ПОЛИВНАЯ КЕРАМИКА СРЕДИЗЕМНОМОРЬЯ И ПРИЧЕРНОМОРЬЯ X—XVIII ВВ.

Glazed Pottery of the Mediterranean and the Black Sea Region, 10th—18th Centuries

volume 2 том

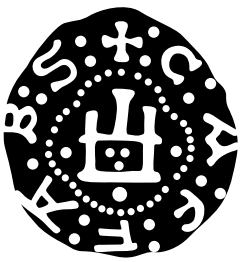
stratum

АРХЕОЛОГИЧЕСКИЕ ИСТОЧНИКИ
ВОСТОЧНОЙ ЕВРОПЫ

ARCHAEOLOGICAL RECORDS
OF EASTERN EUROPE

ИНСТИТУТ АРХЕОЛОГИИ им. А. Х. ХАЛИКОВА
АКАДЕМИЯ НАУК РЕСПУБЛИКИ ТАТАРСТАН

УНИВЕРСИТЕТ ВЫСШАЯ АНТРОПОЛОГИЧЕСКАЯ ШКОЛА



ПОЛИВНАЯ КЕРАМИКА СРЕДИЗЕМНОМОРЬЯ И ПРИЧЕРНОМОРЬЯ X—XVIII вв.

Том 2

Под редакцией
С. Г. Бочарова, В. Франсуа, А. Г. Ситдикова

Казань — Кишинев

2017

A. KH. KHALIKOV INSTITUTE OF ARCHAEOLOGY
ACADEMY OF SCIENCES OF THE REPUBLIC OF TATARSTAN

HIGH ANTHROPOLOGICAL SCHOOL UNIVERSITY

GLAZED POTTERY OF THE MEDITERRANEAN AND THE BLACK SEA REGION, 10TH–18TH CENTURIES

Volume 2

Edited by
Sergei Bocharov, Véronique François, Ayrat Sitdikov

Kazan — Kishinev

2017

902/904(4)=00
П 50

Печатается по решению ученого совета
Института археологии имени А. Х. Халикова
Академии наук Республики Татарстан

Под редакцией
С. Г. Бочарова, В. Франсуа, А. Г. Ситдикова

Научные рецензенты

член-корреспондент РАН, доктор исторических наук Н. Н. Крадин,
зав*едующий центром политической антропологии*
Института истории, археологии и этнографии народов Дальнего Востока
Дальневосточного отделения Российской Академии наук (Владивосток)

доктор хабилитат истории, доцент Н. Д. Руссев,
университет «Высшая антропологичекая школа» (Кишинёв)

доктор исторических наук Ю. Б. Цетлин,
ведущий научный сотрудник Института археологии
Российской Академии наук (Москва)

ISBN 978-9975-4269-1-6.

Редактор материалов на английском языке: Ю. Д. Тимотина
Технический координатор: Ж. Б. Кроитор
Оригинал-макет: Д. А. Топал, Л. А. Мосионжник, Г. В. Засыпкина
Редактор карт: Л. А. Мосионжник
Корректор: Г. В. Засыпкина

DESCRIEREA CIP A CAMEREI NAȚIONALE A CĂRȚII

Поливная керамика Средиземноморья и Причерноморья X—XVIII вв. = Glazed Pottery of the Mediterranean and the Black Sea Region, 10th–18th Centuries / Ин-т археологии им. А. Х. Халикова, Акад. наук Респ. Татарстан, Ун-т высш. антрополог. шк. ; под ред.: С. Г. Бочарова [и др.] ; обл.: Д. А. Топал. – Казань : Б. и. ; Кишинев : Stratum Plus : Университет «Высшая антропологическая школа», 2017 – . – (Серия «Археологические источники Восточной Европы» = «Archeological records of Eastern Europe», ISBN 978-9975-4272-6-5). – ISBN 978-9975-4269-0-9.
Том 2. – 2017. – 845 p. – Tit. paral.: lb. engl., rusă. – Texte : lb. engl., fr., ital. şi alte lb. străine. – Rez.: lb. engl., rusă. – Bibliogr. la sfârşitul art. – Referinţe bibliogr. în subsol. – ISBN 978-9975-4269-1-6.
1 disc optic (CD-ROM) : sd., col.; în container, 15 × 15 cm.
Cerinţe de sistem: Windows 98/2000/XP, 64 Mb hard, Adobe Reader.
902/904(4)=00
П 50

Второй том специализированного продолжающегося сборника научных статей «Поливная керамика Средиземноморья и Причерноморья X—XVIII вв.» посвящён вопросам, связанным с изучением массового археологического материала — поливной керамики обширного региона, включающего страны Средиземноморья, Причерноморья, Восточной Европы, Средней Азии, Дальнего Востока и зону евразийских степей периода зрелого и позднего средневековья. Главная задача продолжающегося издания «Поливная керамика Средиземноморья и Причерноморья X—XVIII вв.» — привлечение внимания медиевистов к вопросам изучения глазурованной посуды, и в частности, введение в научный оборот как можно большего числа не известных ранее археологических комплексов, содержащих поливную керамику, а также результатов, полученных при применении различных методик физико-химического изучения керамических глин и глазурей. В сборнике приняли участие учёные из Азербайджана, Белоруссии, Болгарии, Греции, Испании, Италии, Ливана, России, Румынии, Сербии, США, Турции, Узбекистана, Украины и Франции.

Издание рассчитано на специалистов в области истории, археологии, керамологии, этнографии, музееведения, студентов исторических специальностей и всех тех, кто интересуется средневековой материальной культурой.

Сборник статей индексируется: РИНЦ (Российский Индекс Научного Цитирования), Google Академия и представлен в международных библиографических базах данных: E-library.ru, WorldCat, CNKI Scholar.

Printed by decision of the Academic Council
A. Kh. Khalikov Institute of Archaeology of the Academy of Sciences
of the Republic of Tatarstan

Edited by

Sergei Bocharov, Véronique François, Ayrat Sitdikov

Scientific reviewers

Corresponding Member of the Russian Academy of Sciences,
Doctor of Historical Sciences **Nikolay N. Kradin**
Institute of History, Archaeology and Ethnography of the Peoples of the Far East of the Far Eastern Branch of the Russian Academy of Sciences (Vladivostok)

Doctor Habilitat of History, Docent **Nicolaj D. Russev**
High Anthropological School University (Kishinev)

Doctor of Historical Sciences **Iuryi B. Tsetlin**
Leading Research Fellow of the Institute of Archaeology of the Russian Academy of Sciences (Moscow)

Editorial Board

С О Д Е Р Ж А Н И Е

ЧЕРНОМОРСКИЙ РЕГИОН

ВОСТОЧНАЯ ЕВРОПА

СРЕДНЯЯ АЗИЯ И ДАЛЬНИЙ ВОСТОК

CONTENTS

BLACK SEA REGION

EASTERN EUROPE

CENTRAL ASIA AND FAR EAST

V. Bikić

Vesna Bikić. PhD. Institute of Archaeology, Belgrade.

Бикич Весна. Доктор. Институт археологии, Белград.

E-mail: vesna.bikic@gmail.com

Address: Kneza Mihaila, 35/IV, 11000, Belgrade, Serbia

Ottoman Glazed Pottery Standardisation: The Belgrade Fortress Evidence for Production Trends

Keywords: Balkans, Ottoman Period, pottery, standardisation, pottery production, social identity

Ключевые слова: Балканы, османский период, стандартизация, организация керамического производства, социальная идентичность

V. Bikić

Ottoman Glazed Pottery Standardisation: The Belgrade Fortress Evidence for Production Trends

Glazed pottery from the Belgrade Fortress, already evaluated contextually and typologically, allow us to address some important issues of pottery production and craft specialisation in the Ottoman period (16th—17th centuries). In order to determine the degree of pottery standardisation, this article will analyse the main production parameters, such as shape, size/volume and production technology. The production organisation and craft skills in all aspects of pottery making are examined as well.

В. Бикич

Стандартизация османской поливной керамики: свидетельства о производственных тенденциях из Белградской крепости

Поливная керамика из Белградской крепости, уже оцененная контекстуально и типологически, позволяет решить некоторые важные вопросы гончарного производства и ремесленной специализации в османский период (XVI—XVII вв.). Для определения степени стандартизации керамики, в данной статье анализируются основные производственные параметры — такие, как форма, размер (объём) и технология производства. Рассматриваются также организация производства и ремесленные навыки во всех аспектах гончарного искусства.

Despite the fact that pottery is being used by all strata of human society, its overall social status is very modest, having as a consequence very scarce knowledge of the role of pottery craft in the wider economic context (Sinopoli 1988: 590). In the Ottoman society the potters and their products were very seldom referred to in written accounts. Yet some of them are highly illustrative, such as the festival book — *Surname* of Murad III. Describing the circumcision ceremony of his son Mehmed in 1582, this source mentions craftsmen in the procession. The potters (*dikkaran*) were also labelled as the Iznik wares salesmen — *Tschinifuruschani Isnik*/çınıfuruşanı Iznik (von Hammer 1829: 627—628). This piece of evidence alone speaks of the division within the pottery trade and craft specialisation, and pehaps also of social status differences between craftsmen (Goitein 2010: 278). We also know that in 16th-century Varna each potter's household was to *pay two akçes* for firing the pottery kiln, and the same amount was to be paid in the port for each shipment of pots (Kuzev 1976: 134).

The study of Ottoman-period pottery — especially intensive in recent years — gave us an insight into its complexity, i. e. in both its common

■ This paper results from the research project of the Institute of Archaeology Urbanisation Processes and Development of Mediaeval Society (No. 177021), funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia. ■ В статье приводятся результаты исследовательского проекта Института археологии «Процессы урбанизации и развитие средневекового общества» (№ 177021), финансируемого Министерством образования, науки и технологического развития Республики Сербия.

Fig. 1. Selection of the green glazed vessels from the Belgrade Fortress

Рис. 1. Комплекс сосудов с зелёной поливой из Белградской крепости.

features and regional characteristics. The greatest breakthroughs have been achieved by continuous publishing of large assemblages, like those from the Agora of Athens (Franz 1942), the Saraçhane district of Istanbul (Hayes 1992), Varna (Pletnov 2004), and Damascus (François 2012). Thus this pottery is well-studied in the contextual and chronological sense, and in regard of distribution patterns as well. This is particularly true for glazed wares, which constitute a significant proportion of the Ottoman-period pottery. Given the large quantities of finds, the northern border of the Empire is especially important for these analyses. This does not refer only to material from the towns, first of all Buda (Gerevich 1966; Gerelyes 1990; Tóth 2003) and Belgrade (Bikić 2003; 2007; Popović, Bikić 2004), but also to finds from smaller fortifications occupied by the Ottomans between the 16th and 18th centuries (cf. Nađ 1961; Gerelyes 1990; Kovács 1990—1991; Kovács, Rozsas 1996; Holl 2005; Kovács 2003). In all these publications glazed ware is significantly represented, with its characteristic models, shape of the vessels — particularly bowls and plates — and sgraffito decoration, all of them being long-present in the Mediterranean-Byzantine world.

On the other hand, the production issues of the Ottoman pottery have not been sufficiently discussed. This stands for both the hearthware and tableware, respectively illustrating local pottery traditions and production trends of the epoch. Thus the aim of this article is to study the formal, morphological and technological features of glazed pottery and to resolve the issue of its standardisation degree and, moreover, to explain production trends for the functional class of tableware, that is everyday pottery. I will not process the luxurious classes, like the Iznik ware, as their production was specialised in all aspects and controlled by the state (cf. Atasoy, Raby 1989). In observing production trends, glazed pottery from Ottoman contexts at the Belgrade Fortress constitutes a reference assemblage. This large (optimal) sample has already been typologically and stylistically processed and discussed in a wider cultural discourse (Bikić 2003).

Methodological Framework

Perhaps because it comes from the dawn of the Modern Age, when technological and technical perfection is commonly expected, the issue of standardisation of the Ottoman-period pottery has not yet been discussed. However, precisely this question is crucial for our understanding of different aspects of pottery craft, and at present we can count not only on substantial archaeological data, but on affordable complementary petrographic and physical-chemical analyses too. Furthermore, large-scale ethnoarchaeological research has spawned a series of theoretical models for the reconstruction of pottery production and certain aspects of social organisation (cf. Stark 1995; Sinopoli 1988; 2003; Roux 2000; Costin 2001); the most important backing is sought precisely in the processes of product standardisation and craft specialisation.

Fig. 2. Glazed bowls from the Belgrade Fortress — classes of decoration.

Рис. 2. Поливные чаши из Белградской крепости: классы украшения..

According to the definition, standardisation (uniformity) is displayed in sets of vessels showing little variability in features — formal, morphological and production-based — and simplification of production procedures (Rice 1981: 219—220; 1987: 202; Arnold, Nieves 1992; Blackman et al. 1993; Mills 1995; Stark 1995; Roux 2003). To examine the degree of uniformity, first the morphological variations of the vessels were determined through measuring the different dimensions, which was followed by the statistical comparison of datasets; the range of values, mean value and standard deviation are the main evidence for standardisation (Kwame et al. 1996; Eerkens 2000; Eerkens, Bettinger 2001).

On the other hand, the results of recent petrographic and physical-chemical analyses gave clear indications of the use of local clay deposits and of stable raw material composition (clay and inclusions). This implies that deliberate technological choices were made by the potters in order to produce vessels with certain functions (Živković et al. 2015); thus in later instances this research could help resolve the issues of pottery production organisation and the degree of specialisation within the craft itself (Sinopoli 1988; 2003; Costin 1991: 33—35; Rice 1996: 176—182).

Analysis of Glazed Assemblage from the Belgrade Fortress

At first glance, glazed ware from different contexts at the Belgarde Fortress seem uniform (fig. 1). This refers first of all to glaze colour, which is green or, to a considerably smaller extent, yellow. Similarities in the formal attributes of this pottery, such as cross sections, surface finish and even the shape of bowls and pitchers, confirm this impression; small variations in these parameters are connected to the function of the vessels.

On the macroscopic level the cross sections appear as compact, hard and firm, which points to the presence of mineral inclusions in the clay, chiefly sand (Kilikoglou et al. 1995). As a rule, the inner surfaces of bowls and the outer surfaces of jugs were treated in the same manner: they were first covered with a thin layer of white slip, and then with green or yellow glaze. As the vessels were made for serving food and liquids of various consistency and temperature, both coatings were to reduce porosity and permeability (Bronitsky 1986: 225; Rice 1987: 232) and to add to the aesthetic value, perhaps even to make this pottery resemble the more luxurious metallic ware. In most instances, slip and glaze were evenly applied, and trac-

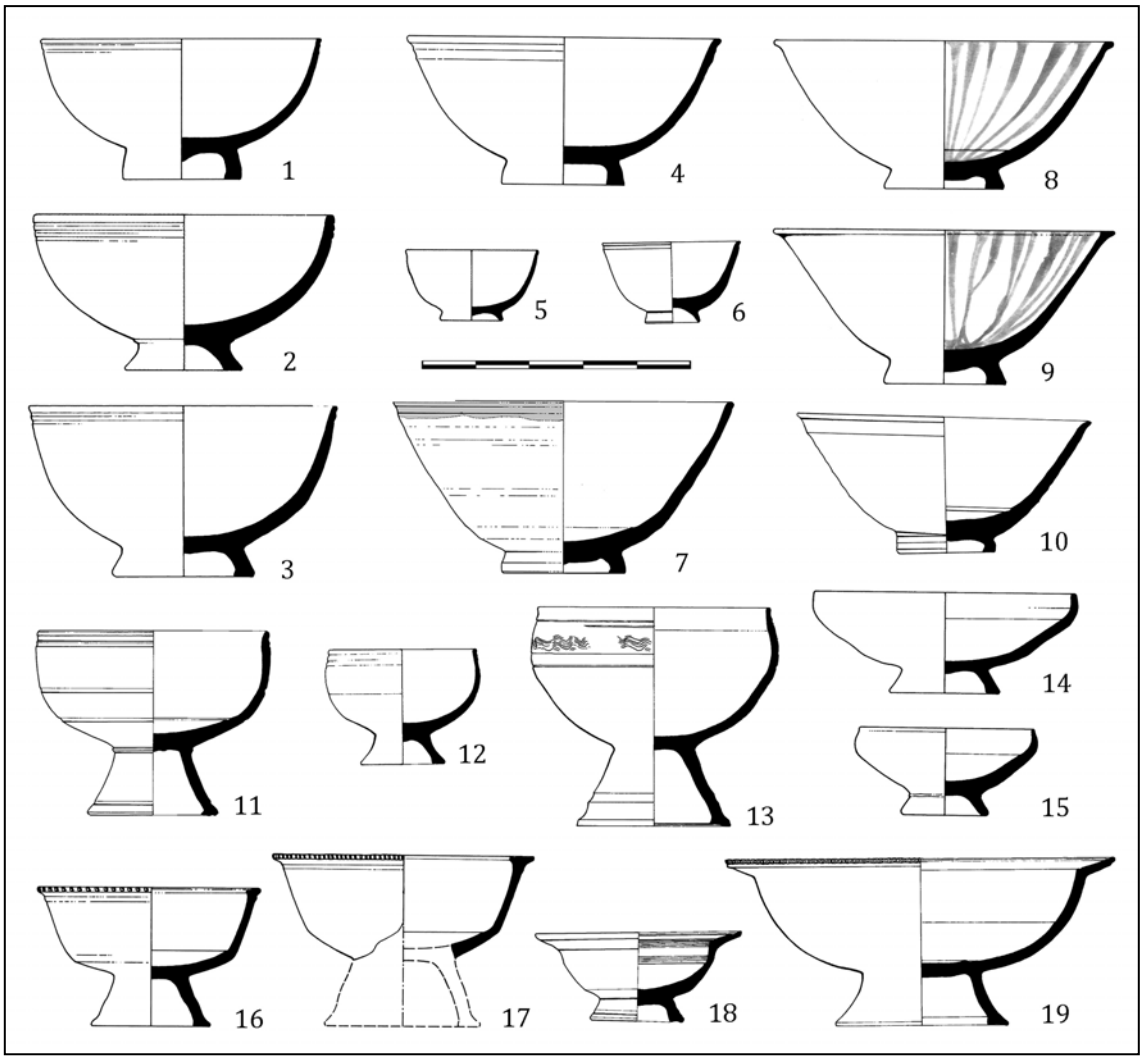


Fig. 3. Glazed pottery from the Belgrade Fortress — review of vessel types.

Рис. 3. Поливная керамика из Белградской крепости: обзор типов сосудов.

Fig. 4. Sgraffito bowls from the Fortress of Belgrade.

Ри. 4. Чаши с орнаментом сграффито из Белградской крепости.

es of dripped coating can often be seen on the exteriors of bowls and plates and on the lower parts of jugs and pitchers. Glazes are bright, of a lead-type, which has recently been confirmed through chemical analyses of samples from similar assemblages in Bulgaria (Yoleva et al. 2015).

Among the formal characteristics pottery wall thickness is particularly important, as the vessel's resistance to physical damage and temperature changes depended on it. The thickness analysis showed greater variability in bowls. Some bowls on foot were shaped with their walls tapering up, mostly from 0.8 cm to 0.4 cm, while the majority of bowls have evenly thick walls, 0.3—0.4 cm and 0.8—1 cm respectively. In contrast to open form bowls and plates, closed forms (jugs and pitchers) do not show variations; even if they are more complex in shape, their wall thickness is 0.4 cm on average.

The decoration analysis yielded results for the whole class of glazed pottery, and those relating to particular functional groups of vessels. Two decoration types have been observed, slip-painted and sgraffito. The first type comes in two variants, in the form of stripes and spots. They were all applied on bowls of all types, although not in the same ratio (fig. 2). The greatest diversity is found in most common, hemispherical and conical bowls. On the other hand, jugs do not display spot-like slip decoration, and pitchers were hardly decorated at all (fig. 1). Sgraffito was more commonly applied on bowls than on pitchers, but only in a few designs. Apart from the decoration, these vessels show significant uniformity in size as well.

It is clear from the above text that the best sample within glazed pottery is provided by two large classes: open forms for serving dishes — bowls, and closed forms for keeping and carrying liquids — jugs and pitchers. In terms of typology, both classes can be divided into a number of groups/types, with regard to vessel shapes, rim profiles, foot shape and height, and presence or absence of spouts. Yet each functional class appears in several shapes, and all of them come in three, maximum four sizes (figs. 2—5), that is effective capacities of 1.2—1.9 l (bowls) and 0.5—3 l (jugs and pitchers), which may imply the vessels' function.

The purpose of particular ceramic categories may be suggested by what we know of Ottoman eating habits. In most cases, the size of the vessels was intimately connected with the size of the portions. The majority of bowls, dishes and plates from Belgrade were of medium size (fig. 3), to contain food for three to five persons (Bertrandon de la Brokijer 1950: 119). The thick

Table 1.

The values of coefficient of variation for metric attributes of bowls and jugs from the Belgrade Fortress

type		orifice diameter	maximum body width	vessel height	body height
hemispherical bowl	Mean	*n*= 21	*n*= 11		*n*= 18
	SD	19.26	18.39		6.53
	CV (%)	2.61	3.95		1.48
		13.56	**22.00**		**22.98**
conical bowl	Mean	*n*= 21			*n*= 11
	SD	20.14			6.91
	CV (%)	4.00			2.08
		19.86			**30.12**
jug 1	Mean	*n*= 10	*n*= 7	*n*= 6	*n*= 6
	SD	5.1	16.48	27.66	18.44
	CV (%)	1.42	0.65	1.87	1.19
		28.54	**4.09**	**7.06**	**6.75**
jug 2	Mean	*n*= 9	*n*= 9	*n*= 9	*n*= 9
	SD	4.82	13.73	23.32	15.61
	CV (%)	1.1	2.94	6.34	4.95
		22.82	**21.45**	**27.18**	**31.75**

meals, like pilaf or bulgur, were served in large bowls — dishes; medium-sized vessels were used for serving soupy food — pottage and meals with milk (and jam and compote as well), while small bowls and plates were used for serving sauces and spices, but also for measuring flour, sugar, rice, etc (Bertrandon de la Brokijer 1950: 123; Bikić 2005: 217—222). Jugs and pitchers come in several sizes (figs. 1; 4; 5). The medium ones were usually used for carrying water from the source or the well to the house, and for keeping it in the kitchen or by the table during the dining time. Small jugs and pitchers were used for drinking, and possibly for measuring food too, like small bowls.

As can be seen from the preliminary results of petrographic and chemical analyses, production characteristics of the Ottoman-period pottery are connected with the vessels' function (Živković et al. 2015). Glazed pottery, however, show variations not only in connection with the intended function of the products, but also with the planned surface treatment. The ceramic body is red, in nuances from red ochre to dark red; cross sections appear compact — especially in the somewhat harder sgraffito pottery. However, in particular cases cross sections are soft and the surface is powdery when touched; glaze and slip flake off too, all of which are the consequences of insufficient evaporation during firing.

All this points to differences in firing procedures for distinct functional and decorative

Fig. 5. Glazed jugs of type 1 from the Belgrade Fortress.

Fig. 5. Поливные кувшины типа 1 из Белградской крепости.

groups, and certain parameters indicate an abbreviated firing cycle, i.e. speeded up production! Slip and glaze quality does not vary significantly. White slip is of constant thickness, coating the entire surface, while glaze thickness depended on the presence of decoration and the decorative technique applied. It was noticed that a number of undecorated green vessels were thinly and sparsely glazed; thus their colour is paler by several shades and not bright.

Standardisation Analysis

This analysis was conducted on a sample of 85 vessels, 56 open forms (bowls) and 29 closed (jugs, pitchers, beakers). The sample is heterogeneous, revealing differences in all parameters among functional classes and types — orifice and bottom diameters, height and wall thickness. Yet, variation coefficient values of the glazed pottery metrical attributes provided results relevant to the study of standardisation degree and pottery production organisation. Particularly illustrative are the results for two predominant types of each functional group (table 1).

Coefficient values for glazed bowls from the Belgrade Fortress, with feet of different heights, show significant metrical variations (Fig. 2: 1—10; Bikić 2003: types I/1, 1/2). As could be expected, bottom diameter and thickness, wall thickness and the way vessels were built from bottom to top proved rather random, with coefficients ranging between 26% and 43%. On the other hand, their orıfice dıameters proved to be the key parameter for standardisation, with the coefficients of 13.56% for hemispherical bowls and 19.86% for conical ones. In all previous studies this parameter was used to illustrate the potters' motor abilities and skills (Roux 2003: 777).

The analysis of the second parameter, height, produced no satisfactory results for either type of glazed bowls. Although rather high variation coefficients of 22.98% for hemispherical bowls and 30.12% for conical ones prove the initial premise that there were several sizes (volumes) within both types, these results point to the need for further height classification between different dimensional groups within particular types; such a division, along with other metrical analyses, would be more suitable for the study of standardisation. This problem is particularly evident with conical bowls, which could not have been divided into different dimensional classes, or, better to say, such a division would harm the statistical relevance of the sample. Even if the extreme values were ignored while calculating the coefficients, these bowls show considerably larger spans in both parameters, with their orifice diameters ranging from 6 cm to 24 cm and recipients' height between 4 cm and 10 cm.

A similar variation percentage is found in jugs, where the recipient height is less variable than the total vessel height, 19.59% and 22.32% respectively. All these variations reflect on the vessels' capacity, which spans 0.15 l and 1.9 l in bowls, and 0.75 l and 3 l in pitchers. At the same time we

Fig. 6. Glazed jugs of type 2 from the Belgrade Fortress.

Fig. 6. Поливные кувшины типа 2 из Белградской крепости.

found out that the average volume of hemispherical bowls and type 1 jugs was the same (1.2 l), smaller than that of conical bowls (1.5 l) and type 2 jugs (1.9 l). These figures point to certain production trends in the shape-size relation, which should be further tested on a larger sample.

The two predominant types of jugs (Bikić 2003: types III/2, III/20) display interesting variation coefficients. Jugs of type 1 show exceptionally low variability in vessels' maximum width (4.09%), height (7.06%) and recipient height (6.75%), while the other attributes are significantly higher. In contrast to this, type 2 jugs, although visually rather similar to each other, display the variability of more than 20% in all attributes. Unlike jugs, pitchers (Bikić 2003: type VI/2) show the greatest uniformity in orifice diameters (19.69%), while the variation coefficients of all the other metrical parameters exceed 20%. These results point to an inconsistent sample creating the so-called cumulative blurring, the consequence of a series of factors: in the case of pottery, first of all there is a possibility that the sample comprises products of many potters, or vessels of numerous series, produced over a long time (Blackman et al. 1993). For these reasons, the calculated variation coefficients by no means minimise the impression of uniformity gained through other methods.

Glazed Pottery Standardisation and Production Trends

The analysis of the Ottoman-period glazed pottery from the Belgrade Fortress yielded important insights into its technological, formal and aesthetic standards. Visually, vessels from this group display remarkable similarties, an impression corroborated by very uniform clay composition and production procedures. At the whole-class level, the latter ones were restricted to only a few colour and decorative patterns on the one hand, and on the other the meticulous crafting of particular sgraffito bowls is precisely a testimony to an advanced specialisation (Goitein 2010: 258).

The sameness of the forms and overall technological features of glazed pottery indicates that the potters had models at their disposal immediately after the Ottoman rule over the town was established. These were quite different from the products of the local ceramic tradition (Bikić 2003: 14); on the other hand, such forms are known from archaeological contexts form Istanbul to Buda (cf. Hayes 1992: Figs. 103, 104, 106—108, 110, 127; Frantz 1942: 17—28, Figs. 6—17, 25—34; Pletnov 2004; Tabl. 16—20, 43—97, 112—119; Holl 2005: Abb. 29, 33, 36, 39, 41). Thus the Belgrade evidence is highly illustrative

of the Ottoman production trends and parameters.

Glazed pottery comes in a small number of forms and in a few dimensional classes, uniform in colour and decoration. The whole group displays approximately the same degree of standardisation; yet certain products show greater uniformity, above all jugs of type 1, and bowls of both predominant types (hemispherical and conical) as well. A high degree of morphological standardisation is usually explained by demand conditions, creating an atmosphere of agreement between the manufacturer and the customer (Sinopoli 1988: 586—590). One should also take into account the customers' inclination towards uniformly shaped products, envisaged as reflecting the potter's skills (Underhill 2003: 208). In connection with this, the relatively high variability of metrical parameters points to a number of potters producing a series of wares over a long period (Costin 1991: 32—33; Hegmon et al. 1995). In our case, this was almost two hundred years, from the begining of the 16th to the end of the 17th century. There are also exceptions, such as type 1 jugs which were probably made by a single potter, or a group of mutually connected craftsmen, perhaps from a single workshop which might have functioned at some point within this timespan. In addition to this, from the establishment of the Ottoman rule in 1521, the contents of archaeological contexts changed only in quantity, i. e. in the consumption volume, which was at its peak in the 17th century (Bikić 2003; 2007). Given all this, the overall pottery uniformity during the Ottoman period can be seen as reflecting a stable trend of demand.

Bearing in mind the common Ottoman practice, we can only suppose how pottery production was organised. First of all, one should recall that in the Ottoman Empire craftsmen clustered according to their crafts and specialisations, not their ethnic or confessional affiliation; thus the esnafs (guilds) were heterogeneous in composition (Goitein 1983: 84—85). From the previous text it may be suggested that in the Belgrade area the 'Ottoman style' pottery production was started by the newcomers, according to their needs and standards of quality and design. The use of local raw materials at a time of fundamental changes in the vessels' form and design suggests that the local pottery tradition was at least partly incorporated into new products (Živković et al. 2015). Thus, it may further be concluded with considerable certainty that the local potters had their share in the production process.

The results obtained provide some ground for addressing the issue of the organisation of pottery production in this area. From the results of the previous microtopographic research it can be assumed that the artisans concentrated in the bazaars and around the town gates. This was so partly due to the side-effects of their trades (need for space, hot temperature, odours, etc.), but perhaps even more because the state wanted to have the craftsmen under control (Goitein 2010: 259—260). This spatial pattern was confirmed in Kruševac, Serbia, where a pottery workshop was situated in the peripheral zone of the densest settlement, separated from the houses by the fortification rampart (Minić 1979: 157—164). A similar position was occupied by a pottery kiln in the Varoš (Borough) district of Varna (Kuzev 1976: 134). With this in mind, one may suppose that the Belgrade workshop area was situated in the southern outskirts of the town.

Large series of uniform ceramic ware, including everyday glazed pottery, testify that there was a market for such goods, which is in line with the well-documented role of Belgrade as an important economic center on the northern border of the Empire and a storage center for all sorts of goods (Popović 2006: 165). This is also proved by the distribution of glazed pottery to the Ottoman strongholds across the Danube River, in Sourthern Hungary (Kovacs 1990—1991: 170—171; Kovacs, Rozsas 1996: Figs. 11—15; Holl 2005: Abb. 29, 33, 36, 39, 41). These might possibly have originated from the Belgrade workshops; and moreover, similar glazed ware occur throughout this region. Thus an elaborated 'spatial arrangement of production activities' (Costin 1991: 13—15) can be assumed, within which the potters from spatially separated territories, different in material and social conditions, could have been engaged in the same cause (Sinopoli 2003: 32—35).

In this particular case, connections between Belgrade and the Hungarian possessions across the river actually slightly pre-date the Ottoman conquest, otherwise strikingly reflected in pottery (Bikić 2003: 158—164). The 'Balkan identity' of sgraffito bowls is uncontested (Bakirtzis 1980; Gerelyes 1985; 1990; Kovacs 1990—1991: 170—172), and their distribution outlines the limits of the conquest, outside of which there are no such finds (Bikić 2003: 166). The workshop producing this ware may have been situated in Belgrade, but elsewhere in the region as well.

In its general production character, glazed pottery from the Ottoman period conveys a message of social status and ethnic attribution, and partly illustrates the legal framework their manufacturers had to work within (Costin 1998; 2001: 282—285). The notion from the beginning of this article of a marginal socail status of pottery and the potters is, in the case of Belgrade,

circumstantially evidenced by the fact that the rank of craftsmen was mentioned last *by Evliya Çelebi* (Evlija Čelebi 1979: 90), after those of the military, international traders, administrative staff, winegrowers and gardeners, and boat builders.

The low status of the artisans, including the potters, was appropriate to the socio-economic context of their activities. Namely, to fulfill the needs of, above all, the army, they were to produce large series of uniform ware. Due to the demands for quantity and the urgency, some production procedures had to be abbreviated, which resulted in a decrease in pottery quality. As in the case of other towns (Kuran 2000: 44—46; Kuzev 1976: 134), the Belgrade potters were of mixed ethnic and confessional backgounds. The supposition that the Muslim Turks (Ottomans) were the ones to start producing pottery for their own needs would make them one such group, while technological and stylistic ware characteristics point to an inclusion in the production line of the locals, primarily Serbs but also other Balkan Christians — Bulgarians and Greeks (Evlija Čelebi 1979: 84).

Pottery production and the organisation of its distribution would imply the establishment of the potters' esnaf, which could then have comprised not only the manufacturers but the dealers as well (Baer 1970: 30—31). The overall character of glazed pottery, and especially the obtained standardisation parameters, provide grounds for sketching a model of pottery production in an Ottoman town. The fact that this was Belgrade, the key 16th—17th century military and economic center on the northern border of the Empire, adds to the potential of the reconstruction offered, particularly as against pottery production organisation in Istanbul, and in the wider context of workshop production in the Balkans and the Mediterranean.

Acknowledgments

Presented material comes from the excavations conducted by the Institute of Archaeology (Belgrade Fortress Research Project), founded by the City of Belgrade, Secretariat for Culture. I would like to thank Dr Ivan Bugarski for translation of text into English.

References

Arnold, D., Nieves, A. 1992. Factors Affecting Ceramic Standardization. In: Bey, G.J. III, Pool, C.A. (eds.). *Ceramic Production and Distribution: An Integrated Approach*. Boulder Co.: Westview Press, 93—113.

Atasoy, N., Raby, J. 1989. *Iznik the Pottery of Ottoman Turkey*. London: Alexandria Press.

Baer, G. 1970. The Administrative, Economic and Social Functions of Turkish Guilds. *International Journal of Middle East Studies* 1 (1), 28—50.

Bakirtzis, Ch. 1980. Dydimoteichon: un centre de céramique post-byzantine. *Balkan Studies* 21 (1), 147—153.

Bertrandon de la Brokijer. 1950. *Putovanje preko mora*. Beograd: Naučna knjiga.

Bikić, V. 2003. *Gradska keramika Beograda (16—17. vek)*. Beograd: Arheološki institut.

Bikić, V. 2005. Obeležja kulture ishrane. In: Fotić, A. (ed.). *Privatni život u srpskim zemljama u osvit modernog doba*. Beograd: Clio, 203—232

Bikić, V: 2007. The early Turkish stratum on the Belgrade Fortress. *Byzas* 7. Istanbul, 515—522.

Blackman, M.J., Stein, G.J., Vandiver, P.B. 1993. The Standardization Hypothesis and Ceramic Mass Production: Technological. Compositional and Metric Indexes of Craft Specialization at Tell Leilan, Syria. *American Antiquity* 58 (1), 60—80.

Bronitsky, G. 1986. The use of materials science techniques in the study of pottery construction and use. *Advances in archaeological method and theory* 9, 209—276.

Costin, C.L. 1991. Craft specialization: Issues in defining, documenting, and explaining the organization of production. *Archaeological Method and Theory* 3, 1—56.

Costin, C.L. 1998. Introduction: Craft and Social Identity. *Archeological Papers of the American Anthropological Association*. Special Issue: Craft and Social Identity 8, 3—16.

Costin, C.L. 2001. Craft Production Systems. In: Feinman, G.M., Price, T.D. (eds.). *Archaeology at the Millennium. A Sourcebook*. New York: Springer, 273—327.

Eerkens, J.W. 2000. Practice Makes Within 5% of Perfect: Visual Perception, Motor Skills, and Memory in Artifact Variation. *Current Anthropology* 41 (4), 663—668.

Eerkens, J.W., Bettinger, R.L. 2001. Archaeology Techniques for Assessing Standardization in Artifact Assemblages: Can We Scale Material Variability? *American Antiquity* 66 (3), 493—504.

Evlija Čelebi. 1979. *Putopis, odlomci o jugoslovenskim zemljama.* Prevod, uvod i komentari H. Šabanović. Sarajevo: Svjetlost.

François, V. 2012. Objets du quotidien à Damas à l'époque ottomane. Damas médiévale et ottomane. In: Eychenne M., Boqvist M. (eds.). Histoire urbaine, société et culture matérielle, *Bulletin d'études orientales* 61, 475—506.

Franz, A. 1942. Turkish Pottery from the Agora. *Hesperia* 11 (1), 1—28.

Gerelyes, I. 1985. Adatok tabáni tõrõk diszkerámia keltezéséhez és etnikai hátteréhez. *Folia Archaeologica* XXXVI, 223—247.

Gerelyes, I. 1990. Die balkanverbindungen der türkischen Keramik von der Budaer Burg. *Acta Archaeologica Academiae Scientiarum Hungaricae* 42, 269—285.

Gerevich, L. 1966. *A Budai vár feltárása*, Budapest: Akadémiai Kiadó.

Goitein, S.D. 1983. *A Mediterranean Society: The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza*. Vol. 1. Berkeley: University of California Press.

Goitein, S.D. 2010. *Studies in Islamic History and Institutions*. Leiden: Brill.

Hammer, J., von. 1829. *Geschichte des osmanischen*

Reiches. Vol. IV. Pest.

Hayes J.W. 1992. The Pottery. *Excavations at Saraçhane in Istanbul*. Vol. 2. Princeton, New Jersey: Princeton University Press and Dumbarton Oaks Research Library and Collection.

Hegmon, M., Hurst, W., Allison, J.R. 1995. Production for local consumption and exchange: Comparisons of Early red and white ware ceramics in the San Juan region. In: Mills, B.J., Crown, P.L. (eds.). *Ceramic production in the American Southwest*. Tucson: University of Arizona Press, 30—62.

Holl, I. 2005. Fundkomplexe des 15.—17. Jahrhunderts aus dem Burgpalast von Buda. *Varia Archaeologica Hungarica* XVII. Budapest: Archäologisches Institut der UAW.

Kovács, G. 1990—1991. 16th—18th century Hungarian pottery types. *Antaeus* 19/20, 169—180.

Kovács, G. 2003. Some Possible Directions for Research into Ottoman-era Archaeological Finds in Hungary. In: Gerelyes, I., Kovács, G. (eds.). *Archaeology of the Ottoman Period in Hungary*. Budapest: Hungarian National Museum, 257—266.

Kovács, G., Rozsas, M. 1996. A barcsi török palánkavár. *Somogyi Múzeumok Közleményei* 12, 163—182.

Kvamme, K.L., Stark, M.T., Longacre, W.A. 1996. Archaeology Alternative Procedures for Assessing Standardization in Ceramic Assemblages. *American Antiquity* 61 (1), 116—126.

Kilikoglou, V., Vekinis, G., Maniatis, Y. 1995. Toughening of ceramic earthenwares by quartz inclusions: an ancient art revisited. *Acta Metallurgica* er *Materialia* 43 (8), 2959—2965.

Kuzev, A. 1976. Brennöfen für Glasurkeramik aus dem 17. Jahrhunert in Varna. *Bulletin du Musée national de Varna* XII, 131—136.

Kuran, T. 2000. Islamic influences on Ottoman guilds. In: Çiçek, K. *The great Ottoman Turkish civilization*. Vol. 2. *Economy and Society*. Ankara: Yeni Türkiye Yayinlari, 43—59.

Kwame, K.L., Stark, M.T., Longacre, W.A. 1996. Archaeology Alternative Procedures for Assessing Standardization in Ceramic Assemblages. *American Antiquity* 61 (1), 116—126.

Mills, B.J. 1995. The organization of Protohistoric Zuni ceramic production. In: Mills, B.J., Crown, P.L. (eds.). *Ceramic production in the American Southwest*. Tucson: University of Arizona Press, 200—267.

Minić, D. 1979. Grnčarska radionica iz srednjovekovnog Kruševca. *Starinar* XXVIII—XXIX, 153—164.

Nađ, Š. 1961. Tvrđava Bač — Rezultati arheoloških istraživanja 1958. i 1959. godine. *Rad vojvođanskih muzeja* 10, 89—115.

Pletnov 2004: Плетньов В. 2004. *Битовата керамика във Варна XV—XVIII век*. Варна: Славена = Pletnov, V. 2004. *Bitovata keramika văv Varna XV—XVIII vek (Household Pottery in Varna, 15th—18th Centuries)*. Varna: "Slavena" Publ. (in Bulgarian).

Popović, M. 2006. *Beogradska tvrđava*. Drugo dopunjeno izdanje. Beograd: JP Beogradska tvrđava; Arheološki institut; Zavod za zaštitu spomenika kulture grada Beograda.

Popović, M., Bikić, V. 2004. *Kompleks srednjovekovne Mitropolije u Beogradu. Istraživanja u Donjem gradu Beogradske tvrđave*. Beograd: Arheološki institut.

Rice, P.M. 1981. Evolution of Specialized Pottery Production: A Trial Model. *Current Anthropology* 22 (3), 219—240.

Rice, P.M. 1987. *Pottery Analysis, A Sourcebook*. Chicago: University of Chicago Press.

Rice, P.M. 1996. Recent Ceramic Analysis: 2. Composition, Production, and Theory. *Journal of Archaeological Research* 4 (3), 165—202.

Roux, V. 2003. Ceramic Standardization and Intensity of Production: Quantifying Degrees of Specialization. *American Antiquity* 68 (4), 768—782.

Sinopoli, C.M. 1988. The Organization of Craft Production at Vijayanagara, South India. *American Anthropologist* 90 (3), 580—597.

Sinopoli, C.M. 2003. *The Political Economy of Craft Production. Crafting Empire in South India, c. 1350—1650*. Cambridge: Cambridge University Press.

Stark, B. 1995. *Problems in Analysis of Standardization* and Specialization. In: Mills B.J., Crown P.L. (eds.). *Ceramic production in the American Southwest*. Tucson: University of Arizona Press, 231—267.

Tóth, A. 2003. An Ottoman-era Cellar from the Foreground of Buda's Royal Palace. In: Gerelyes, I., Kovács, G. (eds). *Archaeology of the Ottoman Period in Hungary*. Budapest: Hungarian National Museum, 273—280.

Underhill, A. 2003. Investigating Variation in Organization of Ceramic Production: An Ethnoarchaeological Study in Guizhou, China. *Journal of Archaeological Method and Theory* 10 (3), 203—275.

Živković, J., Bikić, V., Carvajal Lopez, J.C., Georgakopoulou, M. 2015. Reconstructing technological sequences of 15th—16th century pottery from the Belgrade Fortress: consumption in the context of historical change. *EMAC 2015—13th European Meeting on Ancient Ceramics*. 24—26 September 2015, Athens. Conference programme and abstracts, P-116. Athens.

Yoleva, A., Djambazov, S., Djambazov, P. 2015. Study of medieval ceramics excavated at the monastery of Karaachteke (Varna, Bulgaria). *Bulgarian Chemical Communications* 47 (1), 387—394.

Статья принята к публикации 24 июня 2016 г.

Академия наук Республики Татарстан
Институт археологии имени А. Х. Халикова
Tatarstan Academy of Sciences
A. Kh. Khalikov Institute of Archaeology

Университет
Высшая антропологическая школа
University of
High Anthropological School

stratum

АРХЕОЛОГИЧЕСКИЕ ИСТОЧНИКИ
ВОСТОЧНОЙ ЕВРОПЫ

ARCHAEOLOGICAL RECORDS
OF EASTERN EUROPE