewellery: **a** Earring with monogram, Benaki Museum Athens, below: reading of the monogram. – **b** Bracelet from the Assiût Treasure, Metropolitan Museum Collection New York. – **c** Necklace from the Assiût Treasure. – **d** Detail of necklace from the Assiût Treasure. – (a photo G. Sengalevich; b-d after Yeroulanou, Diatrita; photomontage by S. Stanilov). – Not to scale.

The bracelets from the Metropolitan Museum were purchased on the art market by John Pierpont Morgan and donated by him to the museum collection¹¹. Their findspot is unknown, but they are often mentioned in connection with the above-mentioned treasure from Assiût¹², and some researchers even think that they are part of the same find.

This treasure consists of 36 pieces of Byzantine jewellery, subjected many times to technical and stylistic analysis, but without a general study of the whole. The most detailed study is the above-mentioned paper by Stolz, which deals with a comprehensive analysis of the jewelled collar. Stolz also commented on some of the other finds, particularly on those that

11 Dennison, *Gold Treasure* 157-159 pl. XLIX, 28-29.

12 See overview on this treasure: Dospél Williams, *Assiut Treasure*.

have similar features. The necklace was dated between the fifth and seventh centuries, and by most researchers to the sixth century¹³. The bracelets, however, were mostly dated to the end of the sixth century, assuming that the production and use of ornaments with this type of pearl row continued throughout the seventh century¹⁴.

A necklace from the Assiût Hoard¹⁵ (fig. 6c), now kept in the Antikensammlung Berlin¹⁶, is related to the above-mentioned earring and two bracelets. The necklace, together with other items from Assiût, formed the »Gans Collection« housed in the Antikensammlung der Königlichen Museen in Berlin, to which it was donated in 1912 by the Frankfurt collector of antiquities, Friedrich Ludwig von Gans. He had previously purchased many of the treasure objects at the Imperial Art Market in 1909¹⁷.

The necklace is made of 28 elements, connected to each other with small rings soldered to their peripheries (details in fig. 6d). The central element is made of a sardonyx cameo in a circular gold setting; it depicts the Greek goddess Artemis in profile. Half of the elements are made in openwork (*opus interrabile*) showing six-leafed rosettes set in a profiled circle, while 13 elements consist of bezel settings (to which we will refer again below). By their shape, the bezel settings are divided into two groups: seven are oval »claw« settings, i.e., the precious stones are fixed by four symmetrical prongs; six are rectangular box settings with emeralds. Each setting is encircled with a string of pearls passing through the small loops soldered to the periphery. There are eight pearls, four on either side between the connecting rings where the wire ends are fixed. The rings themselves are made of semi-circular wire pieces, bent and soldered at the frame joint. As a decorative scheme, they seem to precede the holders of the above-mentioned earring and bracelets because they alternate after each pearl, thus the aesthetic value is differently expressed – the loop-holders are not an adjunct element to the row of pearls, but participate equally in the composition. Here, it is necessary to note that strings of pearls are often found on Early Byzantine almond-shaped earrings, however, in those cases, they always represent long rows of pearls or beads threaded through loop-holders. The extended »feet« of the longer holders appear on the earring in the Benaki Museum, the bracelets in the Metropolitan Museum and the pendants in the Preslav Treasure. The fact that this feature is found on very few items and was seemingly discontinued suggests that it was the work of the same workshop under the guidance of the same jeweller. The divergent morphology

of the holders is probably due to different craftsmen, and perhaps also to different customers' orders.

The pendants from the Preslav Treasure, which form a set, judging from their morphology and style, raise questions about the craftsmen who made them. We have already noted that the execution shows differences – the sheet metal for the frame of the rhomboid pendant is thinner than that of the round pendants. In addition, the festoon imitation is different on the rhomboid pendant: it is finer, while on the circular ones, it is larger. In the three Preslav pendants, we have already noted a difference in the shape of the extended loops-holders. The semi-circular wire of the holders on the rhomboid pendant is thinner than that on the round pendants. This perhaps indicates different hands within the same order.

On the rhomboid pendant from the Preslav Treasure (fig. 4a-b), there are four shapes of deep, straight-walled box settings with a profiled rim to hold the stones: round, oval, almond-shaped and leaf-shaped. Both the rhomboid and the circular pendants (figs 1a-c. 2a-c. 4a-c) display a similar morphology and technology, including the deep, straight-walled box settings with profiled rims. Stolz has studied the box settings on the jewelled collar from Assiût in Berlin¹⁸. The settings on the Berlin necklace are deep and have a profiled rim, with the difference being that they are narrower at the bottom, resembling a cone. The closest comparison is offered by the box settings on the above-mentioned bracelets in the Metropolitan Museum (fig. 6b), which are believed to have belonged to the same Assiût Treasure as the Berlin piece. Again, the inlays have not survived, but in one of the cells, a pale green glass stone has survived, similar to that in one of the almond-shaped settings on the rhomboid pendant from the Preslav Treasure (only there it is an emerald). Deep straight-walled bezels occur on the plaque of the third bracelet in the Berlin Antikensammlung¹⁹, again from the Assiût Treasure²⁰, which differ from the bracelets in the Metropolitan Museum (fig. 6b) in that they are made of a single hoop rather than of two hinged halves (fig. 7c). Its deep and straight-walled gemstone settings have profiled rims that are similar to the examples in the Preslav Treasures.

The four original leaf-shaped cell settings of the rhomboid pendant from the Preslav Treasure (fig. 4a-b) have a direct parallel in the two bracelets from the Assiût Treasure, also housed in the Berlin Antikensammlung (fig. 7a-b. d), whose hoops are not solid, but in the shape of foliate scrolls. The central decorative element of each bracelet has the shape of

13 Stolz, *Juwelenkragen* 522 and ref. 9.

14 Stolz, *Juwelenkragen* 538-539.

15 Cat. München 2004 no. 490 (G. Platz Horster). – Baldini Lippolis, *L'oreficeria* 34 no. 2, ill. 1. – Yeroulanou, *Diatrita* 45 fig. 57; 139 fig. 249. – Greifenhagen, *Schmuckarbeiten* 69-70 pl. 51.1, 5. – Heilmayer, *Antikenmuseum Berlin* 360-361 *Vitrine* 24, 4 no. 5 (fifth to sixth centuries). – Peirce/Tyler, *L'art byzantine* 126 pl. 176. – Dennison, *Gold Treasure* 144-145 pl. XII.2. – Stolz, *Juwelenkragen* 534-555. 577. 581 pl. 3.1. – Cat. London 2008, 171. 410 no. 125 (A. Bosselmann-Ruickbie). – Dospěl Williams, *Assiut Treasure*.

16 Berlin, *Staatliche Museen Antikensammlung inv. no. 30219, 508b*.

17 Stolz, *Juwelenkragen* 520-521.

18 Stolz, *Juwelenkragen* 534-535.

19 Berlin, *Staatliche Museen Antikensammlung inv. no. 30994*.

20 Dennison, *Gold Treasure* 163-164 pl. LII (162 no. 34). – Greifenhagen, *Schmuckarbeiten* 70 pl. 51.2-3 figs 58. 66. – Lepage, *Les bracelets* 16-17 fig. 27. – Heilmayer, *Antikenmuseum Berlin* 358-359 *Vitrine* 24, 3, 3. – Metzger, *Bracelet byzantine* 9-10 fig. 3a. – Cat. Künzelsau-Gaisbach 1995, fig. 85. 167 no. E 2, 2 fig. 132. – Baldini Lippolis, *L'oreficeria* 184 no. 2. VI.3.b.3. – Cat. München 2004 no. 501 (G. Platz-Horster). – Stolz, *Juwelenkragen* 565. 601 pl. 23.2.



Fig. 7 a Detail of bracelet from the Assiût Treasure, Antikensammlung Berlin. – b, d Bracelets from the Assiût Treasure, Antikensammlung Berlin. – c Bracelet Antikensammlung Berlin. – e Bracelet Musée du Louvre Paris. – f Ring from Chersonese, Hermitage Saint Petersburg. – (a after Stolz, *Juwelenkragen*; b, d after *Cat. München* 2004; e after Durand, *L'orfèvrerie*; f after Zalesskaya, *Pamjatniki vizantijskogo*). – Not to scale.

a rosette²¹. These are embellished with deep, straight-walled box settings in the shape of pointed ovals with profiled rims (fig. 7a). Attention should also be drawn to the use of the surrounding pearls, which are pierced and mounted on pegs. They are combined with deep box settings, which are found

on the sixth to seventh century Byzantine collar in Berlin (from the Assiût Treasure)²². Similar settings are also found also on the plaque of a bracelet in the Louvre Museum, which is dated to the sixth century (fig. 7e)²³.

21 Dennison, *Gold Treasure* 161-163 pl. Ll. 160 no. 32-33. – Greifenhagen, *Schmuckarbeiten* 70-71 pl. 52, 1-4 figs 59. 64. – *Cat. New York* 1979, 322 no. 298. – Heilmeyer, *Antikensammlung Berlin* 360-361 *Vitrine* 24.4 no. 4. – *Cat. Künzelsau-Gaisbach* 1995, 122 fig. 86; 169 no. E2.4. 43 fig. 24a. – Baldini Lippolis, *L'oreficeria* 185 no. 2.VI.3.e.1.2. – *Cat. München* 2004 no. 499 (G. Platz-Horster). – Stolz, *Juwelenkragen* 560. 599 pl. 21.5.

22 Stolz, *Juwelenkragen* 522. 579 pl. 1.

23 Metzger, *Bracelet byzantine* 7-12. – Durand, *L'orfèvrerie* fig. p. 80. – *Cat. Paris* 1992 no. 76 (C. Metzger). – Yeroulanou, *Diatrita* 96 figs 157. 245 no. 226. – Stolz, *Juwelenkragen* 537 fig. 140.

The deep box settings in the shape of pointed ovals are also known from a gold ring made in *διάρτριτα* (*diatrita*) / *opus interrasile* (fig. 7f) that was found in Chersonese²⁴ and attributed to the fourth century by Vera Zaleskaya²⁵. The ring's bezel is decorated with two settings in the shape of pointed ovals with additional metal strips to hold the (now lost) gemstones, almost identical to those on the bracelets from Assiût (fig. 7a) and another ring from Germany attributed to the Roman period²⁶. These details are significant in terms of the dating of the rhomboid pendant from the Preslav Treasure (fig. 4a-c). The details of their manufacturing and the style of the settings suggests a time frame of the fourth to seventh centuries. These specific details of the box settings, in combination with rings with pearls held by two pegs, do not appear on any later Byzantine jewellery except for this piece. In the pearls held by two pegs, the rhomboid pendant (fig. 4a-c) is more complex than the circular pendants that only have box settings (figs 1a-b, 2a-b).

The rhomboid pendant displays a style, a »tradition«, also encountered in the bracelets in the Louvre Museum²⁷ and from the Assiût Treasure²⁸, the plaques of which are constructed in an analogous concept (fig. 7b, d-e). The Louvre bracelet (fig. 7e) even has the same number of box settings and pearls held by pegs (eight around the central setting), forming a square instead of a rhomboid. As in the Preslav rhomboid pendant, the pearls are set in the four corners of the square. The square plate of the Assiût bracelet (fig. 7c) is, despite the higher number of gemstones and pearl settings (twelve around the central setting), also arranged in a similar fashion: pearls in the corners, the other settings grouped around the central setting. The diadem from a treasure discovered in Varna (fig. 8d), dating from the same chronological frame, is also comparable in its arrangement and the number of nine settings arranged on its square part between the hinges²⁹. It differs from the rhomboid Preslav pendant (fig. 4a-b), however, in its pentagonal shape and the gemstones settings (today empty), which are made with four prongs (»claw settings«). The space between the settings is larger and it is filled with thin openwork ornaments (*διάρτριτα* [*diatrita*] / *opus interrasile*).

Earlier stages of this design can be seen on a gold body chain from the Hoxne Treasure in the British Museum (fig. 8b), coin-dated to the end of the fourth/beginning of the fifth century (the last coins were issued in 407-408)³⁰. The central plaque of the body chain is decorated with a large oval am-

ethyst cabochon in a bezel setting with a profiled metal strip at the top. It is surrounded by four smaller, round settings of the same type, to which are attached wire loops holding the lion-headed terminals of the gold loop-in-loop chain. The spaces between the round settings are filled with almond-shaped settings of the same type, holding garnets. The round settings are today empty, but the lack of *comparanda* questions Catherine Johns's idea that they once held pearls. All other pearl-encrusted jewellery from this period displays pegs or claws to hold the pearls. Nonetheless, the »classic« scheme of arranging settings in a square is comparable to the bracelet in the Louvre³¹ (fig. 7e), the so-called Fibula from Mengen in the Museum für Ur- und Frühgeschichte in Freiburg³² (fig. 8a) and the diadem element from Varna³³ (fig. 8d). In the latter case, apart from certain technological and morphological differences, the same components are placed in a square with oval and circular cabochons in the middle, pearls in the corners, and, between them, square and smaller oval cabochons. Stolz mentions three other appliques on Early Byzantine diadems with identical compositions from Nicosia, Palmyra and Mainz, dating them to the seventh century³⁴. These comparisons suggest that the pendants from Veliki Preslav, discovered together with jewellery from the ninth to tenth centuries in a treasure, deposited very likely in 971, belong to the Early Byzantine goldsmith production of the fifth and seventh centuries. This means that they were already considered antiques by the time they entered the Preslav Treasure.

The comparisons drawn by Stolz suggests a »production« group of Early Byzantine jewellery: the jewelled collar in Berlin; the two bracelets in the New York (one of those in fig. 6b); and the other necklace in the Antikenmuseum Berlin (fig. 6c-d). Stolz assigned them to a period covering the second half of the sixth to the seventh centuries³⁵. The above-mentioned earring in the Benaki Museum in Athens (fig. 6a) belongs to the same group and is a key object for dating the Preslav pendants due to the long holders for the surrounding row of pearls. The necklace in the Antikenmuseum Berlin (fig. 6c-d) stands at the beginning of a »typological series«, to which the two bracelets from the Assiût Treasure in the Antikenmuseum (fig. 7a-b, d) can be added³⁶, and we also suggest to adding the Preslav pendants.

The three pendants in the Preslav Treasure also allow observations on the social value of the precious stones and pearls used in their making. Paragraph 11.12 of the *Codex Iustinianus*

24 Jašaeva et al., *Nasledie* 174. 455 no. 60.

25 Zaleskaja, *Pamjatniki vizantijskogo* 80 no. 60.

26 Henkel, *Fingerringe* 89.

27 Metzger, *Bracelet byzantine* 7-12. – Durand, *L'orfèvrerie* no. E.7. fig. 78. – Cat. Paris 1992 no. 76 (C. Metzger). – Yeroulanou, *Diatrita* 245 no. 226. – Stolz, *Juwelenkragen* 537 fig. 140.

28 See n. 19.

29 Dimitrov, *Sakrovishte*. – Dumanov, *Diadem aus Varna*. – Cat. Rom 2001 no. 28. – Baldini Lippolis, *L'oreficeria* no. 2.I.1.3; Yeroulanou, *Diatrita* 41 fig. 53; 42. 93. 159 fig. 298; 162. 194. 216 no. 68. – Metzger, *Bracelet byzantine* 9-10 fig. 4. – Stolz, *Juwelenkragen* 537-538 n. 41.

30 Yeroulanou, *Diatrita* 47 fig. 59; 211-212 no. 44. – Johns, *Body Chains* 10-15. – Cat. London 2008, 164. 176 no. 131 (K. Johns).

31 See n. 22.

32 Zeiß, *Frühbyzantinische Fibel* 270-272. – Banghard/Hiller, *Amor* 122 fig. 4. – Stolz, *Juwelenkragen* 537 pl. 8.1.

33 Baldini Lippolis, *L'oreficeria* 65 no. 2.I.1.2. – Garside, *Jewelry* 148 fig. 150 no. 421. – Verdier, *Notes*. – Stolz, *Juwelenkragen* 536-537. 585 pl. 7.4.

34 Stolz, *Kaiserlich oder Bürgerlich* 117-123 figs 6. 9-10.

35 Stolz, *Juwelenkragen* 538-639.

36 Stolz, *Juwelenkragen* 560.



Fig. 8 a Fibula from Mengen, Museum für Ur- und Frühgeschichte Freiburg. – b Body chain from the Hoxne Treasure, British Museum London. – c Pendant of a diadem, Walters Art Museum Baltimore. – d Plaque on a diadem from the Varna Treasure, Regional History Museum Varna. – (a after Stolz, *Juwelenkragen*; b after Johns, *Body-chains*; c after Garside, *Jewelry*; d after Yeroulanou, *Diatrita*). – Not to scale.

anus mentions that the combination of pearls, emeralds and »hyacinths« (this might refer to sapphires or dark amethysts) was reserved for imperial adornments and could only be used exclusively for the jewels or the insignia of the imperial family (dynasty)³⁷. The three pendants in the Preslav Treasure seem to reflect this colour scheme, although the stones used for the rhomboid pendant were rubies (and only one amethyst, perhaps from a later repair). Thus, they might have been part of a ruler's adornments. Based on their proposed dating, we can speculate that the pendants may have belonged to the Bulgarian tsars, perhaps to Khan Tervel (700-721) who was enthroned in the pagan period as »kesar« (Bulg.), i. e., caesar, *καίσαρ*³⁸. After the Christianisation of Bulgaria, the inscriptions on seals mention the titles »*Basileus*«, »*peacemaking Basileus*«, »*Basileus of the Bulgarians and of the Romans*« (for

Simeon I, d. 927)³⁹; »*Basileus*«, »*Basileus of the Bulgarians*« (for Peter I, 927-969)⁴⁰. The question remains open whether the jewellery was used by the Bulgarian tsars at the Preslav court as some sort of insignia and how it was acquired.

The three Preslav pendants seem to be the only artefacts of this kind to have survived. Only a few objects can be compared to them, which indicates a limited time period in which such jewellery was produced. After this, the »*fashion*« seems to have changed. The main, defining features – deep bezel settings, openwork ornaments in a thin gold sheet, square plaques decorated with gemstones and pearls, long holders for wire with strung pearls – do not occur after the end of the seventh and the beginning of the eighth centuries. Therefore, the Preslav pendants would have been out of fashion. The Byzantine coins in the Preslav Treasure⁴¹, issued under the

37 Stolz, *Juwelenkragen* 552-554.

38 The enthronisation of Tervel was thoroughly examined by G. Atanasov, see Atanasov, *Insigniite* 35-46. – Atanasov, *Parvostritelite* 269-270. The author, however, has not commented on the torque as an attribute of the Caesar, although as I have noted above, he describes the insignia in detail as element of the ruler's male adornments (see Atanasov, *Insigniite* 261-262).

39 Atanasov, *Insigniite* 62-96.

40 Atanasov, *Insigniite* 96-102.

41 See the contribution by S. Bonev and P. Slavov in this volume, fig. 10.

Byzantine Emperor Constantine VII Porphyrogennetos and his son and Co-emperor Romanos II (joint rule 945-959), provide a *terminus post quem* for the burial. Therefore, the new suggested date of the three pendants would make them antiques within the treasure, which calls for an »historical« explanation.

The written sources regarding the question of when the luxury jewellery, as represented by the three pendants, could have entered the treasury of the Bulgarian rulers. A similar, though comparatively short review has already been provided in my study of the decorative metalwork in the Danube Bulgarian Khanate⁴². It proves that throughout the history of pagan Danube Bulgaria from 681-865, constant military conflicts alternate with diplomatic contact with the Byzantine Empire. Chronologically, the event closest to the date of the three pendants from the Preslav Treasure suggested

here, is the battle at the mouth of the Danube, where Khan Asparukh (c. 660-701) defeated Emperor Constantine IV Pogonatos (668-685) in 680⁴³. Another possible date is the diplomatic exchange between Khan Tervel (700-721) and Emperor Justinian II (685-695) in 705, when the Bulgarian ruler was enthroned as »kesar« (*caesar*, καῖσαρ) of the Empire⁴⁴. Yet another scenario could be the acquisition of the jewellery in the first half of the seventh century when Khan Kubrat (635-c. 660), Khan Asparukh's father, visited the imperial court in Constantinople and was awarded the honorary title of patrician (*patricii* / πατρικίος)⁴⁵. The first assumption regarding the acquisition of the jewellery in the pagan period of Danube Bulgaria is, in my opinion, the most probable, although some doubt remains. Further consideration of when and how the jewellery came to Preslav remains a task for the future.

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42 Stanilov, Hudozestvenijat metal 205.

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Summary / Zusammenfassung / Résumé

Three Gold Pendants with Precious Stones from the Preslav Treasure

The chapter re-evaluates the dating of three gold pendants with precious stones from the Preslav Treasure, challenging the previously accepted tenth-century date based on their discovery context alongside Byzantine coins dated to 945-959. Through detailed morphological and stylistic analysis, the study suggests that the pendants date to the Early Byzantine period (fifth to seventh centuries). The pendants (two round and one rhomboid) exhibit unique features, such as concentric hoop structures, intricate wire spokes to serve as pegs to hold pearls, and various gemstone settings that find parallels in Early Byzantine jewellery. The study argues that the pendants were likely antiques by the time they were buried, possibly acquired through diplomatic or military exchanges between the Bulgarian tsars and the Byzantine Empire during the seventh century. The materials – pearls, emeralds, and corundums – are reminiscent of those reserved for imperial adornments, as mentioned in the *Codex Iustinianus*. This positions the pendants as valuable items and as potential insignia of authority, raising questions about their function at the Bulgarian court.

Drei Goldanhänger mit Edelsteinen aus dem Preslav-Schatz

In diesem Kapitel wird die Datierung von drei Goldanhängern mit Edelsteinen aus dem Preslav-Schatz neu bewertet, wobei die bisher angenommene Datierung in das zehnte Jahrhundert, die auf dem Fundkontext mit byzantinischen Münzen aus der Zeit von 945 bis 959 beruht, infrage gestellt wird. Durch eine detaillierte morphologische und stilistische Analyse legt die Studie nahe, dass die Anhänger aus der frühbyzantinischen Periode (5.-7. Jahrhundert) stammen. Die zwei runden und ein rhombenförmiger Anhänger weisen einzigartige Merkmale auf, wie konzentrische Kreisstrukturen, raffinierte Drahtspeichen, die als Stifte für die Aufnahme von Perlen dienen, und verschiedene Edelsteinfassungen, die Parallelen zu frühbyzantinischem Schmuck aufweisen. Der Studie zufolge waren die Anhänger zum Zeitpunkt ihrer Vergrabung wahrscheinlich Antiquitäten, die möglicherweise im Rahmen des diplomatischen oder militärischen Austauschs zwischen den bulgarischen Zaren und dem Byzantinischen Reich im 7. Jahrhundert erworben wurden. Die Materialien – Perlen, Smaragde und Korunde – erinnern an diejenigen, die dem kaiserlichen Schmuck vorbehalten waren, wie im *Codex Iustinianus* erwähnt wird. Dies macht die Anhänger zu wertvollen Gegenständen und potenziellen Insignien der Autorität, die Fragen zu ihrer Funktion am bulgarischen Hof aufkommen lassen.

Trois pendentifs en or ornés de pierres précieuses provenant du trésor de Preslav

Ce chapitre réévalue la datation de trois pendentifs en or ornés de pierres précieuses provenant du trésor de Preslav, en remettant en question la date du X^e siècle précédemment acceptée, sur la base de leur contexte de découverte à côté de pièces de monnaie byzantines datées de 945-959. Grâce à une analyse morphologique et stylistique détaillée, l'étude suggère que les pendentifs datent du début de la période byzantine (du V^e au VII^e siècle). Les pendentifs (deux ronds et un rhomboïdal) présentent des caractéristiques uniques, telles que des arceaux concentriques, des rayons de fil de fer complexes servant à retenir les perles, et divers sertissages de pierres précieuses qui trouvent des parallèles dans la joaillerie byzantine ancienne. L'auteur considère que les pendentifs étaient probablement des antiquités au moment où ils furent enterrés, peut-être acquises dans le cadre d'échanges diplomatiques ou militaires entre les tsars bulgares et l'Empire byzantin au cours du VII^e siècle. Les matériaux utilisés – perles, émeraudes et corindons – rappellent ceux réservés aux parures impériales, comme le mentionne le Code justinien. Les pendentifs sont ainsi considérés comme des objets de valeur et des insignes d'autorité potentiels, ce qui pose la question de leur fonction à la cour bulgare.

The Diadem from the Preslav Treasure

The Preslav Treasure was discovered in 1978 in the vicinity of Veliki Preslav, the second Bulgarian capital, and includes five rectangular enamelled plaques with arched tops, measuring from 5.34 to 5.39 cm in height (figs 1-5). One of the plaques is decorated with the »Ascension of Alexander the Great« (fig. 1a-d), showing the Macedonian ruler riding in a chariot drawn by griffins, while the other four plaques depict mythical creatures.

The plaques are executed in the *cloisonné* enamel technique, named after the thin metal strips, »cloisons«, separating the different enamel colours. The particular technique used on the Preslav diadems for the first time is called *émail enfoncé* or *Senkschmelz*¹: each of the plaques is made of two gold sheets, soldered together at various points. Before soldering, an approximately 45 µm deep recess, matching the silhouette of the design, was embossed into the thinner of the two panels. The top plaque with a thickness of 135 to 180 µm was cut out to correspond to the contours of the image recessed into the lower plaque. Only some delicate pictorial elements of the figures, such as the shafts of the spears, the chariot pole and the yoke, the pendants of the necklace of the lion-headed griffin and the griffins' tails, were engraved into the top metal sheet. The edges of the plaques were polished after the enamelling process, and rows of small round holes along the edges were drilled into the plaques from the front, evidently for attaching them to an organic material, such as leather or textile, which has not survived.

The *cloison* walls forming the designs were made of gold strips with a thickness ranging from 48 to 84 µm and a width from 300 to 650 µm. They are curved following the pattern and fixed on the plaques with gold solder. Some of the thin *cloisons* are lost or displaced, and only traces indicate the original outlines of the motifs. Two types of *cloisons* were used: firstly, closed *cloisons* forming simple shapes – circles, squares, diamonds –, and *cloisons* creating more complex shapes, such as rosettes and semi-rosettes; and secondly, open *cloisons*, either free-standing or attached to others as part of a larger pattern. It is noteworthy that the craftsmen

strove for decorative effects, diversity of colour, maximum use of the space and a preference for closed cells.

The cells are filled with transparent and opaque enamels in a single layer. The colour spectrum is based on the combination of bright colours, as well as different tones, especially of blue. Green and blue enamels predominate, combined with red, turquoise, white and yellow, while black enamel occurs solely on the plaques with *senmurvs* (mythical birds with the tail of a peacock).

According to T. Totev, the excavator and first researcher of the Preslav Treasure, the plaques are part of a diadem, the complete set of which would have been composed of seven such elements (fig. 6)². His reconstruction shows the plaque with the Ascension of Alexander the Great at the centre of the diadem, flanked by three pairs of mythical creatures: *senmurvs*, lion-headed griffins, and eagle-headed griffins, all looking towards the ruler in the centre. In comparison with the twelfth-century diadem from Sakhnovka, Ukraine (Kievan Rus', fig. 10b)³, Totev assumed that two additional trapezoidal plaques would have been positioned at either end of the Preslav diadem⁴. However, since there is no physical evidence of these or the two additional plaques in the reconstruction, this remains a hypothetical reconstruction.

Nevertheless, despite the various interpretations of its identification and symbolism, the proposed reconstruction has so far been accepted by the researchers. What remains to be investigated is the genesis of such a diadem composed of seven separate plaques, as well as its meaning and significance as a gift from the Byzantine imperial court to the Bulgarian ruler's family in Preslav. According to the rigid Byzantine palace ceremony, every gesture, every detail of the garment, and especially of the insignia, was a visual expression of the authority of the emperor or his dignitaries⁵. The Byzantine sources of the period – the *Klētōrologion of Philotheos*, dating back to 899⁶, and *De ceremoniis* by Emperor Constantine VII Porphyrogenetos (913-959) – mention a crown called *stemma* with a large gemstone on the forehead. *De ceremoniis* also

1 See the recent essay by Bosselmann-Ruickbie, *Senkschmelz*.

2 Totev, *Preslavskoto* 9-20. 32-39 figs 1-5. – Totev, *Säkrovište* 18-37 figs 6-12. – Totev, *Preslavskoto säkrovište* 83-109. – Totev, *Belejki* 102-108. – Atanasov, *Prinosa* 22-42. – Bosselmann-Ruickbie, *Glanz* 77-81. – Bosselmann-Ruickbie, *Byzantinischer Schmuck* 22-24. 369 fig. 7. – Atanasov, *Insigniite* 224-236. – Georgiev, *Diademata* 78-85. – Minaeva, *Preslavskoto* 7-14.

3 Dmytrenko, *Diadem*.

4 Totev, *Preslavskoto* 20-21 fig. 7. – Rybakov, *Russkoe* 43 fig. 46.

5 Grabar, *L'empereurpages*. – Pertusi, *Symbolisme* 44-50. – Jolivet-Lévy, *L'image* 441-470. – Piltz, *Costume* 39-51. – McCormick, *Crown* 554-555. – Wessel, *Insignien* 360-398.

6 *Philothei, Cletorologium* 121-128.



a



b



c



d

Fig. 1 a Plaque with the Ascension of Alexander the Great scene, face. – b Back. – c X-Ray. – d Reconstruction of the colour range of the enamels used based on the SEM-EDX analyses. – (a-b photos K. Georgiev; c X-Ray K. Aleksiev, »Kontrol Test«; d image V. Inkova, M. Kalpatchka). – H. 5.37 cm.



a



b



c



d

Fig. 2 a Plaque with the image of a senmurv flying to right, face. – b Back. – c X-Ray. – d Reconstruction of the colour range of the enamels used based on the SEM-EDX analyses. – (a-b photos K. Georgiev; c X-Ray K. Aleksiev, »Kontrol Test«; d image V. Inkova, M. Kalpatchka). – H. 5.37 cm.



a



b



c



d

Fig. 3 a Plaque with the image of a senmurv flying to left, face. – b Back. – c X-Ray. – d Reconstruction of the colour range of the enamels used based on the SEM-EDX analyses. – (a-b photos K. Georgiev; c X-Ray K. Aleksiev, »Kontrol Test«; d image V. Inkova, M. Kalpatchka). – H. 5.34 cm.



a



b



c



d

Fig. 4 a Plaque with the image of a lion-headed griffin flying to left, face. – b Back. – c X-Ray. – d Reconstruction of the colour range of the enamels used based on the SEM-EDX analyses. – (a-b photos K. Georgiev; c X-Ray K. Aleksiev, »Kontrol Test«; d image V. Inkova, M. Kalpatchka). – H. 5.35 cm.



a



b



c



d

Fig. 5 a Plaque with the image of an eagle-headed griffin flying to left, face. – b Back. – c X-Ray. – d Reconstruction of the colour range of the enamels used based on the SEM-EDX analyses. – (a-b photos K. Georgiev; c X-Ray K. Aleksiev, »Kontrol Test«; d image V. Inkova, M. Kalpatchka). – H. 5.39 cm.



Fig. 6 a Reconstruction. – b Graphic. – (a M. Inkova, E. Botadjieva; b S. Todorov). – Not to scale.

mentions a crown called *stephanos*, interpreted as a rigid hoop with a blue gemstone as the centrepiece⁷.

Further information can be gained from the ceremony of awarding the *kaisar* title to the eldest son of Basil I (867-886), Constantine, who on this occasion received a »soft hat made of glittering cloth and, on the forehead over it, something like a gold *stephanos*«⁸. On the occasion of the enthronement of Leo I (457-474) and Leo II (474), the same author mentions a »*modiolos* or a golden crown«. According to P. Charanis, the latter symbolises the supreme power, delegated by all members of society – the senate, the church, the army, and the people⁹. Chapter 13 of *De administrando imperii* mentions »royal garments and wreaths« and »cloaks and wreaths«, the latter called *kamelaukia*, awarded by God to the first Christian ruler Constantine I the Great (306-337) through an angel and »kept in the holy church of God«¹⁰. The author is laconic about these signs of authority, which were well known to his contemporaries.

More details are provided in the second half of the ninth century by Abu al- Kafartabi, who described to Al-Qadi ibn al-Zubayr two of the crowns of the Byzantine Emperor Michael III (842-867): one of gold, decorated with corundums and various other precious stones, worn during audiences; the second one with a cross decorated with rubies, worn after a victorious military campaign¹¹. However, the sources are not precise enough regarding the exact shapes of the crowns.

More information on crowns made of arched plaques can be gained from pictorial and archaeological sources. The intaglio with the image of Shapur I († 270), mentioned by J. Deér, can be assumed to be one of the earliest such representations depicting the ruler wearing a headband with arched plaques (fig. 7a)¹². Furthermore, the image suggests that this insignium had Persian roots. Comparisons with numismatics, toreutics, stone sculpture, and mural paintings from Sassanian Iran present variants of textile headbands with applied arched plaques. The crown of Anahita on one of the reliefs of Naqsh-e Rostam¹³ seems to have had a similar structure.

Comparable designs of diadems can also be found on Byzantine monuments: A. Grabar points out that before the emperors of the Macedonian dynasty in Byzantium – who had declared themselves the heirs of the Babylonian kings¹⁴ – the court in Constantinople adopted Persian garments, among them the signs of prestige of the Persians. An example is a diadem with three arched plaques studded with pearls, which is shown on the icon of the Virgin in the Church of Santa Maria in Trastevere (Rome), dating from the early eighth century (fig. 7b)¹⁵. One of the miniatures in the illuminated Madrid copy of the chronicle of John Skylitzes depicts the Empress Theodora (815-867) wearing a crown composed of three arched plaques¹⁶ (fig. 7c); in another, her crown is composed of separate plaques¹⁷. In other miniatures of the same

7 Constantinus, *Ceremoniis* 210-219. – Constantin, *Cérémonies* 27-29. – Atanasov, *Insigniite* 227.

8 See Atanasov, *Insigniite* 226.

9 Charanis, *Crown* 190-195.

10 Bagryanorodni, *Ob upravlenii* 13. 55-56.

11 Qaddūmi, *Book* 197. 263.

12 Département des Monnaies, Médailles et Antiques de la Bibliothèque nationale de France, Paris, inv. no. 1972-392. – Deér, *Frauenkronen* 421 fig. 57g. – Based on the arched crown of the Parthian ruler Artabanus IV, the author assumes

the Achaemenid origin of this type of crown, see, J. Deér, *Frauenkronen* 421 fig. 57f. – www.fr.wikipedia.org/wiki/Artabanus_IV#/media/File:Artabanus_IV_of_Parthia.jpg.

13 Harper/Meyers, *Vessels* 34-35 fig. 11.

14 Grabar, *Raztchet* 66 n. 92.

15 Schulze-Dörrlamm, *Kaiserkrone* 22 pl. N.

16 Scylitzes, *Historiarum* 110.

17 Scylitzes, *Historiarum* 151.

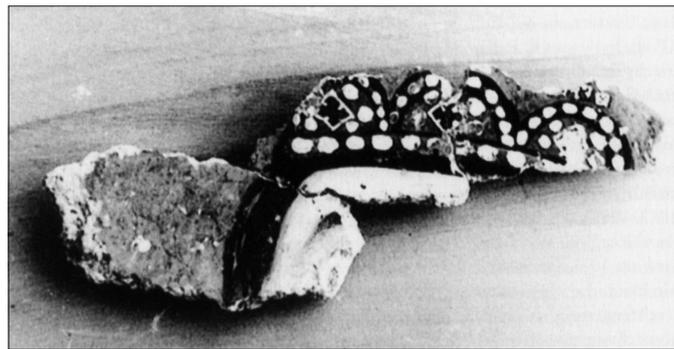
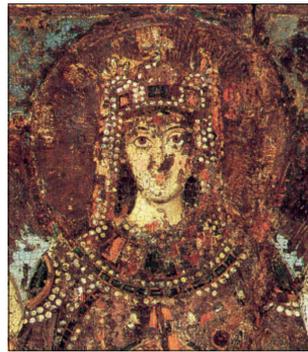


Fig. 7 a Intaglio with the image of Shapur I (240/2-270/2), garnet. – b Icon of the Theotokos in the church of Santa Maria in Trastevere, Rome, eighth century. – c Empress Theodora (815-867), a miniature in the Madrid copy of the chronicle of John Skylitzes. – d Emperor Michael (842-867), son of Theophilos, a miniature in the Madrid copy of the chronicle of John Skylitzes. – e Maria Botaneiatena, a fresco image from the monastery in Komotini, Greece, early twelfth century. – f St. Helena's image on the staurotheke in the cathedral of Esztergom, Hungary, second half of twelfth century. – g St. Helena's image from the church of Panagia Forviotissa of Asinou in Nikitari, Cyprus, dated 1105/1106; h Enamel plaques with arched tops, *spolia* on the cover of Henry II's (1002-1024) prayer book. – (a Département des Monnaies, Médailles et Antiques de la Bibliothèque nationale de France, Paris, inv. no. 1972-392; b from Schulze-Dörrlamm, *Kaiserkrone* 22 pl. N; c from Skylitzes, *Historiarum* 110; d from Skylitzes, *Historiarum* 141; e from Bosselmann-Ruickbie, *Byzantinischer Schmuck* 130, 342, no. D3; f from Bosselmann-Ruickbie, *Byzantinischer Schmuck* 364, no. D85; g from Bosselmann-Ruickbie, *Byzantinischer Schmuck* 343, no. D4; h Bayerische Staatsbibliothek Munich, <https://creativecommons.org/publicdomain/mark/1.0/>).

manuscript, Emperor Theophilos (829-842) wears a crown of rectangular plaques¹⁸, while Emperor Michael III (842-867), the son of Theophilos, has a crown with three distinct arched plaques clearly outlined (fig. 7d)¹⁹.

The next three *comparanda* point to an established tradition in the use of such a ruler's insignium. The first example is the fragment of a fresco, formerly showing the image of Maria Botaneiatena in the monastery in the Papikion Mountains, Komotini/GR, from the beginning of the twelfth century (fig. 7e): the crown of the empress is rendered with three arched elements, inlaid with precious stones in the centre²⁰.

Saint Helena's crown, as represented on the *staurotheke* in the cathedral of Esztergom/HU has a similar construction of arched plaques (fig. 7f). The scene is executed in *cloisonné* enamel and dates to the end of the twelfth century. There is no doubt that the saint is portrayed in the full regalia of a Byzantine empress²¹. A less conspicuous example is the image of Saint Helena in the church of Panagia Phorviotissa of Asinou in Nikitari/CY dating from 1105/1106 (fig. 7g), which is composed of arched plaques (or, perhaps, precious stones in a setting of this shape)²². Undoubtedly, the Preslav diadem reflects a similar design.

Another group of twelve rectangular enamels is preserved on the *Pericopes* of the Holy Roman Emperor Henry II (1002-1024) (fig. 7h). With their *terminus ante quem* provided by the patron, the enamels on the cover of the illuminated manuscript can be dated to the tenth century. The twelve arched plaques, depicting the images of Christ and saints with Greek inscriptions, were also made in the *cloisonné* technique against a golden background (*Senkschmelz*), but were re-used as *spolia* in the decoration of the book cover. It can be assumed that they had originally been a part of a luxurious Byzantine *stemma* with the image of Christ in the centre. It has been suggested that this *stemma* came to the Latin West on the occasion of the wedding of the Byzantine Princess Theophano Skleraina (a niece of the Byzantine Emperor Nikephoros Phokas) with Emperor Otto II (967-983) in 972²³, but there is no proof for this.

The next chronologically close example that can be compared with the Preslav enamels is the crown believed to have been gifted by the Byzantine Emperor Constantine IX Monomachos (1042-1055) on the occasion of the coronation of King Andrew I of Hungary (1046-1061). It consists of seven arched *Senkschmelz* plaques with the images of the Emperor Constantine IX, flanked by the two Co-empresses Zoe

and Theodora, two dancers, and personifications of the two Christian virtues of Truth and Humility (fig. 8)²⁴. In contrast to the Preslav diadem, the attachment construction is different: the edges of the gold plaques are bent back at a right angle, with small holes in these folded rims for attaching the plaques onto a fabric or leather base.

Several examples of diadems or crowns made of arched plaques evidence that the design was adopted in the West in two ways. The influence of Byzantine Italy undoubtedly helped to copy the Greek regalia; the diplomatic gifts, especially after Princess Theophano's wedding, also led to »gloria Graecae« in Western royal ceremony, as O. Källström wrote. According to a drawing, the crown of King Hugo (926-948) on a reliquary in Saint Maurice was made of four arched plaques, attached, however, onto the rigid hoop of a closed wreath (fig. 9a)²⁵. Two images of King Herod from the eleventh century illustrate the adoption of the form of this type of Byzantine crown in the western kingdoms – on the bronze door of Bishop Bernward of Hildesheim (c. 1015, fig. 9b)²⁶ and on the Susterli reliquary (fig. 9c)²⁷. The royal crowns are similar in their composition of arched plaques, with the king represented in the first case holding a sceptre. On a miniature in the Codex Aureus from 1051, King Heinrich III (1039-1056) wears a crown of arched plaques (fig. 9d)²⁸. The last example is provided by the Imperial Crown (*Reichskrone*) in Vienna (fig. 9e). It is composed of eight arched plaques, four of which are decorated with precious stones and pearls, while the four smaller ones are enamelled (*Senkschmelz*) with the images of the Kings David and Solomon, and the Prophets Isaiah and Hezekiah, with Christ as a judge placed between two Seraphim. The suggested dates of the *Reichskrone* range from the tenth to the twelfth century, but its date and provenance is still under debate²⁹.

In Kievan Rus', similar types of construction can be found (fig. 10a-b), with the difference that, under the influence of local metalworking traditions, the enamels have pointed rather than round arches, and their rims are bent at a right angle, probably to apply them to a harder material of unknown quality. The Kievan diadem in figure 10a was discovered together with coins of the Byzantine Emperors Alexios I Komnenos (1081-1118) and John II Komnenos (1118-1143). The central plaque represents the Deesis with Jesus Christ, the Theotokos and John the Baptist, flanked by the Archangels Michael and Gabriel, Saint Peter and Saint Paul, all depicted in *Senkschmelz* enamel against a gold background³⁰. The

18 Scylitzes, Historiarum 110.

19 Scylitzes, Historiarum 141.

20 Bosselmann-Ruickbie, Byzantinischer Schmuck 130. 342 no. D3 fig. 3.

21 Wessel, Enamels 158-163. – Cat. New York 1997 no. 40 (J. Anderson).

22 Bosselmann-Ruickbie, Byzantinischer Schmuck 343 no. D4.

23 Deér, Frauenkronen 433-436. – Källström, Majestätsdiadem 61-64 fig. 1. – Wessel, Enamels 82. 87 no. 26.

24 Bárányi-Oberschall, Crown 1937. – Grabar, Raztchvet 50-55. – Oikonomides, Couronne 241-262. – Cat. New York 1997, 210-212 no. 145 (H. Maguire). – Kiss, Monomachos Crown 60-83.

25 Schulze-Dörrlamm, Kaiserkrone 29-30 fig. 3.

26 Schulze-Dörrlamm, Kaiserkrone 33-34 fig. 7.

27 Schulze-Dörrlamm, Kaiserkrone 33-34 fig. 8.

28 Schulze-Dörrlamm, Kaiserkrone 11 pl. A, 33.

29 The colour palette of the enamels – blue, green, white, various shades of brown and dense beige, according to M. Schulze-Dörrlamm suggest production of an Italian workshop, see, Schulze-Dörrlamm, Kaiserkrone 33. 38 fig. 11. – See also Källström, Majestätsdiadem 62, and the current research project at the Kunsthistorisches Museum in Vienna: <https://www.projekt-reichskrone.at/>.

30 Kondakov, Russkie kladi 138-139. 145-153. – Korzhina, Kladi 118 no. 99. – Tolochko, Prinalejnist 145-147 fig. 1. – Jilina, Stili 97-98 fig. 4. – Riabceva, Diademi 84. 88 figs 5, 2.



Fig. 8 Crown donated by Emperor Constantine IX Monomachos (1042-1055) to King Andrew I (1047-1061) on the occasion of his coronation. – (@ Hungarian National Museum).



a



b



c

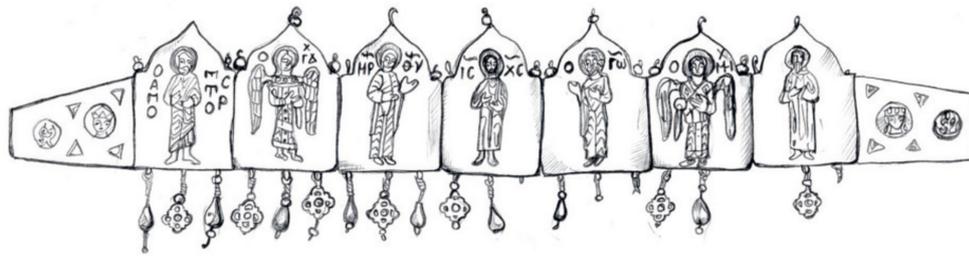


d



e

Fig. 9 a King Hugo (926-948) on the reliquary of Saint Mauricius. – b Image of King Herod on the bronze door of Bishop Bernward of Hildesheim, eleventh century. – c Image of King Herod on the Susterli reliquary. – d Image of King Heinrich III (1039-1056) on a miniature of the Codex Aureus from 1051. – e Crown of Kaiser Conrad II (1024-1039). – (a from Schulze-Dörrlamm, *Kaiserkrone* 29-30 fig. 3; b from Schulze-Dörrlamm, *Kaiserkrone* 33-34 fig. 7; c from Schulze-Dörrlamm, *Kaiserkrone* 33-34 fig. 8; d from Schulze-Dörrlamm, *Kaiserkrone* 11 pl. A, 33; e © KHM-Museumsverband).



a



b

Fig. 10 a Diadem from Kiev, twelfth century. – b Diadem from Sakhnovka, twelfth century. – (a from Riabceva 84 fig. 5, 2; b from Rybakov, Russkoe 43-45, no. 46-48).

second diadem (fig. 10b), discovered together with coins of Manuel I Komnenos (1143-1180) in the village of Sakhnovka (Kievan district) is constructed similarly. The Ascension of Alexander the Great is featured on the central plaque, and the others are decorated with plant motifs, all executed in *Senkschmelz* enamel³¹. These objects belong to representative twelfth-century princely-aristocratic outfits in Russia. Only few other complete diadems and fragments from the territory of Serbia and Russia dating from the tenth to twelfth centuries, provide evidence the local production and distribution of objects with a similar shape and construction down the social scale on the Balkans and Ancient Russia³².

The cited parallels suggest that, despite the sparse sources concerning the rulers' crowns, and despite the possible eastern genesis, the crowns/diadems with arch-shaped plaques were a genuine Byzantine model that was later adapted elsewhere. It is likely that the crowns that were distributed as diplomatic gifts helped to spread the shape in Europe and Russia where it became established as an insignia.

The Ascension of Alexander the Great

The Ascension of Alexander the Great on what is thought to be the central plaque of the Preslav diadem (fig. 11a) is inspired by the third-century Alexander Romance of Pseudo-Callisthenes, based on an earlier text from the first century BC and the Hellenistic myths associated with Alexander³³. The scene of Alexander's legendary ascension is depicted on several Byzantine artworks: tenth-century stone reliefs in Istanbul³⁴ and Thebes³⁵; eleventh-century stone reliefs in Mystras³⁶ and the Dochiariou Monastery, Mount Athos³⁷; a gold ring in Dumbarton Oaks, eleventh century³⁸; jewellery from a treasure found in Thessaloniki/GR, twelfth to early thirteenth centuries³⁹; a seal in the Hermitage Museum, Saint Petersburg, tenth century⁴⁰; a bone casket in the Hessisches Landesmuseum, Darmstadt, first half of the tenth century⁴¹. However, there is no direct parallel for the depiction on the Preslav diadem since all of the cited *comparanda* differ in details. They vary in the position of the hands and the pose of

31 Korzuhina, Kladi 131 no. 127. – Tolochko, Prinalejnist 146. – Rybakov, Russkoe 43-45 no. 46-48. – Riabceva, Diademi 84. 88 fig. 5, 1.

32 Minitch, Ukrasneplotchice 115, 1. – Djorvitch-Lubinkovitch, Umetnos 121 no. 288. – Tolochko, Prinalejnist 146-149 figs 3, a. b. v. – Makarova, Emali 108 no. 63. – Riabceva, Diademi 84. 89 fig. 5, 3. – Schulze-Dörrlamm, Kaiserkrone 80 fig. 53.

33 Bogdanov, Romanatpages. – Gleixner, Alexanderbild 61. – Kostuhin, Alexandr. – Stoneman, Sources 1-20. – Lechitskaya, Tabula 177-193. – Bogdanov, Tchar Alexandr.

34 Firatli, Sculpture 40 no. 76.

35 L'Orange, Iconography 120 fig. 87.

36 Fomenko, History 289 figs 3. 26.

37 Fomenko, History 289 figs 3. 27.

38 Bosselmann-Ruickbie, Byzantinischer Schmuck 369 fig. 10.

39 Coche de la Ferté, Collection no. 21.

40 Bank, Molivdovul 81-90.

41 Cat. New York 1997, 227-228 no. 151 (M. Georgopoulos).



Fig. 11 Ascension of Alexander the Great: **a** Preslav Treasure. – **b** Pala d'Oro, San Marco, Venice. – (a photo K. Georgiev; b photo A. Bosselmann-Ruickbie).

the griffins. They are shown in flight, with raised wings, but simultaneously appear to be sitting. The garment can also differ: on the Preslav diadem plaque, Alexander wears imperial garments; he is sometimes shown in a chariot, on a throne or in a basket, and always without a nimbus. An exception is his image on one of the medallions on the Pala d'Oro altar retable of the basilica of San Marco in Venice dating from the eleventh century (fig. 11b)⁴²: this is an abbreviated, abstract version of the iconography, lacking the chariot and the body of the emperor who is merely represented by his face in a medallion. The Pala d'Oro medallion is, however, made in the same enamel technique, *Senkschmelz*, where the enamelled areas appear in front of a golden background (as are the Kievan examples in fig. 10a-b).

The two examples suggest the influence of the Sassanian and Roman-Byzantine scenes of the apotheosis/ascension of the ruler, always featured with a nimbus or as a triumphant in a chariot⁴³. It is noticeable that there are different approaches to forming the eyes in the figures of the Preslav Treasure. Those of Alexander are round, accompanied by an elaborately bent *cloison* shaping the lines of the eyebrows and nose (fig. 12a). The details on the face of the Mother of God on the Preslav necklace are similar (fig. 12b). A. Bosselmann-Ruickbie noted the same rendering in the Fieschi

Morgan Staurotheke (fig. 12c) and the votive crown of Leo VI (886-912) (fig. 12d), the Beresford Hope reliquary cross (fig. 12e), the enamel medallion of a paten in the Louvre (fig. 12f)⁴⁴ and the image of the Virgin on the Khakhuli triptych⁴⁵. To these examples, we also add the medallions with the archangels on a Byzantine book cover in the Biblioteca Nazionale Marciana in Venice (fig. 12g)⁴⁶ and the medallion with an archangel in the Musée du Louvre, Paris (fig. 12h)⁴⁷, belonging to the same book cover. All enamels are dated to the late ninth to early tenth centuries and are characterised by a background in translucent green enamel.

There are several examples for similar designs for eyes, eyebrows and noses (fig. 13a-b, d-e)⁴⁸, such as the oval medallion bearing the image of the Theotokos Hodegetria in the Dumbarton Oaks Collection in Washington, D.C. (fig. 13c)⁴⁹. The eyes of the mythical beasts on the other diadem plaques in the Preslav Treasure (fig. 14a-e) are executed in a different manner: they have white eyeballs and thick round pupils filled with red enamel. The technological and stylistic characteristics are usually found in works that are believed to date to the second half of the tenth to eleventh century⁵⁰. The eyes of the mythical animals on the Ewer of Saint-Maurice d'Agaune, Valais/CH⁵¹, are similarly depicted, but the images are set against a translucent green background (fig. 15a)⁵². The eyes

42 Grabar, *Raztchvet* 55-56 no. 48. – Wessel, *Enamels* 151-152 no. 46v-x.

43 Lechitskaya, *Tabula* 184-185 fig. 16. – L'Orange, *Iconography* 64-66 fig. 40a-c.

44 Cat. New York 1997, 67-68 no. 28 (H. C. Evans).

45 Bosselmann-Ruickbie, *Byzantinischer Schmuck* 38.

46 Cat. Cologne 1984, 132-136 no. 9 (M. Frazer).

47 Cat. Paris 1992, 314 no. 227 (J. Durand).

48 Cat. London 2008, 229 no. 201 (author). – Cat. New York 1997, 162 no. 109 (S. A. Boyd). – Bosselmann-Ruickbie, *Byzantinischer Schmuck* 95. 384 fig. 78a-b. no. D84. – Wessel, *Enamels* 66. 69-70 no. 17.

49 Wessel, *Enamels* 66. 68-69 no. 16.

50 Buckton, *Enamel* 18.

51 Cat. Paris 2014 no. 11 (D. Thurre).

52 Haseloff, *Email* 54-61 fig. 38g-j.

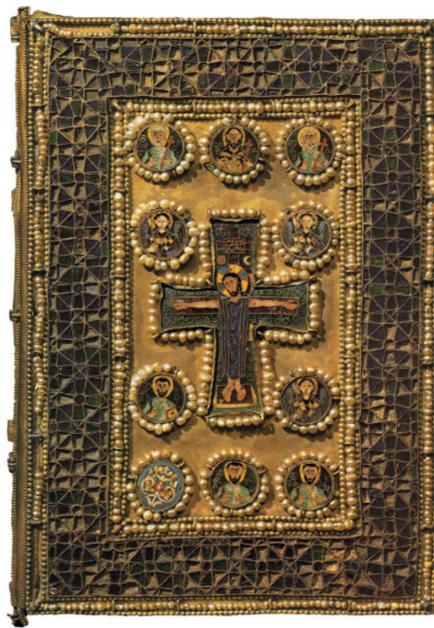
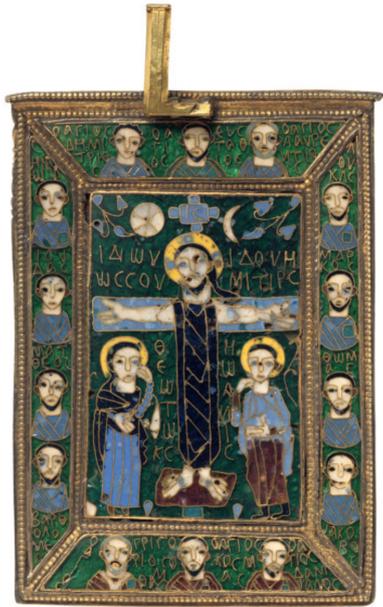


Fig. 12 a Plaque with the Ascension of Alexander the Great. – b Image of the Theotokos on the necklace from the Preslav Treasure, detail. – c Fieschi Morgan Staurotheke, Metropolitan Museum, New York. – d Votive crown of Leo VI (886-912), Treasury of San Marco, Venice. – e Beresford Hope reliquary cross, Victoria and Albert Museum, London. – f Paten in the Musée du Louvre, Paris. – g Book cover in the Biblioteca Nazionale Marciana, Venice. – h Medallion with an archangel, Musée du Louvre, Paris. – (a photo V. Aleksiev; b photo K. Georgiev; c from Metropolitan Museum of Art 17.109.715 a-b; d photo A. Bosselmann-Ruickbie; e from Cat. London 2009 104 Nr. 54; f from Cat. New York 1997 67 no. 28; g from Frazer, Schatz 133; h © Musée du Louvre, Paris).



Fig. 13 a Quadrifolium, end of tenth century, Virginia Fine Arts Museum. – b Medallion with the Theotokos and Jesus Christ, Benaki Museum. – c Medallion with the image of the Theotokos Hodegetria, tenth century, Dumbarton Oaks. – d Encolpion, tenth century, Tbilisi. – e Prophet Daniel, tenth (eleventh) century? – f Khakhuli triptych. – (a from Cat. London 2009 229 Nr. 201; b from Bosselmann-Ruickbie, *Byzantinischer Schmuck* 384 fig. 78a-b; c from Wessel, *Enamels* 66 Nr. 16; d from Wessel, *Enamels* 66 Nr. 17; e from Bosselmann-Ruickbie, *Byzantinischer Schmuck* 364, Nr. D84).

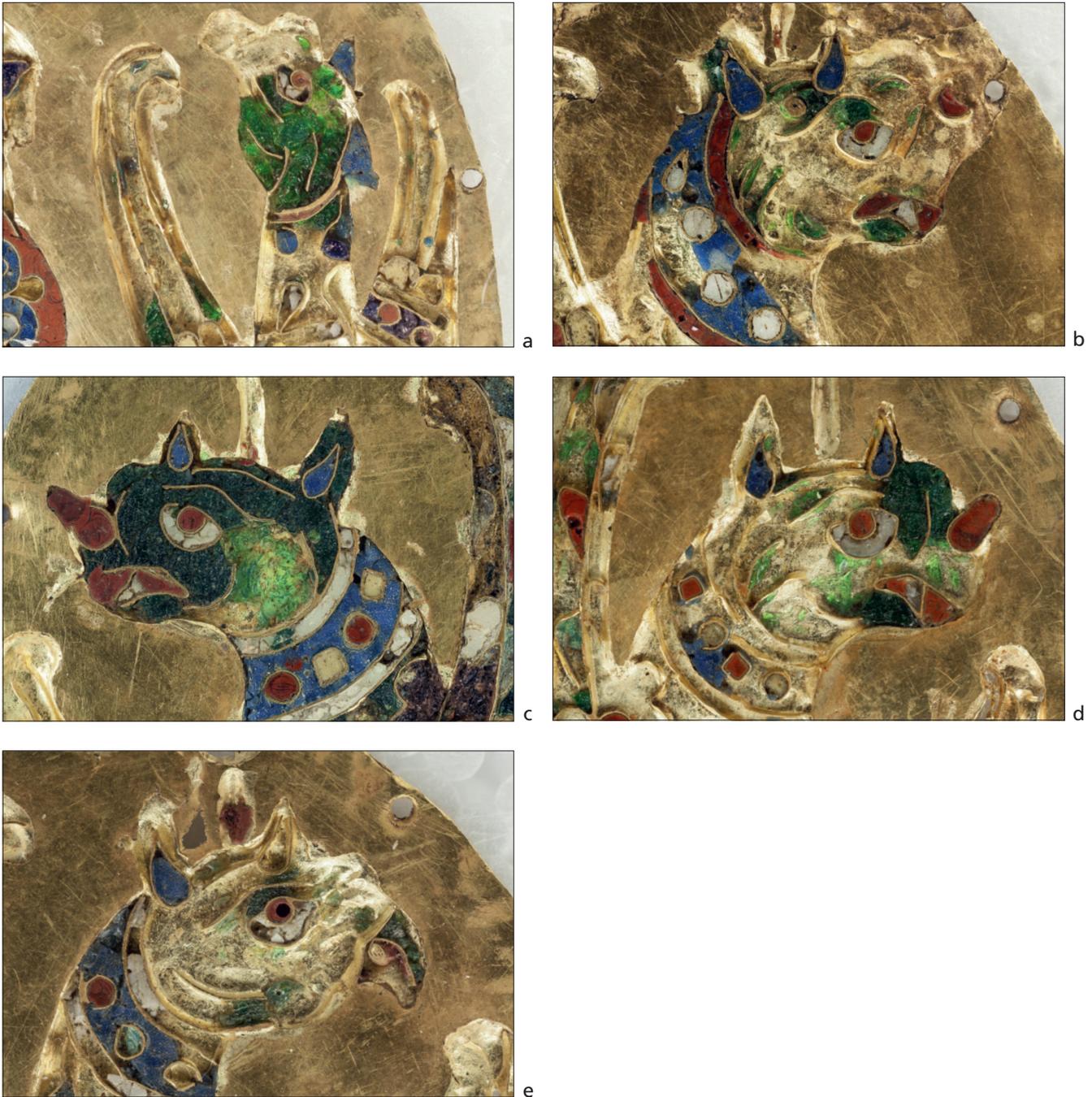


Fig. 14 a-e details. – (Photo VI. Aleksiev).

of the mythical beasts on the Preslav diadem are in contrast shaped only by a *cloison* strip forming an ellipse with a circlet inserted at the end.

Despite differences in iconography – here, the griffins in the scene of the Ascension of Alexander the Great; there, the griffins placed around the Tree of Life – the composition of the spread wings is similar, as are the vertical feathers of the wings (fig. 15b). The masters of the Saint Maurice ewer and the Preslav plaques used similar motifs to decorate the same sections of the animals' bodies: for instance, the band at the base of the wings of the griffins pulling Alexander's

chariot features arched *cloisons* and two horizontal parallel strips with circlets between them (fig. 15b), which closely resemble those on the ewer, where a triangle-shaped *cloison* is followed by horizontal strips and circlets (fig. 15a). The backs of the creatures are decorated with a similar half-palmette (fig. 15a. c). The ribs of the beasts are rendered by three identical S-shaped motifs (fig. 15a. c-d), and the joints are emphasised by circlets (fig. 15a. c-d). Another interesting similarity is the horn-shaped element accentuating the muscle of the animals' inner hind legs (fig. 15a. c-d). These features suggest common models for these patterns in the produc-



a

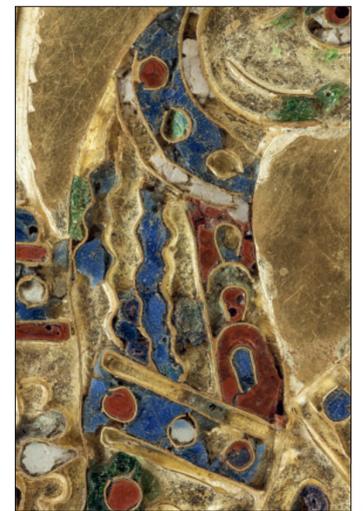
b



c



f



g



d



e

Fig. 15 a Ewer of Saint-Maurice, detail, ninth century. – b-g Details. – (a from Cat. Paris 2014 no. 11; b-g photos VI. Aleksiev).



Fig. 16 Medallion with the image of a griffin, eighth-ninth century, Louvre. – (From Cat. Paris 1992 185 Nr. 124).

tion of both two. Even the colour spectrum of the enamels is similar – translucent green, shades of blue and white, red yellow and dark purple in the details. The only major differences are the technique (*Senkschmelz* versus *cloisonné* enamel/*Zellenschmelz*) and the colour of the bodies: on the diadem plaques, they are translucent green, whereas on the Saint Maurice ewer, the bodies are dark blue, with translucent green enamel used for the background (fig. 15a).

At the same time, a certain clumsiness can be observed in the treatment of the animals on the Saint Maurice ewer, par-

ticularly in the rendering of the hindquarters. The decorative repertoire used to decorate the body is more limited, comprising circles, almond-shaped leaves and semi-palmettes, whereas the background is densely filled with rosettes. One of these – a rosette with pointed white petals set crosswise, with two-lobed leaves between them – has a direct parallel in the rosettes at the base of the eagle-headed griffin’s wing. In contrast, the griffins pulling Alexander’s chariot on the Preslav plaque (fig. 11a) are more expressively rendered, as if evoking a sense of movement, of the actual »flight«, with their

bodies adorned with three- and four-petalled motifs. The master's skill is evident in his ability to delineate the individual anatomical parts with a single, well-curved line terminating in a spiral or a circlet. In the case of the griffins on the Preslav diadem, the craftsman even attempted to model volume using separate short *cloisons*. The similarities the Preslav and Saint Maurice objects likely stem from their derivation from a shared pattern, but the execution of the Preslav plaques suggests a higher level of professionalism and experience.

The question of when the Saint Maurice ewer was made remains under debate. According to G. Haseloff's⁵³ analysis, the turetics date to the mid-ninth century and are a work from the time of Charles the Bald, King of West Francia (843-877). A. Alföldi⁵⁴ and G. Haseloff dated the enamels, which they believed to be *spolia*, earlier, i.e., to the eighth century, despite the direct parallels of the repertoire (rosettes, almond-shaped motifs) with Byzantine manuscripts from the ninth to tenth centuries, as indicated by M. Aga-Oglu⁵⁵. A. Grabar assumed that it originated from a Byzantine atelier working under the influence of Sassanian traditions⁵⁶, which would explain the identical decorative techniques applied in the same places and with the same colour spectrum. The same pictorial detail is also found in textiles from the eighth to twelfth centuries, which does not exclude the continued use of the same patterns, probably adapted for textiles⁵⁷.

Another enamel piece serves as a suitable comparison: the eyes of the griffin on a medallion in the Musée du Louvre, executed in *Senkschmelz* enamel against a gold background, are similarly rendered (fig. 16). The difference here is that they are almond-shaped with a round pupil, but again on a golden background. The treatment of the elongated feathers and their bases follows an identical approach: arched short feathers combined with a horizontal stripe and circlets. Again, the enameller uses circlets for the joints and almond-shaped leaves. The medallion has been dated to the eighth to ninth centuries and is, according to J. Durand, a Byzantine product from the Iconoclastic period⁵⁸. However, it may need to be dated later, as the Preslav enamels with their comparatively solid date suggest that this technique was invented in the tenth century.

The entire range of the decorative details on the Preslav plaques and the Saint Maurice ewer is inspired by Sassanian imagery: similar S-motifs (fig. 17a-b) appear on animals, trousers, and saddles on Sassanian artworks (fig. 17c-d)⁵⁹. Embossed circles mark the animals' joints, and the background of the hunting scenes – similar to the Saint Maurice ewer – is spangled with rosettes⁶⁰. The solar rosettes on the

wheels of Alexander's chariot (fig. 11a) are also comparable to the chariot and throne of the Sassanian *Shahanshah*⁶¹. The almond-shaped motifs decorating the torsos of the mythical appear in Sassanian, Byzantine, and Arabic textiles from the eighth to twelfth centuries⁶², as well as in Byzantine manuscripts from the tenth century⁶³.

The images of senmurvs on two of the plaques (figs 2a-c, 3a-c) form a mirror-inverted pair. The craftsman skilfully rendered the dual nature of the creature, part dog and part peacock, appearing both as fleeing and flying. It is hardly a coincidence that, in accordance with *Avestan* tradition, these mythical beings have fiery red eyes. (The *Avesta* is the primary collection of sacred texts in Zoroastrianism, the ancient Iranian religion founded by the prophet Zoroaster/Zarathustra.) One of the Preslav senmurvs has a small horn on the nose and a forked tongue, similarly to the earlier *comparanda*⁶⁴. The standards on the head of the Preslav senmurvs can be compared in the shape of a triangular flag with a circle at the base (fig. 18a-b) can be compared with written sources and pictorial evidence as presented by K. Trever. Those demonstrate that the Sassanian flag was a tall pole that ended with a head of a senmurv, the bodies of which are given as waving textile bands. These would have made a noise when air passed through them to frighten the enemies. Perhaps it is such a circular air vent that is represented on the triangular standard above the heads of the Preslav senmurvs, and the griffins (figs 2-4). A standard as this with a head of a senmurv/griffin is depicted on the Trajan's Column in Rome (fig. 18c-d)⁶⁵. Undoubtedly, the *realia* confirm the triumphal nature of the scene on the column.

Despite their spread wings, the images of the lion- and eagle-headed griffins on the Preslav diadem plaques (figs 4-5) are rendered in a static manner, suggesting that their prototypes are to be sought rather in Sassanian textiles from the sixth to seventh centuries. The decorative repertoire used to highlight anatomical features includes rosettes, circlets, almond-shaped leaves, half-palmettes, and collars. These motifs have direct parallels in Sassanian ornamentation from the same period, but also in Byzantine manuscripts from the ninth to tenth centuries. A particularly illustrative example is the leafed palmette on the griffins' hindquarters (fig. 19a-b). Similar leafed palmettes appear on a Sassanian pitcher (sixth to early seventh centuries, fig. 19c)⁶⁶, in Byzantine book illumination (fig. 19d)⁶⁷, on the Saint Maurice ewer (fig. 17b), and on painted ceramics from the ninth to tenth centuries⁶⁸.

Other details also appear to derive from Sassanian art, such as the tails of the lion-griffin and the lion, which ter-

53 Haseloff, Email 27-32.

54 Alföldi, Goldkanne.

55 Aga-Oglu, St Maurice 160-170.

56 Grabar, L'âge 693.

57 Martiniani-Reber, Soieries 109-111, no. 96. – Talbot Rice, L'Art 69-71, no. 59.

58 Haseloff, Email 31. – Cat. Paris 1992, 185-186 no. 124 (J. Durand).

59 Trever/Lukonin, Serebro 34-35 no. 21.

60 Trever/Lukonin, Serebro no. 21.

61 Trever/Lukonin, Serebro no. 29.

62 Talbot Rice, L'Art no. 59. – Cat. New York 1997, 414-416 no. 271 (D. Walker). 505-506 no. 344 (A. Gonosová).

63 Weitzmann, Buchmalerei XXVI fig. 142.

64 Harper, Senmurv 96 fig. 1. 97. 100 fig. 6.

65 Trever, Naverchie 167-180.

66 Trever/Lukonin, Serebro 113.

67 Cod. Reg. gr. 1, ninth to tenth centuries; Vatican gr. 354, see Weitzmann, Buchmalerei XLVI fig. 277 and Grabar, Pamiatniki 217 fig. XII.1; fig. XV.3.

68 Cat. Paris 1992, 388-389 no. 296C (J. Durand).



a



b

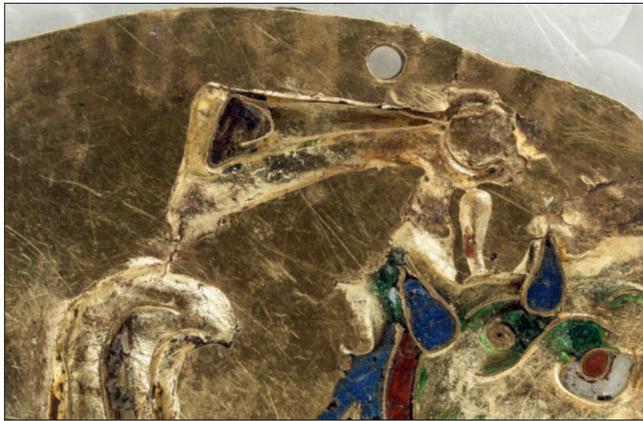


c

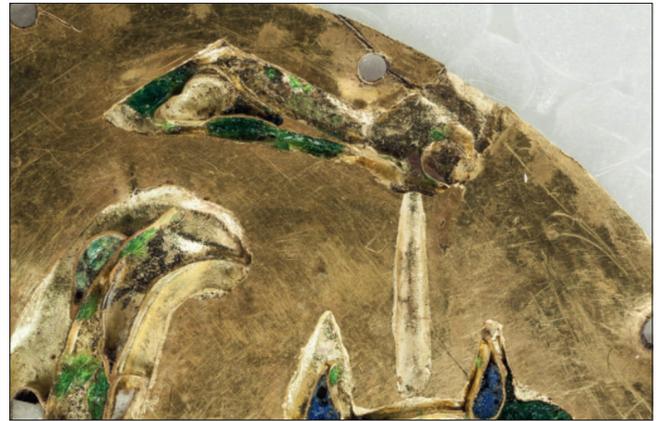


d

Fig. 17 a Plaque with the Ascension of Alexander the Great, detail. – b Ewer of Saint-Maurice d'Agaune, detail. – c Silver dish, seventh century. – d Silver dish, second half of seventh century. – (a photo V. Aleksiev; b from Cat. Paris 2014 no. 11; c-d from Trever, Serebro Nr. 11, 23).



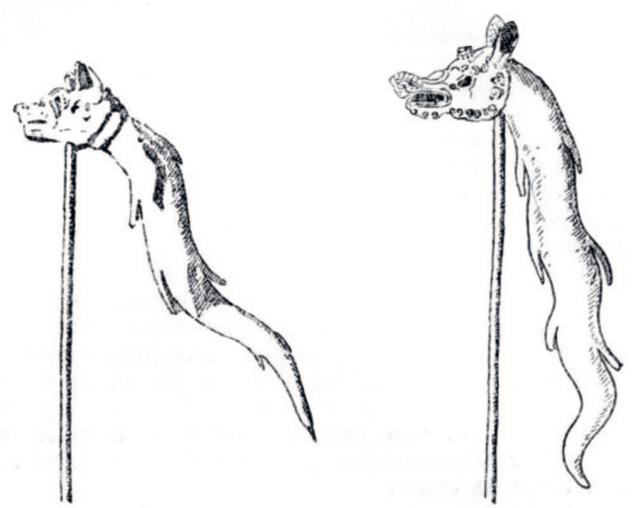
a



b



c



d

Fig. 18 a-b Image of a standard/flag, details. – c Image of a standard with a head of a senmurv/dragon, Emperor Trajan's column. – d Graphic reconstruction. – (a-b photos VI. Aleksiev; c from Trever, Naverchie 167-180 fig. IV; d from Trever, Naverchie 176 figs 1-2).

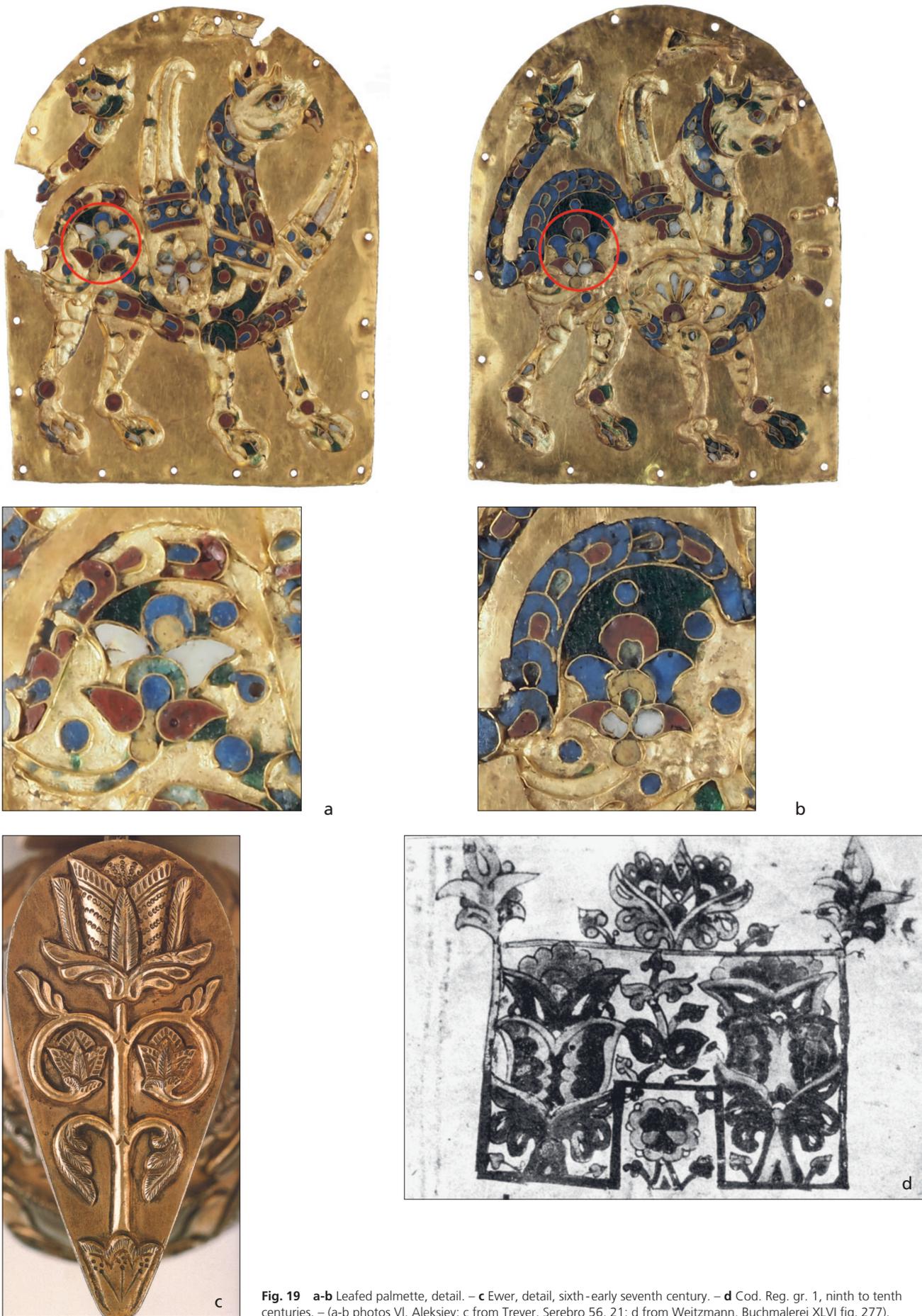


Fig. 19 a-b Leafed palmette, detail. – c Ewer, detail, sixth-early seventh century. – d Cod. Reg. gr. 1, ninth to tenth centuries. – (a-b photos VI. Aleksiev; c from Trever, *Srebro* 56, 21; d from Weitzmann, *Buchmalerei* XLVI fig. 277).

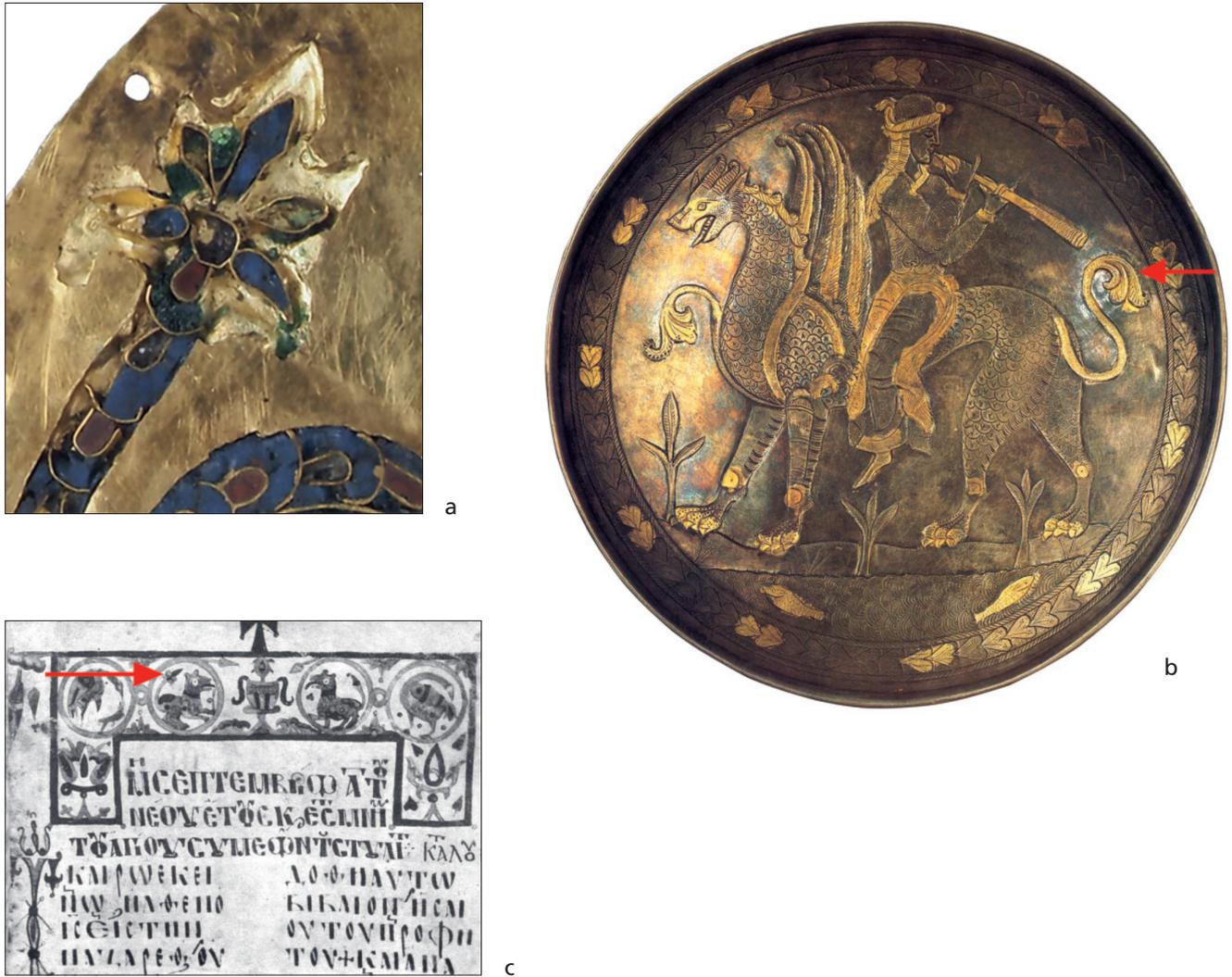


Fig. 20 a Palmette-shaped tail of the lion-griffin. – b Fabulous creature with a palmette-shaped tail, silver dish, gilt, first half of seventh century. – c Lion with a palmette-shaped tail, manuscript cod. 70, Patmos, tenth century. – (a photo V. Aleksiev; b from Trever, Serebro 106, 36; c from Weitzmann, Buchmalerei LXXI fig. 430).

minate in a palmette and a head (compare **figs 19a-b. 20a. 21a-b**)⁶⁹. This motif also appears later in Byzantine book illumination (**fig. 20c**)⁷⁰. Further minute details point at Sassanian art as a source of inspiration: the lion-headed griffin (**fig. 22a**) wears a necklace featuring a decorative element that appears to represent pearls with three almond-shaped pendants. Similar necklaces (*pativ*) are depicted on a number of Sassanian artefacts from the sixth to seventh centuries, for

instance, around a ram's neck on three textile fragments from Antioch⁷¹, and on the beak of birds adorning several silver vessels from the same period (**fig. 22c**)⁷². These necklaces can be interpreted as an *insignium*. According to Zoroastrian symbolism, the *pativ* is identified either as the »wreath of authority«, i. e., the diadem, or as a necklace with three pendants on chest of the *Shahanshah* (**fig. 22d**)⁷³.

69 Trever/Lukonin, Serebro 117, 36. – Silver belt buckle with a basilisk, ninth to tenth centuries, see Schulze-Dörrlamm, Gürtelschnallen 214, no. 423 pl. 1, 3. – Cat. Schallaburg 2012, 339 no. XIII.12 (M. Schulze-Dörrlamm).

70 Cod. 70, Patmos Monastery, see Weitzmann, Buchmalerei LXXI fig. 430.

71 Martiniani-Reber, Soeries 26, 44-45 no. 10 ref. 3. – Two similar fragments are known from China, grave goods in Astana, Toll, Zometki 299-300 figs XXV

1-3. – Trever/Lukonin, Serebro no. 60 (24). – Cat. Bruxelles 1993, 273 no. 124 (B. Overlaet).

72 Trever/Lukonin, Serebro 117, 24. – Cat. Bruxelles 1993, 242 no. 91 (B. Overlaet). 276-277 no. 129 (B. Overlaet). – Gunter/Jett, Metalwork 174-176 no. 28.

73 Trever/Lukonin, Serebro 80. – Toll, Zometki 299-300.



a



b



c

Fig. 21 a-b Mythical head at the end of the tail of the eagle-griffin. – c Belt buckle, silver, ninth-tenth century. – (a-b photos K. Georgiev, Vl. Aleksiev; c from Cat. Schallaburg 2012, 339 XIII fig. 12).



a



b



c



d

Fig. 22 a Lion-griffin with a necklet with three pendants. – b Goat with a necklet, textile fragment from Antinoe, sixth-seventh century. – c Pheasant with a necklet (pativ), silver dish, first half of seventh century. – d Shahanshah with a necklace with three pendants, detail on a dish, first half of seventh century. – (a photo K. Georgiev; b from Toll, *Zametki* XXV fig. 2; c from Trever, *Serebro* 24; d from Trever, *Serebro* 23, 11).

Iconographic Programme of Apotheosis and Triumph

The iconographic programme of the Preslav diadem, featuring the Ascension of Alexander the Great in the centre and flanked by four mythical animals (perhaps originally six), is dedicated to the fundamental idea of the ruler's apotheosis and triumph. In ancient Rome, the image of the emperor in a chariot signified his investiture⁷⁴. The narrative and iconography of this composition are borrowed from Zoroastrian ideology, as evidenced by scenes in which the *Shahanshah's* chariot and throne are borne aloft by winged creatures – griffins and Pegasus⁷⁵. In the tenth century, the Persian poet Abu l-Qasem-e Firdausi (940-c. 1020) described the throne of Kayka'us as being lifted into the air by flying eagles. It is no coincidence that in early versions of the *Alexander Romance*, Alexander's chariot is being drawn by similar eagles⁷⁶.

Accounts by the Western ambassador and Bishop Liutprand of Cremona (c. 920-972), Emperor Constantine VII Porphyrogenetos (r. 913-959) and the Byzantine historian Kedrenos (eleventh century) attest to the adoption of this ideological model in the construction of the so-called »Solomon's Throne« at the imperial Byzantine court. This hydraulic *automaton*, flanked by lions and griffins, was capable of elevating the emperor during ceremonial occasions, such as receptions of ambassadors⁷⁷. The senmurvs and the eagle-and lion-headed griffins are traditionally associated with royal iconography in Sassanian, Arab, and Roman contexts. It is no coincidence that a senmurv and a griffin appear facing one another on the walls of the Umayyad palace of Qasr al-Mshatta, probably commissioned in 743-744. Images of senmurvs also feature on the garments of rulers in stone sculpture, textiles and frescoes⁷⁸.

The scene of the Ascension of Alexander the Great, attested in ivory reliefs, stone sculpture and textiles aligns with Byzantine Christological ideology. Perceived as a *cosmocrator*, Alexander's image conveyed the idea of the divine origin of imperial power. For this reason, Byzantine apologists portrayed their rulers as heirs to the greatest of Greek heroes and the first universal emperor. The genesis of the idea can be traced to the Syrian tradition of the sixth to seventh centuries, which presented Alexander as the founder of the Roman

dynasty⁷⁹. This suggests that the diadem from the Preslav Treasure – along with the Monomachos Crown (1042-1055) and the diadem from Sakhnovka (figs 8. 10b) – should be understood as regalia of a male ruler rather than a female ruler. This contradicts G. Atanasov's assumption that the Preslav Treasure consists solely of women's adornments, including the five diadem plaques⁸⁰.

Further evidence for the identification of the Byzantine Basileus with Alexander the Great is found in written sources concerning the emperors of the Macedonian dynasty. Constantine VII Porphyrogenetos (913-959), who was well acquainted with the coinage of Alexander, compared him with his grandfather Basil I (867-886), the progenitor of the dynasty⁸¹. Notable examples, such as the so-called »votive crown« of Leo VI (886-912), the Monomachos Crown, the Crown of Saint Stephen and the Sakhnovka diadem confirm the practice of presenting the image of the emperor on the most prominent of imperial regalia. In line with the Byzantine political doctrine that conceived of Christian rulers as members of a symbolic imperial family, such gifts bound their recipients to a position of subordination to the Basileus⁸² – particularly when the gift bore an imperial image⁸³.

Especially noteworthy is the account of Ibn Ḥayyān, who describes a valuable gift sent by Constantine VII to the Caliph of Córdoba, 'Abd al-Raḥmān III (929-961), in 949. According to Ibn Ḥayyān, this gift was a silver casket of exceptional craftsmanship, bearing the portrait of the emperor on the lid and adorned with coloured glass (which probably referring to enamel)⁸⁴. Material evidence for this practice may be found in the Monomachos and Saint Stephen's Crowns. The former bears the image of Constantine IX Monomachos and was probably intended as a coronation gift for King Andrew I of Hungary (1047-1061); the latter is decorated with portraits of the Byzantine Emperor Michael VII Doukas (1067-1078) and King Géza of Hungary (1074-1077).

Tsar Peter I of Bulgaria (927-969) married the Byzantine princess Maria Lakapene, granddaughter of Emperor Romanos I Lakapenos (920-944), in 927, thereby becoming part of the imperial family. The inscriptions on coins depicting him with his wife, the co-empress Maria-Eirene, are particularly telling in this context. On the first issue, the rulers are titled »Basileis of the Bulgarians« (fig. 23a)⁸⁵ – that is,

74 Kantorowicz, *Oriens* 117-178. – Herzfeld, *Thron* 103-147. – Bank, *Molivdovul* 81-90. – Étingof/Turilov, *Aleksandr* 519-520. – Gleixner, *Alexanderbild* 122-124. – See also Bosselmann-Ruickbie, *Byzantinischer Schmuck* 23-24.

75 L'Orange, *Iconography* 64-79. – Trever/Lukonin, *Serebro* 109, 19 (9). – Lechitskaya, *Vstavka* 224-257. – Settis-Frigoni, *Alexandri* 39-67.

76 Lechitskaya, *Vstavka* 225.

77 Georgiev, *Diademata*, 81-83. – L'Orange, *Iconography* 64-79.

78 Canepa, *Eyes* 189 fig. 37. – See also recently Cat. Hildesheim 2022.

79 Lure, *Aleksandr* 121-149.

80 Atanasov, *Insigniite* 228.

81 Iordanov, *Informatcia* 25. – C. Jolivet-Lévy notes that the practice of »re-using« the past, the »heroes« of Antiquity, including Alexander the Great, or biblical characters in order to glorify the present is especially popular with the Macedonian dynasty (Jolivet-Lévy, *L'image* 456-457).

82 The Byzantine diplomatic practice allowed subordinate rulers to receive crowns and other insignia, see McCormick, *Crown* 554.

83 Further examples of objects bearing the image of the emperor as a symbol of high rank and allegiance are presented by C. Hilsdale, see Hilsdale, *Royal Crown* 603-631. – In his *De Administrando Imperio*, Constantine Porphyrogenetos mentions rings with carved images of the pious Emperor presented to the Chersonites (Bagryanorodni, *Ob upravlenii* 253-255).

84 Hetherington, *Cloisonné Enamel* 210-211. – Hetherington, *Enamels in the Byzantine World* 33. – Soucek, *Byzantium* 409. – As to the prestigious gifts as part of the Byzantine diplomatic practice, T. Stepan notes that only the rulers of the Christian Ecumenical family were honoured with crowns while the Islamic aristocracy representatives received other gifts, also decorated with »finely crafted« enamels, see, Stepan, *Artukid Bowl* 97 n. 80. – Qaddūmi, *Book* 97. 113-114.

85 Iordanov, *Korpus* fig. III, 3.A.a. – Zhekova, *Imperatritca* 218-219. 253 fig. IV.2.

they are acknowledged as such, but only in relation to the Bulgarian realm. The inscription on the second coin type explicitly refers to them as »Autocratores Basileis of the Bulgarians« (fig. 23b)⁸⁶, while the third names Tsar Peter as »pious Basileus« (fig. 2c)⁸⁷. Notably, the typical Byzantine formula »Emperor by the grace of Christ« is absent, as is the full theological conception of the Basileus according to Byzantine Christological ideology. In this worldview, the emperor is the spiritual father of the rulers of newly baptised Christian nations and the hypostasis of Christ – the supreme sovereign.

The use of colour in the enamel decoration of the Preslav plaques is highly symbolic within the ceremonial framework of the Byzantine Empire and is crucial for interpreting the diadem's purpose as a diplomatic gift to the Bulgarian ruler. The proposed colour reconstruction (figs 1d. 2d. 3d. 4d. 5d) is based on the results from the research conducted during the conservation and restoration of the diadem plaques, undertaken to investigate the technological features and the composition of the metal and enamels⁸⁸. Green and dark blue are the predominant enamel colours. In *De cerimoniis aulae Byzantinae*, crowns of four colours are mentioned; information on their symbolism and hierarchy is also found in the *Oneirocriticon* (book of dreams) ascribed to Aḥmad ibn Sīrīn (c. 653-729), but probably written in the ninth or tenth centuries⁸⁹. According to this, the white crown symbolises the emperor's nobility, the red, »the joy and fear he inspires in the enemies«; the blue, the weakening of his power; while the green is a sign of loyalty and sovereignty, because »green is the colour of faith and respect for God«⁹⁰.

It is not entirely certain that the diadem came to Preslav on the occasion of the marriage of Peter and Maria-Eirene in 927. The enamel technique differs from other that of other objects in the Preslav Treasure, which is a noteworthy aspect: the enamels are executed in the *Senkschmelz* technique. The above-mentioned *comparanda* of crowns and diadems are dated to a later period, by which *Senkschmelz* had already been established as a hallmark of Byzantine enamelling. As far as can be judged from securely dated Byzantine enamels, the diadem plaques in the Preslav Treasure represent the earliest known use of *Senkschmelz* in Byzantium and may indicate a novel development in enamelling techniques at the time⁹¹.

Regarding the precise date of this technical innovation, it cannot be entirely excluded that the diadem plaques were produced at a different time than the other enamels in the

Preslav Treasure, which are executed in the *cloisonné* technique. Perhaps they were presented to the Bulgarian ruler on an occasion other than the wedding of 927. This might account for the stylistic and technical differences between the diadem plaques and the *cloisonné* enamels on the necklace, earrings, and the spherical pendants. *Cloisonné* enamels were the first type to appear in Byzantium, with dated examples from the ninth and early tenth centuries⁹². They cover the entire metal base and often display an emerald green background. As noted above, figures on these earlier enamels are frequently shown with round eyes, whereas the eyes of the *senmurvs* and griffins on the *Senkschmelz* diadem plaques are rendered with white eyeballs and dark pupils in almond-shaped eyes (fig. 14a-e). This feature might indicate a change in style, along with an advance in enamelling. A comparison with the enamels on the Limburg Staurotheke (produced between 945-985, probably around 960) confirms a change in the rendering of the eyes around this period⁹³ and supports the view that both the *Senkschmelz* technique and a new treatment of the eyes were introduced in the mid-tenth century. However, the eyes of Alexander the Great on the Preslav diadem are shown as round shapes, comparable to the older type of *cloisonné* enamels, such as the »votive crown« of Leo VI (886-912, see above).

The question remains: when were the diadem plaques sent to Preslav – in 927 or at a later date? If we consider the historical sources concerning opportunities for such high-ranking insignia to have reached Bulgaria from Byzantium, it becomes clear that contact with the Byzantine Empire did not cease with the marriage of Tsar Peter I and the Byzantine princess Maria-Eirene in 927. Other occasions may be cited that would have warranted an exchange of prestigious gifts. As is often the case, the sources remain vague with regard to the specific nature of these objects. Around 940, Tsaritsa Maria-Eirene and her daughters visited Constantinople. According to Theophanes Continuatus, they received »great and significant wealth«⁹⁴. Following the death of Constantine VII (913-959), Emperor Romanos II (959-963) sent ambassadors to the rulers of Bulgaria and the Western realms. Again, it is again Theophanes Continuatus who reports on the event, this time noting that the »friendly treaties« were confirmed⁹⁵. A further possible occasion for new diplomatic gifts has been suggested by P. Georgiev, who refers to the year 969, when a Bulgarian-Byzantine agreement against Knyaz Sviatoslav was

86 Iordanov, Korpus fig. III, 3.A.a. – Zhekova, Imperatritca 218-219. 253 fig. IV, 3.

87 Iordanov, Korpus fig. III, 3.A.a. – Zhekova, Imperatritca 220-221. 253 fig. IV, 3.

88 The analyses were conducted by V. Inkova using a scanning electron microscope (SEM) HitachiS-3700N, combined with a Thermo Fisher Scientific Ultra dry X-ray detector and NSS (Noransystem 7) software. All analyses were carried out at an X-ray intensity of 20 kV. Standard reference materials from pure elements, as well as natural and synthetic materials from Geller Microanalytical Laboratory, Serial # 701, were used. The calibration of the machine was fulfilled by use of cobalt standard before each separate analysis, and at 30-min intervals throughout the analyses. The surveys were carried out in the Conservation and Research Laboratory of Thrace Foundation. The results are unpublished.

89 Achmetis, *Oneirocriticon* 10-13. 201-203.

90 Mavroudi, *Oneirocriticon* 337-340. – Achmetis, *Oneirocriticon* 10-13. 201-203. – Koutova, *Hiérarchie* 236-249.

91 See Bosselmann-Ruickbie, *Senkschmelz*. – Bosselmann-Ruickbie, *Jewelry and Enamels* 581-587 esp. 585-586.

92 Bosselmann-Ruickbie, *Jewelry and Enamels* 585.

93 Bosselmann-Ruickbie, *Jewelry and Enamels* 585, image: 582 colour plate 16.

94 Theophanis Continuati, *Chronographia/Prodaljitelait*, *Hronographia* 138. – Atanasov, *Insigniite* 235.

95 Theophanis Continuati, *Chronographia/Prodaljitelait*, *Hronographia* 138. – Angelov, *Diplomatcia* 166.



Fig. 23 Molybdebullae: **a** »Peter and Maria, basileis of the Bulgarians (927-?)«. – **b** »Peter and Maria, autocrators and basileis of the Bulgarians (940s)«. – **c** Peter, pious Basileus (940s-950s). – (From Jekova, Imperatritca 253 fig. IV, 2-4.

concluded⁹⁶. On the basis of an interpretation of the symbolic meaning of the images on the diadem plaques – above all, the depiction of Alexander the Great as a metaphorical representation of the Byzantine Basileus – Georgiev proposes that the diadem was a gift Tsar Peter's son, Boris II (970-971). His interpretation draws upon the ecumenical doctrine, according to which the Bulgarian rulers were regarded as the spiritual sons of the emperor; in this sense, it is conceivable that Boris II received a Caesarian rank and a »κεσάρκιον« diadem⁹⁷.

In summary, considering the historical data as well as stylistic and technical comparisons, a *terminus ante quem* of 971 for the Preslav Treasure is generally accepted. The differing renderings of the eyes of Alexander and the mythical beasts on diadem plaques – in light of the new *Senkschmelz* technique – suggest that the plaques combine elements of tradition and innovation. While caution is warranted when stylistically dating artworks on the basis of a limited group of securely dated *comparanda*, all evidence points at a relatively narrow chronological framework for the enamelled objects in

96 Georgiev, Diademata 84. – Zlatarski, Istorija 570-571. – Diaconi, Istorija 249-250.

97 Georgiev, Diademata 78-85.

the Preslav Treasure. The differences of stylistic and technical features may imply, however, a somewhat broader span of production, yet all items appear to belong to the same historical context. Several occasions of diplomatic exchange may be identified during which such prestigious objects could have reached the Bulgarian court. In light of this, the diadem may have been produced somewhat later – perhaps in connection with the agreement of 969. At that time, a plurality of styles and techniques may still have coexisted within the imperial workshops.

Although the dating of the Preslav diadem cannot be determined with certainty, it must be situated within the comparatively narrow time frame between 927 to 971. On the basis of the available evidence, the recipient would have been either Tsar Peter I or his son Boris II, both of whom would have been received as fellow Christian rulers by the Byzantine emperor.

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Summary / Zusammenfassung / Résumé

The Diadem from the Preslav Treasure

Discovered in 1978, the Preslav Treasure includes five enamelled gold plaques that once formed part of a diadem. They depict the »Ascension of Alexander the Great«, flanked by mythical creatures – a senmurv and lion- and eagle-headed griffins – rendered in both transparent and opaque *cloisonné* enamel using the innovative *Senkschmelz* technique (*émail enfoncé*), which leaves the gold surface visible around the recessed enamelled areas.

Comparative analysis with Sasanian imperial reliefs, metalwork, and carved gemstones suggests Persian origins for this diadem type with arched plaques. It was subsequently adopted into Byzantine ceremonial practice and diplomatic exchange, with attestations in the West and in Kievan Rus'. The image of Alexander the Great held particular resonance for emperors of the Macedonian dynasty (867-1056), who employed such iconography to assert imperial legitimacy.

The diadem likely functioned as imperial regalia and may have been presented to Tsar Peter of Bulgaria (r. 927-969) on the occasion of his marriage to the Byzantine princess Maria Lakapene in 927 – an alliance intended to secure peace. While stylistic and technical parallels with ninth- to tenth-century Byzantine enamels are evident, they do not permit more precise dating. The plaques can only be securely assigned to the period between 927 and 971, the year of the Preslav Treasure's burial.

Das Diadem aus dem Preslav-Schatz

Der 1978 entdeckte Schatz von Preslav umfasst fünf emailierte Goldplatten, die einst Teil eines Diadems waren. Sie zeigen die »Himmelfahrt Alexanders des Großen«, flankiert von mythischen Wesen – einem Senmurv sowie Greifen mit Löwen- und Adlerköpfen –, ausgeführt in transluzidem und opakem *Cloisonné*-Email unter Verwendung der innovativen Senkschmelztechnik (*émail enfoncé*), bei der der goldene Hintergrund um die vertieften Emailfelder sichtbar bleibt.

Vergleichende Analysen mit sassanidischen Reliefs, Metallarbeiten und geschnittenen Edelsteinen deuten auf eine persische Herkunft dieses Diademtyps mit rund abschließenden Platten hin. In der Folge wurde dieser Typus in die byzantinische Zeremonialpraxis und diplomatische Geschenkkultur übernommen, die auch im Westen sowie der Kiewer Rus' einen Wiederhall fanden. Die Darstellung Alexanders des Großen fand insbesondere bei den byzantinischen Kaisern der makedonischen Dynastie (867-1056) besondere Resonanz, welche die Ikonographie zur Legitimation ihrer Herrschaft einsetzten.

Das Diadem diente vermutlich als kaiserliche Insigne und könnte Zar Peter von Bulgarien (r. 927-969) anlässlich seiner Hochzeit mit der byzantinischen Prinzessin Maria Lakapene im Jahr 927 überreicht worden sein – einer Allianz zur Friedenssicherung. Zwar lassen sich stilistische und technische Parallelen zu byzantinischen Emails des 9. und 10. Jahrhunderts erkennen, doch erlauben sie keine genauere Datierung. Die Plaketten können sicher nur dem Zeitraum zwischen 927 und 971 zugewiesen werden, dem Jahr der Niederlegung des Schatzes von Preslav.

Le diadème du trésor de Preslav

Découvert en 1978, le trésor de Preslav comprend cinq plaques d'or émaillées qui faisaient autrefois partie d'un diadème. Elles représentent l'Ascension d'Alexandre le Grand, flanqué de créatures mythiques – un Simorgh et des griffons à têtes de lion et d'aigle – réalisées en émail cloisonné transparent et opaque selon la technique innovante du *Senkschmelz* (*émail enfoncé*), qui laisse apparaître la surface dorée autour des zones émaillées en creux.

Une analyse comparative avec les reliefs, les objets métalliques et les gemmes gravées de l'art impérial sassanide suggère une origine perse pour ce type de diadème à plaques arquées. Celui-ci fut ensuite intégré au cérémoniel byzantin et aux échanges diplomatiques, avec des attestations en Occident et dans la Rus' de Kiev. L'image d'Alexandre le Grand résonnait tout particulièrement auprès des empereurs byzantins de la dynastie macédonienne (867-1056), qui utilisaient ce type d'iconographie pour affirmer leur légitimité impériale.

Ce diadème servait vraisemblablement d'insigne impérial et pourrait avoir été offert au tsar Pierre I^{er} de Bulgarie (r. 927-969) à l'occasion de son mariage avec la princesse byzantine Marie Lécapène en 927 – une alliance destinée à garantir la paix. Bien que les parallèles stylistiques et techniques avec les émaux byzantins des IX^e et X^e siècles soient manifestes, ils ne permettent pas une datation plus précise. On peut seulement dater les plaques de manière sûre entre 927 et 971, année où fut enfoui le trésor de Preslav.

Where Did the Spherical Hollow Buttons Come From? Comparing Great Moravian *Gombíky* with Examples from the Preslav Treasure

In 1978, the ploughed-up remains of gold and silver artefacts inlaid with precious stones and enamel were discovered at the Kastana site, just short of four kilometres from the town of Veliki Preslav, the former metropolis of the Bulgarian Empire. There was no doubt it was an exceptional assemblage of finds connected to life in the nearby early medieval court, possibly even that of Tsar Peter I of Bulgaria (927-969). Most of the sumptuous artefacts – gold diadem plaques decorated

with enamel, a two-sided necklace, an assemblage of gold earrings whose large size and high quality attests to excellent workmanship, pearl and gem medallions, a golden ring and a gold-set seal made out of rock crystal – are deemed to be of Byzantine origin.

Spherical or spindle-shaped gold pendants and gold buttons form a specific group in this assemblage. Especially remarkable are the spherical hollow pendants with a spectac-

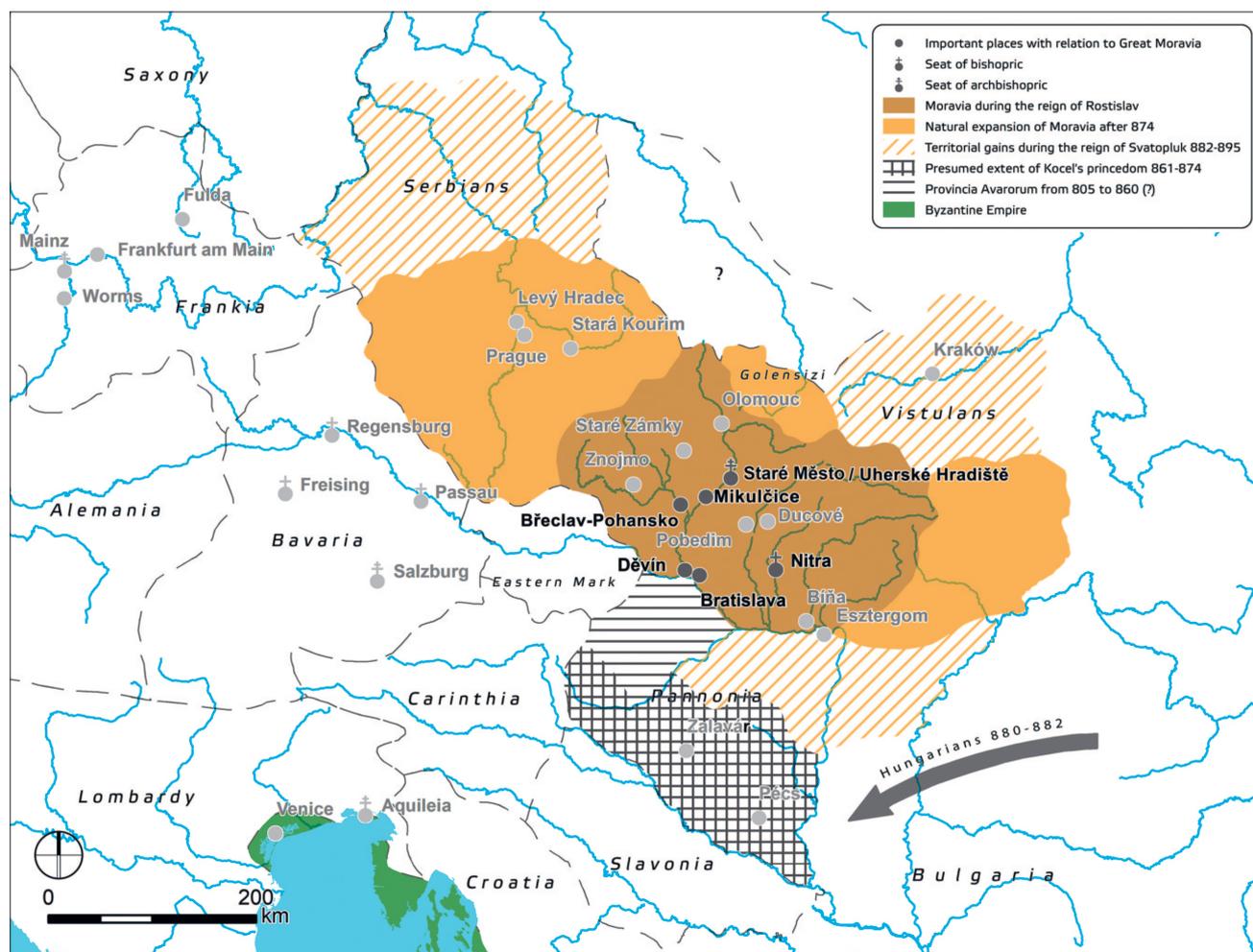


Fig. 1 Great Moravian area, territorial transformations and important places in the ninth century. – (After Kouřil, Great Moravia 12-13; graphics M. Vlach / L. Zahradníková).

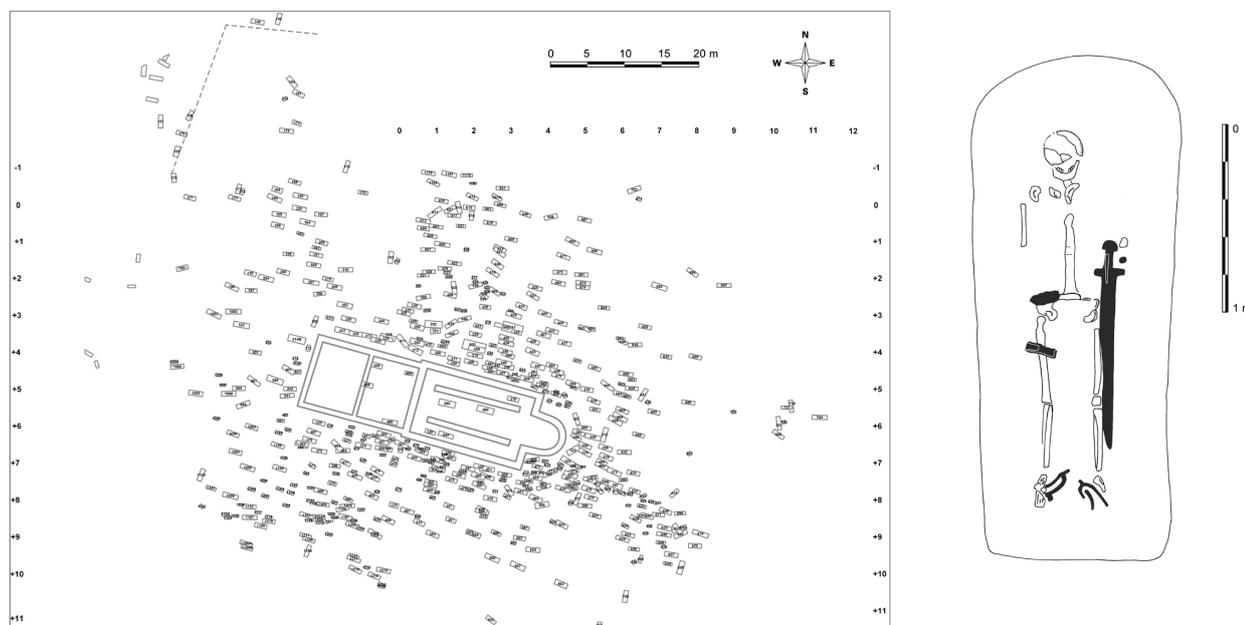


Fig. 2 Great Moravian burial rite, an example from site Mikulčice/Czech Republic: Church 3, grave no. 375. – (From Klanica et al., Mikulčice Basilika 219 and main plan).

ular size of c. 3 cm and a weight of over 20g each, which are decorated with the complicated technology of *cloisonné* enamel¹. A third such artefact of identical appearance and size, but unknown origin, is in the collections of the Metropolitan Museum of Art in New York since 2003². The character of the group of Byzantine pendants or buttons in the Preslav Treasure is exceptionally close to the finds of spherical hollow buttons called *gombíky* that were found more than 1000 km away and were a typical element found in the graves of the Great Moravian social elite.

The history of Great Moravia, an early Slavic political power unit with its centre covering what is today southeast Moravia and southwest Slovakia (fig. 1), dates back to the ninth century. In 822, the Moravians entered history for the first time when their envoys attended the Imperial Diet of Frankfurt. The Moravian Mojmirid dynasty became extinct in the early tenth century as a result of Old Hungarian attacks, and so Great Moravia disappeared from written sources. Thus, the material culture of Great Moravian society – firmly datable to a relatively narrow span of one hundred years – comprised both elementary artefacts of local origin and elite items imported from, or inspired by, the Frankish and Byzantine Empires.

Typical Great Moravian elite grave goods, such as weapons (swords, axes, spears), spurs with fittings, buckles and strap ends made from precious metals, pendant crosses, metal plaques, as well as numerous kinds of jewellery, such as

earrings, rings, pendants, beads and necklaces, were found in central cemeteries near churches (fig. 2)³. Important for this paper is that among the finds were also hollow spherical buttons – so-called *gombíky*.

Great Moravian Hollow Buttons

Typology

These small decorative metal artefacts typically consist of several construction parts – two hemispheres, a loop, a clamp and a ring (fig. 3a). Some are a button types made of a single piece of sheet metal covered with a collar (fig. 3b). The third variation of construction is a combination of those two types (fig. 3c). Similarly, the attachment system has three variations. A round loop secured with a clamp may have originally been movable within the clamp (fig. 3d). The other two attachment systems were designed to be immovable by nature, consisting of a split loop firmly attached to the sphere or the collar (fig. 3e-f). Of particular interest are those buttons with a pellet inside, which make a rattling sound when moved. Typologically, the buttons can be divided into three main categories depending on the decoration: without decoration (fig. 4a), decorated with chased ornaments (figs 4b; 5-6), and decorated with soldered granulation and filigree (figs 7-8)⁴. They were most often made of gilded copper sheet metal, but also

1 Based on Totev, Preslav Treasure esp. 58-75; Bosselmann-Ruickbie, Byzantinischer Schmuck 18-40, for pendants and buttons see esp. 24-25. – Recently, Aladjov, Le trésor de Preslav 52. 57-58.

2 The circumstances of discovery are unclear, unpublished in the context of the Preslav Treasure, available from www.metmuseum.org/art/collection/search/473435.

3 For more details about Great Moravian material culture, see Kouřil, Great Moravia; Poláček et al., Great Moravian.

4 For classical button typology, see Hrubý, Staré Město-Na Valách 203-214; Dostál, Slovanská pohřebiště 60-65; recently Krupičková, Gombíky from Mikulčice 19-24.

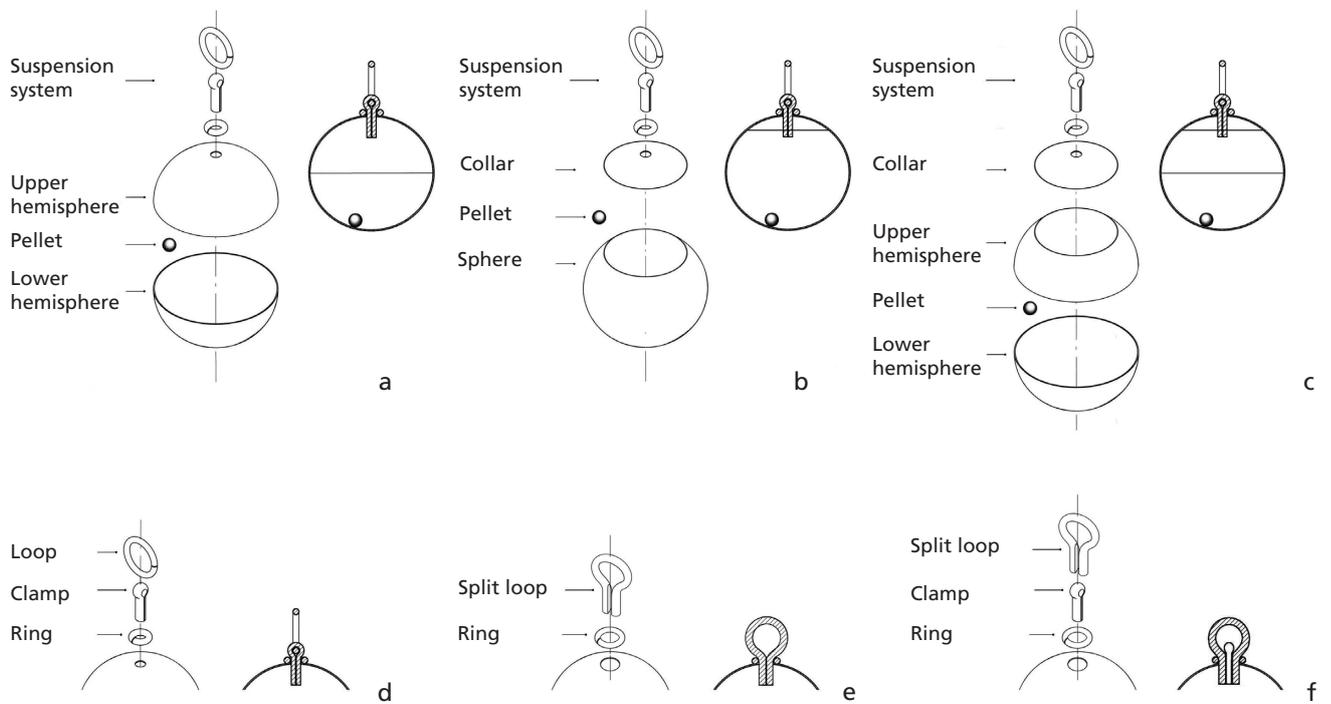


Fig. 3 Construction schemas of spherical hollow buttons (*gombíky*). Sphere: **a** Type with two hemispheres; **b** Type with a collar; **c** Combined type. – Loop: **d** Loop-clamp-ring type; **e** Split loop-ring type; **f** Split loop-clamp-ring type. – (Partly after Ottenwelter et al., *Technical study of jewellery 171*; drawing G. Plítková; graphics L. Zahradníková).



Fig. 4 Selected Great Moravian spherical hollow buttons (*gombíky*). Typological group of undecorated buttons (**a**) and of buttons with vertical ribbing (**b**). – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno, Moravian Museum and Department of Archaeology and Museology, Masaryk university; graphics Z. Pavková. Sites: Mikulčice [a1, a2, b1, b2], Staré Město – Na Valách [a3, b3, b4] and Uherské Hradiště – Sady [b5]). – Scale 1:1.

of silver or gold. They range in size typically from 2 to 3 cm in diameter, but many specimens exceed 3 or even 4 cm in size.

The typological group of buttons decorated with simplest chased decoration are buttons with vertical ribbing, which are hammered up to two-thirds of the height from a single piece of sheet metal, and therefore their production required the extraordinary skill of the goldsmith (**fig. 4b**). The most characteristic type of Great Moravian buttons is the one with two hemispheres richly decorated with chased plant, zoomor-

phic or geometric ornament. The most widespread among the chased decoration are plant ornaments in many forms of palmette motif (**fig. 5**); stylised birds dominate the zoomorphic motifs, while other zoomorphic motifs are rare (**fig. 6**).

Similar ornaments featured on finds from the Sassanian Empire, especially silver gilded Sassanian vessels, which could be the forerunner of comparable Chinese, Sogdian or Byzantine silk motifs⁵. These ornaments could have arrived in the ninth-century Central Europe region by long-distance trade,

⁵ For more information, see Masia-Radford, *Luxury Silver Vessels*; Bier, *Sassanian Textiles*; Gyul, *Sogdian Textile Design*; Chen, *Fashion in Tang Dynasty 150*. 154. –

Overview related to *gombíky* by Klanica, *Velkomoravský gombík 434-444*, recently in Krupičková, *Unique Symbols 299-301*.

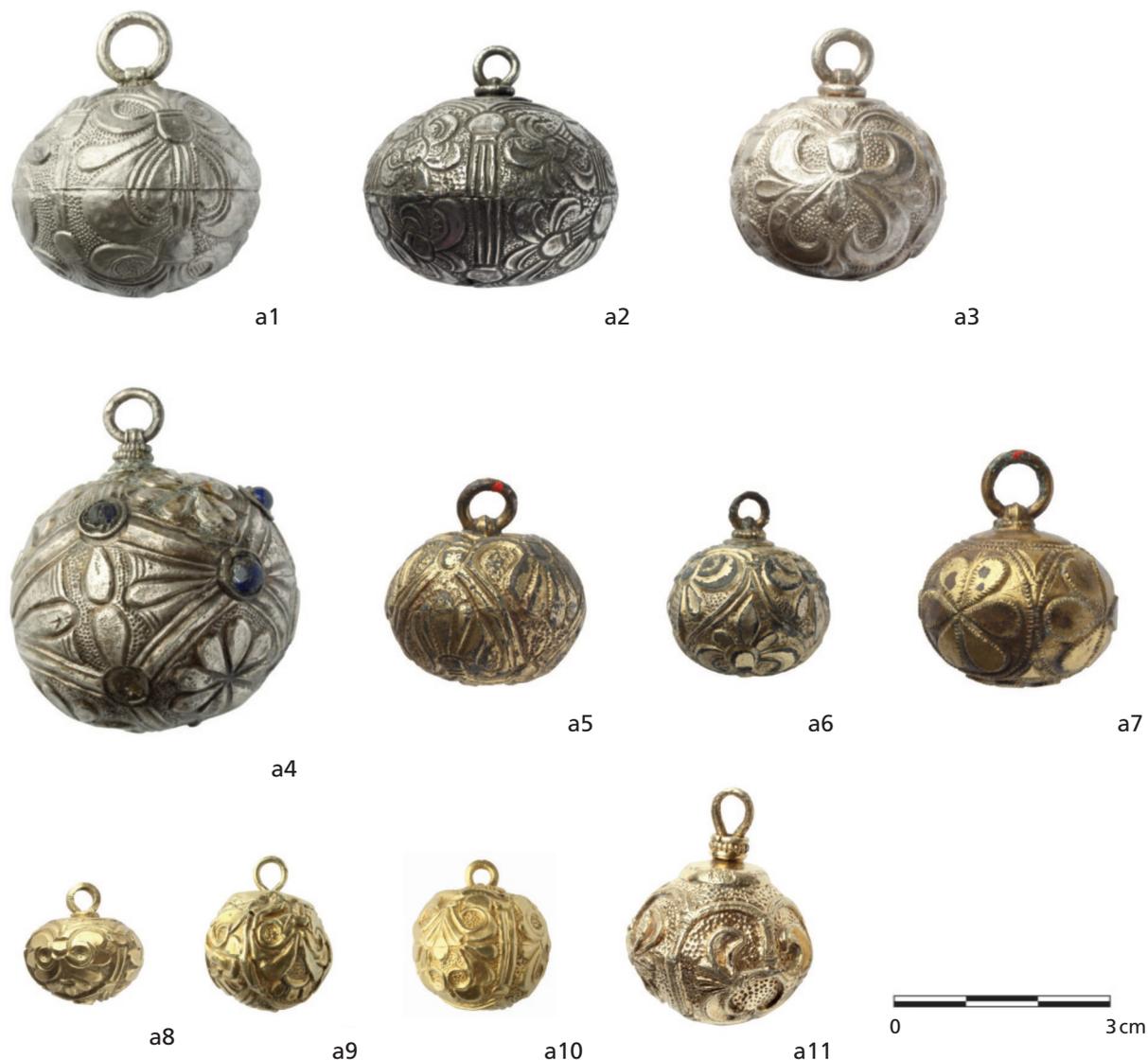


Fig. 5 Selected Great Moravian spherical hollow buttons (*gombíky*). Typological group of buttons with chased plant ornaments. – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Department of Archaeology and Museology, Masaryk university; graphics Z. Pavková. Sites: Břeclav-Pohansko [a11] and Mikulčice [a1-a10]). – Scale 1:1.

for example, with silk, where we can observe the same bird or plant motifs set in a circular field⁶.

Another type of jewellery technique applied on buttons from Great Moravia is soldering of filigree and granulation. It could be fine poppy-seed granulation arranged into various motifs (fig. 7a), but most often it is full-surface granulation soldered onto underlying wire rings (fig. 7b). Other button types are decorated with applications of filigree made of twisted or beaded wire (fig. 8a). Another type of button with soldered decoration consists of specimens featuring applied bosses (fig. 8b) or two-layered buttons (fig. 8c) with more complicated decoration consisting of corrugated strips made from hammered filigree wire or other elaborate metal parts.

Except for the dominant spherical shape, we know of others, such as polyhedral, pear-shaped and oval specimens (fig. 9).

Typologically close to the hollow metal *gombíky* are glass buttons (fig. 10). These are small plain pieces with a diameter of 1-1.5 cm with glass fused to the metal loop. These usually occur in rural burial grounds, where spherical hollow buttons are found only exceptionally. Two glass buttons with setting of copper or gold bands were also found in the central area of Great Moravia (Břeclav-Pohansko, Staré Město – Na Valách). Those artefacts are similar to the bound rock crystal pendants known from the early Anglo-Saxon and Merovingian periods⁷.

6 E. g. silk from Sogdiana: Ierusalimskaja/Borkopp, Von China nach Byzanz 31. 63. 75.

7 E. g. Kornbluth, Merovingian Rock Crystal 54-55; Kornbluth, Transparent, Translucent 67-77.

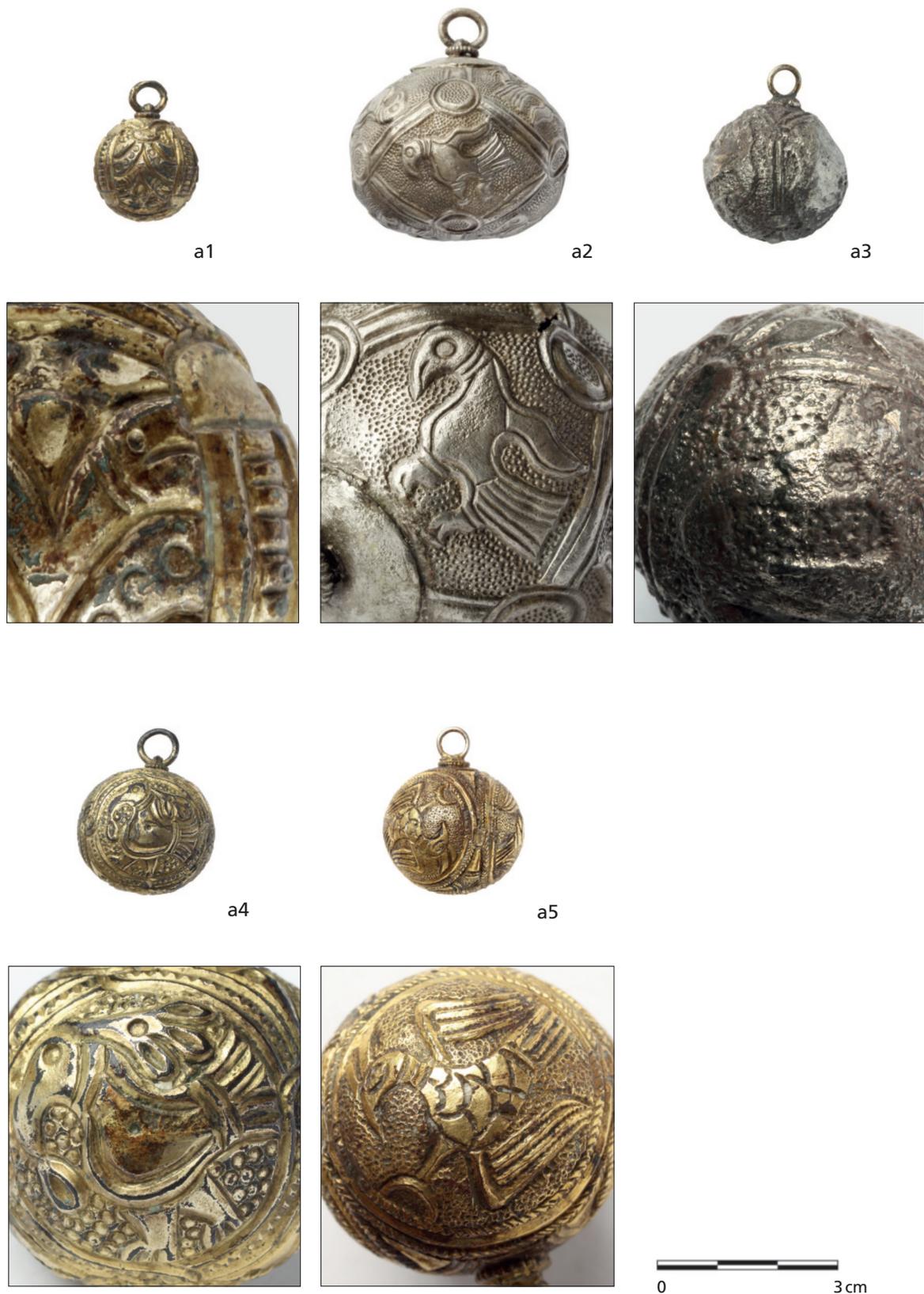


Fig. 6 Selected Great Moravian spherical hollow buttons (*gombíky*). Typological group of buttons with chased zoomorphic ornaments. – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno, Moravian Museum and Department of Archaeology and Museology, Masaryk university; graphics Z. Pavková. Sites: Břeclav-Pohansko [a5], Mikulčice [a1-a3] and Staré Město – Na Valách [a4]). – Scale 1:1.

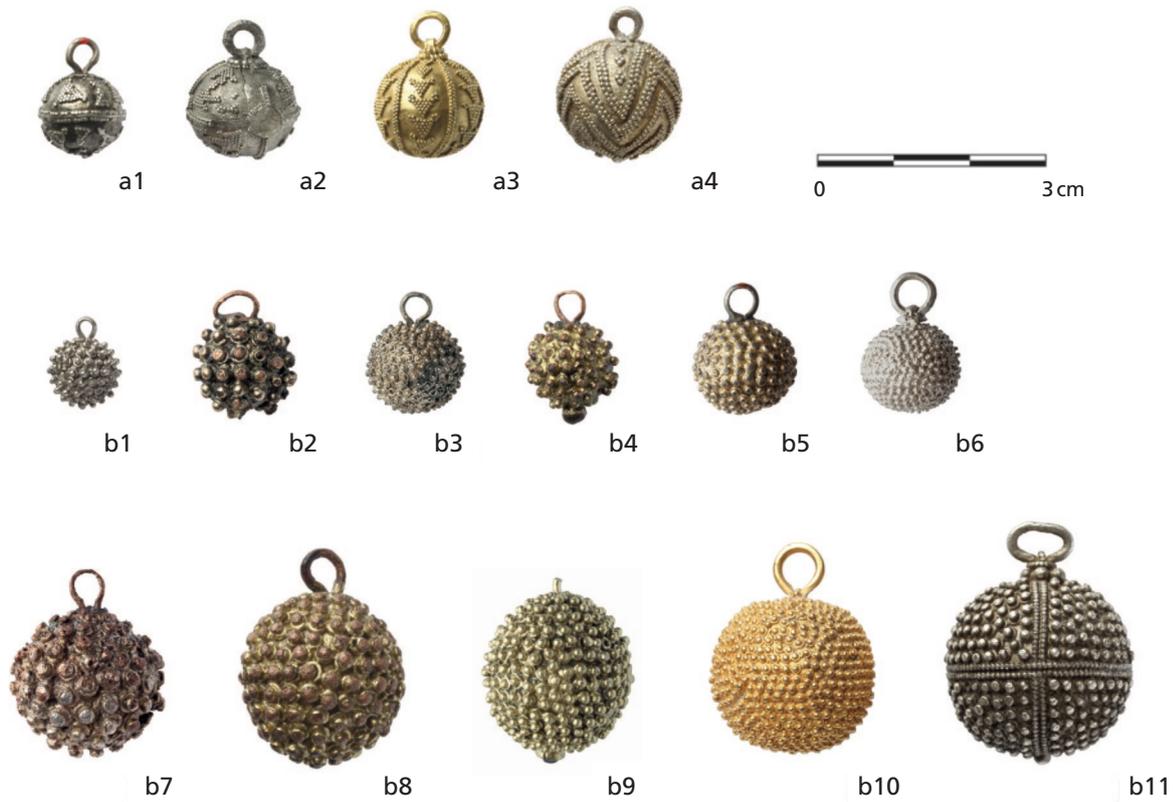


Fig. 7 Selected Great Moravian spherical hollow buttons (*gombiky*). Typological group of buttons with soldered decoration: **a** With poppy-seed granulation. – **b** With full-surface granulation. – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics Z. Pavková. Sites: Mikulčice [a1-a4, b1-b9, b11] and Staré Město – Na Valách [b10]). – Scale 1:1.



Fig. 8 Selected Great Moravian spherical hollow buttons (*gombiky*). Typological group of buttons with soldered decoration: **a** With filigree wires. – **b** With bosses. – **c** Two-layered buttons. – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics Z. Pavková. Sites: Mikulčice [a2, a4, b1-b5, c1, c2], Staré Město – Na Valách [a1] and Uherské Hradiště – Sady [a3]). – Scale 1:1.



Fig. 9 Selected Great Moravian spherical hollow buttons (gombíky). Other shape of buttons: **a** Polyhedral shaped. – **b** Pear shaped. – **c** Oval shaped. – (Photos J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics Z. Pavková. Sites: Mikulčice [a1-a6, b2, c1, c2] and Předmostí u Přerova [b1]). – Scale 1:1.



Fig. 10 Selected Great Moravian glass buttons: **a** Small glass buttons. – **b** Bound glass buttons. – (Photos J. Foltýn, Archives of the Moravian Museum and Department of Archaeology and Museology, Masaryk university; graphics Z. Pavková. Sites: Břeclav-Pohansko [a1, b2], Staré Město-Na Valách [b1]). – Scale 1:1.

Use and Importance

As their name suggests (*gombíky* means buttons), the Great Moravian hollow spherical buttons have been traditionally considered to be garment fasteners that attached different pieces of clothing⁸. There is exact proof of this. At the Great Moravian stronghold in Mikulčice, a pair of *gombíky* were found with knitwear eyelets corroded onto them, indicating they had been attached to a garment, along with eyelets sewn onto the corresponding textile through which the buttons had been fastened (fig. 11)⁹. It is thus evident that at least some of the Great Moravian *gombíky* were used as garment fasteners. The fact that *gombíky* were frequently found in graves near the collarbones of the deceased, mostly in pairs, supports this hypothesis. The natural conditions in Great Moravian graves, in which only small fragments of textiles that are secondarily attached to metal artefacts are usually preserved¹⁰, makes the evaluation of the garment designs difficult. It can be only assumed that some of the *gombíky* were used to fasten the necklines of tunics or other items of clothes, as is documented by early medieval finds from other regions, such as Egypt, the Caucasus and Scandinavia¹¹.

However, other uses of *gombíky* cannot be ruled out, which is suggested by the find of buttons corroded onto necklace beads, which was discovered at a rural Great Moravian burial site in Dolní Věstonice. In this case, the buttons were obviously a decorative part of the necklace. These are not typical hollow spherical buttons, but specimens of a simpler type made from copper alloy and glass (fig. 12)¹². Other similar finds are described by V. Hrubý for the Staré Město-Na Valách site, where in some cases the buttons could also be part of the necklaces¹³. There are no documented cases of sewing *gombík*-like pendants onto garment hems, decorative stripes or chains affixed to headwear, headdresses and crowns. This use is only documented in Byzantine iconography¹⁴. The analogies might also be relevant for the material from Great Moravia¹⁵. Another interpretation based on Byzantine analogies is the use of buttons as appliques on the garment hem¹⁶.

In any case, hollow spherical buttons play a specific role in the Great Moravian material culture due to the number of excavated specimens and the elite context of these finds. Over 600 hollow buttons dated to the Great Moravian era are

known¹⁷, mainly from central cemeteries, where they were often found in richly equipped graves. The percentage of graves with buttons varies between 6 and 15% at the central cemeteries¹⁸. Only a few graves with spherical hollow buttons were excavated in the hinterland of strongholds or rural areas, although the number of glass buttons excavated there was larger¹⁹. It is clear that the occurrence of hollow spherical metal buttons coincides with the presence of the Moravian elite, thus they can be categorised as elite artefacts. Moreover, these buttons are often found together with other elite artefacts, such as precious metal earrings and other jewellery, spurs with fittings and weapons.

As for the age and sex of the deceased next to whom the buttons were found, they are mostly girls – more precisely, the buttons are mostly discovered in children's graves together with other grave goods that are typically related to female burials. The second most frequent occurrence was in adult female burials, although they also occurred in smaller numbers in graves of adult males and boys. The lesser numbers in the graves of boys could be also related to a methodological problem. The archaeological interpretation of gender differences in the funerary display of children's graves is challenging, as the male gender is conclusively indicated only rarely by accompanying finds such as spurs or weapons²⁰, which are typically associated with male burials. A higher proportion of adult men with *gombíky* appears at the central elite burial grounds, which can be interpreted as a social and chronological indicator²¹. Considering that some of the buttons contained a metal ball and made bell-like sound, the high occurrence in children's graves might hint to an apotropaic function. This is the usual interpretation of the finds of rattles, whose largest concentrations occur in children's graves²².

Early Medieval Buttons: Europe and Asia²³

Bohemia

The nearest area, which is considered a cultural follower of Great Moravia, is the Bohemian region. Similar material culture reflects the historically documented dependence and dynastic ties between both regions in the Great Moravian period, as well as after the fall of Great Moravia²⁴. This is

8 Interpretation first by Niederle, *Slovanské starožitnosti* 678. The term *gombíky* first by Eisner, *K dějinám*. The use of buttons is usually dated back to the High Middle Ages: e.g. Owen-Crocker et al., *Encyclopedia of Dress and Textiles* 106-107.

9 Krupičková et al., *Exact Evidences* 59-64.

10 E.g. Březinová, *Luxury Textiles* 340-343.

11 Thomas, *Medieval Egypt* 11-28. – Ierusalimskaja/Borkopp, *Von China nach Byzanz* 18. 20-21. 25. 39. 44. 46. – Arbman, *Birka I* pl. 93; Geijer, *Birka III* 143. 150 pl. 33.

12 Ungerman, *Dolní Věstonice* 131. – Krupičková et al., *Examples for Using gombíky* 93-97.

13 Hrubý, *Staré Město-Na Valách* 203. 262.

14 *Cat. Magdeburg 2001*, 490 (A. Bosselmann).

15 Hrubý, *Staré Město-Na Valách* 203.

16 Chorvátová, *K problému terminologie* 211-212.

17 Pavlovičová, *K vypovedacej schopnosti gombíka* 95.

18 Krupičková, *Gombíky from Mikulčice* tab. 38-40.

19 Krupičková, *Gombíky from Mikulčice* tab. 41.

20 Krupičková, *Gombíky from Mikulčice* 96.

21 For more, see Krupičková, *Gombíky from Mikulčice* 95-96.

22 Smetánka, *Archeologické etudy* 11-16. – Ungerman, *Amulety v dětských* 231.

23 For the traditional interpretation of the Great Moravian influences to other lands, see Dostál, *Vordringen* 361-416; reinterpreted recently by Ungerman, *Frühmittelalterliche Ohrringe* esp. 63. For an overview of early medieval button finds, see also Krupičková, *Unique Symbols* 299-301; Krupičková, *Gombíky from Mikulčice* 68-71.

24 Historical sources, e.g., in Kalhous, *Anatomy of a Duchy*. Archaeological context, e.g., in Boháčová/Profantová, *Bohemia and Great Moravia*.

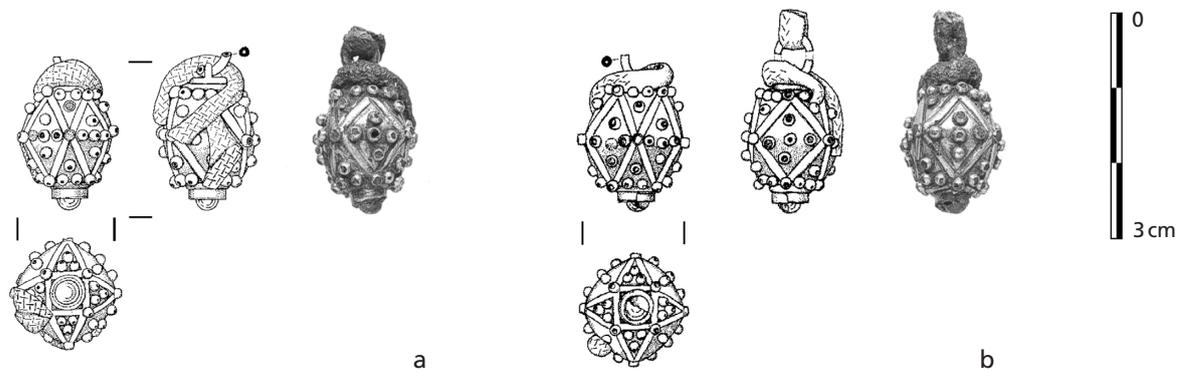


Fig. 11 A pair of spherical hollow buttons with corroded-on knitwear eyelets. Mikulčice, Church 3, grave no. 498. – (Photos Archive of the Czech Academy of Sciences, Institute of Archaeology, Brno; drawing after Klanica et al., Mikulčice Basilika 264; graphics L. Zahradníková). – Scale 1:1.

also the case of spherical hollow buttons finds: we know of more than one hundred specimens from Bohemia²⁵, including those made with chasing. In both regions, we have evidence of similar manufacturing processes and decorations, however, recent research has shown a different technological and motif-specific group of *gombíky* from Bohemia that can be classified as products of the so-called »Prague workshop«²⁶. They show a remarkable material diversity between *gombíky* from the Moravian and Bohemian central strongholds Mikulčice and Prague Castle; in Mikulčice, the alloys often contain a higher amount of gold, which could be a chronological aspect²⁷.

Frankish Empire, North and East Europe

Garment fastenings in the Early Middle Ages drew on the traditional use of fibulae that had been known in Europe since the Bronze Age and were used in a number of variants in the Roman Era and the Migration Period. This is the direction taken by the development of garment fastening in western and northern Europe²⁸. Fasteners that are typologically close to buttons with loops occurred, for instance, in Birka (Sweden) in grave 1074, but there they were linked with the burial of an individual dressed in a caftan, which points to contact with the area of Central Asia²⁹. In the Frankish Empire, hollow spherical pendants/buttons with a chased decoration were apparently rare. Only one pair is known to me from Matzhausen (Bavaria) and this has an atypical design



Fig. 12 Spherical hollow buttons used as a decorative part of the necklace. Dolní Věstonice, grave no. 485/49. – (Photo Archive of the Czech Academy of Sciences, Institute of Archaeology, Brno; graphics L. Zahradníková). – Scale 1:1.

25 E. g. Profantová, Klecany 198-99; Krupičková, Gombíky from Mikulčice tab. 43.
26 Krupičková, Gombíky from Mikulčice 77-81.
27 More about this research in Ottenwelter et al., Technological characterisation.

28 See Kleemann, Grabfunde 94-99; Martin, Schmuck und Tracht 40-50. 56-57; Martin, Early Merovingian 226-230.
29 Arbman, Birka I pl. 93. – Geijer, Birka III 143. 150 pl. 33.

with stylised human(?) faces³⁰. In contrast, pendants and beads, with a similar appearance to the Moravian buttons made with similar technologies and decorated with soldered components such as granulation and filigree, were found in the context of north-eastern and eastern Europe («hacksilver» hoard horizon in Poland and finds from Russia and Ukraine)³¹. However, these artefacts are dated to later periods.

Croatia, Romania, Bulgaria and Hungary

Early medieval buttons/pendants have not been found regularly to the west and north-west of Great Moravia. However, similar in shape and technology to finds excavated in east/north-east Europe date as late as post-Great Moravian times. A slightly different picture is presented by archaeological finds from the territories south of the Great Moravian borders, for example, in Hungarian Pannonia, Croatia, Romania and Bulgaria, where buttons that are sometimes similar to the »Great Moravian style« have been excavated.

The finds of hollow buttons from what is today Croatia are often discussed in the literature. Twelve types have been published, especially those excavated from graves dated to between the eighth and eleventh centuries. Buttons from Trilj and Brestovac are possibly among the oldest. Later button types from Croatia are more prolonged and egg-shaped³², tending to resemble pendants with loose loops from the Preslav Treasure that were iconographically pictured as sewn-on elements of Byzantine garments³³. It should also be mentioned that there are no hollow spherical buttons with chased ornaments among the published Croatian finds. If decorated at all, they feature solely granulation, filigree or glass inlays.

The situation in Romania is well mapped from the tenth century, when small spherical or mushroom-shaped buttons became fashionable³⁴. Exceptionally, *gombik*-like pendants dated as early as the ninth century have been published, such as those with enamel applications from the Alba Iulia site that are described below³⁵.

Recently, many buttons/pendants have been found in Bulgaria independently of the Preslav Treasure. They include hollow sheet-metal buttons with two hemispheres soldered together, with a loop, or small cast types. Bulgarian finds tend to be undecorated or decorated with a simple engraved geometrical design, which is only exceptionally made using other techniques. A wealth of examples was discovered during excavations at the Pliska burial site³⁶.

Large numbers of buttons were found in the Carpathian Basin. Hungarian researchers have thought that their roots date back to the eighth century and that they can be related to the Avar culture, and the steppe culture in general. However, their occurrence is quite exceptional in Avar graves. Only a few pieces of small, undecorated buttons or glass types were found³⁷ there. It was only some decades later, in the second part of the ninth century, that large, spherical hollow buttons started to appear in the Carpathian Basin as well. Apart from Great Moravia and Bohemia, this is the only area with finds of large spherical hollow buttons with chased decoration. They were found there in the context of the Slavic population, mainly in the Priwina and Chezil (Kocel) Mosapurc (Blatnograd) area (today Zalavár in Hungary)³⁸. Their occurrence can be related to close ties between the local ruling class and the milieu of Great Moravia. Another group of such Pannonian buttons found in the Old Hungarian context dates back to the tenth century. It is assumed that they were taken there from the Great Moravian area as spoils of war or by trade³⁹. A large amount of small cast spherical or mushroom-shaped buttons comes from Old Hungarian graves. Those buttons seems to have been a regular part of some types of garments of Asian origin⁴⁰.

Byzantine Empire

The typology of buttons found in the territory of the Byzantine Empire was studied by R. M. Harrison's team on the basis of the finds from Saraçhane in Istanbul. Team member M. V. Gill classified the metal buttons into three basic categories based on their shape. In terms of technology, they were hollow artefacts made from two hemispheres soldered together and fitted with a loop. Most of them were undecorated, while only two examples were made with engraved reliefs in the form of radiating lines, straight lines and petals. All the buttons excavated were small bronze specimens, about 1 cm in diameter, with only a few pieces up to 1.7 cm in diameter. Interestingly, one of the buttons had a bronze pellet inside, similar to some finds from Great Moravia. It would be difficult to agree on a date for these clothing fasteners found in the long-inhabited area of the town: the oldest was found in a grave dated to the sixth century, and the youngest dates to the High Middle Ages⁴¹.

Similar buttons were discovered in the Turkish site of Sardis, which were described by J. C. Waldbaum who used the imprecise term »biconical beads«. He dated them as late as

30 Stroh, Die Reihengräber 30 pl. 1, 1-2, recently Hasil et al., Dubious Early 1-13.

31 E. g., Nezdovo: Puškina, Puť iz varyag 49; Rjabceva, Contacts 174-175 fig. 2, 18, 20.

32 Petríneć, Gräberfelder 160, 294. – Sokol, Medieval Jewelry fig. 10. – Bühler, »Schatz« von Brestovac 24-25, 191-192.

33 See Bosselmann-Ruickbie, Byzantinischer Schmuck 28.

34 Oța, Medieval Banat 142 fig. 19 (except for no. 25 that comes from the tenth and eleventh centuries).

35 Ciugudean, Necropoli de la Alba Iulia 28-29 nos 23, 25.

36 Važarova, Bogatoje pograbenije 305 figs 1-2 (more buttons fig. 6); Henning, Pliska 694-695, 697-698 pl. 16, 18. Summary in Važarova, Slavjani i Prbulgari (e. g., figs 122, 127, 129, 142, 149, 164-165).

37 Szóke, Das birituelle Gräberfeld 100.

38 E. g., Szóke, Mosaburg/Zalavár 35-43 esp. 38. More detailed overview in Krupičková, Gombiky from Mikulčice 81-83.

39 Mesterházy, Nagymorva díszgombok 211-227.

40 Réka, Fülesgombok tipokronológiája 153-175.

41 Gill, Small Finds 263-264 pl. 397.

the period after 1000, some of them even to the Late Byzantine/Turkish periods⁴². These also are small specimens made of copper alloys with a diameter of c. 1 cm. Other similar finds of buttons/pendants come from the Byzantine trading stations in Crimea, e. g., former Sugdaia (today Sudak, Ukraine). However, dating these finds is again considerably vague – from the ninth to the thirteenth centuries. It is interesting that those pieces were often used as pendants in necklaces⁴³. The undecorated metal or glass pieces known from Great Moravian non-elite strata were used in the same way⁴⁴.

A gold button with vertical ribbing discovered in the area of Thessaloniki is one of the few decorated buttons made of precious metal to have been published. The occurrence of buttons was summed up in A. C. Antonaras's article on Middle Byzantine jewellery from this region: »Although buttons are known from earlier centuries, it appears that they were not very widespread, at least not the metal ones«. The author also mentioned that fibulae gave way to buttons during the Middle Byzantine era⁴⁵.

Disc-shaped bone buttons might have been used in Byzantium at the same time⁴⁶, while textile-covered buttons with an organic core and a loop were seemingly an interesting alternative⁴⁷. Excavations in the territory of Byzantium-period Egypt, where a textile-covered button was discovered, yielded many pieces of well-preserved clothing, allowing a detailed examination of their designs. The tunics found there have different cuts that sometimes require small button-like fasteners. In some cases, clamps attached to the garments were preserved, while their counterparts are often missing. Small buttons and clamps were placed in the neckline area, often asymmetrically on the side on a single part of the garment⁴⁸.

Caucasus, Central Asia and Other Asian Regions

Analogies to the buttons dealt with in this study can be found in Asian countries. The North Caucasus is yet another centre of well-preserved medieval textiles. Excavations at the Moshchevaya Balka burial site yielded 132 pieces of textile, which are now part of the Hermitage collection. Some pieces of silk textile from north-east Persian workshops, known as Sogdiana silk, included well-preserved fasteners. According to the published images, these were mainly textile buttons with loops that were run through clamps on the fastened part of the garment, as well as small copper-alloy buttons⁴⁹. As to their design, these finds were usually narrow caftans with more buttons along the torso down to the waist. This

is a typical Asian garment type, widespread from the Near East to China. The cut with a close-fitting upper part and wide »skirt« was adapted for horseback riding. The dating of this garment type goes back to Parni and Sasanian times⁵⁰. The early medieval fashion is represented by a wide range of caftans with front or left/right-sided fastening, sometimes hidden under the fabric. The small buttons were used as fasteners and they were made from different materials – fabric coated over a solid core, textile knots or simple undecorated metal buttons⁵¹.

Comparison of the Preslav Treasure and the Great Moravian Finds

Among the pendants/buttons discovered in Veliki Preslav that have typological/technological equivalents in Great Moravian finds, are two large gold items decorated with enamel, two spherical gold pendants with full-surface granulation on rings, an egg-shaped pendant with full-surface granulation with a threaded pearl on the lower hemisphere, and three small, undecorated gold buttons (fig. 13). The other three oval pendants from the Preslav Treasure, which have loops attached by a hinge-like mechanism, differ in both shape and technique and could not have served as garment fasteners, which is why they were not included in the category described below.

The two largest pendants/buttons from the Preslav Treasure are unique due to their decorative technique. While their construction is made by the standard method of two soldered hemispheres, one of which is crowned by a collar with split loop and filigree ring, the *cloisonné* enamel is unprecedented in *gombiky*. The only other published find of an enamel button/pendant was discovered in the cemetery of Stația de Salvare in the former ancient metropolis of the province of Dacia⁵², now Alba Iulia in central Romania. It is a rather small spherical *gombik* (1.2 cm in diameter), decorated with circular enamel applications on the surface, which is otherwise undecorated. It is dated approximately to the ninth century⁵³. None of the Great Moravian *gombiky* are decorated with enamel; generally, artefacts decorated with enamel have only rarely been found in Great Moravian sites and are considered to be imports⁵⁴. It is the manufacturing technology and shape mentioned above that links the Preslav finds to the Great Moravian artefacts. The Great Moravian *gombiky* with vertical ribbing (sometimes referred to as melon-shaped buttons) are typologically closest to those from the Preslav

42 Waldbaum, Metalwork from Sardis 126 pl. 46.

43 Majko, Nekropoli Sudakskoi doliny 125-144.

44 Krupičková et al., Exact Evidences 64-69.

45 Antonaras, Byzantine Jewellery 121. 124 fig. 3.

46 Gill, The Small Finds 262-263. – Antonaras, Byzantine Jewellery 124. – Ierusalimskaja/Borkopp, Von China nach Byzanz 50.

47 Aben, Een koptisch kinderjurke 12-13.

48 Thomas, Medieval Egypt 9-27 fig. 16. – Thomas, Designing Identity figs 2-4.1; 2-5.5.

49 Ierusalimskaja/Borkopp, Von China nach Byzanz 18. 20-21. 25. 39. 44. 46.

50 Ierusalimskaja, Cafetans aux Simourghs 203-210.

51 Ierusalimskaja, Cafetans aux Simourghs 203-210. – Peck, Clothing in Sasanian 739-752. – Peck, Clothing in Persia 760-778.

52 L. Niederle mentions findings of enamel buttons from Kievan Rus' in evidence of N. P. Kondakov, see Niederle, Slovanské starožitnosti 679.

53 Ciugudean, Necropoli de la Alba Iulia 28. 117.

54 See the parts of the iron knife found in Staré Město-Na Valách: Kouřil, Great Moravia 379; Hrubý, Staré Město-Na Valách 174.



Fig. 13 Spherical hollow buttons/pendants from Preslav Treasure. – (Photos S. Steidl, LEIZA; graphics L. Zahradníková). – Scale 1:1.



Fig. 14 Hollow spherical buttons with vertical ribbing: **a** Preslav Treasure. – **b** Staré Město-Na Valách. – **c** Uherské Hradiště-Sady. – (Photos a S. Steidl, LEIZA, b-c J. Foltýn, Czech Academy of Sciences, Institute of Archaeology, Brno and the Moravian Museum; graphics L. Zahradníková). – Scale 1:1.



Fig. 15 Hollow spherical buttons with full-surface granulation: **a** Preslav Treasure. – **b** Mikulčice. – **c** Staré Město. – (Photos a S. Steidl, LEIZA, b-c J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics L. Zahradníková). – Scale 1:1.

Treasure (fig. 14). A total of eleven gold pieces were discovered at central Great Moravian sites. Other examples of a similar shape were made of gilded silver, gilded copper alloy and non-gilded copper alloy, which makes the total number of artefacts of this type 36⁵⁵.

The Preslav Treasure also contained two hollow spherical buttons fully covered with granulation. Each of the individual granules were embedded in metal rings. Their shape and the technology used to make these small gold artefacts

are identical to a number of Great Moravian finds (fig. 15). However, a different material dominated the production in Great Moravia. While only four Great Moravian buttons were made of gold, over forty of them, fully granulated, were made of silver that was sometimes gilded. The collection is then completed with pieces made from gilded copper alloy. A total of 60 Great Moravian *gombíky* of this type have been published. This number includes special examples that are similar to another hollow spherical button excavated in

55 Total numbers of published *gombíky* from Moravia and Slovakia are based on Krupičková, *Gombíky from Mikulčice* tab. 38-42.

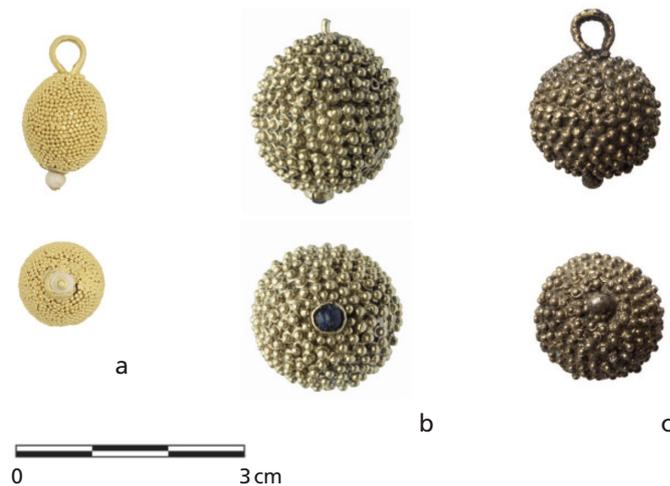


Fig. 16 Hollow spherical buttons with full-surface granulation and decorated apex opposite the loop: **a** Preslav Treasure. – **b** Mikulčice. – **c** Uherské Hradiště – Sady. – (Photos a S. Steidl, LEIZA, b-c J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics L. Zahradníková). – Scale 1:1.

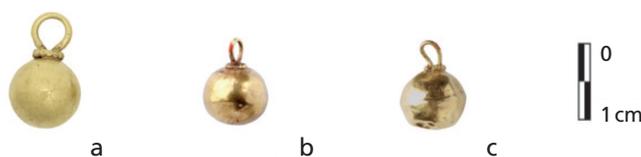


Fig. 17 Undecorated hollow spherical buttons: **a** Preslav Treasure. – **b-c** Mikulčice. – (Photos a S. Steidl, LEIZA, b-c J. Foltýn, Archives of the Czech Academy of Sciences, Institute of Archaeology, Brno and Moravian Museum; graphics L. Zahradníková). – Scale 1:1.

Preslav: a slightly egg-shaped artefact with a pearl at the apex opposite the loop (fig. 16). The use of pearls has not been documented in Great Moravian *gombíky*, but there are cases where the pole opposite the loop was accentuated by a glass inlay (Mikulčice) or a massive central granule (Uherské Hradiště – Sady or Přerov-Předmostí). However, while the pearl on the Preslav piece was threaded on a wire, the Great Moravian glass inlays were inserted into a metal sleeve and the massive central granules were soldered onto the background. Another important difference is that the button/pendant from Preslav Treasure was made using a specialised technique for applying the granulation. The granulation fully covers the surface, yet the individual granules are not embedded on wire rings. Every granule was soldered directly to the background of the artefact. This is again something unknown among Moravian finds. The only published analogy was found in above mentioned Zalavár region in Carpathian Basin⁵⁶.

The last type of hollow spherical buttons associated with the Preslav Treasure are small buttons made of undecorated sheet gold (fig. 17). They also have counterparts in Great Moravian finds – the 46 published artefacts were made using

the same technology for soldered hemispheres. About quarter of the items also were made from gold, while the remaining three quarters were identified as copper alloy, most of them gilded. Apart from those, rare cast buttons that are visually similar have been published⁵⁷.

Conclusion

The present study describes the parallels between pendants/buttons from the Preslav Treasure and the so-called *gombíky* from ninth-century Great Moravia. It is clear that these artefacts are closely related on many levels: both groups show an identical production technique using components of the same shape, the same type of fixed attachment system (split loop, ring), and sometimes also very similar granulation and filigree technologies. However, in the Bulgarian finds, it is possible to observe decoration techniques that are not typical of the Great Moravian milieu: *cloisonné* enamel and the use of pearls. In contrast, Great Moravia yielded a much wider typological range of buttons, as evidenced by hundreds of finds, many of which are unknown in Preslav.

56 A pair of silver *gombíky* with full-surface granulation without background rings comes from grave 123 in Zalasabár, Borjúállás (former island in the river Zála near Zalavár, the remains of a nobleman's court with a wooden church

building were discovered there; unpublished find – see Krupičková, *Gombíky* from Mikulčice tab. 44, footnote 185).

57 Krupičková, *Gombíky* from Mikulčice 22-23.

The search for similar artefacts in other areas has provided evidence that hollow hammered pendants and buttons with two hemispheres soldered together and fitted with a loop were generally widespread in early medieval Europe from the Byzantine Empire through the Balkans to Central Europe. Undecorated items, as well as some of the decorated pendants/buttons, were found throughout the aforementioned area. Jewellery decoration techniques used in the wide area include granulation, filigree and chasing the surface into vertical ribs of varying width. Enamel and inlaid pearls were exceptions in the Balkans, as the Preslav examples show. In contrast, the decorative surface chasing of the buttons or pendants is unique for Great Moravia and regions of its cultural influence⁵⁸.

The concentration of *gombiky* finds in the Great Moravian territory is unusual. Excavations in this small Central European territory unearthed more hollow spherical buttons than in all the other areas taken together. This can be linked with the sumptuousness of the Great Moravian burial rite, at least compared to trends in the Byzantine Empire and the Frankish Empire, where the need to demonstrate social status in this way had diminished. In Great Moravia, *gombiky* had become a status symbol and, as such, they likely became widely used objects that underwent significant innovation. Based on the research presented here, we can even study quite complicated social transformations, although the time of Great Moravian prosperity was relatively short, as was the heyday of *gombiky* fashion⁵⁹.

For the Preslav items, the Byzantine Empire appears to have been the main influence, especially concerning the use of production techniques foreign in Central Europe. The large pieces from the Preslav Treasure, decorated with enamel and ribbing, is exceptionally close to one of the Great Moravian types of *gombiky*. This phenomenon is interpreted as evidence of the import of ribbed buttons to Great Moravia from the Byzantine sphere⁶⁰. This theory can be supported by another find, a densely ribbed golden button from the Byzantine Thessaloniki region⁶¹. A more detailed study of the spherical pendants/buttons found in the Byzantine territory might help to make these conclusions more precise. But it is evident that Byzantine elite fashion provides us with analogies: decorated pendants used as sewn appliques on garments, although these typically have an elongated oval shape and are known as *pendilia*⁶².

The question remains how the hollow chased buttons are related to the occurrence of small spherical or mushroom-shaped buttons that were mainly cast⁶³. The small and less often decorated specimens are known from the fitted caftans that were narrow around the body and wider around the hips⁶⁴. In order to open and close the tight-fitting top part, buttons were essential. Caftans with a central or left/right fastening⁶⁵ are connected to the Asian style of clothing, thus this dress type could mark the origin of the buttons with a loop. This style probably made its way to Europe, the Byzantine Empire and Coptic Egypt by means of trade contact linked to the silk trade (which included the inspiration for cloth designs), and the migration of nomadic ethnic groups. For example, remnants of caftans from several Scandinavian graves were interpreted as the garments of Varangian merchants trading along the Silk Route and with the Byzantine Empire⁶⁶. A common occurrence of different types of cast buttons in Old Hungarian graves represents the further possibility of spreading Asian fashion to Central Europe with newly arriving ethnic groups.

Based on the current state of knowledge, we can conclude that the occurrence of spherical buttons in the Central European region is a result of cultural trends coming from the Byzantine Empire and Asia. These influences led to the emergence of Great Moravian *gombiky* in their specific use, shape, size, decoration and production technology. The combination of undecorated »Asian« spherical hollow buttons, Byzantine *pendilia* with filigree and granulation, and the knowledge of the chasing technique using motifs popular at that time are the main inspiration sources for *gombiky* production. In this sense, the proximity between the Moravian *gombiky* and the Byzantine Preslav Treasure is not a coincidence, but evidence of intensive supraregional contact among the early medieval elites.

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58 I. e., the Carpathian Basin, further isolated finds from Ptuj/Slovenia (Korošec, Nekropola na ptujskem 115 pls 35. 37); Matzhausen/Bavaria (Stroh, Die Reihengräber 30 pls 1, 1-2, recently Hasil et al., Dubious Early 1-13); Dolni Lukovit/Bulgaria (Važarova, Slavjani i Prbulgari 208-209).

59 Krupičková, *Gombiky* from Mikulčice 95-97.

60 Galuška, Uherské Hradiště-Sady 100; Profantová, *Byzantské nálezy* 93-96.

61 Antonaras, *Byzantine Jewellery* 121. 124 fig. 3.

62 Bosselmann-Ruickbie, *Byzantinischer Schmuck* 24-25.

63 Detailed typology of Old Hungarian finds published in Réka, Fülesgombok tipokronológiája 153-175; see also Krupičková, *Gombiky* from Mikulčice 22-23.

64 Ierusalimskaja/Borkopp, Von China nach Byzanz 18-21. – Geijer, *Birka* III 149-150.

65 Ierusalimskaja, Cafetans aux Simourghs 203-210. – Peck, *Clothing in Persia* 760-778.

66 Birka: Arbman, *Birka* I pl. 93; Geijer, *Birka* III 143. 150 pl. 33. – Silk trade and Vikings: Vedeler, *Silk for the Vikings*, e. g., 23-47. 67-80.

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Summary / Zusammenfassung / Résumé

Where Did the Spherical Hollow Buttons Come From? Comparing Great Moravian *Gombiky* with Examples from the Preslav Treasure

The study discusses a possible connection between spherical hollow buttons with a loop called *gombiky* (ninth-century Great Moravian elite artefacts) and similar finds that were part of the Preslav Treasure, dating to the era of the First Bulgarian Empire in the tenth century. The typology of these gold garment parts in the Preslav Treasure is discussed, especially the pendants with enamel and those with an all-over granulation decoration, but also undecorated specimens, which all testify to a high technological standard. These artefacts show close analogies to the Moravian material, although differing in technological details. Finds from both Preslav and Moravia were placed in a broader context of buttons and button-like pendants from Europe and Asia. For these comparisons, the focus lay on the technology of the artefacts, i. e., the production and decoration methods. As a result, we can determine that the artefacts from Preslav and those from Moravia are part of wider cultural phenomenon of spherical garment parts with clamps, with varying fasteners, pendants and decorative appliques. The trend of *gombiky* is likely to have originated in Asia and the Byzantine Empire.

Woher stammen die kugelförmigen hohlen Knöpfe? Ein Vergleich der großmährischen *Gombiky* mit Exemplaren aus dem Preslav-Schatz

In der Studie wird ein möglicher Zusammenhang diskutiert zwischen kugelförmigen hohlen Knöpfen mit einer Öse, den so genannten *gombiky* (großmährische Eliteobjekte des 9. Jahrhunderts), und ähnlichen Funden aus dem Preslav-Schatz aus der Zeit des Ersten Bulgarischen Reiches im 10. Jahrhundert. Die Typologie dieser goldenen Gewandteile aus dem Preslav-Schatz wird erörtert, insbesondere der Anhänger mit Email und derjenigen mit einem vollflächigen Granulationsdekor, aber auch der undekorierten Exemplare, die allesamt von einem hohen technologischen Standard zeugen. Diese Artefakte weisen enge Parallelen zum mährischen Material auf, unterscheiden sich jedoch in technologischen Details. Die Funde aus Preslav und Mähren wurden in einen breiteren Kontext von Knöpfen und knopfähnlichen Anhängern aus Europa und Asien gestellt. Bei diesen Vergleichen lag der Schwerpunkt auf der Technologie der Artefakte, d. h. auf die Herstellungs- und Verzierungsverfahren. Eine Schlussfolgerung ist, dass die Artefakte aus Preslav und die aus Mähren Teil eines breiteren kulturellen Phänomens von kugelförmigen Gewandteilen mit Klammern sind, die in Verschlüssen, Anhängern und dekorativen Applikationen variieren. Die Entwicklung der *gombiky* nahm vermutlich in Asien und im Byzantinischen Reich ihren Anfang.

D'où viennent les boutons sphériques creux? Comparaison entre les *gombíky* de Grande Moravie et des exemples du trésor de Preslav

Cette étude examine un lien possible entre les boutons creux sphériques avec boucle appelés *gombíky* (objets élitaires de la Grande Moravie du IX^e siècle) et des objets similaires qui faisaient partie du trésor de Preslav, datant de l'époque du Premier Empire bulgare au X^e siècle. La typologie de ces pièces de vêtement en or du trésor de Preslav, en particulier les pendentifs avec émail et les pendentifs à décor granulé, mais aussi des objets non décorés, témoignent tous d'un haut niveau technologique. Ces objets présentent de fortes analogies avec le matériel morave, bien qu'ils diffèrent par des détails technologiques. Les trouvailles provenant de Preslav et de Moravie ont été confrontées à un corpus plus large de boutons et de pendentifs en forme de bouton provenant d'Europe et d'Asie. Pour ces comparaisons, l'accent a été mis sur la technologie des artefacts, c'est-à-dire sur les méthodes de production et de décoration. En conséquence, nous pouvons déterminer que les objets de Preslav et ceux de Moravie font partie d'un ensemble culturel plus large de pièces vestimentaires sphériques avec des pinces, des attaches diverses, des pendentifs et des appliques décoratives. Le développement des *gombíky* aurait probablement commencé en Asie et dans l'Empire byzantin.

Mediterranean Roots of Great Moravian Luxury Jewellery

Inhumation burial grounds from the Great Moravian period contain a wide range of finds, including female jewellery in gold or silver, decorated with granulation, filigree, glass inlays, etc. This is mostly earrings of various types, spherical buttons (see the preceding contribution by Š. Krupičková) and finger rings, and, to a smaller extent, crescent pendants and sheet-metal beads for use in necklaces. The greatest number of such pieces was found in strongholds in the south-eastern part of present-day Moravia, situated at the core of the ninth-century Great Moravian empire¹.

Great Moravian luxury jewellery has attracted the attention of several generations of Czech and Slovak archaeologists, who have addressed various aspects of this issue. This essay focuses mainly on its origin by giving a brief outline of the development of related research. However, let me first present the current state of the Great Moravian chronology as it appears based on luxury jewellery, because the way a particular type was designed is closely related to the time of its creation. The core of this text discusses the creation or adoption of selected types of earrings and finger rings as is now recognised on the basis of analogous jewellery found by archaeological research in Southern and South-Eastern Europe. In line with the title of this contribution, I attempt to prove that most of the analysed Great Moravian types show an unmistakable relation to the jewellery of the Mediterranean region, or are more specifically of Byzantine origin.

Chronology

V. Hrubý created the basis of the chronology of the Great Moravian luxury jewellery in his analysis of the burial ground in Staré Město – Na valách (south-eastern Moravia). He dated the occurrence of the vast majority of types of earrings, spherical buttons and finger rings to the end of the ninth century and the first half of the tenth century (fig. 1 above). He was influenced among other things by (at that

time) prevailing opinion on the dating of given types to the tenth and eleventh centuries. His dating therefore represents a significant chronological shift, placing the occurrence of the jewellery further back in time. It was only simple earrings with a grape pendant (fig. 1 down) that he dated to the first half of the ninth century as he knew their analogies from Late Avar cemeteries². The chronology by V. Hrubý was taken over without any significant changes by B. Dostál, the author of a very influential monograph on Moravian cemeteries from the ninth and tenth centuries³. It was he who suggested the need to re-evaluate this »traditional« Great Moravian chronology after three decades of use. However, he meant mainly the upper limit of the occurrence of luxury jewellery, which probably ceased to be produced or worn after the fall of the Great Moravian Empire and its elites at the turn of the ninth and tenth centuries⁴. He did not further alter the dating of the introduction of such jewellery. However, L. Galuška suggested that the usage of several types of earrings and spherical buttons should be shifted back to the first half of the ninth century⁵. H. Chorvátová later drew attention to the discrepancies in Hrubý's descriptions of several archaeological contexts at the burial site in Staré Město – Na valách (namely the superposition of several graves above each other) and their chronological interpretations. Her work shows that the locality included graves that contained Great Moravian luxury jewellery superimposed or disturbed by several later graves, which, however, is not in accord with Hrubý's relatively late dating of the types in the stratigraphically oldest graves⁶. Inspired by Chorvátová's study, I have collected a relatively large group of jewellery types from the deepest graves at the burial site in question⁷, taking into account the fact that some of these types could have been used as early as the first half of the ninth century⁸. I have also listed graves that contained mosaic eye glass beads and other contemporary types of glass beads. These beads were imported from somewhere in the Middle East (probably Mesopotamia) and were used in both Moravia and the whole of Europe from

1 For more recent contributions concerning Great Moravia, see e.g. Kouřil, Great Moravia. – Kouřil et al., Cyril and Methodius. – Macháček/Wihoda, Fall of Great Moravia. – Poláček et al., Elites.

2 Hrubý, Staré Město 206-214. 228-246. 270-271. Concerning the contemporary context see Chorvátová, Prunkvoller Frauenschmuck, esp. 6-17.

3 Dostál, Pohřebišťe. This reference work has been published in 1966 and is, therefore, outdated, and requires a critical review, especially concerning dates and the conclusion drawn from it.

4 Dostál, Zur Datierungsfrage 84; similarly Staňa, Příspěvek 42.

5 Galuška, Sady 94-97. – Galuška, Possibility of Moving 275.

6 Chorvátová, K relativněj; in detail also Chorvátová, Prunkvoller Frauenschmuck 26-66.

7 Ungerman, Ženský 710-712 figs 1-2.

8 This period roughly corresponded to the so-called Blatnica-Mikulčice horizon in the past. However, this concept was facing a growing criticism, namely from the 1980s, and was ultimately rejected as a mere unproven hypothesis. For details see Ungerman, Horizont. – Robak, Origins.

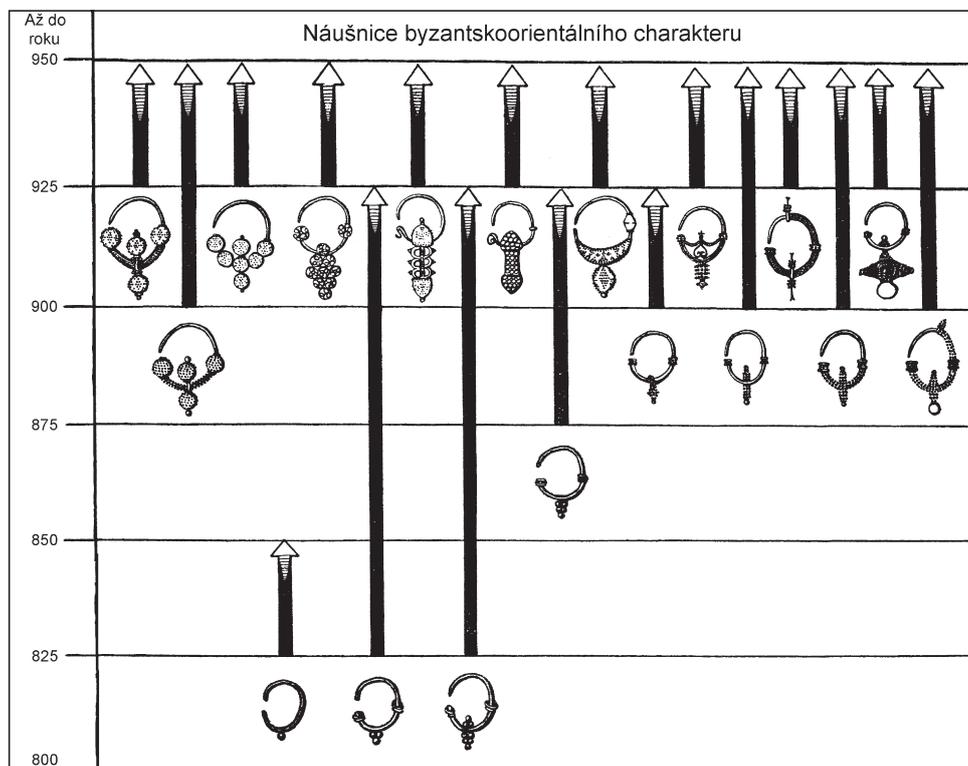


Fig. 1 V. Hrubý's conception of the development of Great Moravian luxury earrings. – (After Hrubý, *Staré Město* fig. 41, modified).

the second half of the eighth century to the beginning of the ninth century (although there are also some graves in which these beads were deposited significantly later)⁹. Due to their relatively early dating, these beads can be used as a starting point for the identification of the oldest Great Moravian female graves. It has become evident that some of these graves contained jewellery types not previously associated with the earlier Great Moravian period (approximately the first half of the ninth century), as current research had dated them to later phases¹⁰. Subsequent discussions resulted in a consensus regarding which types of earrings and spherical buttons from *Staré Město – Na valách* can be dated to the earlier Great Moravian period (fig. 2)¹¹. Of course, this does not rule out the possibility that more such types may appear in the future, be it from this locality or from different ones¹².

Attention has recently also been paid to the material culture of the end of the Great Moravian period. In this context, the recently excavated cemetery near the second church in the north-eastern outer bailey of the *Břeclav – Pohansko* stronghold plays a key role. On the basis of the radiocarbon dating of a set of local graves, Macháček et al. concluded that Great Moravian jewellery was worn there until the mid-tenth century and could even have been deposited in graves towards the end of this century¹³.

Opinions on the Origins of Great Moravian Jewellery

As early as the first half of the twentieth century, Czechoslovak researchers investigated the roots of Great Moravian luxury jewellery. At that time, it seemed improbable that jewellery decorated with such elaborate techniques as granulation and filigree had been made in Moravia. L. Niederle, who used to be the main authority on the topic, distinguished two places of origin: »Byzantine« and »Oriental«. He assumed that »Byzantine« jewellery – mainly earrings with grape pendants – was made in Constantinople or in the Eastern Mediterranean. More broadly, he associated this group with the use of gold and so-called coarse granulation and precious stones. In contrast, he included bead and basket bead earrings made from silver and decorated with finer (»poppy-seed«) granulation or filigree in the »Oriental« group. He assumed that they were made in Mesopotamia (eastern Syria and Iraq) and Turkestan – by which he probably meant what is today the territory of the Central Asian states east of the Caspian Sea¹⁴.

Under Niederle's influence, Hrubý denoted the gold and silver earrings found in *Staré Město – Na valách* as »earrings of Byzantine-Oriental character«. He hypothesised that most

9 Andrae, *Mosaikaugenperlen*. – Breibert, *Hügelgräberfeld von Wimm 405*. – Ungerman, *Ženský 722-729*. – Sode et al., *Beads 319*. – Šmit et al., *Analysis*. – Ruß, *Steyr 307-310*. – Nowotny, *Thunau 75-77*. – Neri et al., *Trade of Glass Beads* pl. 1.

10 Ungerman, *Ženský 718-741*. – Cf. Ungerman, *Frühmittelalterliche Ohrhinge 44-53*.

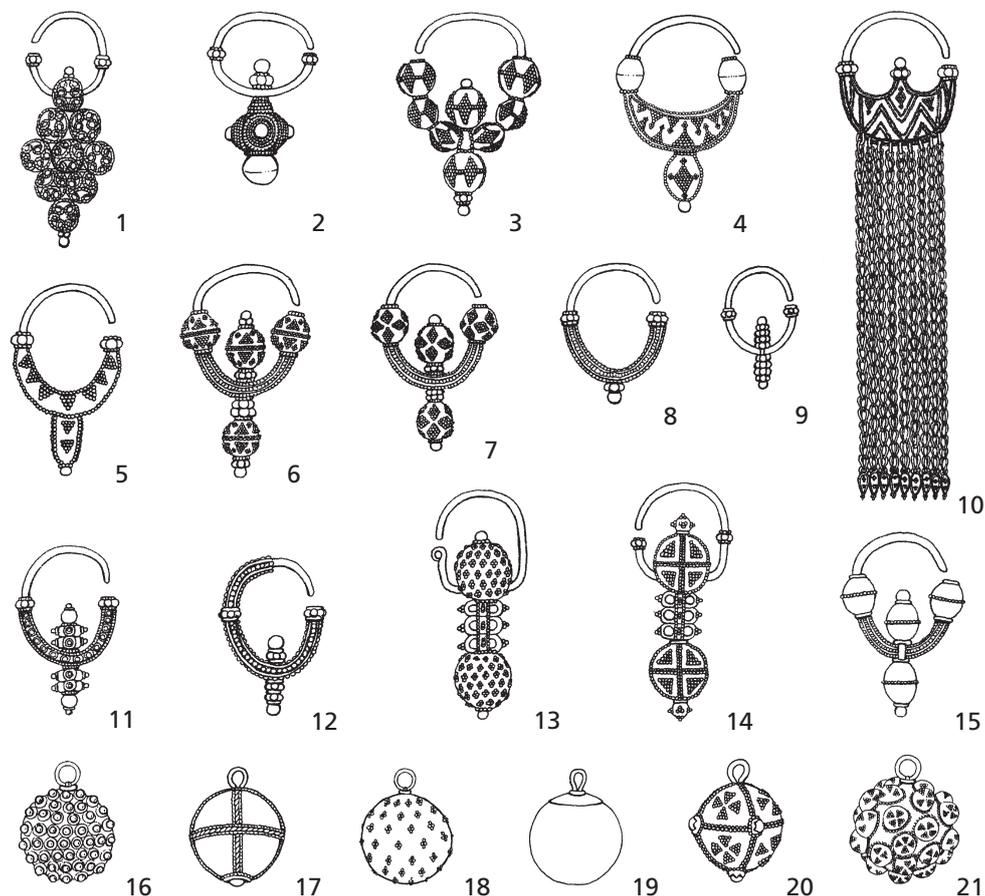
11 Chorvátová, *Horizonty*. – Galuška, *Hledání 224-241* figs 215-216. – Ungerman, *Prachtfingeringe 20-23*.

12 For the dating of finger rings see Ungerman, *Prachtfingeringe*, esp. 51-52.

13 Macháček et al., *Břeclav – Pohansko VII*. – Macháček et al., *Ende Großmährens*, esp. 341.

14 Niederle, *Byzantské*; Niederle, *Příspěvky*.

Fig. 2 Types of luxury jewellery of the earlier Great Moravian period in Staré Město – Na valách cemetery. – (After Galuška, Hledání figs 215-216, modified). – Not to scale.



of them were manufactured in local workshops, but he did not deem it probable that such jewellery was produced in Moravia entirely independently. Hrubý assumed an external impulse in the form of foreign goldsmiths who brought this art to Moravia¹⁵. In the second half of the twentieth century, there were no reliable Mediterranean or other analogies that could suggest where such foreign artisans originated. Therefore, the Czechoslovak researchers gradually arrived at the interpretation that the sumptuous Great Moravian jewellery was a local product that drew on the traditions of Late Antiquity. The elaborate decorative technologies necessary to create such jewellery were supposed to be brought to Great Moravia by goldsmiths from the Avar Khaganate, at the period of its downfall (i. e., at the turn of the eighth and ninth centuries)¹⁶. This shift in opinion was also reflected in terminology, since the term »Byzantine-Oriental jewellery« gradually ceased to be used and was replaced by the »Veligrad-type jewellery«¹⁷ which implies the notion of locally produced jewellery, specific to Great Moravia.

I do not think that the question of the origin of Great Moravian jewellery can be answered unambiguously because

various types could have had different origins. It is much more meaningful to try to answer such a question for individual types (defined as precisely as possible): this would provide us with a basis for more general conclusions. A spatial analysis of a given type carried out in the broadest geographical context possible should always serve as our main starting point. Here, we must take into account the considerable differences in the archaeological record and the varying states of research across different parts of Europe - factors that have largely been overlooked in previous scholarship¹⁸.

The Oldest Great Moravian Graves with Luxury Jewellery

In the discussion about the origin of various types of Great Moravian luxury jewellery, several rich female graves uncovered mainly in the Staré Město agglomeration are of key importance. Their grave goods included, among other things, several pairs of gold or silver earrings of unusual or unique shape that appeared in very limited numbers or not at all

15 Hrubý, Staré Město 228-246. 308-312.

16 Benda, Antické. – Turčan, K otázke; Štefanovičová, Byzantinische Elemente. – Štefanovičová, Kultur. – Štefanovičová, K vývoju. – Szóke, Mosaburg 38-41. – Galuška, Hledání, esp. 99-104. 252-253. – Galuška, Jewellery. – Ungerman, Prachtfingerringe 24-27. – Ungerman, Frühmittelalterliche Ohringe 61-64.

17 Named after Veligrad, the contemporary name of an Early Medieval settlement agglomeration in the territory of today's Staré Město and Uherské Hradiště (Dostál, Vordringen 363. – Cf. Galuška, Veligrad; Galuška, Staré Město 246).

18 Ungerman, Prachtfingerringe 27-30. – Ungerman, Frühmittelalterliche Ohringe, esp. 132-134. 145-147.



Fig. 3 Gold jewellery from grave no. 193/51 in Staré Město – Na valách. – (After Galuška, Hledání fig. 202). – Not to scale.

elsewhere in the territory of Great Moravia. Let us consider, e. g., grave no. 193/51 in Staré Město – Na valách (**fig. 3**)¹⁹, or grave no. 209/59 in Uherské Hradiště – Sady²⁰: researchers agree that these graves are among the very oldest inhumation burials known at the centre of Great Moravia (see above). These graves thus clearly indicate that when inhumation was introduced in Moravia around the turn of the eighth and ninth centuries, women belonging to the local elite already owned quite numerous and diverse sets of luxury jewellery. However, there may be more explanations of such a situation. The most recent one was suggested by L. Galuška. In his opinion, luxury jewellery from the oldest female graves appeared »quite suddenly« in the aforementioned period, as no such jewellery is known from eighth-century Moravia. He agrees with existing research that the birth of luxury jewellery was mostly influenced by craftsmen who arrived from the Carpathian Basin after the downfall of the Avar Khaganate. In his opinion, the Moravians took part in the Frankish campaigns against the Avars and thus earned a part of the war booty. This would explain the fact that the oldest Great Moravian graves contained so many pieces of gold jewellery; it seems »as if the goldsmiths were not really forced to economise on material, that is, mainly gold – as if they had been oversupplied with it«. The presence of unique or rare jewellery types in the graves under discussion was addressed by L. Galuška, who argued that »the producers were only searching for their style, using the method of trial and error, as if they worked by

instruction and at the request of their new lords (...), who at that time maybe did not yet really know what they wanted«²¹.

Individual aspects of the problem can be seen in a different light, though. I believe that the production of the jewellery found in the oldest Great Moravian graves did not start at the turn of the eighth and ninth centuries, but that such pieces were worn by Moravian women as early as the eighth century. There can hardly be any factual or casual connection between the introduction of inhumation at the turn of the centuries and the (supposed) simultaneous onset of luxury jewellery production, because both phenomena are related to different aspects of life (i. e., the change in burial rites, and the existence of the social elite and its self-presentation, respectively). We must also realise another (and even more significant) fact: all our knowledge of Great Moravian luxury jewellery derives solely from the practice of inhumation with grave goods, because other archaeological sources (hoards, settlement features, layers, etc.) do not contain any such jewellery. In other words, had it not been for the Great Moravian habit of using grave goods in inhumation graves, we would have had absolutely no idea of the existence of local jewellery. As long as cremation burial rite lasted during the eighth century, luxury jewellery could not be documented in funeral contexts, because only a few cremation graves have been preserved from that time, and, what is more, they do not contain any items of great value. Still, there must have already been some elites in Moravia as proven by the discovery of hooked spurs²² (these, however, come from settlement layers, i. e., not from funeral contexts)²³. Women and girls, the wives and daughters of those mounted warriors, must have belonged to the elite as well and, thus, most likely wore items of jewellery.

If we accept the assumption that the wearing of luxury jewellery emerged not as late as the turn of the eighth and ninth centuries, but significantly earlier, then it is unnecessary to associate its introduction with the hypothesised arrival of goldsmiths from the fallen Avar Khaganate in Moravia. For that matter, we do not have any more precise information about the origin of the producers of the luxury jewellery – opinions on whether they came to Moravia – and, if so, when and from where – will always depend on conclusions drawn about the date and manner of the production of such jewellery. At the same time, we cannot *a priori* rule out the possibility that gold used to produce the oldest Great Moravian pieces came from the captured Avar treasure, even though it has not been proven so far. Not even contemporary written sources mention that the Moravians took part in the campaigns of Charlemagne against the Avars.

19 Hrubý, Staré Město 518-519 pl. 84, 1-8. – Galuška, Hledání fig. 202.

20 Galuška, Sady 137 fig. 88, 1-17. – Galuška, Hledání figs 203. 212. – Galuška et al., Uherské Hradiště 60-64.

21 Both quotations: Galuška, Jewellery 137.

22 Recently Galuška, Hledání, esp. 21-24. 43-47. – Jakubčinová, Ostrohy. – Janowski, Chronology. – Kouřil, Hakensporen.

23 Let me point out that if the archaeological manifestation of this elite military class looks perhaps rather »poor«, it is given mainly by the comparison with rich inhumation graves from the ninth century in which men were buried

with a sword and other weapons, more or less luxurious spurs, belt fittings, etc. Not that the male elite became »miraculously rich« at the turn of the eight and ninth centuries, the main reason is the introduction of inhumation which was associated with interring numerous items stressing the military »occupation« of their owners. On the other hand, finds of militaria and other prestige items from the ninth century settlement layers still remain relatively scarce and unimpressive (isolated strap-ends or other fittings, fragments of spurs and weapons; e. g., Macháček et al., Břeclav – Pohansko X 388-407. 422-425).

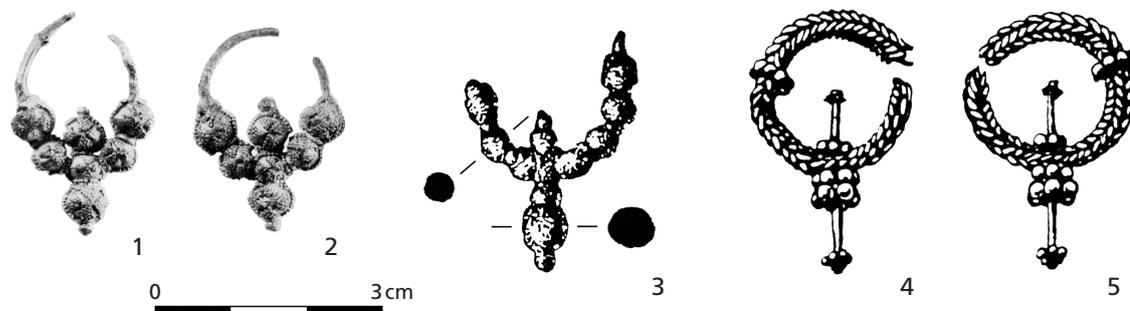


Fig. 4 Analogies of Great Moravian luxury earrings in Central and South-Eastern Europe. **1-2** Wartmannstetten, grave 11, Austria. – **3** Okorsh, Bulgaria. – **4-5** Nagypall I, grave 54, Hungary. – (1-2 after Cat. Berlin 1967, fig. 87; 3 after Atanasov/Grigorov, *Metalni nakit* pl. 4, 9; 4-5 after Kiss, *Baranya* pl. XXX, 54/1). – Scale 1:1.

Finally, I would like to object to the aforementioned opinion that the makers of the jewellery from the oldest Great Moravian graves »were only searching for their style« and that their customers »did not yet really know what they wanted«. We can argue that, if the roots of such jewellery go deeper into the eighth century, then the several rich graves with pieces of »unique« character could represent only a short final phase of a considerably longer period during which such jewellery was produced. What is more, if we take into account a larger geographical context, we see that many construction elements of the earrings from those graves are seen in contemporary earrings found in the Carpathian Basin and the Balkans; moreover, these two regions were strongly influenced by the Mediterranean region. This makes us believe that noble Moravian women (or goldsmiths working for them) were indeed aware of the trends in contemporary jewellery making in other parts of Europe. If this is the case, it is sometimes difficult to say whether a particular item was imported into Great Moravia, or whether it was produced there as a more or less precise copy of a foreign model. Still, when we accept the idea that foreign goldsmiths worked in Moravia, there is a thin line between these two types of products²⁴.

Earrings

Let us now turn to selected types of earrings from the earliest Great Moravian graves – along with certain construction elements – that may be imports or faithful imitations of contemporary Mediterranean jewellery. The lower arc of the bead earrings from the aforementioned grave no. 193/51 in Staré Město – Na valách is covered with four smaller hollow beads made of sheet metal. There are also three beads slightly

larger in size above them; the largest bead is located below the lower arc (fig. 2, 3; fig. 3 top right). We see the same construction principle on the pair from grave no. 11 in Wartmannstetten, Lower Austria (fig. 4, 1-2). The complete grave goods were previously classified as Great Moravian jewellery, but recent analysis suggests that the Mediterranean region may be a more likely place of origin²⁵. Cast imitation found at Okorsh, Bulgaria, of a type also found at Wartmannstetten, argues in favour of this theory (fig. 4, 3)²⁶.

A very rich grave, no. 209/59 in Uherské Hradiště – Sady contained a pair of gold earrings with a double-sided grape pendant finished by a sea pearl at each end; the same decoration was used at the top of the upper arc (fig. 5, 1-2)²⁷. Another distinctive feature of these earrings is that three thirds of the ring are covered with fine wire mesh. The very use of genuine pearls proves the fact that the earrings were imported from the Mediterranean – or that at least their producer was strongly linked to this region (the person may have come from there or had contacts there)²⁸. We know more gold earrings of this type from the Staré Město agglomeration. The pearls, however, were not preserved (most likely due to their organic origin): only empty wire split pins for threading the pearls remained (fig. 5, 11 right)²⁹. Other such specimens from this site, as well as from Mikulčice, have a simpler design as their ring lacks braiding or other filigree decoration (fig. 5, 3)³⁰. We know a very few contemporary Byzantine models – they include, for example, a gold earring from the Donji Petrovci treasure in Vojvodina, Serbia (fig. 5, 4), whose deposition is dated to the end of the eighth century³¹. The construction scheme of these earrings was also copied in Late Avar earrings found in large numbers in the Carpathian Basin. However, sea pearls were replaced by glass beads in these cases as they were less expensive (fig. 5, 5-6)³².

²⁴ Ungerman, Earrings.

²⁵ Hampl, Wartmannstetten 26-30 figs 14-18. – Ungerman, *Prachtfingerringe* 71-73.

²⁶ Atanasov/Grigorov, *Metalni nakit* pl. 4, 9. – Atanasov et al., *Okorsh* 233 fig. 12o. – Cf. Ungerman, *Frühmittelalterliche Ohrhinge* 116-122.

²⁷ See note 20. – Mrázek, *Kameny* 34.

²⁸ Galuška, *Sady* 137 fig. 88, 7-8.

²⁹ Staré Město – Na valách, grave no. 51/50. 103/50 (Hrubý, *Staré Město* 473-474. 480 pls 67, 6; 73, 15-16; Galuška, *Hledání* fig. 129). – Staré Město – Špitálky, grave no. 15 (Poulik, *Špitálky* 320 fig. 19, 1).

³⁰ Uherské Hradiště – Sady, grave no. 86/59 (Galuška et al., *Uherské Hradiště* 33-34). – Mikulčice – basilica, grave nos 240 and 683 (Klanica et al., *Basilika* 28. 141 figs 17, 5; 163, 3/683).

³¹ Bartzak, *Petrovci* 268 pl. 1, 10. – Demo, *Zlato* 63.

³² Čilinská's type IX (Čilinská, *Frauenschmuck* 65. 77-79 fig. 1). – Cf. Staré Město – Na valách, grave no. 166/51 (Hrubý, *Staré Město* 514 pl. 78, 3).



Fig. 5 Earrings with genuine pearls, decoration of the upper and/or lower arc and their imitations. **1-2** Uherské Hradiště – Sady, grave no. 209/59. – **3** Mikulčice – Basilica, grave no. 683. – **4** Donji Petrovci, Serbia. – **5-6** Želovce, grave no. 43 and 177 respectively, Slovakia. – **7** Remulli, Albania. – **8-9** Pliska – Great Basilica, grave no. 27, Bulgaria. – **10** Mikulčice. – **11** Staré Město – Na valách, grave no. 103/50 and 200/51. – (1-3, 5-6, 10 photos J. Foltýn; 4 after Demo, *Zlato* 63; 7 after Korkuti/Komata, *L'antichità* 101; 8-9 after Henning, *Pliska* pl. 15, 187-188; 11 after Galuška, *Hledání* fig. 129). – Scale 1:1.

Genuine pearls were used for making luxury earrings in Byzantium in the ninth and tenth centuries as well. However, only exceptional cases are documented in the territory of the Empire, as luxurious jewellery was hardly used as grave goods. This stresses the significance of finding such earrings in the direct vicinity of the Byzantine Empire, e. g., in grave no. 27 near the so-called Great Basilica in Pliska, Bulgaria (fig. 5, 9)³³. In terms of shape, this piece is of the type with four beads and a hook-and-eye fastening typical for the Mediterranean region, with the difference that a genuine pearl is (or, originally, was) fastened in place of both central sheet-metal beads. Such earrings could theoretically serve as a model for a large group of Balkan earrings with four sheet-metal beads. Indeed, most of the local earrings of this type have all the beads undecorated, i. e., smooth on the surface, by means of which the producers may have wanted to imitate the smooth surface of genuine pearls. The lack of surface decoration of the beads is certainly not due to economic reasons, as the lower arc is often lined with beaded wire (fig. 7, 1-2)³⁴. Simplification of these earrings resulted in a type with two smooth beads located above each other – one representative of this type was found in the aforementioned grave no. 27 in Pliska, where the lower bead is larger than the upper one (fig. 5, 8). Similar earrings are known from other parts of the

Balkans, too. The piece found at the Remulli site in Albania³⁵, for example, has a hook-and-eye fastening (fig. 5, 7). On the contrary, this type is rare in Moravia, either with a decorated ring (fig. 5, 11 down), or with an undecorated one (fig. 5, 10), but without the fastening. With respect to their unique occurrence, such earrings can be classified as imports or local imitations.

Earrings with four sheet-metal beads are the most common type of bead earrings in Great Moravia. The beads are always made from two hemispheres and are always decorated, even if only with a beaded wire that conceals the seam (figs 2, 15; 6, 5). A more common decoration has the form of geometric patterns made with granulation (figs 2, 6-7; 6, 1-3, 6-9) and the granulation of the whole surface of the bead where each granule is supported by a miniature, round, wire ring (fig. 6, 4). Such earrings are by no means a Great Moravian speciality; they have been found in a large area reaching from Germany to Greece³⁶. If the Great Moravian specimens are part of such a spatially extensive group of finds, the only possible interpretation is that this type of jewellery has its origin in a single important centre, which was hardly elsewhere than in the Byzantine Empire. Equally important is the fact that all three main variants found in Moravia are known in the territory of the Byzantine Empire or in its

³³ Vazharova, *Pliska* figs 1; 2, 1. – Henning, *Pliska* 693-694 pl. 15, 187-188.

³⁴ Ungerman, *Frühmittelalterliche Ohringe* 85-116.

³⁵ Korkuti/Komata, *L'antichità* 101 no. 387.

³⁶ Ungerman, *Frühmittelalterliche Ohringe*, with numerous references.



Fig. 6 Earrings with four sheet-metal beads from the territory of Great Moravia (1-9) and Croatia (10). 1 Olomouc-Slavonín, grave no. 70. – 2 Staré Město – Na valách (from disturbed grave). – 3 Dolní Věstonice – Na pískách, grave no. 742/57. – 4 Mikulčice – Klášteřísko, grave no. 1314. – 5 Staré Město – Na valách, grave no. 33/48. – 6 Staré Město – Na valách, grave no. 151/50. – 7 Staré Město – Na valách, grave no. 22/48. – 8 Staré Město – Na valách, grave no. 76/48. – 9 Staré Město – Na valách, grave no. 5/48. – 10 Nin – Church St. Asel. – (1. 2. 4-9 photos J. Foltýn; 3 photo J. Špaček; 10 after Milošević, Hrvati 291). – Scale 1:1.



Fig. 7 Earrings with four sheet-metal beads (1, 2, 4) and their cast imitation (3) from South-Eastern Europe. 1 Dukat i Ri, Albania. – 2 Stenje – Golem Grad, grave no. 64, North Macedonia. – 3 Alba Iulia – Termele Romane, Romania. – 4 Magula Hadzimisiotiki, Greece. – (1 after Korkuti/Komata, L'antichità tav. IV, no. 396; 2 after Maneva, Jewellery from Macedonia, no. 15a-b; 3 after Dragotă et al., Alba Iulia 52; 4 after Grundmann, Magula pl. 36). – Not to scale.

close vicinity as well: those with undecorated beads (fig. 7, 1-2, 4), or with the hemisphere joint covered with beaded wire (fig. 8, 1); those with beads decorated with granulation arranged in geometric patterns (fig. 6, 10); and finally those with beads completely covered with coarse-grained granulation (cf. fig. 8, 2). It is likely that all of these variants originated in the Mediterranean (though not necessarily in the same period of time) and from there they spread to Great Moravia to be adopted by local craftsmen. However, they

did not completely copy all of the construction details of the Mediterranean models. A number of Balkan pieces are made with the lowest bead larger in size than others (figs 7, 1 right; 7, 2), or the ring has the eye-and-hook fastening at the end of the lower and the upper arc respectively (fig. 7, 1, 4; fig. 8, 1-2). On the contrary, the Great Moravian specimens (fig. 6, 1-9) lack these features. Furthermore, a chronological analysis concluded that this jewellery had long been made in the Byzantine territory, at least during the eighth to eleventh

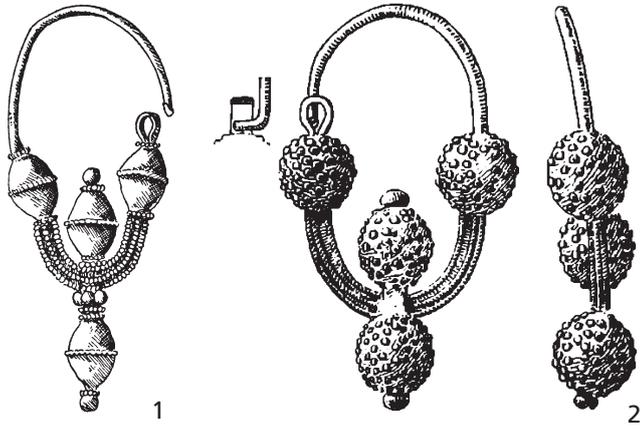


Fig. 8 Earring with four sheet-metal beads (1) and cast imitation (2) from South-Eastern Europe. 1 Matičane, grave no. 31, Kosovo. – 2 Garvăn, Romania. – (1 after Jovanović/Vuksanović, Matičane Y 243; 2 after Comşa/Bichir, Garvăn fig. 1). – Scale 1:1.

centuries, repeatedly inspiring and influencing the production of similar earrings in the whole South-Eastern and Central Europe. Seen from this perspective, the manufacturing of these earrings in Great Moravia seems only an episode limited by time and space. This is why I do not consider it very probable that Great Moravia played an important role in the spread of this type of jewellery into the Carpathian Basin and Poland where the use of four-beaded earrings in the second half of the tenth century and the eleventh century was documented³⁷.

Great Moravian grape-pendant earrings are also generally based on Mediterranean models. In the Roman period and Late Antiquity, such earrings consisted of a one-sided triangle-shaped flat grape pendant made up of granules (fig. 9, 1-2)³⁸. The design of this type of earring was changed no later than the eighth century as its flat grape pendant was replaced by a three-dimensional grape pendant made up of several »levels« or »wreaths« of granules with a larger granule at the bottom end. Nodules are also added on both ends of the lower arc. An example of this new shape is a gold earring from the Late Avar burial ground of Vösendorf on the southern outskirts of Vienna (fig. 9, 4). Identical pieces are found in Great Moravia as well, e. g., in Mikulčice (fig. 10, 1). However, neither the new shape of the grape pendant, nor the nodules could be a local innovation. This is demonstrated by a rich female grave near the St. Mihovil (Michael) Church in Trilj, South Croatia, which contained (among other things) three pairs of earrings with a double-sided three-dimensional grape pendant and nodules. One of the pairs has an undecorated ring (fig. 10, 3); two pairs are characteristic with their lower arcs and half of the upper arcs decorated using rope twists

and differ only in the length of the grape pendants (fig. 10, 4-5). We are able to date the grave to the end of the eighth century as it contained an unworn Byzantine solidus of Constantine V and his son Leo (760-775)³⁹. The importance of this grave complex thus lies in proving the Mediterranean origin of the filigree decoration that covers the entire upper arc or part of it. This decorative element (as we discussed above) is seen in certain earrings from Late Avar burial grounds (cf. fig. 4, 4-5)⁴⁰ and from the oldest Great Moravian female graves (fig. 2, 12; fig. 3 right; fig. 5, 1-2, 11). It disappeared from Central Europe in the course of the ninth century, and we do not even see it any more in the Mediterranean region and the Balkans. Contrary to this, production of earrings with a three-dimensional grape pendant went on for several more centuries in the Byzantine Empire, as shown by a gold piece from Thessaloniki allegedly dated to the thirteenth century (fig. 9, 3)⁴¹.

There is no detailed study of many other types of Great Moravian earrings that would include a comparison with similar types in other parts of Europe. These include, e. g., Great Moravian basket-bead earrings, which constitute a diverse group. Their only decorative elements are globes made from filigree wire, called »basket beads«. Basket beads consist of two hemispheres, each of them composed of several pretzel-shaped beaded wires (fig. 11, 1-3, 5), or rarely of circles made from such wire (fig. 11, 4). The lowest number of basket beads in a single earring is four (fig. 11, 4-5), when there are more, they cover the entire lower arch (fig. 11, 2-3), or they form a biconical accumulation under the lower arc (fig. 11, 1). Czech and Slovakian archaeologists have never denied that the filigree basket bead is an element taken over from Mediterranean jewellers. The only question was where and how did the Great Moravian basket-bead earrings originate. Since no detailed foreign analogies were known, the prevailing view gradually became that they were of local origin (cf. above).

The earrings of the simplest design – with four basket beads – from South-Eastern Europe were collected and analysed by P. Langó several years ago. They were found most frequently in the area of what is now the Republic of North Macedonia. Their main feature is a precisely made basket, comprising about a dozen drop-shaped fine plain wires. Both hemispheres are reinforced and connected with a circular wire at their maximum diameter. The ring of these earrings is usually fitted with a functional loop-and-hook fastening. Both these features are also contained in a pair of earrings from an unknown site in Bulgaria (fig. 12, 1), which is also provided with six chains suspended on the lower arc. These Balkan earrings are dated to the tenth to eleventh centuries⁴². Except

37 Ungerman, Frühmittelalterliche Ohrringe 65-82. 134-145. – Ungerman, Herkunft 223-231.

38 E. g., Baltoyianni, Jewellery 177 no. 189. – Bingöl, Ancient Jewellery 69 no. 42. – Micheletto et al., Necropoli in Piemonte 107 fig. 14.

39 Karaman, Trilj. – Piteša, Katalog 86-92. – Piteša, Zlato 60-72. For the coin, see Šeparović, Coin Finds.

40 For instance Abony, grave no. 97 (Hampel, Alterthümer 1, 795; 3 pl. 469, 1). – Nagypall I – Határi-dűlő, grave no. 54 (Kiss, Baranya pl. XXX, 54/1).

41 Cat. Thessaloniki 2002 no. 567. – Antonaras, Jewellery 122 fig. 9.

42 Langó, Kiszombor 432-438. – Rousseva, National 87.



Fig. 9 Earrings with grape pendants. **1** S. Albano Stura, Italy. – **2** Porto Rafti, grave no. 148, Greece. – **3** Thessaloniki – Diikitirou Square, Greece. – **4** Vösendorf – Laxenburgerstrasse, Austria. – (1 after Micheletto et al., *Necropoli in Piemonte* 107 fig. 14; 2 after Baltoyianni, *Jewellery* 177, cat. no. 189; 3 after *Cat. Thessaloniki* 2002, 437, cat. no. 567; 4 after Sauer, *Zur Geschichte* 44). – Not to scale.



Fig. 10 Earrings with grape pendants. **1** Mikulčice – Basilica, grave no. 588. – **2** Mikulčice – Church 6, grave no. 160. – **3-5** Trilj, Croatia. – (1-2 photos J. Foltýn; 3-5 after Piteša, *Zlato* 62. 65. 67). – Scale 4:3.



Fig. 11 Great Moravian earrings with basket beads from Mikulčice. **1** Basilica, grave no. 250. – **2** Basilica, grave no. 505. – **3** Church 6, grave no. 6. – **4** Basilica, grave no. 328. – **5** Cultural layer, inv. no. 4495/57. – (Photos J. Foltýn). – Scale 4:3.

for small details, a pair of damaged earrings from the Aerino site in Thessaly, Greece, has an identical shape as the earrings from the unknown Bulgarian site (cf. **fig. 12, 1**)⁴³. The Aerino necropolis remains unpublished and the jewellery found there has been preliminarily dated to the eleventh to twelfth centuries⁴⁴. A couple of incomplete earrings from the Ierissos site on the Greek peninsula of Chalkidiki is probably the simplest example of this type of basket-bead earring; this pair is

dated to the tenth century⁴⁵. All the above examples clearly show that earrings with four basket beads were worn in the centre of the Byzantine Empire and in areas under its strong political and cultural influence. Unsurprisingly, the preserved artefacts are of a relatively late date – tenth-century and younger. This is mainly due to the state of the archaeological record, as there are almost no published burial grounds with the finds of luxury jewellery from the Eastern Mediterranean

43 Whitley et al., *Archaeology* 74.

44 *Cat. Thessaloniki* 2002 nos 586-591, and others.

45 Bosselmann-Ruickbie, *Byzantinischer Schmuck* 232 no. 37.



0 5 cm

1



2

Fig. 12 Earrings with basket beads from Bulgaria. **1** Unknown site. – **2** Preslav Treasure. – (1 after Rousseva, National 87; 2 photo S. Steidl, LEIZA). – Scale 4:5.

and the Balkans from the eighth to ninth centuries. As the Byzantine jewellery is rather conservative, I consider it likely that earrings with four basket beads were produced here as early as this period and thus might have been an important impulse for the making of the Great Moravian earrings of the same design.

The only earrings with basket beads along the whole lower arc found outside of the Great Moravian territory that I am aware of were found in the Preslav Treasure (**fig. 12, 2**). The design of the basket beads differs from the one used in the above described Balkan earrings: the basket beads on the lower arc are constructed of only six rings made from beaded wire and a somewhat larger central ring, which connects the hemispheres. This construction is related to the fact that each of the smaller rings contains a genuine pearl on a thin peg⁴⁶. It can be only speculated whether these earrings with the impressive height of 12.3 centimetres are rare pompous jewellery made for a special occasion, or whether similar earrings were made on a larger scale in Byzantium, which would allow the interpretation that they could influence the Great Moravian production.

The Great Moravian earrings with a large accumulation of basket beads under the lower arc (**fig. 11, 1**) are unique in Europe. The question is whether this reflects past reality or rather the state of the archaeological record. The Preslav

pair of earrings demonstrates how scarce our knowledge of the Byzantine basket-bead earrings is; two or three newly discovered rich graves or hoards in the core of the Byzantine Empire could fundamentally change current ideas of the development and dating of these earrings. However, it is not necessary to *a priori* reject the view that the Great Moravian jewellers mastered the production of basket beads from beaded wire and started to use this element creatively – soon they started to make pendant shapes that were not produced in other regions. One of the examples could be the large pendant made of basket beads (**fig. 11, 1**).

In the older Czechoslovak archaeological literature it was assumed that certain types of Great Moravian earrings were inspired by Oriental jewellery making (cf. above). Little is known about Early Medieval jewellery in the Islamic countries in the Near East and Central Asia. This is caused by the fact that most of the available artefacts are mainly in museums and private collections and lack archaeological context. Provenance and dating can be usually ascertained only approximately, using style analysis. The number of extant earrings that can be reliably dated to and before the tenth century is very low; such specimens are by no means similar to Great Moravian jewellery. There are substantially more preserved specimens of Islamic earrings dated to the eleventh century and later; however, they do not show traits that could have

46 Totev, Preslav Treasure 59-60 fig. 27a-b. – Bosselmann-Ruickbie, *Byzantinischer Schmuck* 26. 233 no. 40; Aladjov, *Preslav* 48-49 no. 41.

47 See, for instance, Jenkins/Keene, *Islamic Jewellery*. – Zimmer, *Early Islamic*. – Gladiss, *Schmuck*. – Spink/Ogden, *Art of Adornment*.



Fig. 13 Great Moravian finger rings with hemispherical bezel decorated with granulation or glass inlays. **1** Rajhrad, grave no. 70. – **2** Mikulčice – Basilica, grave no. 322. – **3** Břeclav – Pohansko, Church 1, grave no. 242. – (Photos J. Foltýn). – Not to scale.

Fig. 14 Great Moravian finger rings with hemispherical bezel decorated with granulation or glass inlays (**1-2**) and a possible model of Mediterranean provenance (**3**). **1** Mikulčice – Basilica, grave no. 470. – **2** Přerov-Předmostí – Chromečková zahrada. – **3** Monceau-le-Neuf-et-Faucouzy, France. – (1-2 photos J. Foltýn; 3 after Hadjadj, *Bagues* 108, no. 18). – Not to scale.



survived from the previous era and were a closer link with Great Moravian earrings⁴⁷. Current research emphasises that Early Medieval Islamic jewellery did not develop in isolation, but absorbed older traditions (Late Antique, Sasanian, etc.), as well as being constantly influenced by contemporary Byzantine jewellery. Several types of earrings, which were both used in Byzantine and Islamic regions and differed only in minor modifications, are documented mainly for a period from the tenth to thirteenth centuries⁴⁸. However, because they started to be made rather late, these earrings could not have influenced the design of Great Moravian jewellery.

Finger Rings

Luxury gold or silver finger rings are found more rarely than earrings at Great Moravian burial grounds⁴⁹. The vast majority of luxury finger rings were assembled from two main sheet-metal components that had been made separately and then soldered together: the hoop and the bezel. Cast finger rings represent a completely marginal type within Great Moravia. Sheet-metal finger rings can be divided into several types based on the shape and decoration of the bezel. In the following text, I shall narrow my focus on the relatively frequently found rings with hollow hemispherical bezel decorated, either with coarse granulation (type A), or fine granulation and one or more glass inlays (type B). Speaking

about type A, the most frequent finger rings are those with a hemispherical bezel completely covered with larger granules that are set into small rings made from round wire (fig. 13, 1), or, more rarely, from a rope twist (fig. 3 left). The finger ring from Předmostí (fig. 14, 2) combines coarse granulation with a convex inlay from blue glass placed at the top of the bezel. This specimen thus stands between types A and B since the presence of one or more glass inlays is one of the identifying features of the latter. A finger ring from grave no. 322 at the Mikulčice basilica (fig. 13, 2) can be identified as type B, having a hemispherical bezel decorated with triangular granulation and a dark-blue glass inlay placed on its top. We see red triangular glass inlays in a piece from Břeclav – Pohansko, grave no. 242 (fig. 13, 3). A variant of this type is characterised by three triplets of small glass inlays in cylindrical collars made from sheet metal (fig. 14, 1).

Sheet-metal finger rings with a hollow, hemispherical bezel decorated with granulation and filigree appear in many parts of South-Eastern and Eastern Europe (apart from the territory of Great Moravia) during the Early Middle Ages⁵⁰. They can be divided into two main groups based on the shape of the bezel. The first group is characterised by a bezel of a simple hemispherical to conical shape (fig. 15); bezels of the second group are made of a hemisphere and a low cylindrical part below it (fig. 16). Finger rings belonging to the first group made of silver or bronze – golden pieces have only rarely been preserved – are usually decorated by filigree, less

48 Langó, *Earrings*. – Bosselmann-Ruickbie, *Byzantinischer Schmuck* 25-26. 41-44. 244-253. – Spink/Ogden, *Art of Adornment* 100-101. 114-121.

49 The text of this section is largely based on Ungerman, *Luxury*.

50 For more details see Ungerman, *Prachtfingeringe* 58-70 including literature.

often by granulation, or a combination of both techniques. Filigree decoration takes the form of teardrop-like shapes (fig. 15, 1-2), or arcade arches (fig. 15, 3, 9-12). Other pieces have the whole surface of the bezel covered with small wire rings (fig. 15, 13), or a coiled wire with loose threads (fig. 15, 4). The granulation is always based on triangles (fig. 15, 5, 14). The construction and decoration of the hoop is very variable. The specimens from the area of North Macedonia and Greece have a hoop assembled from several parallel wires soldered together (fig. 15, 6-7, 11). Sheet-metal hoops covered with parallel filigree wires (fig. 15, 1) are found elsewhere in the Balkans; these are more rarely complemented with an interlace in the middle (fig. 15, 8), or the interlace is imitated by a coiled wire pressed flat (fig. 15, 12). Among the less frequent hoops are those made of several wires twisted together (fig. 15, 13), or cast as a whole, including the decoration (fig. 15, 9-10). The described finger rings are typical mainly for the southern Balkans (fig. 17). They have been dated to the tenth to twelfth centuries.

The finger rings of the second group have a bezel assembled from a hemisphere and a low cylindrical part below it, which serves for fixing a wreath of large granules. This group is significantly more homogeneous than the first one, both in terms of the material used (silver and only rarely gilded bronze), and the bezel decoration (only granulation). Granulation takes the form of triangles (fig. 16, 1) that are sometimes complemented by granulated lines creating a cross or a star (fig. 16, 2-3). Such a decoration is seen in specimens from various parts of South-Eastern Europe. Contrary to this, finger rings of this group from Ukraine (cf. fig. 17) either have the hemispherical part of the bezel completely covered with finer-grained granulation (fig. 16, 4), or with larger granules set into wire rings (fig. 16, 6). The whole of the second group of finger rings is dated to the second half of the tenth century and the eleventh century.

Balkan researchers unanimously agree that the finger rings with hemispherical bezels are of Byzantine origin⁵¹. They probably spread to Dalmatia from Byzantine towns on the Adriatic coast. Elsewhere in the Balkans, use of these rings is related largely to the fact that, since the end of the tenth century, the Byzantine Empire was trying to win back territories south of the Danube that it had lost during the previous centuries. When Emperor Basil II (976-1025) gained Sirmium and (what is now) Belgrade towards the end of his life, the border of the Byzantine Empire moved as far as the southern edge of the Carpathian Basin. Similarly, the finger rings found in the territories of the Kievan Rus' and other parts of Eastern Europe are either Byzantine imports, or, more probably, local products made after Byzantine models.

Great Moravian finger rings of type A differ slightly from the aforementioned Balkan and Eastern European specimens

in shape and decoration. These differences are caused not only by the existence of regional production centres, but also by chronological differences. As for the first aspect, it is very likely that not all pieces from the Great Moravian graves are imports. It is mostly the types represented by several specimens (namely the finger rings whose bezels are completely covered with coarse-grained granulation; fig. 13, 1) that were produced in Moravia, albeit under the likely influence of Mediterranean models. Some differences between these Great Moravian finger rings on the one side, and the Balkan and Eastern European ones on the other are chronological. Moravian pieces are older: most of the finger rings dated with higher precision come from the earlier Great Moravian period (approx. the first half of the ninth century). It may be one of the reasons why we do not see any finger rings with a low cylindrical part covered with massive granules at the bottom of the hemispherical bezel (cf. fig. 16). Such finger rings are documented in South-Eastern and Eastern Europe no earlier than the second half of the tenth century.

Some of the type A finger rings were part of the oldest Great Moravian inhumation burials dated to the turn of the eighth and ninth centuries (fig. 3). As far as I am aware, no analogous specimens with such an early dating are known from other parts of Europe. We thus encounter a rather paradoxical situation: the oldest finger rings of this type are documented in Moravia, although this region is located far from the Mediterranean, which is their supposed place of origin. The reason behind this is the unfavourable state of the archaeological record in the Mediterranean region. Our current knowledge of Byzantine finger rings from the eighth and ninth centuries is very fragmentary, since we have few pieces dated to this period⁵². What is more, finger rings with a hemispherical bezel are not among them, although we know that this type must have appeared in the Mediterranean region around the eighth century; the large sets of Late Antique or Early Byzantine jewellery do not yet contain them.

The origin of type B finger rings (i. e., with the hemispherical bezel fitted with one or more glass inlays) is less clear. No such rings are found in the Balkans in archaeological contexts dated to the tenth to twelfth centuries. Glass inlays were used there, but for different types of finger rings. Therefore, one of the possible explanations suggests that type B is a product specific to Great Moravian jewellery making. We must bear in mind, however, the minimal number of Mediterranean finger rings from the eighth to ninth centuries. Consequently, every new find may alter our current state of knowledge. At the Monceau-le-Neuf-et-Faucouzy site in northern France, a silver finger ring with a bezel of truncated-cone shape was discovered, which has a convex inlay from opaque light blue glass on its top and the lower part of the bezel is set with a row of much smaller, yellow-glass round inlays (fig. 14, 3).

51 Giesler, Bijelo Brdo 112. – Cetinić, Stranče 152. – Tomičić, O prstenima 417. – Petrinec, Gräberfelder 280. – Bikić, Vizantijski nakit 111.

52 Bosselmann-Ruickbie, Byzantinischer Schmuck 147.

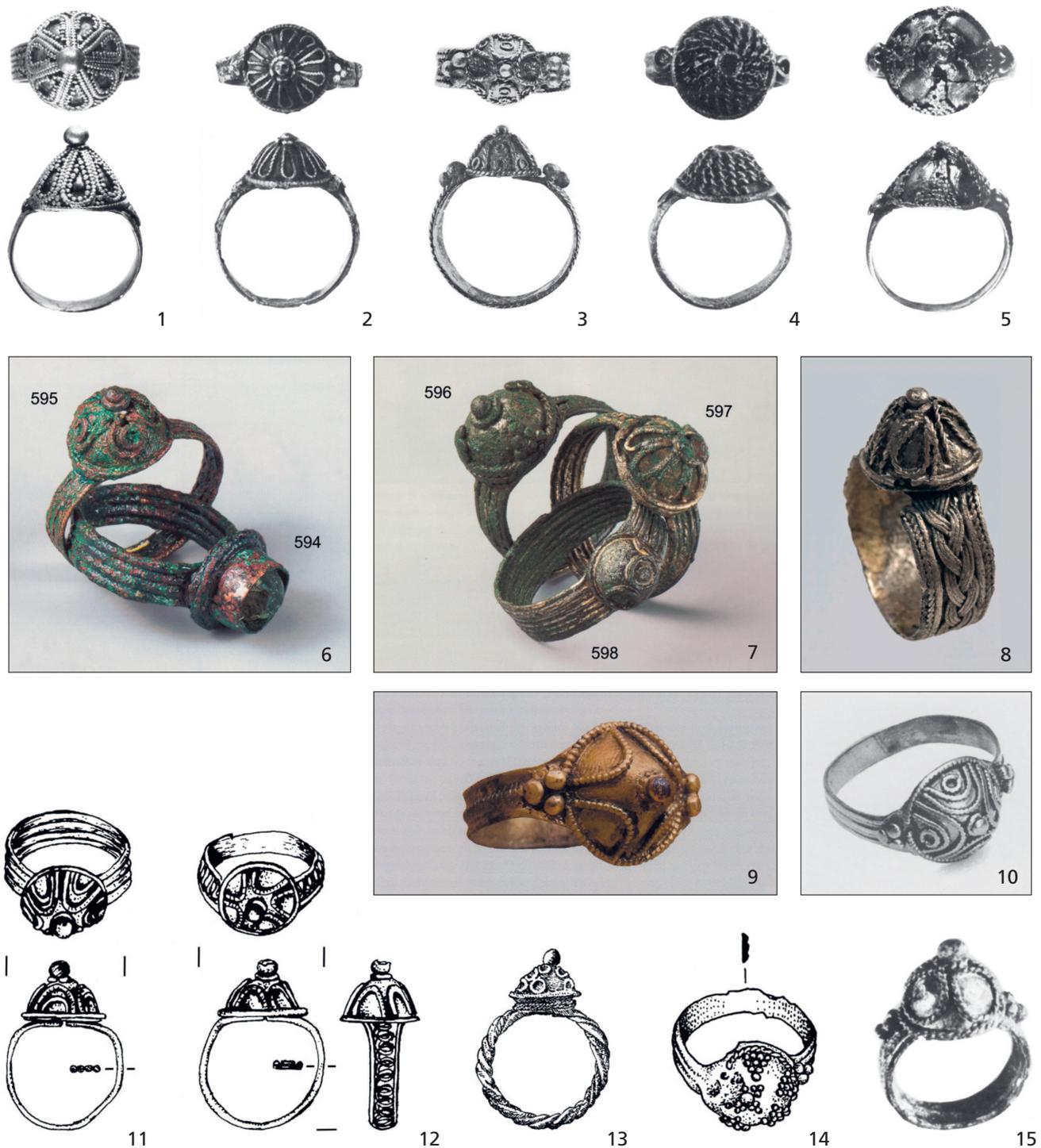


Fig. 15 Finger rings with hemispherical bezel from South-Eastern Europe (first group). **1** Matičane – Breg, grave no. 46, Kosovo. – **2** Mihaljevići – Varošište, grave no. 71, Bosnia and Herzegovina. – **3** Čečan, Kosovo. – **4** Demir Kapija – Crkvište, North Macedonia. – **5** Bigrenica, Serbia. – **6** Edessa, Greece. – **7** Aerino and Azoros, Greece. – **8** Vukovar – Lijeva bara, grave no. I-1951, Croatia. – **9** Biskupija – Crkvina, grave no. 29, Croatia. **10** Ostrovica – Greblje, grave no. 16, Croatia. – **11-12** Dunje – Trpčeva Crkva, North Macedonia. – **13** Matičane – Breg, grave no. 3, Kosovo. – **14** Stranče – Gorica, grave no. 9, Croatia. – **15** Prčevo – Boka, grave no. 13, Kosovo. – (1-2 after Jovanović, Prilog figs 6-8; 3 after Jovanović, Schmuck pl. 4; 4-5 after Jovanović, Prilog figs 12. 18; 6-7 after Cat. Thessaloniki 2002 no. 594-598; 8 after Demo, Vukovar pl. 7, 1; 9 after Petrinec, Gräberfelder 281 Bild 128; 10 after Delonga/Burić, Ostrovica fig. 16; 11-12 after Kepeska, Trpčeva tab. II, 8-9; 13 after Jovanović/Vuksanović, Matičane Y239, 5; 14 after Cetinić, Stranče tab. 19, 6; 15 after Jovanović, Prilog fig. 15). – Not to scale.



Fig. 16 Finger rings with hemispherical bezel from South-Eastern and Eastern Europe (second group). **1** Zvonimirovo – Veliko polje, grave no. 17, Croatia. – **2** Svinjarevci – Studenac, grave no. 15, Croatia. – **3** Matičane – Breg, grave no. 16, Kosovo. – **4** Guščin, Ukraine. – **5** Alba Iulia – Izvorul Împăratului, grave no. 17, Romania. – **6** Pidgirici/Plesneck, barrow no. 1, Ukraine. – (1 after Tomičić, Zvonimirovo pl. 11, 3; 2 after Demo, Zlato 74; 3 after Jovanović, Prilog fig. 7; 4 after Komar, Černigov fig. 17, 3; 5 after Ciugudean et al., Habitat 109, no. 124; 6 after Liwoch/Müller-Wille, Druzhina fig. 10h). – Not to scale.

The finger ring is tentatively dated to the eighth century⁵³. This product is utterly rare for the Merovingian environment; therefore, it could only have been imported to the place of discovery, very likely from the Mediterranean region. If this reasoning is correct, even the Great Moravian producers of type B finger rings must have been inspired by the styles of the Mediterranean region, which does not rule out subsequent local modifications.

Conclusion

Opinions about the origin of Great Moravian luxury jewellery have been significantly influenced by the nature of the archaeological record in South-Eastern Europe and the state of research. In the past decades, excavations of burial sites from the eighth to twelfth centuries in Greece have been given limited attention. Specifically, excavations of these burial sites are not followed by adequate processing and publication⁵⁴. This, of course, makes it impossible to create a reliable chronology of the material culture at these burial sites and greatly complicates research into the impact of Byzantine jewellery in South-Eastern and Central Europe. It is equally important

to take into account the state of the archaeological record. When considering the origin and development of luxury jewellery in Early Medieval Europe, mere mechanical connecting of positively attested specimens is not enough. It is necessary to take into consideration that jewellery from some regions and periods has been preserved sporadically or not at all. The absence of jewellery in graves and hoards does not necessarily mean its absence in the living culture of the past⁵⁵.

The blind spots in the archaeological record are a problem we face when examining the beginnings of Great Moravian luxury jewellery. In the eighth century, the people of Great Moravia cremated their dead, which is why we have only a vague idea of the jewellery they wore based on the sporadic finds from settlement layers. The fact that inhumation started at the turn of the eighth and ninth centuries changed our knowledge of the jewellery »as with the stroke of a magic wand«. A wide range of jewellery was preserved in rich female graves from the very beginning of the Great Moravian period, consisting mainly of earrings, spherical buttons and finger rings with advanced shapes and decoration techniques.

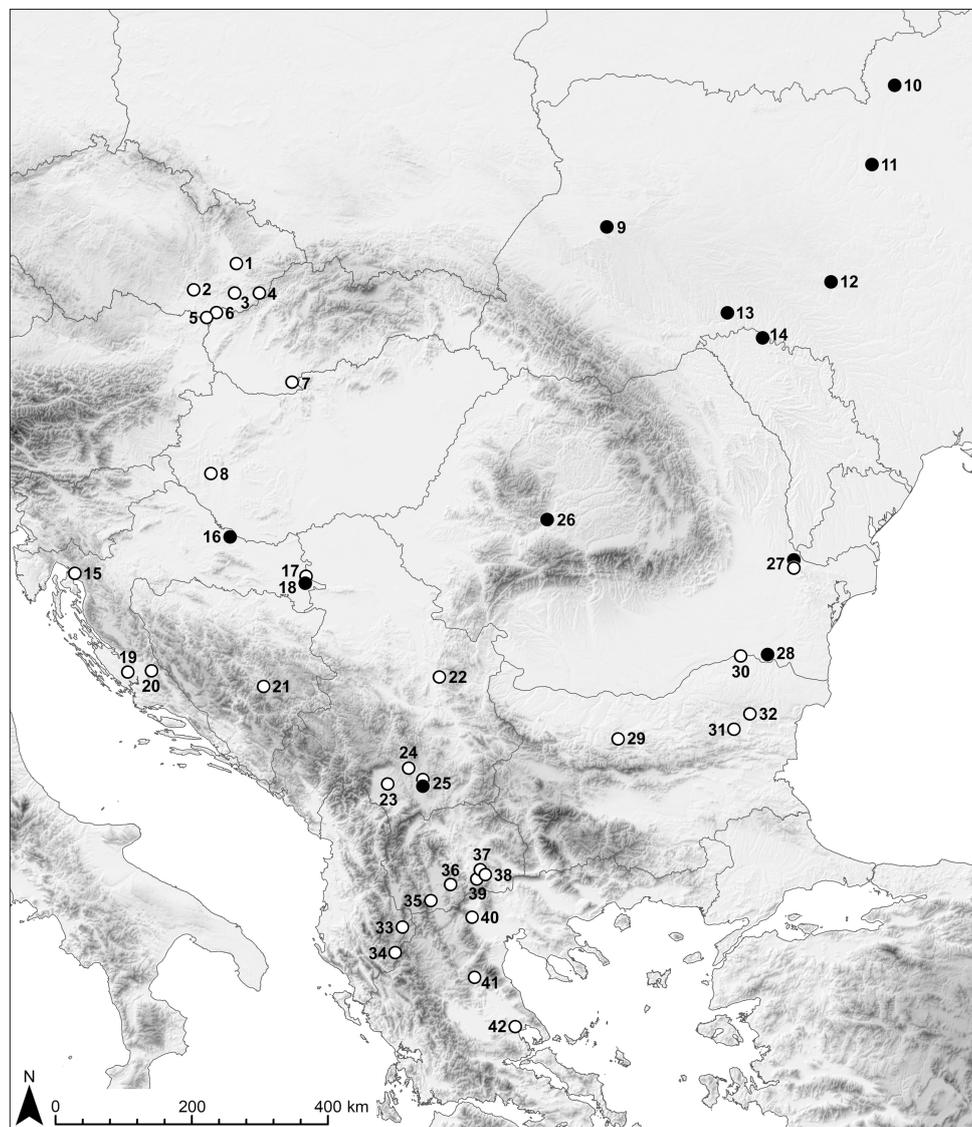
A comparison with contemporary jewellery from neighbouring regions showed that jewellery from the oldest Great Moravian graves was not some isolated and specifically local

⁵³ Hadjadj, *Bagues* 108 no. 18.

⁵⁴ Cf. Bollók, *Archaeology* 286-287.

⁵⁵ Ungerman, *Frühmittelalterliche Ohringe* 132-134.

Fig. 17 Spatial distribution of selected finger rings with hemispherical bezel of the first group (○; cf. fig. 15) and second group (●; cf. fig. 16): Czech Republic: 1 Přerov-Předmostí; 2 Rajhrad; 3 Staré Město; 4 Bohuslavice nad Vláří; 5 Břeclav – Pohansko; 6 Mikulčice. – Slovakia: 7 Biňa. – Hungary: 8 Zalavár. – Ukraine: 9 Pidgirci/Plesneck; 10 Guščin; 11 Kyjev; 12 Kopyivka; 13 Glybivka. – Moldavia: 14 Germanarie. – Croatia: 15 Stranče – Gorica; 16 Zvonimirovo – Veliko polje; 17 Vukovar – Lijeva bara; 18 Svinjarevci – Studenac; 19 Ostrovica – Greblje; 20 Biskupija – Crkvina. – Bosnia and Herzegovina: 21 Mihaljevići – Varošište. – Serbia: 22 Bigrenica. – Kosovo: 23 Čečan; 24 Prčevo – Boka; 25 Matičane – Breg. – Romania: 26 Alba Iulia; 27 Garvăn – Bisericuța/Dinogetia; 28 Canlia – Dervent. – Bulgaria: 29 Loveč; 30 Vetren; 31 Veliki Preslav; 32 Pliska. – Albania: 33 Kuç i Zi; 34 Rehovë – Shën Thanas. – North Macedonia: 35 Bitola/Heraclea Lyncestis; 36 Dunje – Trpčeva Crkva; 37 Korešnica – Krstevi; 38 Demir Kapija – Crkvište; 39 Krnjevo – Crveni Bregovi. – Greece: 40 Edessa; 41 Azoros; 42 Aerino. – (Graphic layout M. Hlavica).



product, but instead closely followed contemporary fashion trends in the South-Eastern Europe. These impulses probably came from the Eastern Mediterranean, where only a few pieces of luxury jewellery from the eighth/ninth century are preserved. More finds dated to the tenth to twelfth centuries have been found here and in the Balkans. Some of them – of course not all of them – are more or less close analogies to Great Moravian jewellery. In this context, let us mention earrings with four beads (figs 7-8) and four basket beads (fig. 12, 1). These types were produced in the Byzantine Empire over a long span of time. Although it cannot be proven directly due to the state of research, I consider it likely that their roots run deeper into the past, at least to the ninth century. Not only the luxury earrings made of wire, but also their cast imitations may be of importance in this context. Cast jewellery was produced on a massive scale in the Balkans. Some of it was made so meticulously that

its shapes and decorative elements faithfully reflected the luxury models on which it was based⁵⁶ (fig. 7, 3). In the case of rare types, usually only cast pieces physically survived (see for instance figs 4, 3; 8, 2), while the sheet-metal originals decorated with filigree or granulation are missing from the archaeological record.

In my opinion, this starts to show that Mediterranean jewellery making had a fundamental influence on the formation of Great Moravian luxury jewellery. It is more than clear in some types, while there is no comparative material from other parts of Europe in others, which makes it difficult to ascertain their origin. It is quite possible that some of these types are genuine local originals, especially if they are dated to the later Great Moravian period. However, it would be premature to quantify the relationship between the two groups because many jewellery types from Great Moravian cemeteries are still awaiting a detailed analysis.

⁵⁶ Grigorov, Nakiti fig. 10. – Ungerman, Frühmittelalterliche Ohrringe 116-122.

It is difficult to say exactly how Mediterranean types of jewellery came to be produced in Great Moravia – in this regard the possibilities of archaeology are rather limited. A certain role might have been played by direct imports from the Mediterranean region (not necessarily numerous), their imitations by local craftsmen or the arrival of foreign goldsmiths who knew the designs by heart and brought a complete technological know-how with them. Some of the jewellery types soon found a new home in Moravia and began to be produced there. This was bound to bring smaller or larger modifications of these types. The reason was that the jewellery makers (of whatever origin) worked on commissions for the Great Moravian elite and customer preferences largely influenced, for instance, which decorative motifs survived and which disappeared. This process of adaptation might have had other aspects, such as size: in Great Moravia, earrings with four beads were made significantly smaller than was usual in the Mediterranean region⁵⁷. There were also functional modifications: in the Mediterranean region, the eye-and-hook fastening was common (fig. 5, 7, 9; fig. 7, 1, 4; fig. 8, 1-2), while the Great Moravian earrings do not feature any such or other fastening, obviously, because the local female customers did not need and require it from their goldsmiths⁵⁸. Completely new, specifically Great Moravian jewellery designs might have originated. A creative goldsmith may

have combined commonly used construction elements into a new type of jewellery. The inventiveness and craftsmanship of the local jewellery makers should not be underestimated.

Such modifications gave rise to regional centres of early medieval jewellery: for example, Croatia clearly differed from Great Moravia and Bulgaria with the set of types, decoration, size and construction details, although all originated from Mediterranean jewellery. Analyses of each such regional centres are undoubtedly important. In my opinion, research focusing on early medieval jewellery should have the broadest geographic scope possible; it is desirable to analyse narrowly defined jewellery types across these regional centres. Only such a wide comparison will allow an understanding of the emergence and dating of these types, their spatial distribution and the associated transformations of shape and function, and hence the long-distance cultural influences and contacts that are not always reflected in contemporary written sources. Hopefully, this text has shown the irreplaceable role that Great Moravian jewellery has had in this research.

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57 Ungerman, Frühmittelalterliche Ohrringe 126-129.

58 Cf. Ungerman, Schlaufenohrringe 17, 30-31.

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Mediterranean Roots of Great Moravian

Luxury Jewellery

Gold and silver jewellery of the type termed »Great Moravian« in current research literature is found in cemeteries from the ninth and the first half of the tenth centuries in areas of the former Czechoslovakia and western Hungary. Since the inter-war period, Czech and Slovakian archaeologists have been concerned with the question of the origin of this jewellery. In this chapter, selected jewellery types are analysed with regard to this question, using the widest possible territorial range. Earrings with four beads made of sheet metal rank among the types of jewellery with supra-regional distribution. Outside Great Moravia, they occur in a large geographical area stretching from Crete to Bornholm. In different regions, examples of this type are characterised by specific features of construction and decoration, but they (more or less) follow Byzantine models. Great Moravian earrings with basket beads made of beaded wire have less numerous parallels in other parts of Europe, but the pair of golden earrings from the Preslav Treasure especially demonstrates that such earrings are by no means a Great Moravian invention. However, we cannot rule out the possibility that some subtypes are genuine Great Moravian products, especially those lacking exact parallels in other parts of Europe, e.g., earrings with a biconical accumulation of basket beads under the lower arc. Finger-rings with hollow hemispherical bezels that are completely covered with coarse granulation are another example of a supra-regional type that spread from the Eastern Mediterranean region to South-Eastern, Central and Eastern Europe.

Mediterrane Wurzeln des großmährischen

Luxusschmucks

Gold- und Silberschmuck, der in der aktuellen Forschungsliteratur als »großmährisch« bezeichnet wird, findet sich in Gräberfeldern aus dem 9. und der ersten Hälfte des 10. Jahrhunderts in Gebieten der ehemaligen Tschechoslowakei und Westungarns. Seit der Zwischenkriegszeit beschäftigen sich tschechische und slowakische Archäologen mit der Frage nach der Herkunft dieses Schmucks. In diesem Kapitel werden ausgewählte Schmucktypen im Hinblick auf diese Frage analysiert, wobei ein möglichst großer territorialer Bereich berücksichtigt wird. Zu den Schmucktypen mit überregionaler Verbreitung zählen Ohrringe mit vier Blechbeeren. Außerhalb Großmährens kommen sie in einem großen geografischen Gebiet vor, das von Kreta bis Bornholm reicht. In den verschiedenen Regionen zeichnen sich die Exemplare dieses Typs durch spezifische Konstruktions- und Dekorationsmerkmale aus, folgen aber (mehr oder weniger) byzantinischen Vorbildern. Großmährische Ohrringe mit Körbchenperlen aus

Perldraht haben weniger zahlreiche Parallelen in anderen Teilen Europas, aber gerade das Paar goldener Ohrringe aus dem Preslav-Schatz zeigt, dass solche Ohrringe keineswegs eine großmährische Erfindung sind. Es ist jedoch nicht auszuschließen, dass es sich bei einigen Untertypen um originär großmährische Schöpfungen handelt, vor allem bei solchen, für die es in anderen Teilen Europas keine exakten Parallelen gibt, z. B. bei Ohrringen mit einer bikonischen Ansammlung von Körbchenperlen am unteren Bogen. Fingerringe mit hohlen halbkugelförmigen Ringköpfen, die vollständig mit grober Granulation bedeckt sind, stellen ein weiteres Beispiel für einen überregionalen Typus dar, der sich vom östlichen Mittelmeerraum nach Südost-, Mittel- und Osteuropa verbreitete.

Racines méditerranéennes de la joaillerie de luxe en Grande Moravie

Des bijoux en or et en argent, caractéristiques du type appelé »grand-morave« dans la bibliographie scientifique récente, ont été trouvés dans des cimetières du IX^e et de la première moitié du X^e siècle dans les régions de l'ancienne Tchécoslovaquie et de l'ouest de la Hongrie. Depuis l'entre-deux-guerres, les archéologues tchèques et slovaques s'interrogent sur l'origine de ces bijoux. Dans cet article, on applique cette question à des types de bijoux sélectionnés, en utilisant la plus grande focale géographique possible. En particulier, les boucles d'oreilles à quatre perles en tôle font partie des types de bijoux à distribution suprarégionale. En dehors de la Grande Moravie, on les trouve dans une vaste zone géographique qui s'étend de la Crète jusqu'à Bornholm. Selon les régions, ce type se distingue par des variantes spécifiques de construction et de décoration, mais elles suivent (plus ou moins) les modèles byzantins. Les boucles d'oreilles de la Grande Moravie avec des perles sphériques en fil perlé ont des équivalents moins nombreux dans d'autres parties de l'Europe, mais la paire de boucles d'oreilles en or du Trésor de Preslav démontre bien que de telles boucles d'oreilles ne sont en aucun cas une invention de Grande Moravie. Toutefois, on ne peut pas exclure que certains sous-types soient d'authentiques produits de la Grande Moravie, en particulier ceux qui n'ont pas de parallèles exacts dans d'autres parties de l'Europe, par exemple les boucles d'oreilles qui présentent, sous leur arc inférieur, une accumulation biconique de perles sphériques en fil perlé. Pour leur part, les bagues avec des chatons hémisphériques creux entièrement recouvertes de granulation grossière sont un autre exemple de type supra-régional qui s'est répandu depuis la région méditerranéenne orientale vers l'Europe du Sud-Est, l'Europe Centrale et l'Europe de l'Est.

IV. Restoration and Materials Science

The Preslav Treasure: Preliminary Report on the Restoration Conducted at the Leibniz-Zentrum für Archäologie (LEIZA), Mainz

In 2017, an international research project was conducted at the Leibniz-Zentrum für Archäologie (LEIZA), Mainz, with the title »The Preslav Treasure from Bulgaria (Tenth Century)«. This interdisciplinary project was a collaboration of the LEIZA with the National Archaeological Institute with Museum in Sofia, Bulgaria (NAIM, Bulgarian Academy of Sciences), and the Archaeological Museum Veliki Preslav (AMVP). The research project was generously funded by the Gerda Henkel Foundation, Düsseldorf, and also received support from the »Freundeskreis des Leibniz-Zentrums für Archäologie (LEIZA) e. V.«.

This paper presents a preliminary report on the restoration of this important medieval jewellery treasure, the investigation into its manufacturing techniques and the photographic documentation, conducted in the laboratories for metalwork¹. A total of 202 precious metal objects, some with enamels and precious stones, plus a single rock crystal bead, 170 pearls, 4 glass beads and cabochons from the treasure were sent from the Museum Veliki Preslav, Bulgaria, to the LEIZA in Mainz in two batches between January 2017 and April 2018 (fig. 1). One enamel fragment of an earring remained in Preslav², as well as five enamelled *Senkschmelz*



Fig. 1 The Preslav Treasure in the LEIZA. – (Photo S. Steidl, LEIZA).

1 For an overview on the scientific analysis and the employed methods, see the contribution by M. Aubin, S. Greiff and R. Schwab in this volume.

2 Museum Veliki Preslav, inv. no. 3381/2800-1; see Bosselmann-Ruickbie, *Byzantinischer Schmuck* 246-248 no. 64. 248 fig. 4.



Fig. 2 Pendant with emeralds and pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 3 Pendant with emeralds, counterpart to the pendant in **fig. 2** (pearls now missing). – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 4 Pendant with rubies, emeralds, garnets and pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.

plaques, believed to have originally formed a diadem, which were subject to separate analyses conducted in Sofia³.

The first batch⁴ comprised three pendants with emeralds, rubies and pearls⁵ (**figs 2-4**), a pair of earrings with beaded wire and pearls⁶ (**figs 5-6**), a finger ring with a carnelian gemstone⁷ (**fig. 7**), a pair of earrings with emerald, rubies, garnets and pearls⁸ (**figs 8-9**), 23 gold pendants with filigree

and granulation⁹ (**figs 10-11**), 82 golden appliques¹⁰ and 15 Byzantine silver coins¹¹. The second batch of the treasure¹² contained the large necklace with 28 enamelled plaques¹³ (**fig. 12**), an enamelled earring with a peacock¹⁴ (**fig. 13**; **cover illustration**), two enamelled spherical pendants¹⁵ (**fig. 14**), a rock crystal seal set in gold¹⁶, two silver spoons¹⁷ (**fig. 15**), 29 appliques for textiles¹⁸ (**fig. 16**) and a gilded silver plaque with confronted peacocks¹⁹ (**fig. 20**).



Fig. 7 Finger ring with carnelian gemstone. – (Photo S. Steidl, LEIZA). – Scale 2:1.

3 The material analyses have been carried out by V. Inkova, Sofia (publication of the findings is in preparation). For images of the diadem plaques, see the contribution by Inkova in this volume, **figs 1-5**.

4 Batch 1 of 144 objects arrived on 31 January 2017 and returned to Bulgaria on 26 September 2017.

5 Museum Veliki Preslav, inv. nos 3381/3a, 3381/3b and 3381/4.

6 Museum Veliki Preslav, inv. nos 3381/5.1 and 3381/5.2.

7 Museum Veliki Preslav, inv. no. 3381/15.

8 Museum Veliki Preslav, inv. nos 3381/7.1 and 3381/7.2.

9 Museum Veliki Preslav, inv. nos 3381/18, 3381/19, 3381/20, 3381/23, 3381/24, 3381/25, 3381/26, 3381/27.

10 Museum Veliki Preslav, inv. nos 3381/21, 3381/28, 3381/29, 3381/31.

11 Museum Veliki Preslav, inv. no. 3381/35.

12 Batch 2 of 63 objects in total was in the RGZM from 26 September 2017 until 20 April 2018.

13 Museum Veliki Preslav, inv. no. 3381/1.

14 Museum Veliki Preslav, inv. no. 3381/8.

15 Museum Veliki Preslav, inv. no. 3381/16.

16 Museum Veliki Preslav, inv. no. 3381/36.

17 Museum Veliki Preslav, inv. nos 3381/51, 3381/52.

18 Museum Veliki Preslav, inv. nos 3381/30, 3381/32, 3381/33, 3381/34.

19 Museum Veliki Preslav, inv. no. 3381/13.



Fig. 5 Earring with beaded wire and pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 6 Earring with beaded wire and pearls, counterpart to the earring in fig. 5 (central ornament missing). – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 8 Earring with emeralds, rubies, garnets and pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 9 Earring with emeralds, rubies, garnets and pearls, counterpart to the earring in fig. 8. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 10 Two pendants with filigree and pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 11 Three pendants with granulation. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 12 Large necklace with 28 enameled plaques. – (Photo S. Steidl, LEIZA). – Not to scale.

Cleaning and Restoration

First, all the objects were studied under the microscope in preparation for the restoration process (fig. 17). Mechanical damage, dirt layers, corrosion products and remnants of former treatments had to be identified, resulting in the conclusion that all the objects were in need of cleaning, and in some cases stabilising and reassembling.

Some of the objects had been copied in the past and mould-making materials, such as silicon-rubber and plasticine used in this process, had left traces on several of them.

Remains of earlier, undocumented restorations – such as adhesive residues – were also identified on the objects. In addition, thin lime concretions had formed over the course of the roughly one thousand years the treasure lay buried in the ground.

The objects were then mechanically cleaned under the microscope. Materials resulting from earlier (albeit undocumented) restorations had to be removed where the methods of stabilising an object were insufficient. An example is



Fig. 13 Enamelled earring with peacock on the central medallion. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 14 Two enamelled spherical pendants with *cloisonné* enamel. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 16 Eleven appliques made of sheet gold. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 15 Two silver spoons. – (Photo S. Steidl, LEIZA). – Scale 1:2.



Fig. 17 Examination of the enamelled necklace under the microscope by M. Heinzl. – (Photo R. Müller, LEIZA).

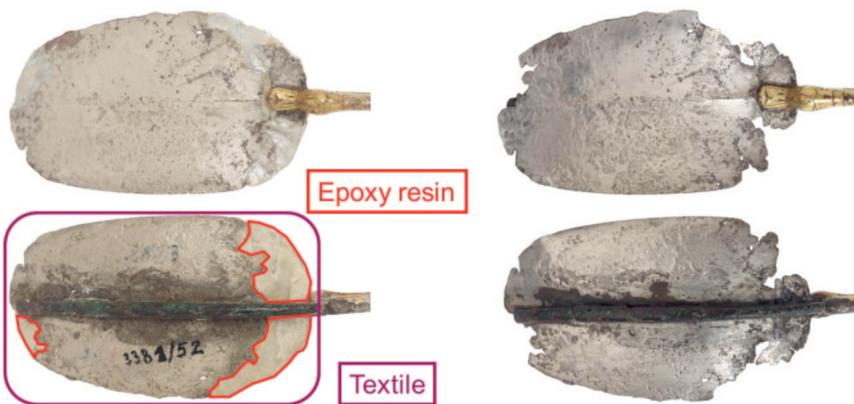


Fig. 18 Bowls of the two silver spoons before restoration (right) and after (left). – (Photo S. Steidl, LEIZA).



Fig. 19 The rhombic pendant after restoration (compare fig. 4 for the condition before restoration). – (Photo S. Steidl, LEIZA). – Scale c. 2:1.

Fig. 20 Gilded silver plaque with confronted peacocks before restoration (right) and after (left). – (Photo S. Steidl, LEIZA).



the rough synthetic textile in combination with a thick layer of glue on one silver spoon²⁰ that needed to be removed (figs 15. 18). The glue-soaked textile had covered the original parts of the spoon to such an extent that it obscured the morphology of the surface and decorative details. Another important aspect of the restoration work was reassembling fragments, as well as stabilising very fragile parts and complete objects.

Examples

A gold pendant with precious stones, pearls and stone settings, with remnants of a filling material²¹ (fig. 4), was entirely contaminated with plasticine and silicone rubber. Thin layers of calcareous concretions covered parts of the gold surface. Most of these materials were removed mechanically, using soft tools such as wooden sticks, cotton-swabs and soft brushes, with locally restricted use of de-ionised water, ethanol and weak acids. To remove the plasticine, a combination of ethanol and de-ionised water, applied with cotton-swabs and soft brushes, was effective. The silicone rubber was removed mechanically with the help of wooden picks and other soft tools, without employing fluids. Traces of calcareous layers were dissolved and removed using a weak acid (diluted citric acid), but due to the fluid's nature, any contact of the solution with the pearls had to be strictly avoided. After this procedure it was therefore necessary to neutralise the treated areas with de-ionised water. As a result, the precious stones and the gold regained their former lustre (fig. 19).

Substances remaining from earlier restoration treatments on some objects affected their visual impact, for example, the gilded silver plaque with confronted peacocks²² (fig. 20): the two fragments had been agglutinated incorrectly, using a large amount of epoxy resin, which had to be removed. This was achieved with diamond grinding tools, without touching the soft silver surface. After separating the two parts of the peacock plaque, the surface was cleaned with de-ionised

water and ethanol using cotton-swabs and soft brushes, as well as a soft rubber pen. The two fragments were then reconnected and stabilised on the back with reversible glue (Paraloid B-72), supported by a silk fabric. On other objects, wax-like substances had to be removed with soft brushes and a mixture of ethanol and de-ionised water.

A silver spoon decorated with two gilded duck-heads at each end of the handle²³ (figs 15. 18) showed three fractures that had been filled with epoxy resin during a previous restoration, and the spoon had been given a final coating of artificial silver varnish. These connecting materials had to be removed during the recent restoration because they obscured the original surface of the spoon. In order to stabilise both spoons, their parts were reconnected using Paraloid B-72, strengthened with a piece of fabric for stability. The cracks were left unfilled because this was not necessary for the stability of the spoon and also left the fractures visible to reflect of the objects' biography.

The silver objects of the treasure, in particular, were covered with corrosion products, such as silver sulphide, silver chloride, and also copper corrosion products. These materials were removed or reduced with chemical solvents under the microscope using soft tools. To protect the silver surface in future, the objects were treated with a coating of Paraloid B-72.

During the cleaning process of the objects of the Preslav Treasure, it became clear that on the two pendants with emeralds and pearls²⁴ (figs 2-3. 21-22) some fragments of the precious stones had been joined incorrectly. The adhesive used before was first dissolved and the fragments were re-arranged in the right position.

The emerald fragment on the front of the pendant without pearls fits exactly to the fragment of the other pendant, while the fragment on the verso finds its exact counterpart in the fragment on the lower part (fig. 21). Another part of an emerald bead was found among the non-metallic objects of the Preslav Treasure (fig. 22): a total of four small items had been described as »glass«²⁵, but only the black and the blue objects were actually made of glass, while the two green

20 Museum Veliki Preslav, inv. no. 3381/52.

21 Museum Veliki Preslav, inv. no. 3381/3a.

22 Museum Veliki Preslav, inv. no. 3381/13.

23 Museum Veliki Preslav, inv. no. 3381/52.

24 Museum Veliki Preslav, inv. nos. 3381/3a and 3381/3b.

25 Museum Veliki Preslav, inv. no. 3381/39.

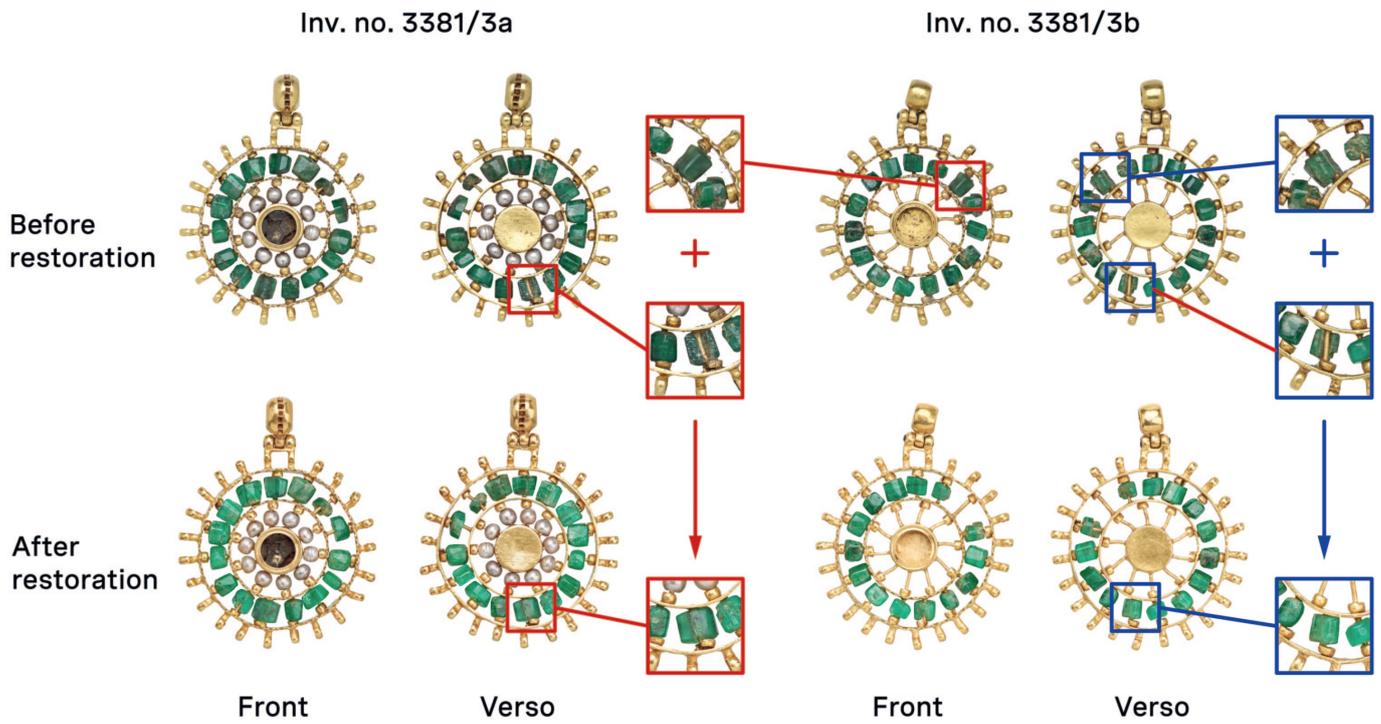


Fig. 21 The two pendants with emeralds and pearls before restoration (top) and after (below), and re-arrangement of the emerald fragments. – (Photos S. Steidl, LEIZA).

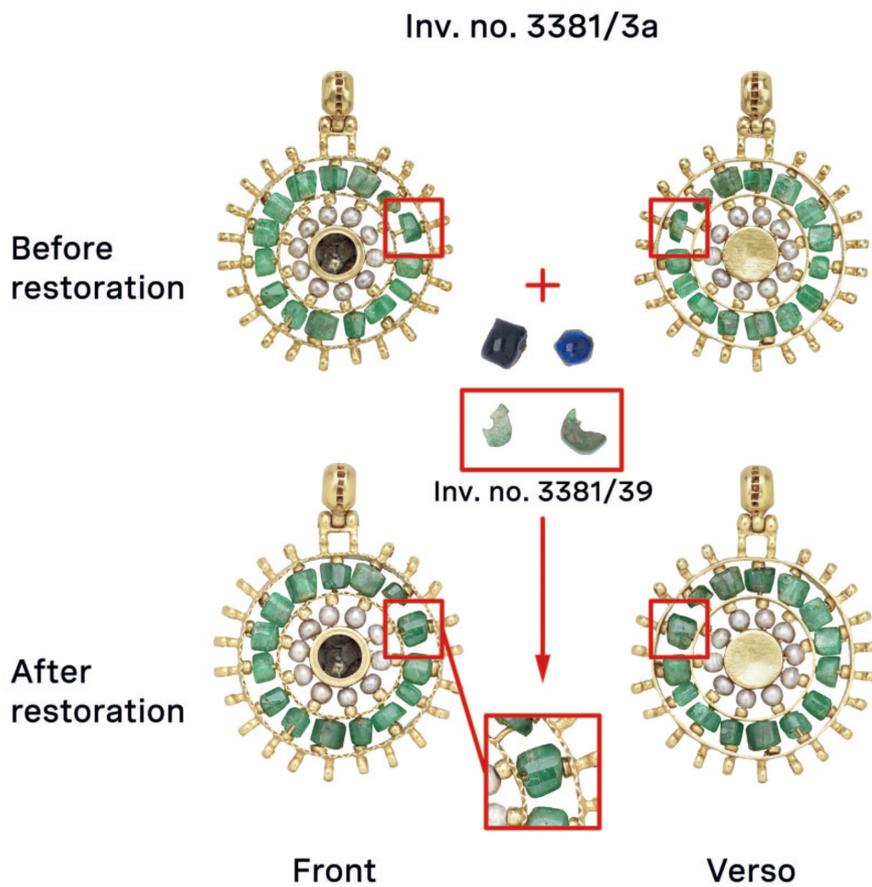
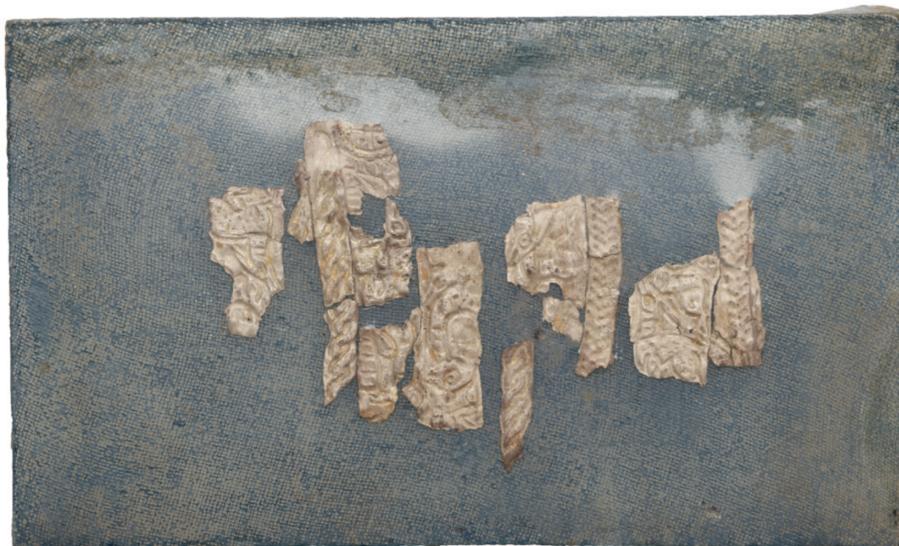


Fig. 22 The pendant with emeralds and pearls and the two emerald fragments, which fit exactly to the half emerald bead on the pendant. – (Photos S. Steidl, LEIZA).

Fig. 23 Fragments of a thin silver sheet with relief decoration before restoration (with plastic cover). – (Photo S. Steidl, LEIZA). – Scale 1:1.



fragments are emeralds. The two fragments originally belonged to the same emerald bead, but had also been joined incorrectly. The two fragments were then agglutinated in the right position with cyanoacrylate, a reversible glue.

It was only the examination of the two green fragments under the microscope that could clarify their identification as emeralds. They showed the typical hexagonal shape of an uncut emerald and proved to belong to the same crystal. The two joined emerald fragments turned out to fit exactly to one half of an emerald bead on the round medallion without pearls²⁶ and were added to this with the help of cyanoacrylate.

The fragments of a thin silver sheet with relief decoration²⁷ (figs 23-24), originally decorating the rim of a drinking vessel, arrived at Mainz fixed on a plastic plate and covered with plastic foil (fig. 23). These measures had been taken to secure and stabilise the extremely thin and fragile fragments. In Mainz, the plastic foil was removed and the fragments detached from the plastic plate. After cleaning and a thorough examination of the rims of the fragments, they were re-arranged and re-fixed (fig. 24). Because of the high fragility of the thin corroded silver sheets, the reverse of the object was stabilised using silk fabric in combination with Paraloid B-72. After restoration, the silver surface regained some of its original shine. Furthermore, it was now possible to position the fragments in the correct order and obtain a clearer picture of its relief decoration consisting of a chevron pattern, a plaited band, birds and other animals.



Fig. 24 Thin silver sheet with relief decoration after restoration. – (Photo S. Steidl, LEIZA). – Scale 1:1.

Further Activities

After restoration, all objects were placed into new boxes made according to modern standards, especially necessary due to the stress on the objects during transport²⁸. Each object was cushioned in a separate box with an interior solid foam inlay, cut according to the shape and size of the objects (fig. 25). Another important part of the Preslav Treasure project was the investigation of the manufacturing techniques supported by scientific analyses. This work is work in progress and will be fully presented in the final publication of the Preslav Treasure.

26 Museum Veliki Preslav, inv. no. 3381/3b.

27 Museum Veliki Preslav, inv. no. 3381/56.

28 The boxes consist of synthetic material PS (polystyrol from Licefa art. nos. V3-40 and V3-74) or acid-free cardboard (KS 16 Stülpbox MW 1.65 mm graublau/naturweiß from Klug Conservation, art. no. 214701637). The foam was made using the high-standard material plastozote (polyethylen-foam from Wikotech, art. no. WO19310).



Fig. 25 Objects from the Treasure placed in new boxes for transport. – (Photo S. Steidl, LEIZA).

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Summary / Zusammenfassung / Résumé

The Preslav Treasure: Preliminary Report on the Restoration Conducted at the Leibniz-Zentrum für Archäologie (LEIZA), Mainz

The Byzantine Preslav Treasure was investigated in 2017-2018 at the Leibniz-Zentrum für Archäologie in Mainz within the frame of the research project »The Preslav Treasure from Bulgaria (Tenth Century)«. The main tasks for this project were to clean and restore the objects, and to analyse the manufacturing techniques. The processes involved removing remnants of mould-making materials from previous treatments and soil that had gathered during the roughly one thousand years the objects were in the ground. Furthermore, glue and other residues of previous undocumented restorations were removed and replaced. This led to an improvement of the visual appearance of the objects. Some fragments that had been incorrectly assigned could be re-connected with objects from the Treasure. Another important part was documentation using high-quality photographs and also microscope photographs. For safe transport and storage, new packaging was produced according to today's standards.

Der Preslav-Schatz: Vorbericht über die Restaurierung am Leibniz-Zentrum für Archäologie (LEIZA), Mainz

Der byzantinische Preslav-Schatz wurde im Rahmen des Projekts »The Preslav Treasure from Bulgaria (Tenth Century)« untersucht und befand sich von 2017-2018 im Leibniz-Zentrum für Archäologie in Mainz. Dort wurde er gereinigt, restauriert und analysiert, wobei im vorliegenden Text die Restaurierung im Fokus steht. Dabei wurden nicht nur die Überreste von früheren Abformungen sowie anhaftende Materialien der fast tausendjährigen Bodenlagerung entfernt, sondern auch Klebungen von früheren undokumentierten Restaurierungen beseitigt und erneuert. Dies führte zu einer erheblichen Verbesserung des optischen Gesamteindrucks. Auch einzelne fehlerhaft zugewiesene Objektteile konnten ihren korrekten Positionen zugeordnet werden. Weiterhin wurden hochauflösende Fotografien angefertigt sowie Mikroskopfotografien. Darüber hinaus wurden neue Verpackungen nach modernsten Standards für die einzelnen Bestandteile des Schatzfundes angefertigt, um den sicheren Rücktransport zu garantieren.

Le trésor de Preslav: rapport préliminaire sur la restauration au Leibniz-Zentrum für Archäologie (LEIZA) à Mayence

Le trésor byzantin de Preslav a été étudié dans le cadre du projet »The Preslav Treasure from Bulgaria (Tenth Century)« et a séjourné au Leibniz-Zentrum für Archäologie à Mayence entre 2017 et 2018. Il y a été nettoyé, restauré et analysé, la restauration constituant le point central du présent rapport. Ce travail a permis non seulement d'éliminer les restes de moulages antérieurs ainsi que les résidus accumulés pendant près de mille ans de conservation dans le sol, mais aussi de retirer et de renouveler les anciens assemblages issus de restaurations précédentes non documentées. L'aspect visuel général des objets s'en est trouvé considérablement amélioré. Certains fragments qui avaient été précédemment attribués de manière erronée ont pu être reconnectés avec des objets du trésor. En outre, des photographies en haute résolution et des images prises au microscope ont été réalisées. De nouveaux emballages ont également été conçus selon les normes les plus récentes pour chacun des éléments du trésor, afin d'assurer un trajet de retour en toute sécurité.

Preliminary Results of Non-Destructive Investigations into the Enamels and Gemstones of the Preslav Treasure

The tenth-century Preslav Treasure illustrates the importance of the ancient capital of the First Bulgarian State, Veliki Preslav. Made of different metals and alloys, precious stones and various coloured enamels, it is one of the most significant archaeological discoveries of the Middle Ages in Bulgaria. Probably concealed during the Byzantine invasion in 971, it remained in the soil for ten centuries¹. The treasure consists of Byzantine masterpieces of goldsmiths' works, such as a set of enamelled plaques, probably belonging to a diadem, a double-sided gold necklace with enamels and gemstones, enamelled earrings, and gold appliques.

In light of the fact that only a few Byzantine goldsmiths' works have been hitherto investigated with scientific methods, the analyses conducted in the frame of the research project are of great importance. Studying the Preslav Treasure was an interdisciplinary work, bringing together art historians, archaeologists, goldsmiths and scientists of the Leibniz-Zentrum für Archäologie (LEIZA, formerly RGZM), the Johannes Gutenberg University of Mainz (JGU) and the Justus Liebig University of Giessen (JLU), in co-operation with the Bulgarian Academy of Sciences and the Museum »Veliki Preslav«.

In this paper, we will present the initial results of the scientific analyses of gemstones, enamels and metals.

Analytical Methods

All analyses had to be conducted without taking samples, without manipulating the surface of the objects, and without placing them in a vacuum, in order to preserve their integrity. Our analytical strategy was thus to only use non-invasive and non-destructive techniques. First, Micro-X-ray Fluorescence analysis (μ -XRF) was used on non-prepared surfaces. Depending on the material and the condition of the surface, this provides elemental full or semi quantitative results. Parallel to μ -XRF, Raman spectroscopy was also employed. This yields structural phase information on pigments used in the enamel layers. Combining the results of these two techniques helped to determine enamel compositions, colouring agents and opacifiers, thus expanding our knowledge on Byzantine

enamelling techniques and relationships to enamels of other areas.

The elemental analyses were performed using a μ -XRF Eagle III XXL (ROENALYTIC, Taunusstein) at the LEIZA in Mainz. With this device, quantitative, qualitative and semi-quantitative analysis of all elements with an atomic weight higher than that of neon can be achieved if the sample chamber is under vacuum, and beyond silicon under ambient conditions. The fragile condition of vitreous enamels, particularly, prevented us from performing analyses under vacuum, as low pressure might induce internal stress and result in the formation of cracks. As mentioned above, no preparation of the object surface was allowed, which reduced quantitative information gained from enamels in particular concerning the light elements, such as those containing silicon and sodium. Thus, the information we could collect regarding lighter elements contained in the enamel glass matrix was limited, while analysis of metallic materials was not constrained by this procedure.

The X-ray source was a rhodium anode with a maximum excitation voltage of 40 kV and an anode current of 1 mA. The beam diameter was 0.3 mm, which allowed the analysis of small areas, promising results with satisfactory spatial resolution. Two internal cameras (with different magnifications of 10 \times and 100 \times , respectively) recorded the beam in order to locate the analysed area precisely. The instrument was calibrated with glass standards from the Corning Museum of Glass, the National Institute of Standards (NBS) and various commercially available gold, silver and copper alloy reference materials. Light elements, such as sodium (Na), aluminium (Al) or magnesium (Mg), which are important for the characterisation of the enamel glass body could not be fully quantified as explained above. The numerical data presented here for vitreous materials were calculated to a total of 100 weight% by the elements that could actually be detected. Thus, the XRF results for glassy enamels are comparable to each other, but not to fully quantified results from other studies due to the limiting conditions of the analyses. The semi-quantitative character of these results nevertheless permits the acquisition of valuable information. The numerical

1 See the contribution by S. Bonev and P. Slavov in this volume.

Fig. 1 Preslav Treasure. **a-b** Gold earring with pearls and gemstones. – (Photo S. Steidl, LEIZA). – Scale 1:1.

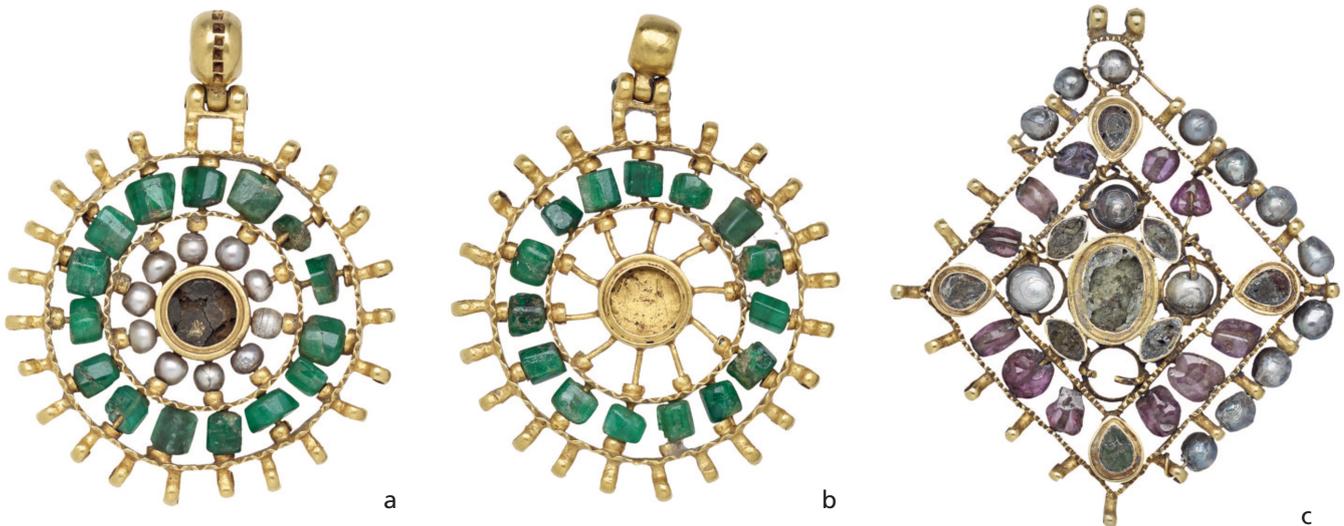


Fig. 2 Preslav Treasure. **a** Gold pendant with beryls (emeralds) and pearls – **b** Gold pendant with beryls (emeralds). – **c** Gold pendant with corundums and pearls – (Photos S. Steidl, LEIZA). – Scale 1:1.

values for metallic compounds were, however, not affected by these limitations.

The Raman analyses were performed using a LabRam HR800 spectrometer (Horiba Jobin Yvon) at the department of Geosciences at the JGU. Laser wavelengths of 532 nm and 488 nm with a 1800 lines/mm grating were used, which provided structural information revealing the general compositional type of vitreous enamels, and the nature of pigments and opacifiers. The spectral resolution is 0.5 cm^{-1} , which allowed good precision for peak positions. It was calibrated

with a silicon chip at 520.7 cm^{-1} . The measurements were performed with 50× and 100× magnifying lenses, providing analysis diameters of a few micrometres in width. The laser power was modulated with density filters in order not to degrade the glass sample. Spectra interpretation for glass matrices was based on the comparison with standard compounds from the Corning Museum of Glass and the National Institute of Standards, with the RRUFF online database, the in-lab database of the Geosciences department of the JGU and references from the literature on ancient glass. The glass



Fig. 3 Preslav Treasure. Gold necklace with enamels, precious stones and pearls. – (Photo S. Steidl, LEIZA). – Not to scale.

types were therefore determined by comparing our Raman results to the classification of P. Colomban who used Raman spectroscopy as a new methodology to distinguish different types of glasses². Glass types are related to the use of either silicon or lead as glass network formers and the choice of the fluxing agent (mineral soda, halophytic plant-ash soda, wood-ash or lead oxides).

Analysis of Gemstones

A pair of earrings (fig. 1a-b), three pendants (fig. 2a-c), the large enamelled necklace (fig. 3), a stone seal set in gold (fig. 4a-b) and a gold ring (fig. 5) are decorated with precious stones. Their colours are either translucent green or bear different shades of red (earrings, pendants and ring, figs 1a-b, 2c, 5), colourless with streaks of violet (necklace, fig. 3) and colourless (seal, fig. 4a-b). Raman analyses yielded the molecular structure of those stones and were completed by XRF analysis to specify the nature of the stones.

Green stones were used to manufacture the pair of earrings and two of the three pendants (figs 1a-b, 2a-b). Raman spectra revealed that the green gemstones are all beryls ($\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$), belonging to the mineral variety called emerald. They are coloured green by trace amounts of chromium and vanadium. Beryls were also used as thin platelets in the almond-shaped settings on one of the pendants (fig. 6).

2 Colomban, Raman.



Fig. 4 Preslav Treasure. Rock crystal seal showing the Annunciation in gold setting: **a** Side. – **b** Front with intaglio. – (Photo S. Steidl, LEIZA). – Scale 2:1



Fig. 5 Preslav Treasure. Gold ring with carnelian intaglio. – (Photo S. Steidl, LEIZA). – Scale 2:1.



Fig. 6 Preslav Treasure. Detail of pendant with corundums and pearls in **fig. 2c**. – (Photo S. Steidl, LEIZA; labelling added by A. Bosselmann-Ruickbie). – Not to scale.



Fig. 8 Preslav Treasure. Detail of necklace with enamels, precious stones and pearls as in **fig. 3**: fluorite bead. – (Photo S. Steidl, LEIZA). – Not to scale.



Fig. 7 Preslav Treasure. Detail of pendant with corundums and pearls in **fig. 2c**. – (Photo S. Steidl, LEIZA; labelling added by A. Bosselmann-Ruickbie). – Not to scale.

Raman analysis helped to determine the mineralogical identity of the red gemstones. Two different minerals were identified: red corundum (Al_2O_3) and garnet (a family of silicate minerals with the general formula $\text{X}_3\text{Z}_2(\text{SiO}_4)_3$). On the pendant with reddish gemstones (**fig. 2c**), we identified mostly red corundum except for one stone, which is actually a garnet (**fig. 7, right**). The stone is fixed with a thin wire that was inexpertly wrapped around the pendant and thus differs from the method used for the other stones. Another gemstone (**fig. 7, left**) was also fixed in this way, but the analyses have confirmed that it is a red corundum like the other stones. It is not possible to determine if the repairs were executed in the Middle Ages or after the excavation (there is no documentation on restorations of the Preslav Treasure).

Other precious stones used in the Preslav Treasure are the rock crystal (SiO_2) seal in a gold setting (**fig. 4a-b**), the carnelian set in a ring bezel (**fig. 5**) and fluorite (CaF_2) on the large necklace (**fig. 8**)³.

The pearls from the Preslav Treasure were also analysed; however, the results are limited due to the project's requirement to use non-destructive methods exclusively. This excluded the use of a vacuum, thus, we can only state that the pearls are natural, but no further information was gained as to their provenance.

Analysis of Metals and Alloys

The metallic parts of all the artefacts were analysed. The masterpieces of the treasure, such as the necklace, earrings and rings are made of high-carat gold alloys, while other objects are made of silver, bronze and brass. The choice of the metal and the composition of the alloys seem to be determined also by the expected mechanical use of each functional part. Surfaces were cleaned during the original restoration process after excavation so that the quantification should have been only marginally affected by corrosion.

The most impressive artefacts are the necklace (**fig. 3**), the three large pendants (**fig. 2a-c**) and five pairs of earrings (**figs 1. 9-12**). They were made from rich gold alloys with mostly more than 90% gold. For the loops (example in **fig. 13**) that hold the weight of other pieces, the gold contents are lower. Pure gold is the most malleable metal, but by decreasing the amount of gold by adding silver and copper, the gold alloy becomes harder and thus stronger than pure gold and strengthens the mechanical property of the loop connecting different parts of the jewellery, such as a loop and its pendant. This testifies to the medieval goldsmiths' ability to control the production of alloys with precision.

³ The use of fluorite (CaF_2) in the Middle Ages is extremely rare, therefore, the stone could either be an exception to the rule or a later replacement.



Fig. 9 Preslav Treasure. Gold earring with enamels (details in fig. 16). – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 11 Preslav Treasure. Gold earring with pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 10 Preslav Treasure. Gold earring with enamels, missing its central enamel medallion. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 12 Preslav Treasure. Gold earring with pearls. – (Photo S. Steidl, LEIZA). – Scale 1:1.



Fig. 13 Preslav Treasure. Detail of necklace with enamels, precious stones and pearls as in **fig. 3**: enamel with the Mother of God. – (Photo S. Steidl, LEIZA). – Not to scale.



Fig. 14 Preslav Treasure. Detail of gold suspension of rock crystal seal in **fig. 4a-b**. – (Photo M. Aubin).



Fig. 15 Preslav Treasure. Gold suspension ring, originally belonging to the rock crystal seal with gold setting in **figs 4a-b** and **14**. – (Photo M. Aubin; labelling by A. Bosselmann-Ruickbie). – Not to scale.

Analysing the gold composition also allows the detection of minor or major repairs on an artefact. The rock crystal seal (**fig. 4a, b**) is a good example: a repair was noticed on the gold setting of the crystal (**fig. 14**). The gold composition of the original structure and the repair are very different. Knowing the exact gold composition also helped to re-unite pieces from the same object that a thousand years underground have torn apart: a small gold loop found with the treasure (**fig. 15**) has the same gold composition as the rock crystal seal's setting. Moreover, its dimensions fit the hinge of the seal perfectly. We can assume that this tiny gold loop was originally the suspension loop of the pendant, as had been suggested by Kremena Stoeva, Museum Veliki Preslav.

4 Colomban, Raman 849.
5 Jackson/Cottam, Green Thought 141-143.

Enamels Analysis

Green Enamels

Raman analysis revealed that the emerald green translucent enamels are made of soda glass (see **figs 3, 9-10, 13**) according to Colomban's classification⁴. We observed a high amount of potassium compared to other glasses. This can result from the use of plant ashes as a sodium source, which was not unusual for emerald green glass of the Roman period⁵. The green colour could be obtained from a copper-rich bronze as the glass contains tin and lead with traces of zinc⁶. All green enamels of the Preslav Treasure present a similar composition with slight differences probably due to the heterogeneity of the applied enamel powder or the use of different green glass batches for the preparation of the enamel.

Brown enamels

The shade varies from a brownish red to a dark purple translucent glass depending on the light and the thickness of the glass layer (**fig. 16** [detail of earring in **fig. 9** and on the book cover], beak and eye). These glasses are coloured brown by a high quantity of manganese combined with iron. The amount of potassium suggests that the type of glass matrix used from brown glasses is the same as the one used for green enamels. The Raman spectra reveal a soda-glass type with less potassium than green glasses, so the exact nature of the soda source (mineral or plant) could not be determined and a mixture of both is also possible.

6 Biron, Emaux 134.

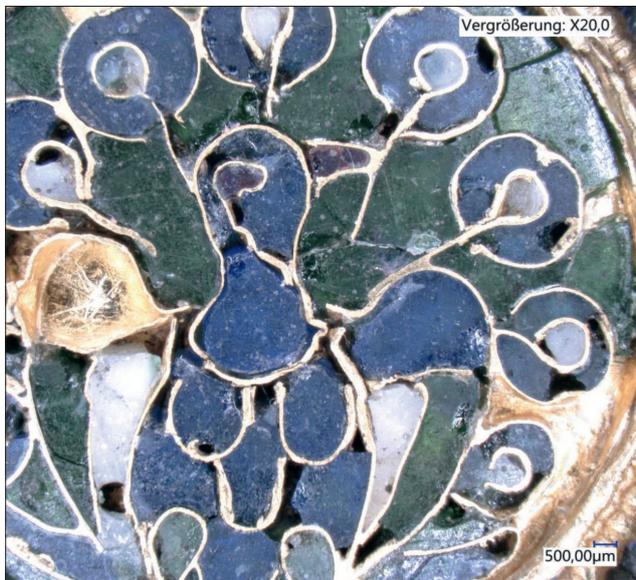


Fig. 16 Preslav Treasure. Detail of enamelled medallion with peacock, part of the gold earring in **fig. 9** (see also book cover). – (Photo M. Aubin).

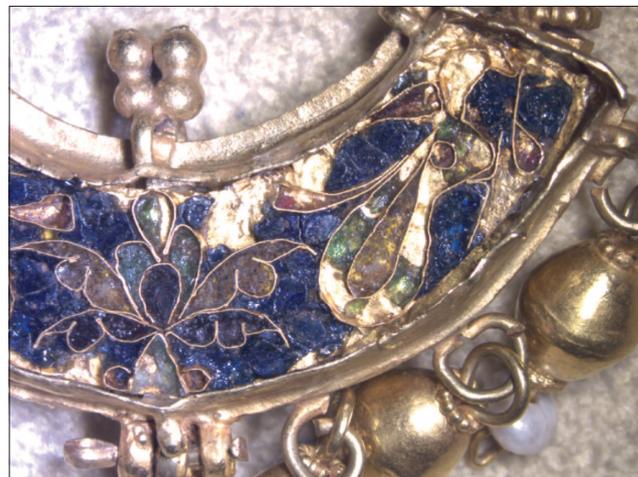


Fig. 18 Preslav Treasure. Detail of enamelled gold earring in **fig. 10** and **fig. 17** (other side), showing a peacock. – (Photo M. Aubin).



Fig. 17 Preslav Treasure. Detail of enamelled gold earring in **fig. 10**, showing a running dog. – (Photo S. Steidl, LEIZA, labelling by A. Bosselmann-Ruickbie).



Fig. 19 Preslav Treasure. Detail of necklace with enamels, precious stones and pearls as in **fig. 3**: almond-shaped enamel pendant with bird. – (Photo M. Aubin).

Yellow enamels

There are two kinds of yellow enamels in the jewellery of the Preslav Treasure. The first one is a bright translucent yellow glass, and the second one is a light-yellow opaque glass. The translucent yellow glass, found on one of the earrings with the depiction of a dog (**fig. 17**) and a peacock on the other side (**fig. 18**)⁷ is soda glass, characterised by low potassium contents (so-called natron glass), typical for the Roman period. The extremely low content of lead, antimony and tin gives a yellow colouration that is not based on the usual compounds we expect for yellow opacifiers. The high amounts of iron and manganese suggest that iron has been

oxidised from Fe^{2+} (blue colour) to Fe^{3+} (yellow colour) by manganese ions Mn^{3+} . However, iron must also be partially trapped in another complex structure because the yellow hue is not too dark⁸.

The opaque yellow glasses (**fig. 19**, wing) are typical lead-rich glass-pigment enamel composites known as early as Egyptian-period glass production. The Raman spectra of those enamels reveal the presence of quartz (SiO_2) as well as bindheimite ($\text{Pb}_2\text{Sb}_2\text{O}_7$), a yellow pigment. It is well known from the literature that lead antimonate pigments were used in the Roman period to produce yellow opaque glass. Normally, the substrate containing the yellow pigment was prepared beforehand and added to a natron glass⁹.

7 For the full report, see the final publication on the Preslav Treasure (forthcoming).
8 Donald, High-iron 542-543.

9 Peake/Freestone, Tarbat Ness 104.



Fig. 20 Preslav Treasure. Detail of necklace with enamels, precious stones and pearls as in fig. 3: almond-shaped enamel pendant, detail of damaged area. – (Photo M. Aubin).



Fig. 21 Preslav Treasure. Enamelled gold medallion, fragment of pair for enamel earring in fig. 10. – (Photo M. Aubin).

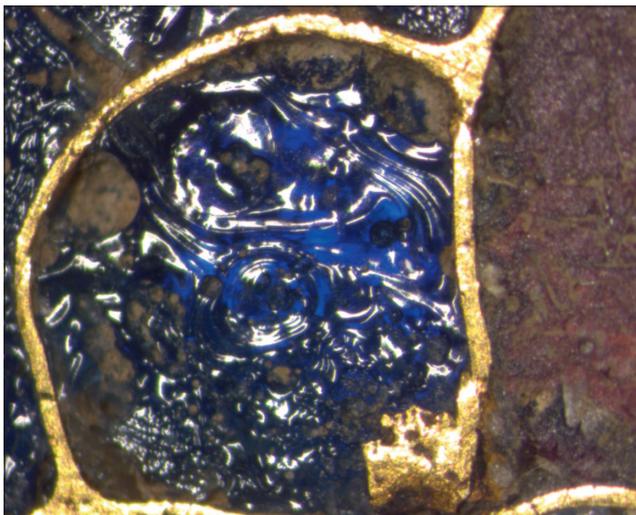


Fig. 22 Preslav Treasure. Detail of enamelled medallion in fig. 21. – (Photo M. Aubin).

White enamels

The white cells on face A of the necklace (fig. 20) show homogeneous quantification results with a high content of calcium and antimony. This correlates with the Raman results: we have found both calcium antimonates CaSb_2O_6 and $\text{Ca}_2\text{Sb}_2\text{O}_7$. These white compounds were used separately as a white pigment or combined with another pigment to modify the hue and the translucency. The same observation and results are obtained on face B but the quantification is more heterogeneous. It is interesting to note that the use of tin oxide SnO_2 could not be detected, although this pigment was already used in some western enamels and also glass beads at this time¹⁰.

Blue enamels

Based on the compositional variations, we have distinguished three types of blue enamels on the two earrings (figs 16-19, 21-22). The first one is an opaque blue glass, which is lighter than the rest of the blue glasses. It is a soda glass from Colomban's Raman group 3, corresponding to natron-glass (very low potassium content)¹¹. The colour is achieved by adding cobalt. To obtain this light opaque blue, the glass-maker used white calcium antimonate as an opacifier.

The second type of blue enamel is a translucent dark blue. The dark shade is due to a high amount of cobalt distributed in natron glass. The high amount of cobalt was possibly intended to convey a rather strong blue shade. If the translucent blue glass were too light, the yellowish gold substrate would shine through, which combined with the blue shade of the enamel, would probably produce a greenish mixed colour.

The last type of blue enamel is a dark blue natron glass that has a lower cobalt content. From the quantification results of silicium, cobalt, copper, zinc and lead, we distinguished what should be two different batches of this blue. The elemental compositions of these two batches are slightly different, but with probably the same original recipe, giving evidence that these blue enamels were made using two different sources or batches of blue glass powder.

Red enamels

There are three types of red enamel on the earrings (see figs 13, 17-19). Red enamels are only used for very small cells. The first type of red enamel is most frequently encountered: it is an opaque red lead glass with colour resulting from the presence of copper, most probably in the form of cuprite and elemental copper particles¹². The high amount of lead

¹⁰ Ma et al., *Glass Netherlands* 107.

¹¹ Colomban, *Raman* 849.

¹² Bandiera et al., *Red* 2.

can serve two purposes: firstly, it helps to produce copper or cuprite, thus creating a shiny light red; and secondly, it decreases the melting point of the glass, making it technically easier to fill the enamels into the small cells¹³. The second type of red enamel is also a lead glass with a significant tin content, the red shade, a little bit darker than the previous one. The last type of red is made with an entirely different formula. The lead content is distinctly lower and the iron content higher.

Result of the Enamel Analyses

The Byzantine enamels in the Preslav Treasure are typical glass-based materials in the tradition of Roman glass technology with the use of soda glass for green, brown, and blue, lead glass for yellow and red, and calcium antimonate as white pigment. The recycling of Roman glass is a well-known practice in the early medieval and medieval periods for producing translucent or opaque glass for beads and enamelling¹⁴. *Tesserae*, vessel glass and window glass were re-melted or used as additives to existing glass melts. The recycling of Roman glass is a much more likely explanation than the possibility that a Byzantine enamelling workshop would still be in possession of original Roman glass recipes. However, even the re-use of pre-existing glass involves careful consideration of temperature and oxidation regimes when using it to melt the enamel glass onto an object.

Some questions remain regarding the manufacturing process of the translucent yellow glass containing a high amount of iron. To reproduce this type of enamel would allow a better understanding of the chemistry inside the glass matrix.

The large variety of colours and manufacturing techniques for enamels suggests that the craftsmen had a well-developed expertise. We were able to distinguish the glass nature, the colourants and the opacifiers they used and see the variations in the composition relative to the different batches. The results of the enamel analyses reveal a certain homogeneity in technique across the different objects. All the white opacifiers are calcium antimonates and none are tin oxides, all the blue, green and brown colours have a similar composition. The variations in the red glass compositions indicate an in-depth knowledge of producing glass with different melting points dedicated to different areas.

However, our results can only be compared to other studies by taking into account that the exact quantities of small elements could not be determined due to the fact that exclusively non-destructive methods had to be used.

Conclusion

The analyses of the Preslav Treasure have revealed a high mastery of the Byzantine craftsmen who executed the goldsmiths' works and re-melted and coloured the glass. They were able to control the exact quantities of metal components in order to give their artefacts specific properties. The high quality of gold and the use of precious stones, such as corundum, emeralds and garnets, supports the idea that the Preslav Treasure represents the Byzantines' finest techniques.

13 Welter, *Characterisation* 118-120.

14 Theophilus Presbyter transl. by Brepohl, *Presbyter* 152. 194.

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Summary / Zusammenfassung / Résumé

Preliminary Results of Non-Destructive Investigations into the Enamels and Gemstones of the Preslav Treasure

The Preslav Treasure serves as a testament to the prominence of the ancient Bulgarian capital, Veliki Preslav. Comprised of richly decorated gold and silver artefacts, it represents one of the most significant archaeological discoveries related to the Byzantine period in Bulgaria. Likely concealed during the Byzantine invasion of 971, the treasure remained undisturbed in the soil for a millennium. The collection consists of exquisite goldsmithing masterpieces, featuring precious stones, pearls and enamelled decorations. With its *terminus ante quem*, the artefacts in the treasure are among the rare examples of dated Byzantine enamels and goldsmiths' works with a documented provenance.

The analysis of this Bulgarian national treasure necessitated non-invasive methods to preserve the integrity of these precious and fragile objects. Our analytical approach involved the integration of non-destructive techniques, such as micro-X-ray fluorescence (μ -XRF) and Raman spectroscopy, to elucidate the manufacturing processes, as well as to analyse the composition of the metals, especially gold, gemstones, and enamels. These methods provide elemental and structural information that is crucial for understanding the materials and techniques used.

The analysis of the Preslav Treasure has revealed that the Byzantine enamels present on these artefacts are typical of glass produced within the Roman glassmaking tradition. The composition of the gold indicates a sophisticated capability to create specific alloys tailored to the intended function of each gold component. This research has significantly enhanced our understanding of Byzantine technology and materials, as well as the skills of the craftsmen who excelled in producing such magnificent works of art.

Vorläufige Ergebnisse der zerstörungsfreien Untersuchung von Emails und Edelsteinen im Preslav-Schatz

Der Preslav-Schatz zeugt von der Bedeutung der alten bulgarischen Hauptstadt Veliki Preslav. Er besteht aus reich verzierten Gold- und Silberobjekten und stellt eine der bedeutendsten archäologischen Entdeckungen Bulgariens aus der byzantinischen Zeit dar. Wahrscheinlich wurde der Schatz während der byzantinischen Invasion im Jahr 971 versteckt und blieb ein Jahrtausend lang ungestört im Boden verborgen. Der Schatzfund besteht aus höchst qualitativollen Goldschmiedearbeiten, die mit Edelsteinen, Perlen und Emails verziert sind. Mit ihrem *terminus ante quem* gehören die Artefakte des Schatzes zu den seltenen Beispielen datierter byzantinischer Emails und Goldschmiedearbeiten mit dokumentierter Provenienz.

Die Analyse dieses bulgarischen Nationalschatzes erforderte nicht-invasive Methoden, um die Unversehrtheit dieser kostbaren und zerbrechlichen Objekte zu bewahren. Unser analytischer Ansatz umfasste die Integration zerstörungsfreier Techniken wie die Mikro-Röntgenfluoreszenz (μ -XRF) und die Raman-Spektroskopie, um die Herstellungsprozesse aufzuklären und die Zusammensetzung der Metalle, insbesondere des Goldes, der Edelsteine und der Emails zu analysieren. Diese Methoden liefern chemische und strukturelle Informationen, die für das Verständnis der verwendeten Materialien und Techniken entscheidend sind.

Die Analyse des Preslav-Schatzes hat gezeigt, dass die byzantinischen Emails auf diesen Artefakten typisch für Gläser sind, die in der Tradition römischer Gläser stehen. Die Zusammensetzung des Goldes deutet auf eine hochentwickelte Fähigkeit zur Herstellung spezifischer Metall-Legierungen hin, die auf die beabsichtigte Funktion der einzelnen Gold-elemente zugeschnitten waren. Diese Forschungen haben unsere Kenntnisse der byzantinischen Technologie und Materialien sowie der Fähigkeiten der Handwerker, die sich bei der Herstellung solch großartiger Kunstwerke auszeichneten, stark erweitert.

Résultats préliminaires des examens non destructifs des émaux et des pierres précieuses du trésor de Preslav

Le trésor de Preslav témoigne de l'importance de l'ancienne capitale bulgare, Veliki Preslav. Composé d'objets en or et en argent richement décorés, il représente l'une des plus importantes découvertes archéologiques liées à la période byzantine en Bulgarie. Probablement dissimulé lors de l'invasion byzantine de 971, le trésor est resté intact dans le sol pendant un millénaire. La collection se compose de chefs-d'œuvre d'orfèvrerie, avec des pierres précieuses, des perles et des décorations émaillées. Par leur *terminus ante quem*, les objets du trésor comptent parmi les rares exemples d'émaux et de pièces d'orfèvrerie byzantins datés dont la provenance est documentée.

L'analyse de ce trésor national bulgare a nécessité des méthodes non invasives pour préserver l'intégrité de ces objets précieux et fragiles. Notre approche analytique s'est fondée sur des techniques non destructives, telles que la fluorescence micro-X (μ -XRF) et la spectroscopie Raman, afin d'élucider les processus de fabrication et d'analyser la composition des métaux, en particulier de l'or, des pierres précieuses et des émaux. Ces méthodes fournissent des informations élémentaires et structurelles qui sont cruciales pour comprendre les matériaux et les techniques utilisés.

L'analyse du trésor de Preslav a révélé que les émaux byzantins présents sur ces objets sont typiques des verres produits dans la tradition verrière romaine. La composition de l'or indique une capacité sophistiquée à créer des alliages spécifiques adaptés à la fonction prévue de chaque composant en or. Ces recherches ont considérablement amélioré notre compréhension de la technologie et des matériaux byzantins, ainsi que des compétences des artisans qui ont excellé dans la production de ces magnifiques œuvres d'art.

Laboratory Study of Byzantine Enamels from the Louvre Museum: Techniques of Manufacturing and Materials

Sixteen Byzantine *cloisonné* enamels on gold in the Louvre Museum, supposedly from Constantinople, were studied in the laboratory of the Centre de Recherche et de Restauration des Musées de France (C2RMF) (tab. 1; figs 1-3, 6-8)¹. This paper presents the results gained in a study on the manufacturing techniques and the nature of the glass used in these enamels (for the history of these enamels see essay by Jannic Durand²).

The techniques of the enamels were studied under high magnification and with X-ray radiography. Non-destructive ion beam analyses were made directly on the glass surface of the objects by using an external proton beam of 2.95MeV on the target, produced by the AGLAE accelerator of the C2RMF in PIXE and PIGE modes (respectively proton-induced X- and Gamma-rays emission). Details about the experimental set-up have been published elsewhere³.

Byzantine craftsmen have produced enamels of high quality since the sixth century⁴. These high-quality objects were made from melted glass on gold and enjoyed an exceptional reputation. It has long been thought that Western enamels were made under the influence of Byzantine models, but a thorough technical and stylistic study of these enamels sheds a different light on this question⁵. The few enamels considered to be Early Byzantine (fifth-sixth centuries) are actually made using the filigree technique described below, inherited from ancient Greece, and not that of *cloisonné* enamels⁶. The *cloisonné* technique, which made the Byzantine enamellers very famous, was actually imported from the West in the early ninth century.

| Nr. | Date | Technol. period | Objects | Size | Inv. Nr. | Bibliography |
|-------|---|-----------------|--|--|---------------|--|
| 1 | End 9 th - beg. 10 th c. | 2 | The Stoclet paten | Total diam. 12.3 cm medallion 3.2 cm | OA11878 | Durand, Les émaux; L'art byzantin; Nouvelles acquisitions; Patène Stoclet; Patène. – Cat. New York 1997, cat. 28 |
| 2 | End 9 th - beg. 10 th c. | 2 | Medallion with the bust of a winged Archangel | Diam. 2 cm | OA6270 | Cat. Paris 1992, cat. 227 |
| 3 | 10 th c. | 3A | Medallion the Crucifixion | Diam. 3.8-3.9 cm | OA12136 | Durand, Les émaux |
| 4 | 10 th c. | 3A | Medallion the Blessing Christ | Diam. 2.3-2.4 cm | OA12137 | |
| 5 | 10 th - 11 th c. | 3A | Rectangular decorative plate with two rosettes | L. 2. l. 3.5 cm | OA12139 | |
| 6 | 11 th - beg. 12 th c. | 3B | Medallion the Bust of Archangel Saint Michel | Diam. 2.6-2.7 cm | OA12138 | |
| 7 | End 11 th - beg. 12 th c. | 3B | Medallion Saint Demetrios | Diam. 8.4 cm | OA6457 | Cat. Paris 1992, cat. 239 |
| 8-11 | 11 th - 12 th c. | 4 | Four large trapezoidal decorative plates | L. 5.6-5.8, l. 2-2.1, P. 2.6-2.7 cm L. 6.1-6.2, l. 2-2.1, P. 2.6-2.7 cm | OA12140-12143 | |
| 12-15 | 11 th - 12 th c. | 4 | Four smaller rectangular plates | L. 2.1, l. 1.8-1.9 cm | OA12144-12147 | |
| 16 | 11 th - 12 th c. | 4 | Icon cover plate | L. 11.3, l. 5.4, thickness 0.2 cm | OA6458 | Cat. Paris 1992, cat. 242 |

Tab. 1 List of the Byzantine enamels from the Louvre Museum, with their date, period concerning their manufacturing technique, size, inventory number and bibliography.

1 Pieces not presented in this text, see Biron et al., Les émaux 139-157; Durand, Les émaux 65-69.

2 Durand, Les émaux 65-69. – Durand, Smalto. – Durand, L'art byzantin.

3 Pichon et al., Development. – Biron et al., Les émaux 427-429.

4 Overviews in Durand, Les émaux 65-69. – Bosselmann-Ruickbie, Byzantine Jewelry and Enamels.

5 Buckton, Byzantine Enamel.

6 Buckton, Byzantine Enamel.

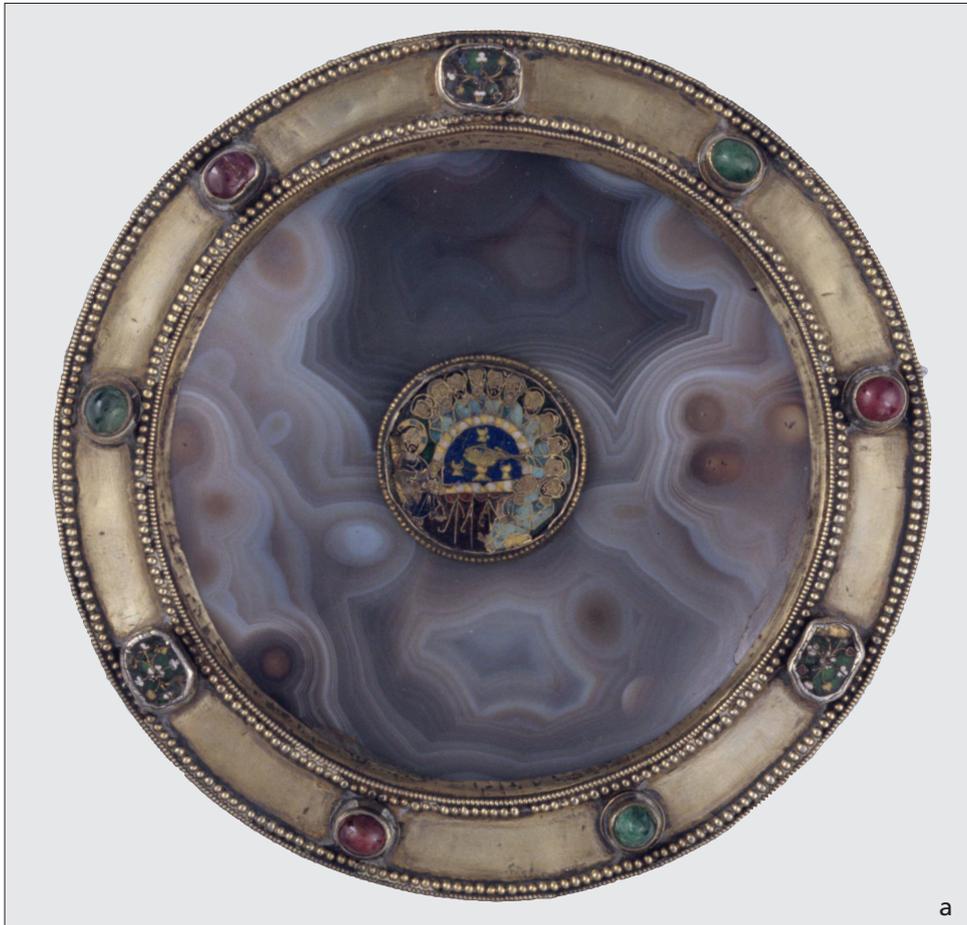


Fig. 1 The »Stoclet Paten« is made of a hard stone (sardonyx) with a gilt silver mount, enhanced with six gemstone cabochons and three *plique cloisonné* enamels on gold (made in Paris around 1300). Musée du Louvre, Paris, inv. no. OA11878. **a** Paten. – **b** Detail of the Byzantine *cloisonné* enamel (c. tenth century) on gold in the centre presenting the Last Supper. – (Photo C2RMF D. Bagault).



Techniques of Manufacturing

Byzantine *cloisonné* enamels consist of a gold support plate surrounded by a border (strapping ribbon or support) to create a cavity in which the *cloisons* are deposited. The cells are then filled with coloured glass powders. Stamping the

metal to shape details was used in several periods. Gold sheets, ribbons and *cloisons* were obtained from ingots by hammering the metal along with regular heating to reduce internal stresses.



Fig. 2 Medallion representing Christ. Musée du Louvre, Paris, inv. no. OA12137. **a** Face. – **b** Reverse. – (Photo C2RMF A. Maigret).



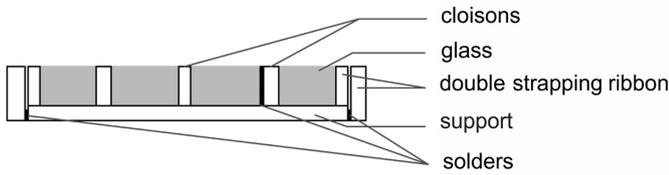
Fig. 3 Medallion representing the bust of Saint Demetrios. Musée du Louvre, Paris, inv. no. OA6457. **a** Face. – **b** Reverse. – (Photo C2RMF D. Bagault).

Chronological Evolution of the Manufacturing Technique

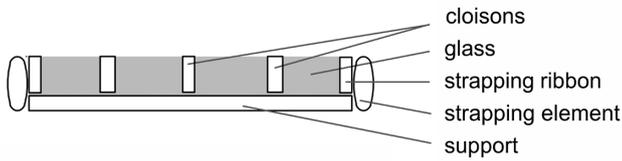
Four periods can be distinguished in the production of *cloisonné* enamel according to David Buckton. The main parameters are the manufacture of the support; the way in which the surfaces are enamelled; and the colours and type of

glass used (opaque or translucent)⁷. Our work confirms the stylistic-technical classification as proposed by Buckton, but enriches it with new data, thanks to more in-depth examinations than those carried out so far. The diagrams below describe in detail the technical structure of each enamel.

⁷ Buckton, *Chinese Whisper*. – Buckton, *Enamel on Copper*.



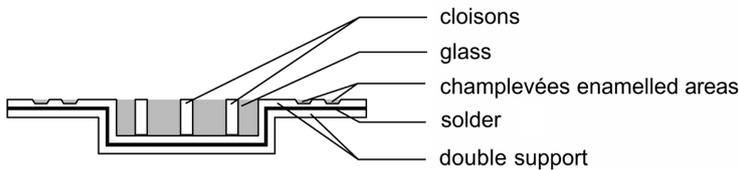
Byzantine *cloisonné* enamels Louvre
period 2 - OA 6270



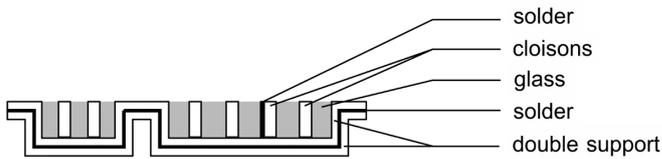
Byzantine *cloisonné* enamels Louvre
period 2 - OA 11878

Diagram 1 Drawings of the cross-section of Byzantine *cloisonné* enamels from the Louvre Museum. – (Drawing S. Martinetti).

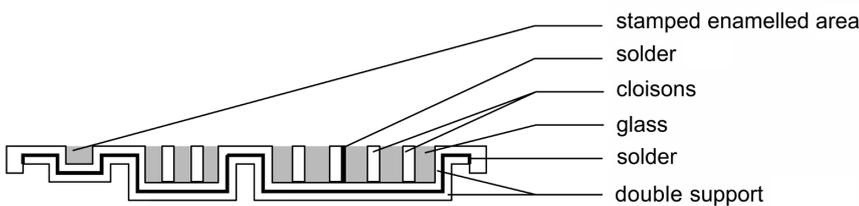
8 The first securely dated object is the so-called Fieschi Morgan Staurotheke in the Metropolitan Museum, New York. Its early ninth-century date was established through the iconography of the Anastasis scene. See, Kartsonis, *Anastasis* 99. 123.



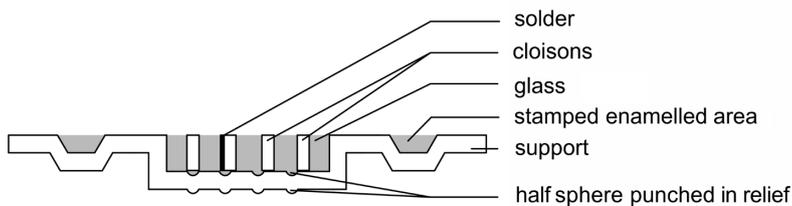
Byzantine *cloisonné* enamels Louvre
period 3A - OA 12137



Byzantine *cloisonné* enamels Louvre
period 3A - OA 12139

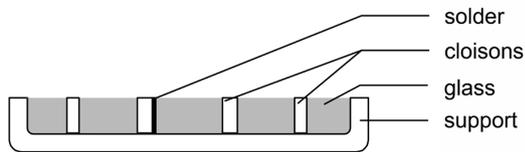


Byzantine *cloisonné* enamels Louvre
period 3A - OA 12136

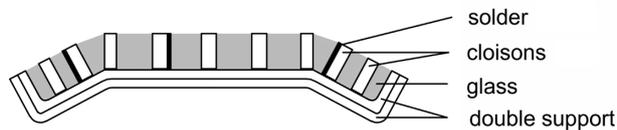


Byzantine *cloisonné* enamels Louvre
period 3B - OA 12138 and OA 6457

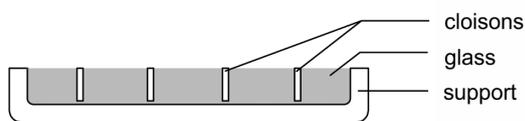
Diagram 2 Drawings of the cross-section of Byzantine *cloisonné* enamels from the Louvre Museum. – (Drawing S. Martinetti).



Byzantine *cloisonné* enamels Louvre
period 4 - OA 12140 to 12143



Byzantine *cloisonné* enamels Louvre
period 4 - OA 12144 to 12147



Byzantine *cloisonné* enamels Louvre
period 4 - OA 6458

Diagram 3 Drawings of the cross-section of Byzantine *cloisonné* enamels from the Louvre Museum. – (Drawing S. Martinetti).

Two objects belong to this group (**tab. 1**; OA11878, **figs 1a-b** and OA6270); their dating corresponds well to this period. Their manufacturing technique is very similar, the enamels are placed on a gold sheet of varying thickness and a gold banding ribbon delineates the contours of the medallions. They are circled with a second metal ribbon.

Period 3 (diagram 2): From about the middle of the tenth century⁹, the motif that was to be enamelled in *cloisonné* was then placed inside a large cavity, arranged in the support plate, which is obtained by stamping the gold leaf in a recessed shape presumably with small hammers or pre-formed tips. The enamels stand out from a gold background (technique called *Senkschmelz*, «*émail enfoncé*»). The inscriptions are worked into this gold background, formed by the support plate, then enamelled. Enamels are both opaque and translucent.

Five objects belong to this group (**tab. 1**, OA12136, OA12137; **fig. 2a-b**, OA12139, OA12138, OA6457; **fig. 3a-b**) that are dated between the tenth and the beginning of the twelfth century.



Fig. 4 View of the rim of the enamel of Christ (see **fig. 2a-b**) showing the two overlapping metal sheets welded together with the enamelled sheet being substantially thicker than the other. Paris, Louvre Museum, inv. no. OA12137. – (Photo C2RMF I. Biron).

For the first time, two new technical subgroups for the gold support with a chronological evolution are highlighted by our radiographs (to confirm on more objects):

Period 3A/double-welded support: the support of three objects (**tab. 1**, OA12136, OA12137, OA12139) is formed of two sheets of gold superimposed and welded together (**fig. 4**, OA12139). The solder marks are visible in transparency on the X-rays (**fig. 5a**). These enamels date to the tenth and eleventh centuries.

Period 3B/simple punched support: the supports of the two medallions are made of a single thick gold sheet (**tab. 1**; **fig. 5b**). On the reverse, a dotted relief pattern draws a figure, which can be totally different (Archangel), or close enough (Saint Demetrios) (**fig. 3a-b**), from that enamelled on the face¹⁰. These patterns were obtained with a small spherical punch struck on the inside of the cavity before placing the *cloisons*. These enamels are dated a little later than the previous ones, from the eleventh (or the end of this century) to the beginning of the twelfth century.

Period 4 (diagram 3): in the twelfth and thirteenth century, the technique of «full enamel» was again employed and co-existed with the previous one, but this time the bottom was enamelled with opaque glasses, as well as inscriptions (often enamelled with white on a blue background). Translucent enamels are a minority.

Eight decorative plates belong to this group (**tab. 1**; **figs 6a-b. 7a**). Their estimated date is in the eleventh-twelfth centuries, but they should rather be dated to the twelfth century, according to the criteria of this period (after Buckton).

These plates have common elements: the gold support – whose thickness varies according to the objects – is curved on the outer edges to create a large cavity. The technique of a double-support sheet, characteristic for period 3A, is found

⁹ Not before 920-940, according to Durand, Patène Stoclet.

¹⁰ Such dotted drawings are found on other medallions of this period (figures of Saints and the Virgin, Metropolitan Museum of Art, inv. no. 17. 190. 670-678, see Cat. New York 1997 no. 234.



Fig. 5 X-ray radiographies of Byzantine enamels from the Musée du Louvre, Paris: **a** Christ (inv. no. OA12137) showing the presence of solders between the two support sheets (clear areas of rounded shape distributed heterogeneously over the entire surface). – **b** Saint Demetrios (inv. no. OA6457), showing the absence of solder between the two support sheets; invisible *cloisons* on the surface are visible on the X-ray image immersed mid-height in the glass (halo, cheeks, chin, hair and hands). – (Photos C2RMF T. Borel).



Fig. 6 **a-b** Two trapezoidal plaques decorated with geometric and floral motifs, Musée du Louvre, Paris, set of four plaques, inv. no. OA12140-12143. – (Photos C2RMF A. Maigret).

Fig. 7 a-b Ornamental plate of rectangular shape decorated with geometric and floral motifs. Musée du Louvre, Paris, set of four plaques, inv. no. OA12144-12147. **a** Face. – **b** Profile X-ray radiography showing the presence of two metal sheets for the support. – (Photos C2RMF, a A. Maigret; b T. Borel).



Fig. 8 Icon cover plate. Musée du Louvre, Paris, inv. no. OA6458. – (Photo C2RMF D. Bagault).



Fig. 9 Detail of the icon cover plate in fig. 8. Musée du Louvre, Paris, inv. no. OA6458. – (Photo C2RMF I. Biron).

in this group in rectangular plates, but without solder welding between them (and probably also for the rectangular ones).

Special case: The enamelled plate that was made for an icon (fig. 8, OA 6458) is a special case. It belongs to period 4 by dating, and by the use of a double sheet of gold for the support. The outer sheet was folded along the edges to create a cavity to receive the enamel. However, this plate is distinguished from other objects by some technical criteria and a remarkable quality of execution. This could testify to the ex-

istence of a workshop distinguished by its perfectly executed fine *cloisons*, the use of translucent and opaque glasses in an equivalent proportion, a very rare purple-violet glass, the absence of solder to fix the *cloisons* (fig. 9). Moreover, the chemical composition of the glasses used differs from that of the other enamels – only the cobalt sources of the blue glasses are identical to those of most objects of the periods 3 and 4.

Cloisons and Solders

For a single object, *cloisons* of uniform or of varying thickness can be chosen for aesthetic reasons. Two widths of *cloisons* have been observed in the double rosette OA12139 and the eight decorative plates (figs 6a-b, 7a, 12, OA12140-OA12143 and OA12144-OA12147). Two main groups of objects appear in the manufacturing of these *cloisons* according to our observations and X-rays radiographies, distributed seemingly randomly within each period (fig. 10 a-b). One group is characterised by thin *cloisons* (or parts of which). They are rarely placed rather perpendicularly on their support and can be more or less deformed and even



Fig. 10 a-b Details of Saint Demetrios. Musée du Louvre, Paris, inv. no. OA6457. **a** Face. – **b** Clothing showing the different type of *cloisons*, solders, coloured enamels and mixtures of opaque and translucent glass. – (Photos C2RMF I. Biron).

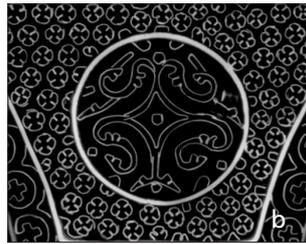


Fig. 11 a-b Details of the X-ray radiographies of the two trapezoidal decorative plaques (set of four plaques) showing two manufactures. Musée du Louvre, Paris, inv. no. OA12140-12143). **a** One with thin and distorted *cloisons* (see fig. 6a) and **b** the other with thicker and rigid *cloisons*, well positioned on the edge (see fig. 6b). – (Photos C2RMF a-b T. Borel).

damaged (paten, Christ, Crucifixion, double rosette, some decorative plates of period 4; fig. 11a).

The *cloisons* of the other group are thicker. More resistant, they are held well perpendicular to the support. Their surfaces are smooth, apparently with a more regular thickness (Saint Demetrios (fig. 10b), the Archangel Michael, the winged Archangel, some decorative plates of period 4; fig. 11b).

Byzantine goldsmith enamellers employed metal solders to keep some *cloisons* in place during enamelling (fig. 10b), except for the icon covering plate (figs 8-9).

Art of Enamelling: The Glass Powders

Pieces of glass are ground in a mortar until the desired particle size is achieved. The powder granulometry varies according to the objects. Powders are then washed (rinsed in water several times) and preserved in water to be protected from dust.

The goldsmith enamellers filled the cavities with humid glass powders of coloured translucent glass, or of a mixture of more or less opaque or even opaque and translucent glasses (figs 9. 10a-b). Each colour is separated by *cloisons*, except for some very rare details (fig. 12). Byzantine enamellers offer an extraordinary palette of colours, with different kinds of blues (lapis lazuli, sky, pale, dark and light, grey-blue opaque, dark), turquoise, yellow, white, red, light and dark green, wine-coloured, colourless, brown-amber, black in appearance, flesh, brown-pink and for the icon cover plate parma-violet (figs 1b. 2a. 3a. 6a-b. 7a. 8-9. 10a-b).

Firing and Surface Polishing

When powders are dried, the objects are introduced in the furnace to fuse the glass. The filling of the cavities is made as many times as necessary, until to obtain fully filled cavities without depression of glass after successive firings. The thickness of the glass is generally between 1 and 1.5 mm. The enamelling seems complete in most cases. Only Saint Demetrios presents small depressions or gaps of glass on the surface, which testify to an incomplete enamelling (fig. 3a).

Based on our laboratory experiences and on our viscosity calculations from industrial models, the melting temperatures of the translucent lead-free soda-lime silicates used are around 800°C¹¹.

The flat surface of the glass attests to a final polishing with abrasive powders, as recommended by Theophilus Presbyter in the twelfth century¹². Such polishing produce on the surface some gold aggregates, which are more abundant for very thin *cloisons*, but could be also related to the gold composition (pure gold is softer than an alloy – to be checked by analyses) (figs 9. 10a-b. 12).

11 For more details, see Biron et al., *Les émaux 396-400*.

12 Blanc, Théophile 734. – Although traditionally credited to Theophilus Presbyter, the authorship of the *Schedula diversarum artium* is now the subject of scholarly debate; see the volume Speer, *Schedula*.

Fig. 12 Detail of a trapezoidal plate (see fig. 6) showing two clearly defined thicknesses of the *cloisons*, aggregates of gold on both sides of the *cloisons*, overflow of white glass in the blue and juxtaposition of opaque red and blue glasses without *cloisons* to separate them. Musée du Louvre, Paris, inv. no. OA12140-44. – (Photo C2RMF I. Biron).



Nature of the Glass

Quantitative chemical analyses of the glass are reported in **table 2**. The first unpublished analysis made by I. Freestone (pers. comm.) on a dozen of Byzantine enamels from the British Museum, dated from the ninth to the twelfth century (mainly eleventh-twelfth) will be compared to our results (**tab. 3**).

Type of Composition

Byzantine goldsmith enamellers used different types of glass coming probably from different sources of supply. According to our analyses, these enamels are mainly soda-lime silica glasses, whose nature of alkaline sources, depending on the levels of magnesium, potassium and phosphorus, allows us to distinguish five types of composition¹³ (1 to 5), within which several sub-groups can be identified (**tab. 3**). Each object is enamelled with various compositions, except Saint Demetrios using only glass of composition 3.

Composition 1 / natron (or Roman type): The different range of aluminium, calcium and titanium suggest various silica sources and probably various primary glass productions.

Composition 3 / plant ash type: The levels of sodium, potassium, magnesium and calcium are highly variable depending on the glass. This can be explained by the chemistry of plant ash glass, which is more complex than natron glass. Indeed, the chemical composition of the plants vary according to the type of plant, their geographic origin, the time of col-

lection and the method of preparation¹⁴. Moreover, calcium can be introduced as part of the plant ash, but also as part of the silica source (if sand). The various amounts of aluminium and titanium suggest different silica sources.

Special soda-lime silica glass not belonging to any family of well-known compositions:

Composition 2A, may be of plant ash type, whose nature is different compared to the glass of composition 3 because of their lower levels of magnesium. They could also be of natron type, with an addition of potash (plant ash, glass or cullet), but the magnesium contents observed remain low. Very similar compositions are observed on glasses of the Carolingian enamel of Saint-Denis and on some *cloisonné* enamels around the year 1000¹⁵.

Composition 2B may be of natron type, because of their low levels of magnesium and potassium, but could be different with higher levels of phosphorus. The addition of phosphorus as bone ash to opacify the glass cannot be certified through the chemical composition, but is possible as a partial re-use of glass. Such opacification practice has already been demonstrated in glass tesserae of Byzantine mosaics, dated from the fifth to the beginning of the eighth century¹⁶. Similar compositions are observed in some glass of *cloisonné* enamels around the year 1000 and *plique* enamels around 1400¹⁷. Silica sources appear more homogeneous than for the other compositions.

Two compositions rich in lead for the icon cover plate (OA6458):

Composition 4 is a mixed alkali silicate (plant ash) containing lead. The base glass contains about 12 % of sodium,

¹³ Identified through the composition of the base glass containing only silica and alkali sources and then normalized to 100%.

¹⁴ Jackson et al., *Glass*; Barkoudah/Henderson, *Plant Ashes* 22-54; Henderson, *Ancient Glass* 22-54.

¹⁵ Biron et al., *Les émaux* 117-123. 125-138.

¹⁶ Marii/Rehren, *Coloured Glass Cakes*. – Verità, *Glass Mosaic*. – Silvestri et al., *Palaeo-Christian*. – C2RMF analyses unpublished.

¹⁷ Biron et al., *Les émaux* 125-138. 159-175.

| Byzantine enamels Louvre Museum Objects and Inv. Nrs. | Analyses CZRMF Colours | TP | TC | Na ₂ O | MgO | Al ₂ O ₃ | SiO ₂ | P ₂ O ₅ | SO ₃ | Cl | K ₂ O | CaO | TiO ₂ | Cr ₂ O ₃ | MnO | FeO | CoO | NiO | CuO | ZnO | As ₂ O ₃ | SrO | ZrO ₂ | Nb ₂ O ₅ | Ag ₂ O | SnO ₂ | Sb ₂ O ₃ | BaO | Au | PbO | Bi ₂ O ₃ | |
|---|--------------------------------|----|----|-------------------|------|--------------------------------|------------------|-------------------------------|-----------------|------|------------------|------|------------------|--------------------------------|------|--------|--------|--------|--------|--------|--------------------------------|--------|------------------|--------------------------------|-------------------|------------------|--------------------------------|--------|--------|--------|--------------------------------|--|
| Archangel Saint Michael (OA12138) | dark blue opaque | P3 | 1 | 13.55 | 1.08 | 3.73 | 59.08 | 0.26 | 0.63 | 0.79 | 1.10 | 7.74 | 0.2625 | 0.0261 | 0.46 | 3.04 | 0.6842 | 0.0059 | 0.5363 | 0.0563 | 0.3860 | 0.0603 | 0.0060 | 0.0104 | 0.1284 | 0.1060 | 4.0879 | 0.0166 | | 1.90 | | |
| Archangel Saint Michael (OA12138) | yellow opaque | P3 | 1 | 8.11 | 0.60 | 5.83 | 58.95 | 0.27 | 0.62 | 1.06 | 1.30 | 6.00 | 0.3580 | 0.0190 | 0.26 | 1.52 | 0.0366 | 0.0016 | 0.4566 | 0.0553 | | 0.0532 | 0.0261 | 0.0032 | 0.1254 | 0.2635 | 1.3646 | 0.0233 | | 12.26 | 0.0407 | |
| Crucifixion (OA12136) | opaque white | P3 | 1 | 14.72 | 0.97 | 4.08 | 49.33 | 0.36 | 0.72 | 0.84 | 1.30 | 7.82 | 0.1369 | 0.20 | 0.96 | 0.0484 | 0.0043 | 0.0043 | 0.3058 | 0.0392 | 0.0008 | 0.0564 | 0.0146 | 0.0047 | 0.0319 | 4.0833 | 3.7646 | 0.0412 | | 9.94 | 0.0351 | |
| Double rosette plaque (OA12139) | translucent green | P3 | 1 | 14.96 | 1.09 | 3.22 | 66.80 | 0.26 | 0.17 | 1.11 | 0.83 | 6.18 | 0.0842 | 0.0025 | 0.10 | 0.78 | 0.0082 | | 3.9628 | 0.0122 | 0.0349 | 0.0348 | 0.0054 | 0.0088 | 0.0122 | 0.0204 | 0.0232 | 0.0132 | | 0.15 | | |
| Double rosette plaque (OA12139) | opaque white | P3 | 1 | 13.22 | 0.67 | 3.28 | 64.09 | 0.03 | 0.51 | 0.53 | 0.72 | 8.01 | 0.1174 | 0.0130 | 0.22 | 0.48 | 0.0033 | 0.0010 | 0.1156 | 0.0088 | | 0.0527 | 0.0049 | 0.0012 | 0.1083 | 0.0146 | 7.3179 | 0.1046 | | 0.30 | 0.0050 | |
| Trapezoidal plate (OA12140-12143) | dark blue opaque | P4 | 1 | 13.55 | 1.19 | 3.14 | 63.20 | 0.10 | 0.37 | 0.66 | 0.89 | 7.38 | 0.1181 | 0.0258 | 0.44 | 1.69 | 0.6047 | 0.0050 | 0.3021 | 0.0132 | 0.3482 | 0.0552 | 0.0049 | 0.0075 | 0.0444 | 0.1461 | 4.0385 | 0.0340 | | 1.48 | | |
| Trapezoidal plate (OA12140-12143) | opaque light green | P4 | 1 | 13.63 | 0.64 | 3.21 | 57.19 | 0.04 | 0.08 | 1.00 | 0.88 | 8.08 | 0.0981 | 0.0077 | 0.22 | 0.51 | 0.0053 | | 1.1617 | 0.0100 | 0.0120 | 0.0596 | 0.0206 | | 0.0259 | 1.2261 | 0.0116 | 0.0191 | | 11.65 | 0.0355 | |
| Rectangular plate (OA12144-12147) | dark blue opaque | P4 | 1 | 13.41 | 0.79 | 3.43 | 61.82 | 0.13 | 0.34 | 0.67 | 0.82 | 7.25 | 0.1153 | 0.0177 | 0.39 | 2.52 | 0.9828 | 0.0239 | 0.8732 | 0.0603 | 0.0044 | 0.0525 | 0.0075 | | 0.0350 | 0.0325 | 4.5992 | 0.0546 | | 1.41 | 0.0100 | |
| Rectangular plate (OA12144-12147) | translucent green | P4 | 1 | 14.62 | 1.05 | 2.71 | 67.82 | 0.15 | 0.12 | 1.12 | 0.83 | 5.89 | 0.0753 | 0.0056 | 0.11 | 0.69 | 0.0081 | 0.0007 | 4.3091 | 0.0142 | 0.0377 | 0.0344 | 0.0057 | 0.0098 | 0.0339 | 0.0220 | 0.0255 | 0.0683 | | 0.12 | | |
| Rectangular plate (OA12144-12147) | opaque white | P4 | 1 | 10.83 | 1.21 | 2.23 | 48.42 | 0.18 | | 0.66 | 1.03 | 5.43 | 0.0773 | | 0.08 | 0.54 | 0.0068 | 0.0020 | 0.1296 | 0.0136 | 0.0099 | 0.0360 | 0.0191 | | 0.0455 | 12.1446 | 1.9334 | 0.0153 | | 14.64 | 0.0267 | |
| Paten *(OA11878) | translucent dark green | P2 | 1 | 2.92* | 1.24 | 3.91 | 66.24 | | | 1.03 | 1.57 | 7.81 | 0.1620 | | 0.76 | 1.47 | 0.0660 | 0.0151 | 7.5900 | 0.4870 | | | | | | | 0.4139 | 0.8090 | 0.0570 | 3.00 | 0.98 | |
| Archangel* (OA6270) | translucent dark green | P2 | 1 | 15.28* | 0.88 | 4.60 | 60.09 | | 0.07 | 0.71 | 1.44 | 5.93 | 0.2647 | | 0.11 | 1.57 | 0.0200 | 0.0100 | 5.1350 | 0.0587 | | | | | | 0.1500 | 0.0450 | 0.0450 | 0.0591 | 1.39 | 0.90 | |
| Blessing Christ (OA12137) | translucent look- ing black | P3 | 2A | 12.25 | 1.11 | 3.17 | 55.87 | 2.00 | 0.37 | 0.98 | 1.39 | 6.88 | 0.1394 | 0.0062 | 0.45 | 7.55 | 1.4734 | 0.0265 | 2.2767 | 2.1859 | 0.0393 | 0.0489 | 0.0109 | 0.0010 | 0.0772 | 0.0534 | 0.0637 | 0.0331 | | 1.37 | 0.0037 | |
| Blessing Christ (OA12137) | opaque red | P3 | 2A | 11.46 | 0.89 | 2.38 | 53.98 | 1.73 | 0.46 | 0.92 | 2.19 | 9.99 | 0.1977 | 0.0104 | 1.43 | 10.22 | 0.0622 | | 2.3607 | 0.0555 | 0.0118 | 0.0921 | 0.0143 | 0.0038 | 0.1190 | 0.0680 | 0.0413 | | 1.14 | 0.0137 | | |
| Crucifixion (OA12136) | translucent green | P3 | 2A | 16.33 | 0.98 | 4.85 | 59.01 | 0.68 | 0.38 | 0.93 | 1.49 | 7.67 | 0.1509 | 0.0155 | 0.38 | 1.05 | 0.0126 | 0.0030 | 4.7948 | 0.0770 | 0.0098 | 0.0425 | 0.0111 | 0.0068 | 0.0655 | 0.0232 | 0.0592 | 0.0436 | | 0.79 | 0.0186 | |
| Crucifixion (OA12136) | translucent red violet | P3 | 2A | 7.18 | 0.37 | 5.75 | 73.12 | 0.46 | 0.33 | 1.12 | 2.78 | 4.87 | 0.1741 | 0.0171 | 2.03 | 0.91 | 0.0059 | 0.0020 | 0.2631 | 0.0273 | | 0.0327 | 0.0158 | | 0.0890 | 0.0190 | 0.0106 | 0.1613 | | 0.13 | | |
| Paten* (OA11878) | dark blue | P2 | 2A | 15.37* | 0.69 | 2.26 | 58.11 | | 0.39 | 1.10 | 1.63 | 5.42 | 0.1020 | | 0.03 | 3.49 | 0.9000 | 0.0604 | 0.8550 | 0.0441 | | | | | 0.1300 | 0.0650 | 4.0300 | 0.0122 | 0.66 | 3.85 | | |
| Paten* (OA11878) | wine colour | P2 | 2A | 9.9* | 0.67 | 1.99 | 73.87 | | 0.10 | 0.96 | 2.61 | 5.51 | 0.0948 | | 1.44 | 0.63 | 0.0100 | | 0.2550 | 0.0117 | | | | | 0.2450 | 0.0300 | 0.0100 | 0.0171 | 1.52 | 0.06 | | |
| Blessing Christ (OA12137) | opaque white | P3 | 2B | 11.90 | 1.16 | 3.09 | 52.32 | 0.75 | 0.50 | 0.92 | 1.15 | 7.98 | 0.1565 | 0.0155 | 0.10 | 1.10 | 0.0073 | 0.0037 | 0.4067 | 0.0308 | 0.0083 | 0.0563 | 0.0146 | 0.0020 | 0.0570 | 4.7992 | 5.1507 | | | 8.05 | 0.0307 | |
| Blessing Christ (OA12137) | opaque dark blue | P3 | 2B | 13.06 | 0.74 | 3.01 | 61.13 | 0.44 | 0.55 | 0.94 | 1.03 | 8.56 | 0.1212 | 0.0300 | 0.64 | 2.31 | 0.4517 | 0.0130 | 0.7355 | 0.2864 | 0.0198 | 0.0668 | 0.0081 | 0.0008 | 0.0507 | 0.0998 | 4.1699 | 0.0176 | | 1.46 | 0.0017 | |
| Blessing Christ(OA12137) | opaque flesh | P3 | 2B | 13.99 | 0.77 | 3.60 | 65.54 | 1.29 | 0.29 | 1.05 | 0.96 | 7.05 | 0.2154 | 0.0159 | 0.06 | 1.41 | 0.0014 | | 0.4347 | 0.0061 | 0.0114 | 0.0467 | 0.0283 | 0.0013 | 0.0583 | 0.0391 | 1.9658 | | | 1.10 | | |
| Double rosette plaque (OA12139) | opaque dark blue | P3 | 2B | 13.63 | 0.82 | 3.62 | 59.67 | 0.54 | 0.39 | 0.66 | 0.77 | 7.55 | 0.1272 | 0.0225 | 0.40 | 2.60 | 0.9650 | 0.0208 | 1.1369 | 0.0669 | 0.0088 | 0.0590 | 0.0082 | 0.0023 | 0.0490 | 0.0373 | 5.0663 | 0.0410 | | 1.63 | 0.0157 | |
| Double rosette plaque (OA12139) | opaque red | P3 | 2B | 13.00 | 1.17 | 2.95 | 51.98 | 2.85 | 0.18 | 0.95 | 1.20 | 8.17 | 0.1825 | 0.0100 | 0.59 | 7.02 | 0.0539 | | 6.6967 | 0.0483 | 0.0363 | 0.0558 | 0.0130 | 0.0069 | 0.1933 | 0.0669 | 0.0814 | 0.0947 | | 1.96 | 0.0101 | |

| Byzantine enamels Louvre Museum Objects and Inv. Nrs. | Analyses C2RMF | TP | TC | Na ₂ O | MgO | Al ₂ O ₃ | SiO ₂ | P ₂ O ₅ | SO ₃ | Cl | K ₂ O | CaO | TiO ₂ | C ₂ O ₃ | MnO | FeO | CoO | NiO | CuO | ZnO | As ₂ O ₃ | SrO | ZrO ₂ | Nb ₂ O ₅ | Ag ₂ O | SnO ₂ | Sb ₂ O ₃ | BaO | Au | PbO | Bi ₂ O ₃ | |
|---|----------------------------------|----|--------------|-------------------|------|--------------------------------|------------------|-------------------------------|-----------------|------|------------------|-------|------------------|-------------------------------|------|------|--------|--------|--------|---------|--------------------------------|--------|------------------|--------------------------------|-------------------|------------------|--------------------------------|--------|------|-------|--------------------------------|--|
| Archangel Saint Michael (OA12138) | opaque light green | P3 | 2B alter. | 4.99 | 0.65 | 4.30 | 64.95 | 0.51 | 0.42 | 1.53 | 0.66 | 8.65 | 0.4413 | 0.0158 | 0.04 | 1.84 | 0.0243 | | 4.3913 | 0.1641 | 0.0856 | 0.0480 | 0.0132 | 0.0051 | 0.1485 | 0.3987 | 3.2493 | 0.0483 | | 2.21 | 0.0024 | |
| Crucifixion (OA12136) | opaque dark blue | P3 | 2B | 15.89 | 0.87 | 4.07 | 53.95 | 0.65 | 0.58 | 0.66 | 1.05 | 7.59 | 0.1311 | 0.0130 | 0.57 | 2.68 | 0.8358 | 0.0219 | 1.0963 | 0.1500 | | 0.0584 | 0.0086 | 0.0014 | 0.0364 | 1.0961 | 4.7233 | 0.0318 | | 3.06 | 0.0209 | |
| Crucifixion (OA12136) | opaque red | P3 | 2B | 15.73 | 1.12 | 3.60 | 57.69 | 1.27 | 0.31 | 0.89 | 1.37 | 7.71 | 0.1299 | 0.0046 | 0.53 | 4.82 | 0.0336 | | 3.2762 | 0.0446 | 0.0510 | 0.0389 | 0.0110 | 0.0046 | 0.0702 | 0.0287 | 0.0296 | 0.0354 | | 0.99 | 0.0044 | |
| Crucifixion (OA12136) | opaque flesh | P3 | 2B | 18.27 | 1.11 | 3.30 | 63.97 | 0.48 | 0.53 | 1.04 | 0.95 | 7.06 | 0.1131 | 0.0013 | 0.07 | 0.82 | 0.0042 | 0.0011 | 0.1863 | 0.0398 | 0.0093 | 0.0769 | 0.0092 | 0.0011 | 0.0247 | 0.0088 | 1.7650 | 0.0103 | | 0.10 | | |
| Archangel Saint Michael (OA12138) | opaque flesh | P3 | 3 | 10.86 | 2.16 | 3.53 | 62.23 | 0.72 | 0.69 | 0.69 | 1.79 | 10.50 | 0.9712 | 0.0132 | 0.93 | 1.06 | 0.0526 | 0.0010 | 0.3661 | 0.03417 | 0.0023 | 0.0861 | 0.0285 | 0.0025 | 0.2972 | 0.3749 | 1.4080 | 0.0989 | | 0.45 | 0.0025 | |
| Archangel Saint Michael (OA12138) | dark brown | P3 | 3 | 10.47 | 1.88 | 3.32 | 58.21 | 1.50 | 0.84 | 1.02 | 3.71 | 11.45 | 0.3060 | 0.0255 | 3.14 | 1.35 | 0.1257 | 0.0059 | 0.8426 | 0.0706 | 0.0010 | 0.1988 | 0.0128 | 0.0037 | 0.1148 | 0.5331 | 0.0316 | 0.0830 | | 0.48 | | |
| Saint Demetrius* (OA6457) | translucent/ opaque dark blue | P3 | 3 | 4.45* | 4.43 | 3.39 | 61.73 | | 0.00 | 0.75 | 2.59 | 9.56 | 0.1584 | | 0.72 | 6.16 | 0.0298 | 0.0172 | 3.6794 | 0.0246 | | | | | 0.7806 | 0.3146 | | | 5.13 | 0.82 | | |
| Saint Demetrius* (OA6457) | opaque clear blue | P3 | 3 | 3.13* | 2.94 | 3.31 | 65.78 | 0.48 | 0.71 | 0.65 | 1.68 | 7.05 | 0.1361 | | 0.58 | 5.35 | 0.6487 | | 0.2433 | | | | | | 0.3133 | 1.0136 | 3.4147 | | 0.71 | 1.05 | | |
| Saint Demetrius* (OA6457) | opaque black | P3 | 3 | 12.54* | 5.38 | 4.10 | 64.39 | 0.78 | 1.09 | 0.67 | 1.95 | 7.35 | 0.1623 | | 0.00 | 0.00 | | 0.0295 | | | | | | | | | | 0.0971 | | | | |
| Saint Demetrius* (OA6457) | looking black | P3 | 3 | 11.32* | 6.11 | 3.24 | 61.29 | 0.69 | 0.92 | 0.79 | 2.49 | 7.81 | 0.0882 | | 2.91 | 1.00 | 0.0100 | | 0.0900 | 0.0189 | | | | | 0.0200 | | 0.0100 | 0.3607 | 0.02 | 0.16 | | |
| Archangel Saint Michael (OA12138) | opaque red | P3 | 3 | 15.13 | 2.63 | 7.83 | 56.27 | 0.48 | 0.37 | 1.31 | 2.44 | 5.32 | 0.4145 | 0.0129 | 0.40 | 4.64 | 0.0347 | 0.0024 | 1.9391 | 0.0494 | | 0.0429 | 0.0191 | 0.0034 | 0.1401 | 0.0234 | 0.0211 | 0.0839 | | 0.19 | 0.0219 | |
| Trapezoidal plate (OA12140-12143) | opaque red | P4 | 3 | 16.00 | 1.94 | 5.73 | 49.00 | 2.96 | 0.15 | 1.29 | 2.56 | 6.99 | 0.5992 | 0.0200 | 0.51 | 6.70 | 0.0450 | | 2.8825 | 0.0483 | 0.0096 | 0.0617 | 0.0275 | 0.0048 | 0.1687 | 0.1500 | 0.0573 | 0.0735 | | 1.74 | 0.0217 | |
| Decorative plates* (OA6458) | dark blue opaque | P4 | 3? | 13.79 | 1.44 | 2.45 | 59.11 | | 0.32 | 0.78 | 1.57 | 7.19 | 0.1454 | | 0.68 | 1.59 | 0.5950 | 0.0191 | 0.2300 | 0.0462 | | | | | 0.0700 | 1.4150 | 2.2800 | 0.0343 | 0.49 | 5.42 | | |
| Trapezoidal plate (OA12140-12143) | opaque white | P4 | 3 | 10.21 | 1.78 | 1.92 | 46.91 | 0.49 | 0.00 | 0.73 | 1.37 | 5.59 | 0.0872 | 0.0052 | 0.46 | 0.73 | 0.0111 | 0.0019 | 0.3928 | 0.0179 | | 0.0373 | 0.0207 | 0.0014 | 0.0475 | 8.7136 | 0.4683 | 0.0637 | | 19.60 | 0.0541 | |
| Rectangular plate (OA12144-12147) | opaque red | P4 | 3 | 13.40 | 1.63 | 3.84 | 61.59 | 0.41 | 0.09 | 0.91 | 1.26 | 5.75 | 0.1237 | 0.0116 | 0.54 | 5.14 | 0.0393 | | 4.4578 | 0.0217 | 0.0088 | 0.0468 | 0.0096 | 0.0053 | 0.0615 | 0.0501 | 0.0539 | 0.0377 | | 0.44 | 0.0019 | |
| Archangel Saint Mi- chael (OA12138) | opaque white | P3 | 3 | 8.16 | 1.10 | 5.26 | 44.27 | 0.55 | 0.06 | 0.66 | 2.04 | 4.92 | 0.2412 | 0.0102 | 0.54 | 1.16 | 0.0169 | 0.0050 | 1.1195 | 0.0684 | | 0.0408 | 0.0264 | | 0.0955 | 8.0240 | 0.2129 | 0.0284 | | 21.01 | 0.0767 | |
| Decorative plates* (OA6458) | translucent green | P4 | 4 | 0.82 | 1.16 | 0.83 | 44.36 | | | 1.55 | 3.34 | 1.39 | 0.0521 | | 0.06 | 0.22 | 0.0100 | 0.0108 | 0.5850 | | | | | | 0.1400 | 0.3800 | 0.0800 | 0.1046 | 1.69 | 43.42 | | |
| Decorative plates* (OA6458) | opaque violet- parma | P4 | 5 | 8.82 | 1.70 | 1.69 | 47.92 | | 0.29 | 0.68 | 5.86 | 4.02 | 0.1741 | | 2.91 | 1.42 | 0.0200 | 0.0274 | 0.3900 | | | | | | 0.0600 | 3.4100 | 0.1200 | 0.7535 | 0.47 | 20.21 | | |

Tab. 2 Ion beam chemical analyses of the Byzantine enamels from the Musée du Louvre made in the C2RMF laboratory; each composition is the average of at least three analyses in different areas of the surface (in wt% oxides). Results are classified by technological group or period of manufacturing (TP, technological periods P2 to P4), and by type of composition (TC, 1 to 5). The sodium values are obtained by PIXE (for analysis with* treatment of the data only with low energy spectra instead of both low and high energy ones).

| Byzantine Enamels Louvre | Composition 1 | Composition 2A | Composition 2B | Composition 3 | Composition 4 | Composition 5 |
|---|--|--|---|--|--|--|
| Type of glass | soda-lime silica | soda-lime silica | soda-lime silica | soda-lime silica | mixed alkali silica with lead | potassic glass with lead |
| Sodium source | mineral – natron | plant ash? | mineral – natron? | plant ash | plant ash? | potassic glass with lead |
| Amounts of some chemical elements | MgO, K ₂ O < 1.5, P < 0.30 % | MgO < 1.5, K ₂ O > 1.5, P > 0.3 % | MgO, K ₂ O < 1.5 %, P > 0.3 % | MgO, K ₂ O > 1.5, P > 0.30 % various type, origin, preparation of plants Ca (4.92-11,45 %) | MgO < 1.5, K ₂ O > 1.5 PbO 20-40 %, SiO ₂ 40-50 % | MgO, K ₂ O > 1.5 PbO 20-40 %, SiO ₂ 40-50 % very low in Na |
| Silica source | different sources various levels of Al (1.35-5.83 %), Ca (4.89-7.82 %), Ti (0.03-0.36 %) | different sources various levels of Al (1.99-5.75 %), Ca (4.87-9.99 %), Ti (0.09-0.20 %) | more close sources Al (2.95-4.30 %), Ca (7.05-8.65 %), Ti (0.11-0.44 %) | different sources various levels of Al (1.92-7.83 %), Ca (4.92-11.45 %), Ti (0.09-0.97 %) | | |
| Objects | all except OA6458 | all except OA6458 | all except OA6458 | all except OA6458 St Demetrios higher levels of Mg (2.94-6.11 %) | only plaque OA6458 | only plaque OA6458 |
| Colours | all | all | all | all | parma violet | green |
| Technol. Periods | P2, P3, P4 | P2, P3 | P3 | P3, P4 | P4 | P4 |
| Number of glass C2RMF (total 42) | 13 | 6 | 9 | 12 | 1 | 1 |
| Number of glass C2RMF and BM (total 65) | 33 | | | 15 | | |

Tab. 3 Types of chemical composition obtained by ion beam analysis made in the C2RMF laboratory on the Byzantine enamels from the Louvre Museum depending on their alkali sources. The number of glass samples analyzed at the British Museum (BM) by I. Freestone is added for comparison (C2RMF Centre de Recherche et de Restauration des Musées de France).

8 % of potassium, 2 % of magnesium, 5.6 % of calcium and 2 % of aluminium, to which was added 20 % of lead.

Composition 5 is a potash-lime glass with lead. The base glass contains about 1.5 % of sodium, 6.3 % of potassium, 2 % of magnesium, 2.6 % of calcium, 1.5 % of aluminium, to which was added more than 40 % of lead.

- for opaque reds: copper, associated with iron
- for pink (flesh): a mixture of red glass, probably translucent, and opaque white, as shown by the iron and copper contents; the Archangel Michael also contains manganese (wine-coloured originally)
- for blue: cobalt, associated with copper and contain various levels of iron.

Colourants

Whatever the period concerned, the colourants or metal oxides added to the glass to colour it are according to our analyses:

- for glass appearing black: either a high concentration of cobalt, iron, copper and zinc (producing a very dark blue), or a high level of manganese (wine colour)
- for brown: manganese associated with iron
- for wine colour: manganese and some iron
- for greens: copper

Copper Sources for Green Glasses

Various sources of copper have been used in each period. According to the nomenclature of Bourgarit and Thomas¹⁸ (2012), it can be observed that almost pure copper (97-99 %) was used to colour the green glasses of nearly half of the objects and copper, brass or bronze for the others.

¹⁸ Bourgarit/Thomas, Late Medieval Copper.

Cobalt Sources for Blue Glasses

Various sources of cobalt or ore extracted from different areas within those deposits were used, as were different purification processes. The cobalt used for the majority of the objects studied is correlated with copper at different levels. Except for the cobalt ore of Saint Demetrios, which appears very pure, the others contain impurities, such as nickel (Ni), zinc (Zn) and arsenic (As) which could be associated with cobalt: Co-Cu-Ni high Zn (OA11878, 6457), Co-Cu-Ni low Zn (OA12136, 12139, 12144-12147, 6458 and OA12137 different for the Zn values), Co-Cu-Ni low Zn-As (OA12138, 12140-12143). The ore used for the majority of these Byzantine enamels could be of Oriental origin with the presence of zinc and nickel, which – associated with cobalt – have already been identified in Egyptian glasses¹⁹.

Opacifiers – Colourants

Small crystals render the glass opaque by a refractive index different from that of the vitreous matrix in which they are distributed. They can be added in the raw materials or in the batch, as crystals synthesized independently or as a very opaque glass, or even their precipitation can also be induced *in situ*. It is the case of the red Byzantine enamels, which are usually coloured and opacified with small particles of copper (in metallic or oxide form), whose precipitation is induced during the glass making from the raw materials.

Our results show that goldsmith enamellers used mixtures of opaque glasses in the same colour, which Freestone's work has already shown, but on a smaller scale. According to our analyses, two, and perhaps three kinds of opacifiers are used for opaque blue, white, pink or flesh, green and yellow enamels:

- either antimonates or tin compounds like stannates independently in the same glass
- either a mixture of antimonates and stannates in the same glass²⁰
- the presence of small amounts of calcium phosphate could be also possible in some cases in addition to the previous opacifiers(?).

Antimony-compounds are still predominant within each composition, while tin compounds are a minority. Half of the opaque glass are opacified by antimony or tin compounds alone and the other half with a mixture.

Opacifying crystals are also involved in the colouring of opaque enamels by their own colour. For example, the white

crystals of calcium antimonate and/or tin oxide act as the main colourant for white glasses, or they lighten the colour of blue glasses produced by cobalt, forming a rich palette of hues, from the darkest to the lightest. The yellow crystals of lead antimonate and lead stannate colour yellow glasses and help to expand the colour palette of green glasses, which are coloured with copper.

Discussion and Conclusion

Type of Production

Despite the limited number of objects studied, all our results suggest a practice of Byzantine enamelling in small independent workshops, rather than in large organised and controlled structures, evidenced by the diversity of technical and analytical criteria presented on each object (whatever the periods of manufacturing – different compositions, sources of cobalt, of copper and technical criteria were used). For instance, Saint Demetrios is different from the others with the choice of only one type of glass composition and a very pure cobalt source. The icon cover plate, also different from the others (by *cloisons* and colour), could have a different origin than a Byzantine one because of the lead glasses used.

However, these workshops had to be close to each other, probably united by teaching and exchanges, given the relative technical homogeneity prevailing within each period described above.

Carolingian Influences

Cloisonné enamels on gold originated in Carolingian Europe and not – as was long believed – in early or Iconoclastic Byzantium²¹. This technique was indeed mastered by Carolingian goldsmith enamellers at the end of the eighth century²². According to our study of the enamel fragment of Saint-Denis (ninth to beginning of the tenth century)²³ and the photographic documents available²⁴, the technique of Carolingian *cloisonné* enamel on gold and the glass compositions used correspond well to those of the Byzantine enamels of period 2 (middle of the ninth to the middle tenth century) – the period during which Western *cloisonné* enamels were introduced to Byzantium. Nevertheless, the particle size of glass powders and the way how to deposit the powders in the cells are specific to each production²⁵. Moreover, Byzantine enamels offer an extraordinary palette of colours, undoubtedly the richest, among all the medieval enamel productions studied²⁶.

19 Kaczmarczyk, Source of Cobalt. – Lilyquist et al., Glass.

20 Attested by Ian Freestone's scanning electron microscope observations on enamel samples.

21 Buckton, Byzantine Enamel. – Bacchi, Byzantium. – Brubaker, Elephant.

22 Durand, L'art byzantin. – Durand, Smalto.

23 Biron et al., Les émaux 117-123.

24 Capponi, L'Altare d'Oro.

25 Biron et al., Les émaux 117-123. 139-158.

26 Biron et al., Les émaux Part. II.

Byzantine Enamels and Glasses

Byzantine goldsmith enamellers working in Constantinople at the end of the ninth to the twelfth century used glasses of compositions 1 and 3, which are not specific to the art of enamelling. While Byzantine glass analyses are still limited in number and mainly concern mosaics and objects dated from the fourth to the beginning of the eighth century, soda-lime silica glass of natron type is strongly represented with differences within this family²⁷. Similarly, some analyses of Greek, Byzantine and Italian mosaics, dating from the tenth, eleventh and thirteenth centuries, show the use of soda-lime silicates of plant ash type. The opacifiers employed are, as in our enamels, tin oxides and mixtures of tin and antimony oxides, but also quartz grains (sites of Hosios Loukas, Daphni, Torcello, Monreale etc.)²⁸.

Glass Compositions and Dates

From the ninth to the twelfth centuries, composition 1 appears to be predominant, whereas composition 3 remains relatively stable as a function of time, representing 22 % to 25 % of the analyses (including Freestone's results). Compositions 2A and B are observed only during the periods 2 and 3, and composition 4 and 5 only for the period 4 (tab. 3).

Natron glass is widely employed in the Mediterranean since the middle of the first millennium BC until the ninth century AD. Byzantine enamels illustrate the remarkable change which occurred in glass technology at the beginning of the ninth century (or a little earlier) in the Near East. Plant

ash was reintroduced as a sodium source and gradually replaced natron, which continued to be used in the Levantine workshops until the end of the eleventh century, in Italy until the twelfth century²⁹ and in Europe for medieval enamels until the beginning of the thirteenth century³⁰.

Origin of the Natron Glass

The differences observed for the cobalt levels, cobalt sources, fashions of making opacifiers, the natron glass opacified with (or mainly with) tin and plant ash ones opacified with antimony (or mainly with) clearly demonstrate that natron glass of our Byzantine enamels are not a re-use of Roman glass tesserae³¹. However, the origin of this glass remains unknown.

The natron glass compositions do not match very well with the other kind of natron glass already identified – the mixture of glass powders makes probably the comparison difficult. The majority of these glasses are close to the Levantine II glass³² type by their levels of calcium and aluminium, but not for the other elements.

Three glasses contain high levels of aluminium (5-7 %) compared to the others (3-4 % and one very low with 1.16 %) – OA12138, OA12136 and OA6270. They could be close to the Late Byzantine high alumina glass type containing elevated concentrations of boron and lithium identified on the eighth to fourteenth century glasses from Pergamon (Turkey)³³. These glasses could have used probably a mineral soda-rich efflorescence. However, ion beam analyses are not precise enough for the trace elements to compare with LA-ICP-MS analyses already published.

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Summary / Zusammenfassung / Résumé

Laboratory Study of Byzantine Enamels from the Louvre Museum: Techniques of Manufacturing and Materials

A group of Byzantine *cloisonné* enamels from the Louvre Museum was studied at the Centre de recherche et de restauration des musées de France (C2RMF) using various methods of chemical material analysis and technical observations. The aim was to understand the techniques used to manufacture these enamels (vitreous materials and gold supports) and the nature of the glass used. The results showed a chronological evolution in the manufacture of these enamels, with four technological periods that had already been described before. These were characterised by the structure of the support, the way in which the enamel was applied, their colours and their degree of transparency. However, in-depth study of these objects has revealed two new chronological sub-groups, distinguished by the gold support, which were previously unknown.

These enamels display a very wide range of colours, shades and degrees of transparency. Chemical analyses revealed the use of different types of glass, mainly soda-lime silica with varying soda sources, and two glasses containing lead (potassium-lime and mixed alkali glass). Several compositions are generally used simultaneously on the same object. Opaque enamels are opacified by antimony or tin compounds, or by a mixture of both, sometimes with low levels of calcium phosphate. As well-dated Byzantine enamels are rare, the present research enriches our knowledge of the technological skills and glassmaking practices that characterised the art of enamelling in early medieval Byzantium.

Laboruntersuchung byzantinischen Emails im Musée du Louvre: Herstellungstechniken und Materialien

Eine Gruppe von byzantinischen Cloisonné-Emails aus der Sammlung des Musée du Louvre wurde am Centre de recherche et de restauration des musées de France (C2RMF) mit verschiedenen chemischen Analysemethoden untersucht und die Techniken erforscht. Ziel war es, die Herstellungstechniken dieser Emails (Glasmassen und Goldträger) sowie die Art des verwendeten Glases zu verstehen. Die Ergebnisse zeigten die bereits bekannte chronologische Entwicklung bei der Herstellung dieser Emails mit vier technologischen Perioden. Sie unterscheiden sich durch den Aufbau des Trägers, die Art des Emailauftrags, ihre Farben und den Grad der Opazität und Transparenz. Die eingehende Untersuchung dieser Objekte ließ jedoch zwei neue chronologische Untergruppen erkennen, die sich durch die Struktur des Goldträgers unterscheiden und bis dahin unbekannt waren.

Die Emails weisen eine sehr große Bandbreite an Farbtönen, Schattierungen und Transparenzgraden auf. Die chemischen Analysen ergaben die Verwendung verschiedener Glastypen, vorwiegend Kalknatron-Silikatglas, wobei die Art der Natriumquellen variiert. Darüber hinaus konnten zwei bleihaltige Glastypen nachgewiesen werden: ein kaliumkalziumhaltiges sowie ein gemischtalkalisches Glas. Dabei werden meist mehrere dieser Typen gleichzeitig auf einem Objekt verwendet. Opake Emails werden durch Verbindungen auf Antimon- oder Zinnbasis oder durch eine Mischung dieser Verbindungen getrübt, wobei in Einzelfällen auch geringe Gehalte an Kalziumphosphat möglich sind. Da gut datierte byzantinische Emails selten sind, erweitert die vorliegende Studie unser Wissen über die technologischen Fertigkeiten und die Glasherstellung, die die frühmittelalterliche Emailkunst in Byzanz kennzeichneten.

Étude en laboratoire des émaux byzantins du musée du Louvre: Techniques de fabrication et matériaux

Un ensemble d'émaux cloisonnés byzantins du musée du Louvre a été étudié au Centre de recherche et de restauration des musées de France (C2RMF) à l'aide de diverses méthodes d'analyses chimiques des matériaux et d'études techniques. L'objectif était de comprendre les techniques de fabrication de ces émaux (verres et supports en or) et la nature des verres employés. Les résultats ont montré une évolution chronologique dans la fabrication de ces émaux avec quatre périodes technologiques, déjà observées. Elles se distinguent par la structure du support, la façon d'appliquer les émaux, leurs couleurs et leur degré d'opacité et de transparence. Cependant, l'étude approfondie de ces objets a révélé deux nouveaux sous-groupes chronologiques distincts par le support en or, inconnus jusqu'alors.

Ces émaux présentent une très large gamme de couleurs, de nuances et de degrés d'opacité et de transparence. Les analyses chimiques ont révélé l'utilisation de différents types de verres majoritairement des silicates sodo-calciques, dont la nature des sources sodiques varie et deux verres contenant du plomb (potasso-calcique et alcalin mixte). Plusieurs compositions étaient généralement utilisées simultanément sur un même objet. Les émaux opaques sont opacifiés par des composés à base d'antimoine ou d'étain, ou bien par un mélange de ces composés, avec parfois de faibles teneurs en phosphate de calcium. Comme les émaux byzantins bien datés sont rares, les présentes recherches enrichissent notre connaissance des compétences technologiques et des pratiques verrières qui caractérisaient l'art de l'émaillerie du début du Moyen Âge à Byzance.

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Sigles Used

| | | | |
|---------|---|--------|---|
| BBA | Berliner Byzantinistische Arbeiten | FM | Fontes Minores |
| BF | Byzantinische Forschungen | JbRGZM | Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz |
| BHG | F. Halkin, Bibliotheca Hagiographica Graeca (Bruxelles ³1957) | KME | Kirilo-Methodievska Enciklopedija |
| BOO | Byzanz zwischen Orient und Okzident. Veröffentlichungen des Leibniz-WissenschaftsCampus Mainz/Frankfurt | LMA | Lexikon des Mittelalters |
| Byzslav | Byzantinoslavica | MGH | Monumenta Germaniae Historica |
| BZ | Byzantinische Zeitschrift | ODB | The Oxford Dictionary of Byzantium |
| CahArch | Cahiers archéologiques | PL | Patrologiae cursus completus, Series latina, hrsg. v. J.-P. Migne (Paris 1844-1880) |
| CFHB | Corpus Fontium Historiae Byzantinae | RbK | Reallexikon zur byzantinischen Kunst |
| CSHB | Corpus Scriptorum Historiae Byzantinae | TIB | Tabula Imperii Byzantini |
| DOP | Dumbarton Oaks Papers | ZRVI | Зборник радова Византолошког Института – Zbornik Radova Vizantološkog Instituta |
| DOT | Dumbarton Oaks Texts | | |

The Preslav Treasure is one of the most significant jewellery hoards of the Middle Ages. It comprises over 180 items, including jewellery, appliques, coins, and spoons, crafted from gold, silver, gemstones, pearls, and enamel. Unearthed in 1978 near the town of Preslav in Bulgaria – capital of the First Bulgarian Empire (681-1018) from the late ninth century until 971 – the treasure offers valuable insights into the relations between medieval Bulgaria and its neighbour, Byzantium. Most of the luxury objects likely originated in Constantinople, possibly as part of a dowry or diplomatic gift associated with the marriage of the Bulgarian Tsar Peter I (927-969) and the Byzantine princess Maria-Irene in 927.

For the first time since its discovery, the Preslav Treasure has been subjected to comprehensive scientific analyses, carried out at the Leibniz-Zentrum für Archäologie (LEIZA) in Mainz, Germany, in conjunction with restoration work and photographic documentation. To facilitate this, an international collaboration was established between the Bulgarian Academy of Sciences, the Museum »Veliki Preslav«, and the LEIZA, with generous support from the Gerda Henkel Foundation and the Society of Friends of LEIZA. This volume comprises fourteen papers presented at a conference on the Preslav Treasure organised in cooperation with the Musée du Louvre in Paris in 2018 and includes an introduction by Jannic Durand, our host at the Louvre. The peer-reviewed contributions by experts from Austria, Bulgaria, the Czech Republic, France, Germany, Greece, and Italy explore a wide range of topics. These begin with the historical context of the treasure, including Bulgaria's diplomatic and cultural relations with Byzantium and the Frankish world, as well as the Christianisation of Bulgaria. The second section focuses on the archaeological excavations in Preslav and, more broadly, across Bulgaria. The third section examines individual artefacts and object groups within the treasure, especially the diadem plaques, the enamelled earrings, the large gemstone pendants, and the spherical pendants. The final section is dedicated to technological studies and scientific analyses of the Preslav Treasure and related materials.

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Die Reihe dient als Publikationsorgan für das Forschungsprogramm des Leibniz-WissenschaftsCampus, das Byzanz, seine Brückenfunktion zwischen Ost und West sowie kulturelle Transfer- und Rezeptionsprozesse von der Antike bis in die Neuzeit in den Blick nimmt. Die Methoden und Untersuchungsgegenstände der verschiedenen Disziplinen, die sich mit Byzanz beschäftigen, werden dabei jenseits traditioneller Fächergrenzen zusammengeführt, um mit einem historisch-kulturwissenschaftlichen Zugang Byzanz und seine materielle und immaterielle Kultur umfassend zu erforschen.