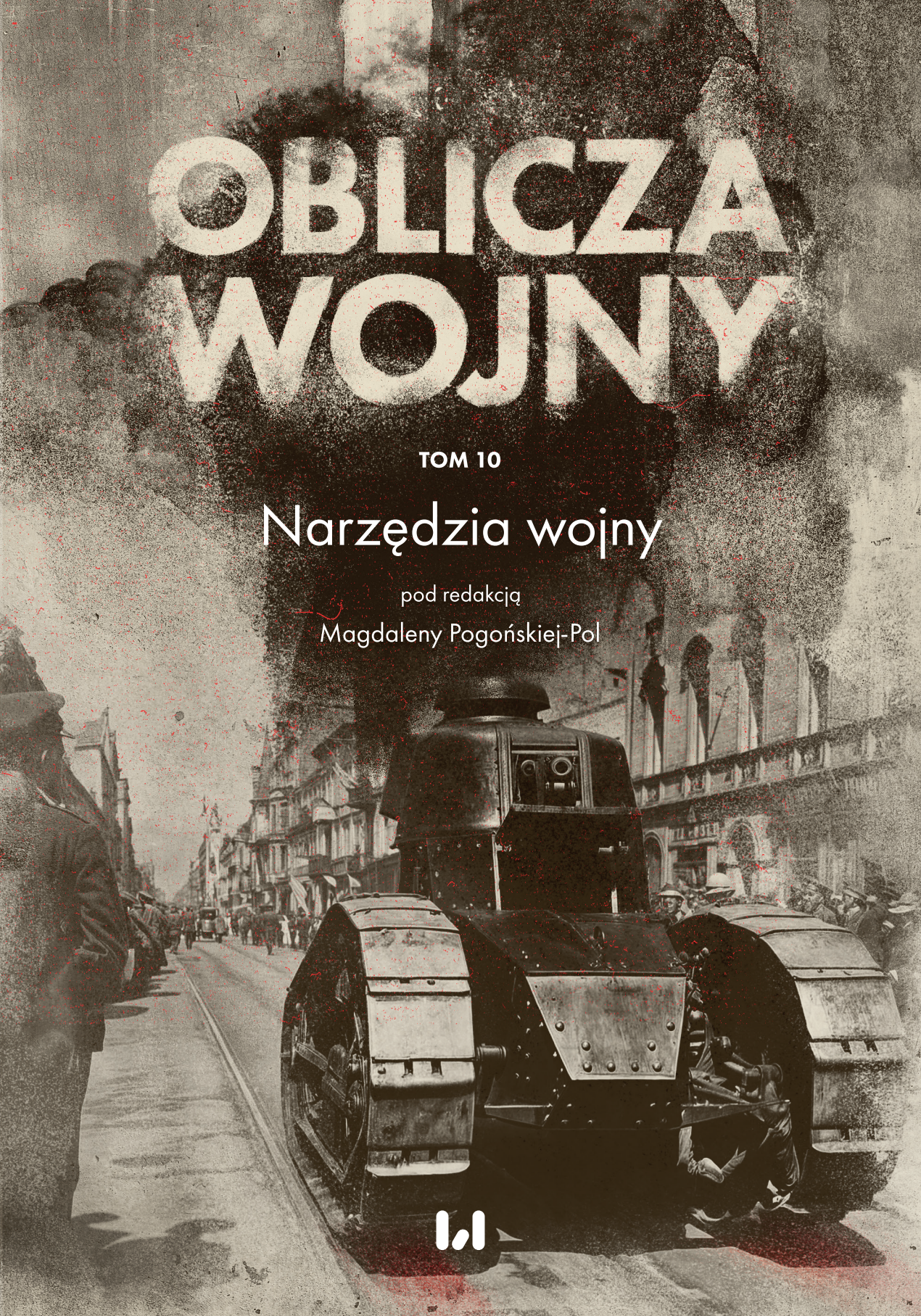
OBLICZA WOJNY

TOM 10

Narzędzia wojny

pod redakcją

Magdaleny Pogońskiej-Pol



OBLICZA WOJNY

WYDAWNICTWO
UNIWERSYTETU
ŁÓDZKIEGO

OBLICZA WOJNY

TOM 10

Narzędzia wojny

pod redakcją

Magdaleny Pogońskiej-Pol

WYDAWNICTWO
UNIWERSYTETU
ŁÓDZKIEGO

Łódź 2023

OBLICZA
WOJNY

REDAKCJA NAUKOWA TOMU • EDITOR OF THIS VOLUME
Magdalena Pogońska-Pol • Uniwersytet Łódzki • Wydział Filozoficzno-Historyczny
Katedra Historii Polski i Świata po 1945 r. • 90-219 Łódź, ul. A. Kamińskiego 27a

REDAKCJA NAUKOWA • EDITORIAL BOARD
Radosław Bania (Wydział Studiów Międzynarodowych i Politologicznych UŁ) • Aleksander Bołdyrew (Wydział Filozoficzno-Historyczny UŁ) • Tadeusz Grabarczyk – Przewodniczący | Editor-in-Chief (Wydział Filozoficzno-Historyczny UŁ) • Witold Jarno (Wydział Filozoficzno-Historyczny UŁ) • Bartosz Kałużny (Uniwersytet Łódzki) • Jarosław Kita (Wydział Filozoficzno-Historyczny UŁ) • Jacek Lasota (Wydział Wojskowy, Akademia Sztuki Wojennej w Warszawie) • Robert Majzner (Wydział Humanistyczny, Uniwersytet im. Jana Długosza w Częstochowie) • Mariusz Mielczarek (Instytut Archeologii i Etnologii, Polska Akademia Nauk, Warszawa) • Magdalena Pogońska-Pol – Sekretarz naukowy | Scientific secretary (Wydział Filozoficzno-Historyczny UŁ) • Ferenc Sebők (Wydział Nauk Humanistycznych i Społecznych, Uniwersytet w Szeged, Węgry) • Myroslav Voloshchuk (Wydział Historii, Politologii i Stosunków Międzynarodowych, Przykarpacki Uniwersytet Narodowy im. Wasyla Stefanyka, Ivano Frankivsk, Ukraina)

O TEJ KSIĄŻCE • ABOUT THIS BOOK
Jest to dziesiąty tom z serii *Oblicza Wojny*, wydawanej przez Wydawnictwo Uniwersytetu Łódzkiego od 2020 r.
This is the tenth volume of the series *Oblicza Wojny* published since 2020 by the Lodz University Press.

RECENZENCI • REVIEWERS
Witold Świętosławski • Krzysztof Filipow

ADRES REDAKCJI • EDITORIAL OFFICE ADDRESS
Redakcja „Oblicza Wojny”
ul. A. Kamińskiego 27a
90-219 Łódź, Polska/Poland
www.obliczawojny.uni.lodz.pl
obliczawojny@uni.lodz.pl

REDAKTOR INICJUJĄCY • MANAGING EDITOR
Natasza Koźbiał

KOREKTA • PROOFREADING
Rebecca Górzyńska • Tadeusz Grabarczyk • Karolina Płoska • Magdalena Pogońska-Pol • Aleksandra Urzędowska

KOREKTA TECHNICZNA • TECHNICAL EDITING
Wojciech Grzegorczyk

SKŁAD • TYPESETTING
Munda – Maciej Torz

PROJEKT OKŁADKI • COVER DESIGN
Sebastian Buzar

NA OKŁADCE • ON THE COVER
Na okładce wykorzystano fotografię czołgu Renault FT na ulicy Piotrkowskiej w Łodzi w dniu 8 sierpnia 1920 r. (fotografia ze zbiorów prywatnych Justyny M. Wajnikonis-Maciejewskiej)
On the cover, a photograph of a Renault FT tank on Piotrkowska Street in Łódź on August 8, 1920, was used (photo from the private collection of Justyna M. Wajnikonis-Maciejewska)

© Copyright by the Authors, Łódź 2023
© Copyright for this edition Uniwersytet Łódzki, Łódź 2023

Publikacja jest udostępniona na licencji Creative Commons
Uznanie autorstwa-Użycie niekomercyjne-Bez utworów zależnych 4.0 (CC BY-NC-ND).
The Open Access version of this book has been made available under a Creative Commons Attribution-NonCommercial-No Derivatives 4.0 license (CC BY-NC-ND).

https://doi.org/10.18778/8331-461-7

WYDAWCA • PUBLISHER
Wydane przez Wydawnictwo Uniwersytetu Łódzkiego
Published by Lodz University Press

Wydanie I. First edition. W.11286.23.0.K
Ark. wyd. 12,0; ark. druk. 14,875
Publisher's sheets 12.0; printing sheets 14.875

ISBN 978-83-8331-461-7
e-ISBN 978-83-8331-462-4

Wydawnictwo Uniwersytetu Łódzkiego
90-237 Łódź, ul. Matejki 34a
www.wydawnictwo.uni.lodz.pl
ksiegarnia@uni.lodz.pl
tel. 42 635 55 77

WYDAWNICTWO
UNIWERSYTETU
ŁÓDZKIEGO

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7

SPIS TREŚCI • CONTENTS • СОДЕРЖАНИЕ

Magdalena Pogońska-Pol
University of Lodz
ORCID: 0000-0001-7525-6260

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 7–9
https://doi.org/10.18778/8331-461-7.01

EDITOR PREFACE

This 10th volume of the *Oblicza Wojny* (*Faces of War*) series, contains 12 papers written by archaeologists and historians from Czechia, Greece, Canada, Germany, Poland, Hungary, and Italy. Such a team of researchers not only ensures an interdisciplinary approach to the issue at hand but also guarantees a multifaceted approach.

All papers address the problem named in the title of this volume: *The Tools of War*. We can distinguish several levels of research undertaken by the Authors: themes related to the armaments of particular armies and fortification systems; references to military formations and the impact of their development on the battlefield; diplomacy as a tool during war, and less obvious issues: money, bicycle, and even a lekythos.

Coming from the perspective of the classical understanding of tools as a means of warfare, Zoltan Szolnoki looked at battles fought among the members of the conflicted Cancelerii family that influenced the development of Florence and the surrounding region. By analysing the chronicles from that period, he identified not only the phases of the fighting and its intensity but also the weapons used by the parties to the conflict, concluding that as time passed, the vendetta became more and more brutal. Simone Picchianti, on the other hand, treated the war between Florence and Lucca in the first half of the 15th century as a backdrop for his paper, in which he presented a highly organised system for the production of crossbow bolts that enabled their constant supply to the Florentine troops and thus ensured their effectiveness. Whereas Manouchehr Moshtagh Khorasani analyses a Persian manuscript (probably from the 17th century) indicating that this source provides invaluable information on how to make crucible steel blades, how to identify and classify swords, how to make the adhesive glue for attaching the blade tang to the handle of the sword, how to make glue for

fletching arrows, how to make naphtha (burning material) for attacking fortifications, and how to make the black powder. The development of Parthian military architecture became the subject of Kaveh Farrokh's discussion. The author indicated the tasks for the fortification system, taking also into consideration the modifications introduced by the Parthians, some of which were based on solutions used in the areas conquered by them.

An article by Ioannis Bellas draws attention to the hitherto underestimated role of the archers in the army of Philip II of Macedon, as in his opinion this formation often determined the victories of the Macedonians. Oleg Hański has attempted to analyse the composition and armament of a 16th-century troop of mercenaries, using the example of Jan Buczacki's rota, stating that the composition and equipment of the unit were typical of Polish military formations in the Jagiellonian times. Ferenc Sebők presented *militia portalis* as an armed force that effectively defended the Hungarian borders against the Turks. In doing so, he pointed out not only the advantages of such a solution but also its development and demise.

Diplomacy as a tool of war was discussed by Josef Rafael Gudmann, who outlined the reasons for the defeat of the French army at the Battle of Attella in 1496 and showed diplomacy as an effective means of waging war. The success of Naples was uncertain until the formation of the Holy League. At the same time, Anna Ambrochowicz-Gajownik discusses the diplomatic activities of the Polish Office in Casablanca and their impact on the fate of Poles (including soldiers) during the Second World War.

When considering the factors that play an important role in the ability to conduct military operations effectively, one cannot overlook finance. Thus, Mariusz Mielczarek presents the influence of money on waging war in ancient Greece, when it was already necessary to finance professional armies – but it was also the army that made it necessary to mint coins, indirectly contributing to the development of mints. In turn, David Hubeny and Nadezhda Kruglova dedicated their paper to bicycles that were used in the Czechoslovak army in the second half of the 1930s. The authors emphasise that despite their design shortcomings, a defect resulting from the use of inappropriate materials for production, these bicycles fulfilled their role as a means of transport in the army of a country experiencing an economic crisis. Inga Głuszek analysed a vessel from the collection of the National Museum in Poznań, proposing a different

interpretation of the painting on its surface considering the fact that vessels were produced by the Athenians for export to be an important factor in the change of approach to the discussed subject.

New approaches to well-known research problems, reinterpretation of old analyses and views, and taking up hitherto unexplored issues are features that unite all the texts, at the same time making them a reading material recommended for both specialists and students.

Ioannis Bellas
Independent Researcher
ORCID ID: 0000-0003-3416-0224

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 11–28
https://doi.org/10.18778/8331-461-7.02

BOWS AND ARROWHEADS FROM ANCIENT MACEDONIA: FROM HUNTERS TO ARCHERS

Summary. A passage by Demosthenes, who emphatically stated that it was through light infantry troops and their flexibility, rather than the sluggish Macedonian phalanx, that Philip II of Macedon secured his victories, illustrates how important the organization of light infantry units was to Philip II. After describing the lightly armed soldiers, the cavalry, and the mercenaries, Demosthenes made reference to archers. Based on this passage and the rich assemblage of arrowheads discovered in ancient Olynthos and Stagira – Greek cities once besieged by Philip II – the author will try to approach the problem of the presence of archers in Philip's army. First of all, the analysis of the collected data shows that in both areas the presence of specific categories of arrowheads is evidence of the siege laid by Philip's troops; secondly, it shows that Philip managed to organize a remarkable corps of Macedonian archers in a relatively short period of time. Although their contribution to Philip's victories was underestimated by the researchers, it seems that in fact, they played a very important role, especially in the difficult conditions of urban combat.

Keywords: bows, arrowheads, stone mold, archers, hunters, ancient Macedonia

In a passage from the Third Philippic, the Athenian orator Demosthenes showed how much importance Philip II of Macedon placed on the organization of light infantry units such as archers, slingers, and javelin throwers.[1] Demosthenes emphatically stated that it was through these units and their flexibility, rather than the sluggish Macedonian phalanx, Philip secured his victories. But what was the attitude of the ancient Macedonians towards archery? Did they use bows for hunting or as weapons of war? Finally, is it possible that units of Macedonian archers existed before Philip II? This paper argues that the combined analysis of the available sources – a few archaeological finds and references in ancient written records – can provide potential answers to the above-mentioned questions.

[1] Demosthenes, *Philippica* 3, 49–50: "ἀκούετε δὲ Φίλιππον οὐχὶ τῷ φάλαγγ' ὁπλιτῶν ἄγειν βαδίζονθ' ὅποι βούλεται, ἀλλὰ τῷ ψιλούς, ἱππέας, τοξότας, ξένους, τοιοῦτον ἐξηρτῆσθαι στρατόπεδον".

Fig. 1. a. Arrowhead from the Tombs Cemetery in Vergina (Source: M. Andronikos, *Vergina I. The Tombs Cemetery*, pl. 96); b. Arrowheads from Vergina's citadel (Source: I. Bellas, *Bows, arrows and quivers…*, pp. 269–270, no. 34–37); c. Arrowheads from ancient Pella (Source: I. Bellas, *Arrowheads from ancient Pella…*, p. 85, no. 17, pl. 2; N. Akamatis, *A house of the early Hellenistic period from Pella*, p. 13, no. 47)

Based on the evidence available to date, the use of a bow in Macedonia seems to have been limited – although not unknown – until the mid-4th century BCE. The few known remains are limited to Pella, Vergina, and Palatiano (ancient Ioron). From Vergina, and specifically the Tombs cemetery, come 22 iron arrowheads (fig. 1a) dating back to the 10th–8th century BCE.[2] They were found in graves in groups of three, along with other weapons, such as swords and

[2] M. Andronikos, *Vergina I. The Tombs cemetery* (in Greek), Athens 1969, pp. 272–273, 279, pls. 96, 111, 117; A. Bräunig, I. Kilian-Dirlmeier, *Die eisenzeitlichen Grabhügel von Vergina. Die Ausgrabungen von Photis Petsas 1960–61*, Mainz 2013, p. 264, fig. 201; K. Rhomiopoulou, I. Kilian-Dirlmeier, *Neue Funde aus der eisenzeitlichen Hügelnekropole von Vergina, Griechish Makedonien*, „Praehistorische Zeitschrift" 1989, vol. 64 (1–2), pp. 97, 114, 133.

spears. In terms of their type, they are tanged and barbed, triangular in shape, missing a boss. Four additional arrowheads (fig. 1b) of the same type (barbed without boss) were discovered in the city's citadel.[3] Based on their type and features, they could be dated to the period between the 6th and 4th centuries BCE, although they were discovered in archaeological layers dated to a later period (3rd–2nd centuries BC). However, it is possible that due to their small size, these arrowheads might have been displaced and moved through archaeological layers, and thus their dating should not be based solely on the context in which they were discovered.[4]

Ancient Pella provides two more arrowheads (fig. 1c), which belong to the same type as those from Vergina, with a triangular body and long barbs without a boss.[5] Both of them were found in a late Classical layer (second half of 4th century BC). The first one comes from the area of the east stoa of the city's agora within a 3rd century BCE layer, while the second comes from a courtyard of an early Hellenistic house. Based on the stratigraphy, they should be dated from the end of the 4th to the beginning of the 3rd century BCE. However, like in the case of the finds from Vergina, the typology and history of development suggest an earlier date, at least in the Classical period (5th–4th centuries BC). Taking into consideration that a cemetery from the Iron Age and the Archaic period has been found in Pella (specifically in the area of the new entrance to the archaeological site discussed in this paper), perhaps these arrowheads should be linked – if not to this particular cemetery – at least to the settlement or the town of the same period, which could not have been situated too far away.[6] Therefore, dating these arrowheads between the 7th and 5th centuries BCE seems more plausible.

---

[3] P. Faklaris, *Vergina. Acropolis excavation 1994* (in Greek), „AergoMak" 1994 [1998], vol. 8, pp. 120, 123; I. Bellas, *Bows, arrows and quivers in the ancient Greek world* (in Greek, Ph.D. Thesis Aristoteles University of Thessaloniki), Thessaloniki 2018, pp. 85, 269–270, no. 34–37.

[4] About the dating of the arrowheads *vide*: I. Bellas, *op. cit.*, pp. 224–226; H. Baitinger, *Die Angriffswaffen aus Olympia*, "Olympische Forschungen" 2001, vol. 29, p. 7.

[5] I. Bellas, *op. cit.*, pp. 85, 270, no. 38; I. Bellas, *Arrowheads from ancient Pella: a weapon as a tool or a tool as a weapon?*, „Eulimeni" 2020, vol. 21, p. 85, no. 17, 18; N. Akamatis, *A house of the early Hellenistic period from Pella*, „Makedonika" 2015, vol. 40, p. 13, no. 47.

[6] On the Iron Age and Archaic times cemetery, *vide*: I.M. Akamatis, *Archaeological activity in Pella in 2008. General conclusions* (in Greek), „AergoMak" 2008 [2011], vol. 22, pp. 144–146; M. Lilimpaki-Akamati, I.M. Akamatis, *Pella from the Bronze to the Hellenistic Age*, [in:] *Threpteria. Studies on ancient Macedonia Tiverios*, eds. M. Nigdelis, P. Adam-Veleni, Thessaloniki 2012, pp. 9–12.

Fig. 2. Stone mould from Palatiano (Source: H. Anagnostopoulou-Chatzipolichroni, *Archaeological site of Palatiano. The South-East sector*, "AergoMak" 2004 [2006], vol. 16, p. 76, 83, pl. 2)

Another important find comes from Palatiano, where the ancient city of Ioron is located, in the region of ancient Crestonia.[7] Excavations there unearthed a stone mould for the production of arrowheads (fig. 2), only part of which is preserved.[8] It is a small stone slab with engraved outline of the arrowhead and a casting hole.[9] One side ends into the. The mould was intended to produce two-edged socketed arrowheads (fig. 2), a category that appeared in the Greek region during the 7th century BCE and remained in use until the 5th century BCE, a period that corresponds to the discovery layer of the mould.[10] More specifically, the mould was found in a chronological horizon of the late Iron Age for Macedonia (ca. 6th–5th centuries BCE). The mould is also significant because it shows the production of arrowheads in the area of ancient Macedonia, during a period when the archaeological finds concerning the bow are few in general.

[7] For ancient Ioron *vide*: H. Anagnostopoulou-Chatzipolichroni, *Palatiano (ancient Ioron): a city of ancient Crestonia* (in Greek), „Archaeologia" 1997, vol. 64, pp. 83–88.

[8] I. Bellas, *Bows, arrows and quivers*..., pp. 196–197, 324, no. 224; H. Anagnostopoulou-Chatzipolichroni, *Archaeological site of Palatiano. The South-East sector*, „AergoMak" 2004 [2006], vol. 16, pp. 76, 83, pl. 2.

[9] L. 12.5 cm. W. 7 cm., Th. 3.2 cm.

[10] For the two-edged socketed arrowheads in the Greek area *vide*: I. Bellas, *Bows, arrows and quivers*..., pp. 117–145.

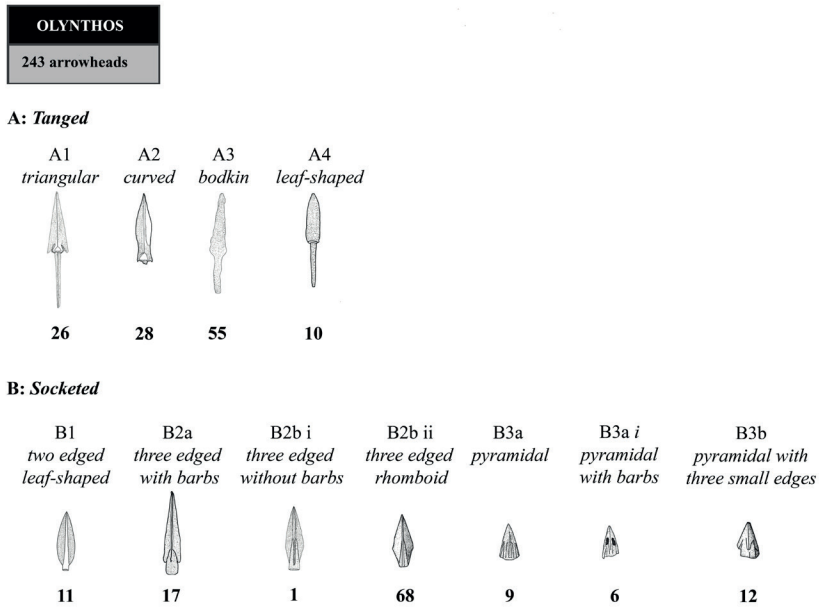


Fig. 3. Arrowheads from ancient Olynthos (Source: Author's own elaboration)

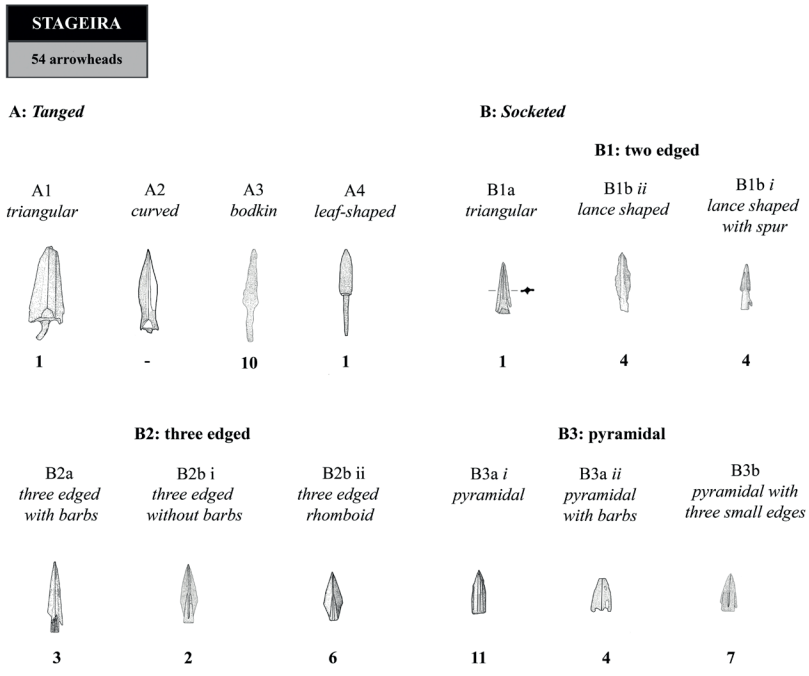


Fig. 4. Arrowheads from ancient Stagira (Source: Author's own elaboration)

Moving on to the 4th century BCE and especially in its middle, the respective finds increase in numbers. Olynthos, Stagira, Vergina, and Pella comprise the most important sources of information. In ancient Olynthos and Stagira – interrelated by their respective and equally decisive and destructive sieges by Philip II – a large number of arrowheads have been identified and studied. More specifically, 243 arrowheads have been discovered in ancient Olynthos.[11] These arrowheads can be divided into two main types, tanged and socketed (fig. 3). The tanged arrowheads can also be divided according to the shape and the cross-section into triangular, curved, bodkin, and leaf-shaped,[12] while the socketed ones into two-edged, three-edged, and pyramidal. In ancient Stagira, 53 arrowheads were found (fig. 4), which fall into the two major types that exist in Olynthos. The difference in this case, though, is that in Stagira, the tanged arrowheads are limited to the bodkins, except one triangular and one leaf-shaped arrowhead.[13] In Vergina and more specifically in the so-called tomb of Philip II 74 arrowheads were found located inside a quiver (*gorytos*).[14] The arrowheads are socketed, with barbs and a three-edged body. Eight similar arrowheads belonging to the same category were found in a tomb in ancient Pella (fig. 5) dating back to the third quarter of the 4th century BCE.[15] The arrowheads of this category (socketed, three-edged, with barbs) date back to the period from the 5th through the middle of the 4th century, while the majority of them, at least in Greece, could be placed in the 4th century BCE.

In Olynthos, 52% (fig. 6) of the arrowheads were discovered on the north hill, where the classical city was situated, on the streets and in the destruction layer, both inside and outside the houses.[16] 14% of them were found on the south hill, where the archaic city is located, while about 9% were found in the field between the two hills. An important question is whether these arrowheads can be associated with

[11] D.M. Robinson, *Excavations at Olynthus X. Metal and Minor Miscellaneous Finds*, Baltimore 1941, pp. 379–409.

[12] For the categories *vide*: H. Baitinger, *op. cit.*, pp. 9–25, 94–142; I. Bellas, *Bows, arrows and quivers*..., pp. 59–194; A. Snodgrass, *Early Greek Armour and Weapons*, Edinburgh 1964, pp. 144–153.

[13] I. Bellas, *Bows, arrows and quivers*..., pp. 265, no. 21, 280–282, no. 76–84, 283, no. 88.

[14] M. Andronikos, *Vergina. The Royal Tombs and the ancient city*, Athens 1991, 77, 186, fig. 38; P. Faklaris, «Weapons», [in:] *Vergina. The Great Tumulus. Archaeological guide*, eds. S. Drougou, Ch. Saatsoglou-Paliadeli et al., Thessaloniki 1994, p. 110; I. Bellas, *Bows, arrows and quivers*..., p. 147.

[15] I. Bellas, *Arrowheads from ancient Pella*..., pp. 73, 89, nos. 39–45.

[16] D.M. Robinson, *op. cit.*, pp. 382–409; J.W.I. Lee, *Urban combat at Olynthos, 348 BC*, [in:] *Fields of conflict: Progress and Prospect in Battlefield Archaeology*, eds. P.W.M. Freeman, A. Pollard, Oxford 2001, pp. 13–19.

any of the three known war events that occurred in the area of Olynthos. The first was the destruction of the archaic city by the Persians in 479 BCE;[17] the second was the destruction of the classical town by Philip II in 348 BCE.[18] The third war event involved the siege of the city by Sparta and its allies in 382 BCE. The Olynthians moved inside the walls, trapped their opponents between the towers within their firing range, and forced them to flee by throwing projectiles.[19]

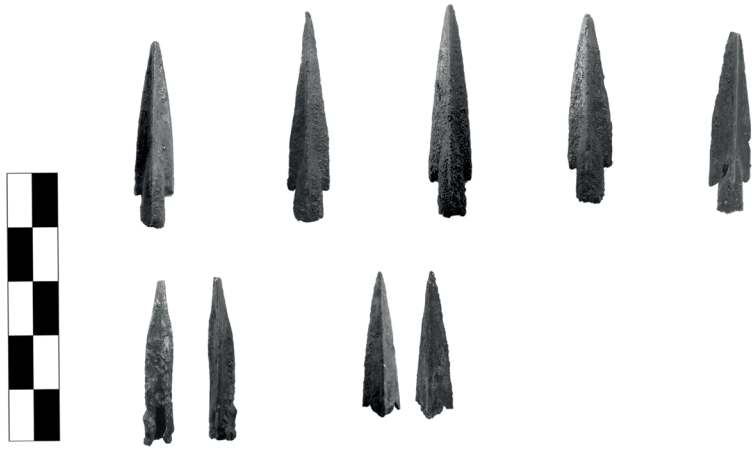


Fig. 5. Arrowheads from ancient Pella (Source: I. Bellas, *Arrowheads from ancient Pella*..., pl. 4, nos. 39–44, 49–50)

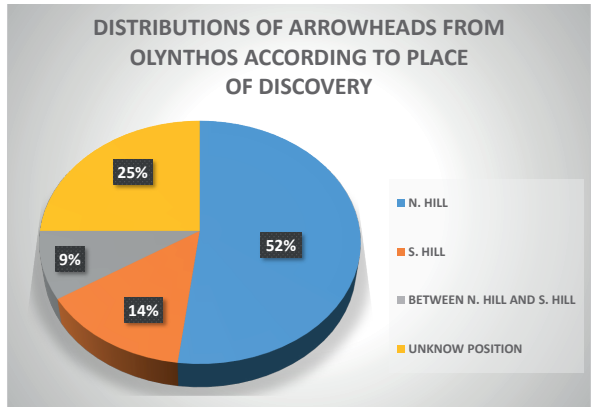


Fig. 6. Distribution of arrowheads from ancient Olynthos (Source: Author's own elaboration)

[17] Herodotus, *Historiae*, 8, 126–127; D.M. Robinson, *op. cit.*, p. 378.

[18] Diodorus Sicilus, *Bibliotheca historica*, 16, 53, 2–5.

[19] Xenophon, *Hellenica*, 5, 3, 5.

The presence of the archers (and possibly slingers) who managed to push back the Spartans and their allies becomes clear from the above events, as they are documented in the extant written sources. However, it is generally accepted by research that most of the arrowheads found in the north hill are related to the destruction of the city by Philip.[20] Due to the context of their finding – namely the city's destruction layer – and the great number of sling bullets, any other interpretative approach, including various aspects of everyday life such as hunting, should possibly be abandoned.[21] As for typology, these arrowheads belong to the subcategories (fig. 3) A1 (tanged and triangular), A3 (bodkin), B2 (socketed three-edged, with or without barbs), and B3 (pyramidal). The last, the pyramidal, was used widely in Greece during the 4th century BCE.[22]

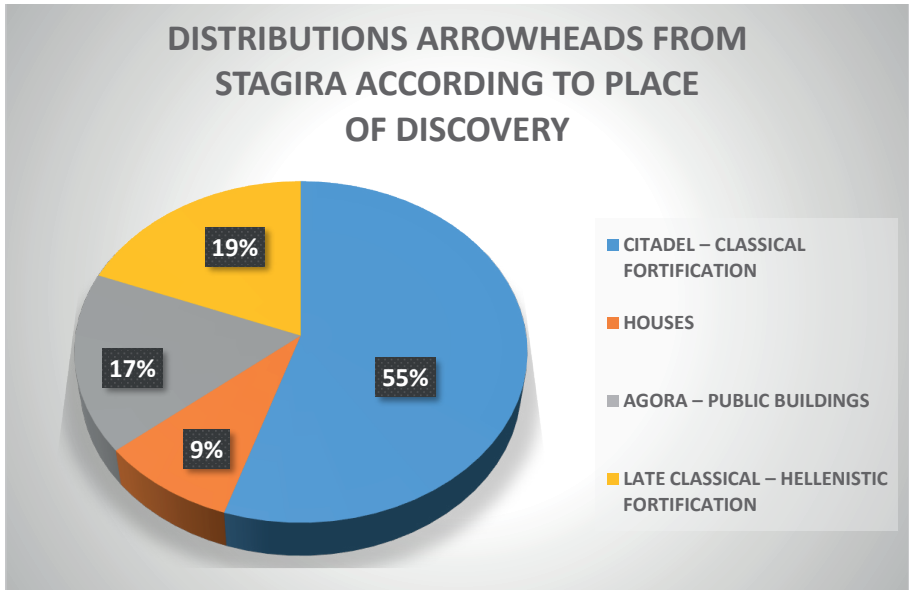


Fig. 7. Distribution of arrowheads from ancient Stagira (Source: Author's own elaboration)

[20] D.M. Robinson, *op. cit.*, p. 382; J.W.I. Lee, *op. cit.*, pp. 13–16.

[21] J.W.I. Lee, *op. cit.*, p.15. Similarly, the arrowheads from the south hill are mainly associated with the destruction of the city by the Persians, due to the place where they were found and their dating. D.M. Robinson, *op. cit.*, pp. 378–381; I. Bellas, *Bows, arrows and quivers*..., pp. 111–112, 142–145.

[22] *Vide* above: note 29.

In ancient Stagira, 55% (fig. 7) of these arrowheads were found along the internal and external front of the north part of the city wall, in the area of the circular tower and inside the citadel. In this area, there exist two rectangular buildings whose military character has been highlighted.[23] The rest were found within the city scattered in houses (9%), in public buildings, and in the agora (17%), while 19% were found along the late classical/Hellenistic city wall.

Could these arrowheads be the result of a war event? In ancient Stagira there were at least two such events known: the first is related to the first phase of the Peloponnesian War, when the city (in 424 BCE) allied with the Spartan Brasidas and brought about Cleon's intervention the following year.[24] The latter launched several unsuccessful attacks using the port of Eion (near Amphipolis) as his base of operations. The second and more significant event was the siege and conquest of the city by Philip II around 349–348 BCE.[25] The arrowheads found along the classical fortification and on the citadel could seemingly be related to either of these events, originating either from the attackers or the defenders. This interpretation is reinforced by the large number of lead sling bullets found in the area.[26] Given that the Athenians used their fleet and carried out their attacks from Eion, having, thus, the ability to attack the coastal city wall, most of the above arrowheads should be associated with Philip's attack. The Macedonian's lack of a fleet predicated Philip's reliance exclusively on his infantry. Hence, he must have concentrated his attack on the northern part of the city wall, where most of the arrowheads were found.[27] Typologically speaking (fig. 4), most of the above arrowheads belong to the subcategories A3 (bodkin), B2 (three-edged), and B3 (pyramidal).

[23] For the arrowheads of the area *vide*: K. Sismanidis, *Excavation of Ancient Stagira 1992* (in Greek), "AergoMak" 1992 [1995], vol. 6, p. 460; idem, *Ancient Stagira 1993* (in Greek), "AergoMak" 1993 [1997], vol. 7, p. 435; I. Bellas, *Bows, arrows and quivers*..., pp. 98, 120, 126, 137, 147, 159, 166, 175, 181, 185. For the buildings on the citadel *vide*: K. Sismanidis, *Ancient Stagira 1994* (in Greek), "AergoMak" 1994 [1998], vol. 8, p. 280.

[24] Thucydides, *Historiae*, 4, 88, 2 and 5, 6, 1.

[25] Diodorus Sicilus, *Bibliotheca historica,* 16, 52, 9.

[26] K. Sismanidis, *Ancient Stagira 1994*, p. 283.

[27] This connection is also reinforced by the inscribed lead sling bullets which are related to Philip or his officers. *Vide* above: note 26.

Common arrowheads categories

	A3 *bodkin*	B2a *three edged with barbs*	B2b i *three edged without barbs*	B2b ii *three edged rhomboid*	B3a *i pyramidal*	B3a *ii pyramidal with barbs*	B3b *pyramidal with three small edges*
							
Olynthos	**55**	**17**	**1**	**68**	**9**	**6**	**12**
Stageira	**10**	**3**	**2**	**6**	**11**	**4**	**7**

Fig. 8. Common arrowhead categories (Source: Author's own elaboration)

Comparison of the arrowheads from Olynthos and Stagira allows the emergence of some points. Thus, it seems a) that the arrowheads from ancient Stagira are fewer, b) they are more restricted in terms of their typology (almost exclusively socketed), and c) they have several categories in common with those from Olynthos (fig. 8). This smaller number of arrowheads from Stagira, however, is not insignificant at all. Furthermore, this can be explained by the fact that – unlike Olynthos – a large part of the city has not been investigated, while the city was rebuilt by Philip and partially re-inhabited.[28] The latter would probably involve some sort of cleaning of the area including a possible collection of the arrowheads for further use. However, the finding of arrowheads belonging to the common categories is of particular importance in further approaching Philip's archers during two historical events. With the exception of the three-edged rhomboid arrowheads (fig. 8), which appeared in Greece from the 6th century, were in wide use in the 5th century and declined during the 4th century BCE,[29] the rest of the categories – bodkin, three-edged with barbs, and pyramidal (A3, B2a, B3) – belong to types that

[28] Plutarchus, *Alexander*, 7, 3; K. Sismanidis, *Ancient Stagira. Birthplace of Aristotle*, Athens 2003, p. 15.

[29] I. Bellas, *Bows, arrows and quivers*..., pp. 156–170. It is indicative that although many of them were found on the north hill of Olynthos, Lee does not connect them to the events of 348. J.W.I. Lee, *op. cit.*, p. 16, draft memorandum.

appeared from the end of the 5th century BCE and were used widely throughout the 4th c. BCE.[30] This means that, on the one hand, one could disconnect them from earlier historical events (the Persian and Peloponnesian Wars), and, on the other hand, place them within the chronological framework of the war episode of 349–348 BCE that involved both cities. It should also be taken into account that in both cases these arrowheads were accompanied by a large number of inscribed and non-inscribed lead sling bullets, many of which bear names associated with Philip or his officers.[31]

The next question that arises is whether the above arrowheads are connected to Philip's archers or to defenders. First of all, as far as the Olynthians are concerned, we know that they had capable archers, since they managed to repel the Spartans and their allies several years prior. The answer to this question is therefore not easy, especially if one takes into account that in the case of Olynthos, despite the betrayal of Euthycrates and Lasthenes, a battle was fought within the city, where pockets of resistance must have existed. These were probably fortified in houses or other buildings using bows or slingshots as weapons.[32] Similar incidents occurred in Plataea during the invasion of the Thebans in 431 BCE,[33] and in Olympia between the Elians and the Arcadians in 364 BCE.[34] Furthermore, during the surrender of the Thessalian city of Pharkadona to Philip in 354 BCE, some of the residents trapped his mercenaries by throwing spears and arrows from the roofs of houses and towers.[35] It is therefore understandable that in an urban battle, the ridding of the area from pockets of resistance was not an easy task and presupposed the existence of a capable corps of archers and slingers. In such a case, arrows would be fired

[30] For the distribution of the arrowheads in general *vide*: I. Bellas, *Bows, arrows and quivers...*, pp. 95–104, 145–190.

[31] For the leads *vide*: D.M. Robinson, *op. cit.*, pp. 419–443; J.W.I. Lee, *op. cit.*, p. 13–14; K. Sismanidis, *Ancient Stagira 1994*, p. 283. For the interpretation of the names *vide*: E. Nankov, *The mobility of Macedonian army in Thrace during the Reign of Philip II and the inscribed Lead Sling Bullets from Kozi Gramadi*, „Bulgarian e-Journal of Archaeology" 2015, vol. 5.1, pp. 1–6; I. Bellas, *Sealing Issues on Projectiles in the Late Classical and Hellenistic periods*, [in:] *Історія давньої зброї. Дослідження 2020: збірник наукових праць*, упор. Д.В. Тоїчкін, Київ 2023, pp. 16–23.

[32] J.W.I. Lee, *op. cit.*, pp. 18–19.

[33] Thucydides, *Historiae*, 2, 2, 4; *vide*: J.W.I. Lee, *op. cit.*, p. 19.

[34] Xenophon, *Hellenica*, 7, 4, 31.

[35] Polyaenos, *Strategemata*, 4, 2, 18.

from either side, so much so that the location of the findings is not truly indicative of who launched them.[36]

The most likely answer is that both sides used arrows equipped with arrowheads of these well-known and widespread categories of this period (A3, B2a, B3). Attempting to narrow this down a little further, it seems that a closer connection between the Macedonian archers and the three-edged barbed and pyramidal arrowheads did exist.[37] On the one hand, these arrowheads belong to the subcategory that has been found in 4th c. tombs of Vergina and Pella; on the other hand, arrowheads of this subcategory were used in Stagira almost exclusively by the Macedonians, as suggested by their finding at areas where Philip's attack occurred (north part of the wall, citadel). However, it cannot be entirely clear whether they were used by only one side. Moreover, the tanged triangular arrowheads (A1, fig. 3) are known in the research as Cretan and were mainly used by Cretan archers,[38] and should, therefore, be connected to Philip's army, who employed Cretan mercenaries.[39]

[36] It makes sense that during a siege the arrows of the defenders were located outside or on the perimeter of the city walls, where the enemies were attacking. On the other hand, projectiles within the city would be the result of the besieger's firing. In an urban battle, however, this reasoning cannot be valid because both sides are inside the walls and use houses or other buildings as refuge and base of operations.

[37] These arrowheads are characterised as Macedonian or Thracian. D.M. Robinson, *op. cit.*, pp. 405–410.

[38] We can safely maintain that the Cretans exclusively used these kinds of arrowheads, which several cities of Crete depicted in a series of coins of the 4th century BCE. *Vide*: J. Forsdyke, *Some arrowheads from the battlefield of Marathon*, „Proceedings of the Society of Antiquaries of London" 1919, vol. 32, p. 155; I. Bellas, *Bows, arrows and quivers*..., pp. 216–217. They are also characterised as 'Cretan' (κρητικαὶ ἀκίδαι) in an inscription of the same period from the opisthodomos of the Parthenon (*IG* II/III2, 1424a, 383). Probably these arrowheads would be easier to use than those used by the Cretan archers. The last one used to use a kind of bow, which according to an inscription of Delos, is characterised as Cretan (τόξα κρητικά *(toxa kretika, cretan bows)*), *IG* XI, 2, 161. *Vide*: I. Bellas, *Bows, arrows and quivers*..., p. 47). Nevertheless, we cannot exclude the use of these arrowheads by non-Cretans, especially after the 4th century. This development probably took place after the employment of Cretan mercenaries and their coexistence with the Macedonian archers. The Cretans, as more experienced, possibly contributed to the elevation of archery in Macedonia.

[39] Even though written sources refer to Alexander's army, it is generally accepted that Philip too employed Cretans. Besides, the amalgamation in Alexander's army of the two different units – Macedonian and Cretan – into one coherent corps presupposes a strong presence of Cretan mercenaries in Macedonia before 334 BCE. H. Berve, *Das Alexanderreich auf prosopographisher Grundlage*, Munich 1926, pp. 131, 156.

A final issue is whether a corps of Macedonian archers existed before Philip. It is well established that the ancient Macedonians had a powerful cavalry and that Philip, when he assumed the kingship, undertook to organise the infantry with two important innovations: the Macedonian phalanx and the sarissa, the large spear, which was carried by the phalangites. There is no mention of archers and archery. The only pieces of evidence are the arrowheads of the 6th and 5th centuries from Pella and Vergina, as well as the early mould from Palatiano.

At this point, it should be noted that the operation of a bow presupposes exercise, skill, and accuracy. For this reason, during the Hellenistic period, archery was introduced in gymnasia, as at least the gymnasiarchical laws of Veroia and Amphipolis indicate.[40] Furthermore, a distinction should be made between hunter-archers and warrior-archers. A hunter-archer was capable of handling the bow, but lacked battle tactics that would require different kinds of shots. On the contrary, the Cretans, the leading warrior-archers of the ancient Greek world, carried a dagger and a small shield – the *pelte* – in addition to a bow. This way, they could carry out various missions during a battle or a siege.[41] In any case, an archer-hunter could still be the reasonable choice for recruitment in a military corps of archers. It emerges as a defensible conclusion, then, that in Macedonia there were archers who were engaged in hunting, and, when needed, were trained and organised into a military corps of archers. This view is supported by the arrowheads of the 6th and 5th centuries from Pella and Vergina, which, although few, are evidence enough of the presence of archers. The strongest evidence, however, is given the mould from Palatiano, which testifies to the production of arrowheads locally. Furthermore, hunting with a bow was not unusual in ancient Macedonia. A locally-produced black-figure column-krater dating to the early 6th c. BCE, featuring a scene in which a hunter with a bow in his hand aims at two deer, was found during the excavations of the ancient settlement at Karabournaki, in the area of the Thermaic gulf.[42] Consideration of the historical events and the arrowheads

[40] P. Gauthier, M.B. Hatzopoulos, *La loi gymnasiarchique de Beroia*, Athens 1993, pp. 20, B10–12, 68–69, 162.

[41] Xenophon, *Anabasis*, 5, 2, 28–32.

[42] E. Manakidou, *Crater with deer hunt from Karabournaki (in English)*, [in:] *Namata. Honorary volume for Prof. Dimitris Pantermalis*, eds. S. Pingiatoglou, T. Stefanidou-Tiveriou, Thessaloniki 2011, pp. 282–284.

themselves can lead to several thoughts concerning the time when the transformation from hunter-archers to warrior-hunters might have occurred. In 349 BCE Philip started an expedition against Chalkidiki that ended a year later with the destruction of Olynthos, the capital of the Chalkidean League. In the 350s he had captured the cities of Amphipolis (357 BCE), Pydna (357 BCE), and Methoni (355 BCE). During the siege of Methoni, he lost his right eye when a man named Aster struck him with an arrow.[43] In 349–348 BCE, he besieged and destroyed Stagira,[44] while at about the same time (probably after the siege of Stagira) he conquered the cities of Mykiverna, the port of Olynthos, and Toroni by treachery.[45] All these are sites where common types of arrowheads have been found, excluding only the Cretan arrowheads, which were discovered only in Olynthos.

It appears that the cases of Pydna and Methoni played a significant role in Philip's decisions, signaling another innovation in the operation of the Macedonian army. It is not clear whether during these two sieges Philip had any archers at his disposal, as the findspot of arrowheads in Pydna relates them with the defenders rather than the attackers.[46] On the other hand, it is highly possible that Philip realized the need for light and more flexible corps of archers next to the heavy siege engines, which would be particularly useful for combat conducted in urban settings, where archers could be placed in streets, houses, or other buildings. The deployment of siege engines in such

[43] The majority of ancient authors and contemporary historians converge towards the opinion that this incident occurred during the siege of Methoni (Diodorus Siculus, *Bibliotheca historica*, 16, 35; Theopompus, *FGrH*, 115, 52; Justinus, Epitome, 7.6.15), while Plutarch based on Callisthenes believes that the incident took place in Olynthos (Plutarchus, *Moralia*, Greek and Roman parallel stories 307, D, 1–8).

[44] F. Papazoglou, *Les villes de Macédoine à l'époque romaine*, "Bulletin de Correspondence Hellenique", Supplement, vol. 16, École Française d'Athènes 1988, p. 435.

[45] A. Cambitoglou et al., *The metal objects*, [in:] *Torone I*, vol. 2, eds. J. Papadopoulos, A. Cambitoglou, G. Joyner, Athens 2001, pp. 727–728; Diodorus Sicilus, *Bibliotheca historica,* 16, 53, 2.

[46] In the archaeological site remains of ditches were traced associated with the city at the time when it was besieged by Archelaus I (410 BCE), by Philip II (357 BCE), and by Cassander (316 BCE). Ditch B especially was related to the siege of Philip II, while the lead sling bullets and the arrowheads found inside the ditch had been attributed to the counterattacks of the Pydnaians at the fortification works of the besiegers. M. Besios, A. Athanasiadi, *North cemetery of Pydna* (in Greek), "AergoMak" 2001 [2003], vol. 15, pp. 365–367.

cases was probably not possible.[47] This type of combat could take place even after the fall of a city by betrayal, as pockets of defenders could still remain inside the urban area.[48]

If the above reasoning is valid, then Philip had at his disposal six years to transform the Macedonians from hunter-archers to warrior-archers. In this he was probably successful, as the contribution of his corps of archers was substantial in Stagira and especially in Olynthos. In Stagira there were probably also battles within the city, as shown by the dispersion of arrowheads in the houses and the agora. A further ascertainment that can also be made concerns the likely time of employment of the Cretan archers, which probably took place before the siege of Olynthos, as – in contrast to Stagira and Toroni – it is the only site in which Cretan arrowheads were found.

In conclusion, the arrowheads of the specific categories identified in the sites of Olynthos and Stagira point towards a historical event common to both cities: namely, their siege and conquest by Philip II. Further, it becomes evident from the above discussion that Philip II successfully organised a remarkable corps of Macedonian archers in a relatively short period of time, the role of which – despite being underestimated in research[49] – seems to have been essential, and it evidently operated with a high degree of efficacy. This is especially illustrated by its performance during difficult urban battles, which it handled almost on its own. Moreover, the employment of Cretan archers, perhaps before the siege of Olynthos, certainly had to do, on the one hand, with the further strengthening of the Macedonian archers and, on the other hand, with war tactics. In conclusion, it seems that Demosthenes, when he presented the *Third Philippic* speech in 341 BCE did not speak vaguely, but his choice of words reflected reality. He probably had in mind all the above cases, in which it was the *psiloi* (light infantry units) with the archers at their core that contributed significantly to the conquests of cities and won important victories for Philip.

[47] An incident that occurred in 364 BCE in ancient Olympia is quite telling. During the battle between the Eleans and the Arcadians inside the Altis, the Eleans were being attacked in the spaces between the porticus, the Bouleuterion, and the Temple of Zeus by the Arcadians, who were probably deployed in a skirmish line. Xenophon, *Hellenica*, 7. 4. 31.

[48] This view is reinforced by the siege of Pharkadona by Philip II in 354 BCE. *Vide*: above p. 6, note 35.

[49] N.G.L. Hammond, G.T. Griffith, *A History of Macedonia*, vol. 2, Oxford 1972, pp. 429–430.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Demosthenes, *Philippica 3*, [in:] *Demosthenis orationes*, ed. S.H. Butcher, vol. 1, Oxford 1903.

Diodorus Sicilus, *Bibliotheca historica (lib. 1–20)*, ed. F. Vogel, K.T. Fischer, *Diodori bibliotheca historica*, vol. 3, Leipzig 1906.

Herodotus, *Historiae*, [in:] *Hérodote. Histoires*, vol. 8, ed. Ph.-E. Legrand, Paris 1932.

Justinus, *Epitome of Pompeius Trogus' Philippic Histories*, ed. rev. J.S. Watson, https://www.attalus.org/translate/justin10.html#7.1 (access: 13 X 2023).

Plutarchus, *Alexander*, [in:] *Plutarchi vitae parallelae*, vol. 2, ed. K. Ziegler, Leipzig 1968.

Plutarchus, *Parallela minora* [Sp.] (305a–316b), [in:] *Plutarchi moralia*, vol. 2.2, ed. W. Nachstädt, Leipzig 1935.

Polyaenos, *Strategemata*, [in:] *Polyaeni strategematon libri viii*, ed. E. Woelfflin, J. Melber, Leipzig 1887.

Theopompus, *Fragmenta*, FGrH 115: 2B: 536-617.

Thucydides, *Historiae*, [in:] *Thucydidis historiae*, vol. 1–2, ed. H.S. Jones, J.E. Powell, Oxford 1942.

Xenophon, *Anabasis*, [in:] *Xenophontis opera Omnia*, vol. 3, ed. E.C. Marchant Oxford 1904.

Xenophon, *Hellenica*, [in:] *Xenophontis opera Omnia*, vol. 1, ed. E.C. Marchant, Oxford 1900.

Opracowania • Secondary sources • Литература

Akamatis I., *Archaeological activity in Pella in 2008. General conclusions* (in Greek), "AergoMak" 2008 [2011], vol. 22, pp. 141–146.

Akamatis N., *A house of the early Hellenistic period from Pella*, "Makedonika" 2015, vol. 40, pp. 1–35.

Anagnostopoulou-Chatzipolichroni H., *Archaeological site of Palatiano. The South-East sector*, "AergoMak" 2004 [2006], vol. 16, pp. 73–84.

Anagnostopoulou-Chatzipolichroni H., *Palatiano (ancient Ioron): a city of ancient Crestonia* (in Greek), „Archaeologia" 1997, vol. 64, pp. 83–88.

Andronikos M., *Vergina I. The Tombs cemetery* (in Greek), Athens 1969.

Andronikos M., *Vergina. The Royal Tombs and the ancient city*, Athens 1991.

Baitinger H., *Die Angriffswaffen aus Olympia*, "Olympische Forschungen" 2001, vol. 29.

Bellas I., *Arrowheads from ancient Pella: a weapon as a tool or a tool as a weapon*, „Eulimeni" 2020, vol. 21, pp. 65–100.

Bellas I., *Bows, arrows and quivers in the ancient Greek world*, (in Greek, Ph.D. Thesis Aristoteles University of Thessaloniki), Thessaloniki 2018.

Bellas I., *Sealing Issues on Projectiles in the Late Classical and Hellenistic periods*, [in:] *Історія давньої зброї. Дослідження 2020: збірник наукових праць*, упор. Д.В. Тоїчкін, Київ 2023, pp. 23–37.

Besios M., Athanasiadi A., *North cemetery of Pydna*, "AergoMak" 2001 [2003], vol. 15, pp. 363–368.

Berve H., *Das Alexanderreich auf prosopographisher Grundlage*, Munich 1926.

Bräunig A., Kilian-Dirlmeier I., *Die eisenzeitlichen Grabhügel von Vergina. Die Ausgrabungen von Photis Petsas 1960–61*, Mainz 2013.

Cambitoglou A., Jones O.T., Joyner G., McLoughlin B., *The metal objects*, [in:] *Torone I*, vol. 2, eds. J. Papadopoulos, A. Cambitoglou, G. Joyner, Athens 2001.

Faklaris P., *Vergina. Acropolis excavation 1994* (in Greek), „AergoMak" 1994 [1998], vol. 8, pp. 119–124.

Faklaris P., «Weapons», [in:] *Vergina. The Great Tumulus. Archaeological guide*, eds. S. Drougou, Ch. Saatsoglou-Paliadeli et al., Thessaloniki 1994, pp. 104–112.

Forsdyke J., *Some arrowheads from the battlefield of Marathon*, „Proceedings of the Society of Antiquaries of London" 1919, vol. 32, pp. 146–157.

Gauthier P., Hatzopoulos M.B., *La loi gymnasiarchique de Beroia*, Athens 1993.

Hammond N.G.L., Griffith G.T., *A History of Macedonia*, vol. 2, Oxford 1972.

Lilimpaki-Akamati M., Akamatis I.M., *Pella from the Bronze to the Hellenistic Age*, [in:] *Threpteria. Studies on ancient Macedonia Tiverios*, eds. M. Nigdelis, P. Adam-Veleni, Thessaloniki 2012, pp. 8–25.

Lee J.W.I., *Urban combat at Olynthus, 348 BC*, [in:] *Fields of Conflict: Progress and Prospect in Battlefield Archaeology*, eds. P.W.M. Freeman, A. Pollard, Oxford 2001, pp. 11–22.

Manakidou E., *Crater with deer hunt from Karabournaki (in English)*, [in:] *Namata. Honorary volume for Prof. Dimitris Pantermalis*, eds. S. Pingiatoglou, T. Stefanidou-Tiveriou, Thessaloniki 2011, pp. 277–288.

Nankov E., *The mobility of Macedonian army in Thrace during the Reign of Philip II and the inscribed Lead Sling Bullets from Kozi Gramadi*, „στο Bulgarian e-Journal of Archaeology" 2015, vol. 5.1, pp. 1–13.

Papazoglou F., *Les villes de Macédoine à l'époque romaine*, "Bulletin de Corespondance Hellenique" 1998, Supplemment, vol. 16.

Rhomiopoulou K., Kilian-Dirlmeier I., *Neue Funde aus der eisenzeitlichen Hügelnekropole von Vergina, Griechish Makedonien*, "Praehistorische Zeitschrift" 1989, vol. 64 (1–2), pp. 86–150.

Robinson D.M., *Excavations at Olynthus X. Metal and Minor Miscellaneous Finds*, Baltimore 1941.

Sismanidis K., *Ancient Stagira 1993*, „AergoMak" 1993 [1997], vol. 7, pp. 429–443.

Sismanidis K., *Ancient Stagira 1994*, „AergoMak" 1994 [1998], vol. 8, pp. 276–287.

Sismanidis K., *Ancient Stagira. Birthplace of Aristotle*, Athens 2003.

Sismanidis K., *Excavation of Ancient Stagira 1992*, "AergoMak" 1992 [1995], vol. 6, pp. 451–460.

Snodgrass A., *Early Greek Armour and Weapons*, Edinburgh 1964.

Ioannis Bellas

ŁUKI I GROTY STRZAŁ ZE STAROŻYTNEJ MACEDONII: OD MYŚLIWYCH DO ŁUCZNIKÓW

Streszczenie. Cytat z Demostenesa, który dobitnie stwierdził, że to dzięki oddziałom lekkiej piechoty i ich elastyczności, a nie powolnej macedońskiej falandze, Filip II Macedoński zapewnił sobie zwycięstwa militarne, ilustruje, jak ważna była organizacja jednostek lekkiej piechoty dla Filipa II. Po opisaniu lekkozbrojnych żołnierzy, kawalerii i najemników, Demostenes odniósł się także do łuczników. Opierając się na tym fragmencie oraz bogatym zbiorze grotów strzał odkrytych w starożytnych miastach Olint i Stagira, które niegdyś były oblegane przez Filipa II, autor niniejszego artykułu spróbuje zbadać kwestię obecności łuczników w armii Filipa II. Po pierwsze, analiza zebranych danych pokazuje, że na obu obszarach występowanie określonych kategorii grotów strzał jest dowodem oblężenia przeprowadzonego przez wojska Filipa II. Po drugie, wskazuje ono na fakt, że Filip II zdołał zorganizować w stosunkowo krótkim czasie niezwykły oddział macedońskich łuczników. Chociaż ich wkład w zwycięstwa Filipa II był dotąd niedoceniany przez badaczy, wydaje się, że w rzeczywistości łucznicy odegrali bardzo ważną rolę, zwłaszcza w trudnych warunkach walki w terenie miejskim.

Słowa kluczowe: łuki, groty strzał, kamienne formy, łucznicy, myśliwi, starożytna Macedonia

Inga Głuszek
Nicolaus Copernicus University
ORCID ID: 0000-0003-0013-9785

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 29–43
https://doi.org/10.18778/8331-461-7.03

DEPICTIONS OF WARRIORS ON THE DIOSPHOS PAINTER'S LEKYTHOS FROM THE COLLECTION OF THE NATIONAL MUSEUM IN POZNAŃ. A CONTRIBUTION TO THE ICONOGRAPHIC ANALYSIS OF REPRESENTATIONS OF WARRIORS IN ATHENIAN VASE PAINTING

Summary. The collection of the National Museum in Poznań includes a white-ground lekythos with a black-figure depiction of two Greek warriors surrounded by archers in Scythian attire. The warrior theme was especially popular on Greek vessels in the archaic period. The interpretation of representations according to the historical trend sees in the images of warriors heroes from heroic epics. While the vessels are considered to be highly specialised artisan products that were distributed to Greek colonies, often far away from Athens, the author draws attention to other possibilities for interpreting the representations in question.

Keywords: Greek warriors, war scenes, archers, white-ground lekythos

In Greek art, depictions of warriors are one of the most popular themes used, among other things, for decorating black-figure pottery. This phenomenon is very well recognised for vessels from Athenian pottery workshops. Due to the very rich research material and the researchers' persistent interest in Attic vase painting, scholars quickly formed interpretations of the representations and their meaning together with the evaluation of the purpose and desirability of the warrior themes presented on the vessels in the iconographic research trend, which over time grew to become a canonical approach. In recent decades, however, we have seen a certain departure from the previously established interpretative premises. The black-figure white-ground lekythos from the National

Museum in Poznań (MNP A 750)[1] may serve as a good example illustrating the possibility of applying different interpretations to the depictions on the vessel in the context of changing research trends which, in turn, result in the changes of the criteria according to which scholars 'read' the figural scene placed on the vessel.

Before the above-mentioned artefact was added to the collection of the Gallery of Ancient Art of the National Museum in Poznań, it was a part of the collection of Louis-François-Sébastien Fauvel.[2] This is the first known mention of this vessel. Unfortunately, the 19th-century catalogues do not provide information about the provenance of the vessel, especially the place of its discovery.[3] The vessel was purchased by Izabella Działyńska, née Czartoryska, in Paris at the auction of the collection of the Count Alexandre de Pourtalès-Gorgier (1776–1855) in 1865[4] and became part of Countess Działyńska's collection displayed at the castle in Gołuchów. John D. Beazley, during his stay in Gołuchów in 1928, identified the vessel as the work of the Diosphos Painter.[5] After the outbreak of the Second World War, the collection that remained in Gołuchów, including the white-ground lekythos, was seized by the Nazi authorities in the Wartheland. In 1942, the lekythos, as well as other artefacts looted by the Nazis, was transported from occupied Poland to the salt mine in Grasleben or to bunkers in the vicinity of Międzyrzecz and Sulęcin.[6] In 1945, the vessel was found and

[1] I would like to thank the management and employees of the National Museum in Poznań for supporting my research on the vessel in the Museum's collection.

[2] O.M. Von Stackelberg, *Die Gräber der Hellenen*, Berlin 1837, p. 5, pl. XI.1.

[3] *Vente de la galerie Pourtalès. Catalogue des tableaux anciens et modernes, dessins qui composent les collections de feu M. le comte de Pourtalès-Gorgier et dont la vente aura lieu en son hôtel, rue Tronchet, no 7, le lundi 27 mars 1865 et jours suivants*, Paris 1865, p. 81, no. 319; J. Overbeck, *Die Bildwerke zum thebischen und troischen Heldenkreis*, Stuttgart 1858, p. 397, no. 18, pl. XVI.13; J. De Witte, Description des collections d'antiquités conservées à l'Hôtel Lambert, Paris 1886, p. 31, no. 30; H. Bulle, H. Brunn, *Heinrich Brunn's Kleine Schriften*, 3, Leipzig–Berlin 1906, p. 94.

[4] *Vente de la galerie Pourtalès. Catalogue*..., p. 81, no. 319.

[5] J.D. Beazley, *Greek vases in Poland*, Oxford 1928, pp. 6, 79; K. Bulas, *Les illustrations antiques de l'Iliade*, Lviv 1929, p. 41; Corpus Vasorum Antiquorum (herienafter: CVA) Gołuchów, p. 29, pl. 42.3; J.D. Beazley, *Attic Black-Figure Vase-Painters*, no. 4, Oxford 1956, p. 511; L. Burn, R. Glynn, *Beazley Addenda: Additional References to ABV, ARV² and Paralipomena*, Oxford 1982, no. 250.

[6] A. Łuczak, *Utracone decorum. Grabież dóbr kultury z majątków ziemiaństwa polskiego w Wielkopolsce w czasie okupacji niemieckiej w latach 1939–1945*, Warszawa–Poznań 2011, pp. 257–260.

seized by the Red Army, transported to Leningrad or Moscow,[7] and in 1956 handed over to the Polish state and sent to the National Museum in Warsaw. The artefact was returned to Greater Poland in 1985 and now forms part of the exhibition in the Hall of Greek Vases in the Gołuchów Castle Museum, a branch of the National Museum in Poznań.[8]

Cylindrical lekythoi produced in Athens, such as the artefact from Gołuchów, are slender vessels fitted with a single, vertical handle. They are characterised by a high cylindrical body, a narrow neck and a cup-shaped mouth. The initial echinus-shaped foot eventually took the form of a disc. The vessels were not coated with gloss on the inside, except for the lip and sometimes part of the neck. They were containers for olive oil and other oils used in temples, during funeral ceremonies, and also in everyday life, for example during hygiene treatments. Due to the shape of the neck and mouth, the different types of lekythoi allowed the liquid to be dispensed drop by drop or in a very thin stream, as well as directly covering the body with oil. Early black-figure lekythoi appeared in the first half of the 6th century BC, while later red-figure and white-ground vessels became widespread in the 5th century BC.[9]

The discussed cylindrical lekythos (height 25 cm; mouth diameter 4.6 cm; maximum diameter 10.8 cm; foot diameter 5.6 cm) is pieced together from 23 fragments and presents the complete form of the vessel. The mouth is cup-shaped and set on a narrow neck. The flat, horizontal shoulder is clearly cut off in profile from the cylindrical body, which tapers strongly towards the disc-shaped foot. A vertical handle with a rectangular cross-section and rounded edges is attached to the edge of the shoulder and in the centre of the neck. The shape of the vessel from the Gołuchów collection can be compared to that of the artefact from the Musée

[7] A. Woźniak-Wieczorek, *Problematyka restytucji na przykładzie rozproszenia kolekcji gołuchowskiej*, "Santander Art and Culture Law Review" 2015, vol. 1, pp. 253–254.

[8] Z. Dolczewski, T. Jakimowicz, *Zamek w Gołuchowie. Przewodnik*, Poznań 1978, fig. 20; J. Szymkiewicz, *Zbiory starożytności w zamku gołuchowskim. Przewodnik*, Poznań 1988, p. 3; I. Głuszek, *Wazy antyczne w kolekcji Muzeum Zamku w Gołuchowie Oddziału Muzeum Narodowego w Poznaniu (Ancient Vases in the Collection of the Gołuchów Castle Museum Branch of the National Museum in Poznań)*, [in:] *Katalog zbiorów Muzeum Narodowego w Poznaniu*, vol. 15, Poznań 2023, pp. 164–169.

[9] M.L. Bernhard, *Greckie malarstwo wazowe*, Warszawa 1966, p. 19; J. Mertens, *Attic White Ground, its Development on Shapes other than Lekythoi*, New York 1977; M.G. Kanowski, *Containers of Classical Greece: A Handbook of Shapes*, St. Lucia 1984, pp. 94–99; T. Schreiber, *Athenian Vase Construction: A Potter's Analysis*, Los Angeles 1999, p. 17.

d'Art et d'Histoire in Geneva although the shape of the foot is different.[10] The vessel can also be compared to the artefact from the collection of Museo Nazionale in Palermo, but in this case the vases have different mouth shapes.[11]

The outside and inside of the mouth and its upper surface are covered with gloss. The shoulder is decorated with a double row of rays made with black gloss. The lower part of the body and the foot are covered with gloss, while the underside is reserved.

Fig. 1. Warriors on a white-ground lekythos from the National Museum in Poznań (MNP A 750), (Source: National Museum in Poznań, photo: S. Obst)

[10] CVA Genève, Musée d'Art et d'Histoire 2, Suisse 3, p. 45, pl. 74. 10–12, Beasley Archive Pottery Database (hereinafter: BAPD) 5618.

[11] CVA Palermo, Museo Nazionale 1, Italia 14, p. 7, 12, pl. 8.1–4, 14.7–9; C.H.E. Haspels, *Attic Black-Figured Lekythoi*, Paris 1936, pl. 43.1–2, BAPD 3050, 2973.

On the cylindrical body just below the shoulder is a frieze in the form of a meander, enclosed by one line from the top and two lines from the bottom. The main area of the composition is delimited at the bottom by three separate strips of gloss. Most of the belly part, except for the zone below the handle, is occupied by the composition made of four figures. Two warriors are depicted in the centre; the figure on the left is holding a spear in his right hand and a shield in his left hand (fig. 1). The shield is lowered downwards. The man on the right is holding a shield in his raised left hand and a spear in his right hand. The figure on the left is slightly leaning forward, while the warrior on the right is standing upright. Behind the man on the left, there is an archer turned to the left, but with his head facing the warriors. At the edge of the composition on the right, there is a second archer (fig. 2, 3). The archers wear Scythian-type clothing in the form of trousers and short kaftans. Facial features such as eyes, mouth, and ears are marked by etched lines. Thin incised lines are also used to highlight elements of the archers' clothing, warriors' helmets, armour, and details of shields and weapons. The drawing of the details is badly damaged, but we still can see that the details of the face or other elements of the composition are shown in a very schematic way, marked with rather offhand lines; for example, the eyes and mouth are expressed through single arched, short lines.

J.D. Beazley classified the vessel as the work of the Diosphos Painter[12] based on the study by C.H. Emilie Haspels,[13] who was the first to distinguish that painter on the basis of individual style characteristics. Although the Diosphos Painter's activity falls within the period of the dynamic development of the red-figure technique, he used the black-figure and Six's technique.[14] He has been credited with the decoration of many black-figure vessels, mainly lekythoi and alabastra.[15] The artefact from Gołuchów shows several similar features to other examples of

[12] J.D. Beazley, *Attic Black-Figure*..., p. 511, no. 4.

[13] C.H.E. Haspels, *op. cit.*, pp. 94–130, 232–241.

[14] J. Six, *A Rare Vase-Technique*, "The Journal of Hellenic Studies" 1910, vol. 30, pp. 323–326; B. Cohen, *Six's Technique: Black,* [in:] *Ground The Colours of Clay: Special Techniques in Athenian Vases*, ed. B. Cohen, Los Angeles 2006, pp. 72–80.

[15] J.D. Beazley, *Attic Black-Figure*..., pp. 508–511; J. Boardman, *Athenian Black-Figure Vases. A Handbook*, London 1974, pp. 148–149; D.C. Kurtz, *Athenian white lekythoi. Patterns and painters*, Oxford 1975, pp. 96–102. Diosphos Workshop and Painter: E. Hatzivassiliou, *Athenian Black Figure Iconography Between 510 and 475 B.C.*, Rahden 2010, pp. 76–80.

pottery decorated by this painter.[16] The depiction of archers can be compared to that on a white-ground lekythos from the collection of Ludwig Freiherr von Schacky, made in black-figure technique showing Amazons and archers.[17]

Fig. 2. Archer on the lekyth of the Painter Diosphos from the collections of the National Museum in Poznań (left side) (Source: National Museum in Poznań, photo: S. Obst)

Fig. 3. Archer on the lekyth of the Painter Diosphos from the collections of the National Museum in Poznań (right side) (Source: National Museum in Poznań, photo by S. Obst)

[16] Compare facial features and attire with: CVA, Baltimore, The Robinson Collection 1, USA 4, p. 53, pl. 38.7A–C; BAPD 7714, a similar composition: C.H.E. Haspels, *op. cit.*, p. 234, no. 40; BAPD 390358; painting style: CVA Agrigento, Museo Archeologico Nazionale 1, Italia 61, p. 30, pl. 71.3–4, BAPD 15716.

[17] BAPD 305548.

In Otto Magnus von Stackelberg's publication,[18] the warriors depicted on the vessel were identified as Diomedes and Glaucus.[19] This interpretation of the depiction was also proposed by Johannes Overbeck[20] and by Heinrich Bulle and Hermann Brunn.[21] The story of Diomedes and Glaucus is described by Homer in the Iliad. Diomedes was the son of Tydeus, king of Argos, and Glaucus was a captain in the Lycian army. The two warriors met on opposing sides in direct combat during the Trojan War. The story emphasises the nobility of both warriors, since when Diomedes learnt that Glaucus was the grandson of Bellerophon, he decided that because their grandfathers – the aforementioned Bellerophon and Diomedes's grandfather Oeneus – were close friends, he would not fight Glaucus. He considered that they were, in a way, obliged to continue this glorious friendship and, as a sign of its consolidation, the two warriors exchanged armour.[22]

The depiction of warriors that adorns the discussed vessel is in keeping with the iconographic trend of the Attic vessels of the Archaic and early Classical periods. Referring to F. Echeverría's studies, the vessel is characteristic of the period (510–480 BC) when we already note a decline in the popularity of this theme, especially compared to the earlier period (540–510 BC) of its particular prevalence.[23] Scenes depicting warriors in the art of the Archaic period were very often read in the 'heroic scenes' research trend and the characters depicted on the vessels were linked to the heroes of the Trojan War described by Homer,[24] as the Trojan War was one of the most important events that influenced the historical and social consciousness of the ancient Greeks. The events described in the Iliad and the Odyssey are not only an account of military events. For the Greeks, the fall of Troy marked the end of the mythical age of heroes – demigods living among men.[25] The figures of the heroes, the fearless warriors described

[18] O.M. Von Stackelberg, *op. cit.*, p. 5, pl. XI.1.

[19] Homer, *Iliada*, VI, 206.

[20] J. Overbeck, *op. cit.*, p. 397.

[21] H. Bulle, H. Brunn, *op. cit.*, p. 94.

[22] T. Gantz, *Early Greek Myth: A Guide to Literary and Artistic Sources*, vol. 1–2, London 1993, pp. 619–621.

[23] F. Echeverría, *Heroic fiction, combat scenes, and the scholarly reconstruction of archaic Greek warfare*, "Bulletin of the Institute of Classical Studies" 2015, vol. 58, no. 1, p. 35.

[24] J. Boardman, *op. cit.*, pp. 207–209; T. H. Carpenter, *Art and Myth in Ancient Greece. A handbook*, London 1991, pp. 195–232; A. Snodgrass, *Homer and the Artists. Text and Picture in Early Greek Art*, Cambridge 1998.

[25] Hesiod, *Works and Days*, Polish translation by W. Steffen, Wrocław 1952, p. 110.

by Homer, were models of bravery and valour for the inhabitants of the Greek poleis. Due to such special meanings of the stories related to the expedition of Troy and the lack of direct data like the archaeological context of the many painted vases now kept in museums all over the world, the adoption of such interpretation seemed most likely and justified. As representations illustrating war events, they were also the subject of studies on the armament and development of Greek warfare, especially of the Archaic period.[26]

As noted by the researchers, we can distinguish several compositional premises that suggest that the figures depicted on Attic vessels represent mythical heroes. Five such features can be identified: the figure may be signed with a heroic name; the scene may involve fantastic (mythical) figures/animals; specific objects in the composition such as chariots or shields may suggest a heroic scene; the armour worn by the warrior may have special features indicating a hero; and the depiction of a naked warrior suggests his heroic lineage.[27] In the case of the vessel in question, the composition bears none of the abovementioned characteristics, and none of the details of the depiction provides grounds for linking the decoration to a specific heroic scene. The scene depicted on the vessel presents two warriors dressed in armour holding spears and shields and, apart from the fact that it is customary in literature to see such characters as heroes of mythological stories, none of the elements suggests a heroic (mythological) origin of these figures. Nor is there any indication that the warriors could be identified as Diomedes and Glaucus, the Greek heroes described in the Iliad by Homer. This line of interpretation may be based on two factors. Firstly, the composition itself shows the two warriors facing each other with no desire to fight. Secondly, the tendency to interpret scenes with warriors as heroic representations made it possible to link the scene from the lekythos described in this paper to a story that recounts a unique event when two warriors abandoned fighting each other because of the friendship shared by their ancestors. Such an interpretation was further supported by the fact that both warriors wear full armour (and are not naked). However, when we

[26] S. Morris, *Daidalos and the Origins of Greek Art*, Princeton 1992; G. Viggiano, H. Van Wees, *The arms, armour and iconography of early Greek hoplite warfare*, [in:] *Men of Bronze: Hoplite Warfare in Ancient Greece*, eds. D. Kagan, G.F. Viggiano, New Jersey 2013, pp. 57–73; F. Echeverría, *op. cit.*, p. 34.

[27] J. Brouwers, *Painted heroes: Depictions of male warriors on Archaic Greek vases*, "Pharos" 2010, vol. 17, no. 2, p. 108.

analyse the depiction, apart from the compositional arrangement we find no indications that would clearly explain the scene in accordance with the heroic epic trend.

Furthermore, it should be taken into consideration that the interpretation of the representations in the heroic trend represents a contemporary research approach grounded in the assumption that the vessels and their decoration, as a result of a specific production and cultural centre, mainly responded to the needs of local audiences. Consequently, we can (or should) interpret the scene on the vessel through the prism of the socio-cultural conditions of the Athenians in a given historical period. As the researchers point out, to a large extent this approach was dictated by the lack of an archaeological (and thus interpretative) context for most Athenian vessels acquired during a period when the aim of the excavations was to obtain exceptional objects rather than to systematically and meticulously collect information about the finds. The lekythos described in this paper is an excellent example of this phenomenon.

As a result, in the absence of a specific context and an indisputably defined recipient of the vessels – the object of iconographic interpretation – the researchers turned to the only environment that could have, albeit hypothetically, acted as a recipient (point of reference in the interpretation) of the products of the Attic workshops – the society of Athens and, in a slightly broader sense, the symposium celebrated by the Greeks. This approach fostered a desire to interpret the iconography in the spirit of the heroic epics and the honourable deeds of the heroes described in them. Overlooked in this research process was the fact that most of the vessels, especially many of those involved in the iconographic interpretation, were produced in pottery workshops in Athens during the Archaic period not for internal use but for export. This approach gave rise to the assumption that the depictions on Athenian vases conveyed messages so specific to Athenian society that outside Athens the vessels would have been appreciated only for their shape and function and not for their compositional content. However, as indicated by many specialists, the interpretation of scenes on Athenian vessels should be approached with great caution and a fair amount of criticism. In recent years, researchers have started to place more emphasis on the aforementioned 'export' phenomenon, i.e., that the Athenian craftsmen produced pottery in order to sell it outside the polis. This approach outlines a different path

for the interpretation of images recorded on vessels, including scenes depicting warriors,[28] in which more attention is paid to the recipient of the vessel rather than its maker as a 'criterion' for identifying the subject of the representation painted on the vessel. In this view, it can be assumed that popular themes, i.e., frequently used (repeated) as a decorative motif, may have had a more universal meaning, leaving the detailed interpretation of the scene to its recipient, the buyer of the vessel. This is particularly justified in the case of compositions lacking special features that unambiguously indicate the subject and identify the figures involved in the scene since the extraordinary potential of vase painting entails a methodological problem: these painted scenes are not detailed representations of reality, but works with their own language and narrative – a language whose recognition is either impossible or partly possible only thanks to indirect, contextual data. Any disruption of this cognitive chain hinders the reading and interpretation of the iconographic source or gives rise to multiple interpretative possibilities. In this view, extracting reliable and accurate information from them is problematic, to say the least.[29]

Depictions of archers in so-called Scythian attire, partly used as an argument to prove direct contact between Athenians and nomads, pose similar difficulties in interpretation. Special visual features include the attire of the figures dressed in long-sleeved kaftans, trousers, and caps of distinctive shape (the so-called Phrygian cap). These men, usually without facial hair, were depicted with a bow and arrow quiver. In this case, the interpretative pattern was developed through the association of Scythians with archery, and the vast majority of figures that can be identified according to the accepted iconographic pattern as representations of Scythians are archers. It is noteworthy that almost all (93%) of the archers on Athenian vases in this period (c. 575–475 BC) are presented in Scythian dress. The depictions have been used by various scholars as evidence of the relationship between Athens and the people of the north

[28] F. Lissarrague, *Greek Vases: Athenians and Their Images*, New York 2001; C. Marconi, *Images for a Warrior. On a Group of Athenian Vases and their Public*, [in:] *Greek Vases: Images, Contexts and Controversies; Proceedings of the Conference Sponsored by The Center for the Ancient Mediterranean at Columbia University, 23 – 24 March 2002*, ed. C. Marconi, Boston 2004, pp. 27–28.

[29] F. Lissarrague, *The World of the Warrior*, [in:] *A City of Images: iconography and Society in Ancient Greece*, ed. C. Berard, Princeton 1989, pp. 39–51; idem, *L'Autre guerrier: Archers, peltastes, cavaliers dans l'imagerie attique*, Paris, Rome 1990; J. Brouwers, *op. cit*., pp. 107–124; F. Echeverría, *op. cit.*, pp. 33–60.

Pontic region.[30] These depictions have given rise to the consideration of such a hypothesis as a historical fact, documented by indirect evidence taken from both historical and literary texts. Specific features of the archers' appearance have been defined as determinants of the Scythian origin of the figures presented in the composition – not only in the vase paintings, as the same interpretative key has also been applied to sculptural representations.[31]

However, as some scholars point out, the depiction of archers in Scythian-type attire on Attic vessels should primarily be referred to the mythological sphere, the epic stories of heroes and gods, especially in relation to the Trojan War. On the other hand, interpretations indicating links between these images and the socio-political context of Attica should be treated with great caution. This view is developed by Clemente Marconi with regard to depictions of Scythian archers assisting Greek warriors on vessels found in one of the tombs at Akragas (Agrigento).[32] This is an interpretation strongly opposed to the view that the appearance and temporary popularity of depictions of so-called Scythian archers is related to the actual contact between the Greeks (Athenians) and the nomads, *inter alia* as a result of the progressing colonisation on the western and northern coasts of the Black Sea.

In the case of such a distinctive (different from the mainstream iconography of painted vessels) image that, according to the theory described above, has a strictly defined appearance and attributes, the question arises as to whom the Attic painters wanted to depict on their vessels, and whether the painters themselves and their clients perceived the figures we describe as 'Scythian archers' as actually Scythians. The second question concerns the nature of the actual prototype of these figures, from where the Athenian painters picked up these specific features in their works.

---

[30] B. Bäbler, *Bobbies or Boobies? The Scythian Police Force in Classical Athens*, [in:] *Scythians and Greeks. Cultural Interactions in Scythia, Athens and the Early Roman Empire*, ed. D. Braund, Exeter 2005, pp. 114–122; А.И. Иванчик, *Кем были «скифские» лучники на аттических вазах эпохи архаики?*, „Вестник Древней Истории" 2002, no. 4, pp. 23–42; idem, *"Scythian" Archers on Archaic Attic Vases: Problems of Interpretation*, "Ancient Civilizations from Scythia to Siberia" 2006, vol. 12 (3–4), pp. 197–271.

[31] D. Barund, *Greater Olbia: Ethnic, Religious, Economic, and Political Interactions in the region of Olbia, c. 600–100 BC*, [in:] *Classical Olbia and the Scythian World From the Sixth Century BC to the Second Century AD*, eds. D. Barund, S.D. Kryzhitskiy, Oxford 2006, pp. 37–77.

[32] C. Marconi, *op. cit*., p. 33.

Given that together with the formation of the hoplites (heavy-armed infantry) in the structure of the Greek army archers became specialists in light weapons, it seems that in the Archaic period (and to a large extent in the Classical period) the representatives of the lower strata of Greek society, rather than slaves or foreigners, were the most predisposed to serve as archers. There is no convincing reason to believe that archers fighting in archaic Athens or elsewhere in Greece were, for example, Scythians. When analysing the details of the attire of archers that are said to depict Scythians, it is difficult to expect ethnographic precision in the details of the dress worn by archers on vases from the Archaic period. These costumes were generalised and included only the most characteristic elements of the actual prototypes, and are often depicted in a very schematic manner. Moreover, identifying a specific ethnic group represented in Attic vase painting on this basis seems impossible. These archers probably belonged to one or more of the peoples who served in the Persian army and were not Scythians from the Pontic region. In this view, the Scythian costume was not used in a specific ethnic sense but was used to represent a wider group of Asians or to indicate the archer's function and/or his mythical character. Nevertheless, the question of the meaning and message conveyed by the image of an archer with non-Greek (supposedly Scythian) attire remains open. That leaves the interpretation of the painting's representation to the viewer. This approach determines a certain generality in the construction of the composition. Starting with this assumption, in certain cases, we cannot rule out that one option of interpretation remains the possibility of associating the image with representatives of peoples neighbouring the Greeks living on the northern coast of the Black Sea.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Hesiod, *Works and Days*, Polish translation by W. Steffen, Wrocław 1952.

Homer, *Iliada*, trans. F.K. Dmochowski; ed. M. Stęplewska, Arcydzieła Literatury Światowej, Kraków 2005.

Aukcyjne katalogi sprzedażowe • Auction sales catalogues • Каталоги аукционных продаж

Vente de la galerie Pourtalès. Catalogue des tableaux ancient et modernes dessins qui composent les collections de feu M. le comte de Pourtalès-Gorgier et dont la vente aura lieu en son hôtel, rue Tronchet, no 7, le lundi 27 mars 1865 et jours suivant, Paris 1865.

Opracowania • Secondary sources • Литература

Athenian Vases, ed. B. Cohen, Los Angeles 2006, pp. 72–80.

Bäbler B., *Bobbies or Boobies? The Scythian Police Force in Classical Athens*, [in:] *Scythians and Greeks. Cultural Interactions in Scythia, Athens and the Early Roman Empire*, ed. D. Braund, Exeter 2005, pp. 114–122.

Barund D., *Greater Olbia: Ethnic, Religious, Economic, and Political Interactions in the region of Olbia, c.600–100 BC*, [in:] *Classical Olbia and the Scythian World From the Sixth Century BC to the Second Century AD*, eds. D. Barund, S.D. Kryzhitskiy, Oxford 2006, pp. 37–77.

Beazley J.D., *Attic Black-Figure Vase-Painters*, no. 4, Oxford 1956.

Beazley J.D., *Greek vases in Poland*, Oxford 1928.

Bernhard M.L., *Greckie malarstwo wazowe*, Warszawa 1966.

Boardman J., *Athenian Black Figures Vases. A Handbook*, London 1974.

Brouwers J., *Painted heroes: Depictions of male warriors on Archaic Greek vases*, "Pharos" 2010, vol. 17, no. 2, pp. 107–124.

Bulas K., *Les illustrations antiques de l'Iliade*, Lwów 1929.

Bulle H., Brunn H., *Heinrich Brunn's Kleine Schriften*, 3, Leipzig–Berlin 1906.

Burn L., Glynn R., *Beazley Addenda: Additional References to ABV, ARV², and Paralipomena*, Oxford 1982.

Carpenter T.H., *Art and Myth in Ancient Greece. A Handbook*, London 1991.

Cohen B., *Six's Technique: Black*, [in:] *Ground The Colors of Clay: Special Techniques Vases*, ed. B. Cohen, Los Angeles 2006, pp. 72–80.

De Witte J., *Description des collections d'antiquités conservées à l'Hôtel Lambert*, Paris 1886.

Dolczewski Z., Jakimowicz T., *Zamek w Gołuchowie. Przewodnik*, Poznań 1978.

Echeverría F., *Heroic fiction, combat scenes, and the scholarly reconstruction of archaic Greek warfare*, "Bulletin of the Institute of Classical Studies" 2015, vol. 58, no. 1, pp. 33–60.

Gantz T., *Early Greek Myth: A Guide to Literary and Artistic Sources*, vol. 1–2, London 1993.

Głuszek I., *Wazy antyczne w kolekcji Muzeum Zamku w Gołuchowie Oddziału Muzeum Narodowego w Poznaniu* (*Ancient Vases in the Collection of the Gołuchów Castle Museum Branch of the National Museum in Poznań*), Katalog zbiorów Muzeum Narodowego w Poznaniu, vol. 15, Poznań 2023.

Haspels C.H.E., *Attic Black-Figured Lekythoi*, Paris 1936.

Hatzivassiliou E., *Athenian Black Figure Iconography Between 510 and 475 B.C.*, Rahden 2010.

Ivanchik A.I., *"Scythian" Archers on Archaic Attic Vases: Problems of Interpretation*, "Ancient Civilizations from Scythia to Siberia" 2006, vol. 12 (3–4), pp. 197–271

Kanowski M.G., *Containers of Classical Greece: A Handbook of Shapes*, St. Lucia 1984.

Kurtz D.C., *Athenian white lekythoi. Patterns and Painters*, Oxford 1975.

Lissarrague F., *Greek Vases: Athenians and Their Images*, New York 2001.

Lissarrague F., *The World of the Warrior*, [in:] *A City of Images: iconography and Society in Ancient Greece*, ed. C. Berard, Princeton 1989, pp. 39–51.

Łuczak A., *Utracone decorum. Grabież dóbr kultury z majątków ziemiaństwa polskiego w Wielkopolsce w czasie okupacji niemieckiej w latach 1939–1945*, Warszawa 2011.

Marconi C., *Images for a Warrior. On a Group of Athenian Vases and their Public*, [in:] *Greek Vases: Images, Contexts and Controversies; Proceedings of the Conference Sponsored by The Center for the Ancient Mediterranean at Columbia University, 23–24 March 2002*, ed. C. Marconi, Boston 2004, pp. 27–40.

Mertens J., *Attic White Ground, its Development on Shapes other than Lekythoi*, New York 1977.

Morris S., *Daidalos and the Origins of Greek Art*, Princeton 1992.

Overbeck J., *Die Bildwerke zum thebischen und troischen Heldenkreis*, Stuttgart 1858.

Schreiber T., *Athenian Vase Construction: A Potter's Analysis*, Los Angeles 1999.

Six J., *A Rare Vase-Technique*, "The Journal of Hellenic Studies" 1910, vol. 30, pp. 323–326.

Snodgrass A., *Homer and the artists. Text and picture in early Greek art*, Cambridge 1998.

Stackelberg von O.M., *Die Gräber der Hellenen*, Berlin 1837.

Szymkiewicz J., *Zbiory starożytności w zamku gołuchowskim. Przewodnik*, Poznań 1988.

Viggiano G., Van Wees H., *The arms, armour and iconography of early Greek hoplite warfare*, [in:] *Men of Bronze: Hoplite Warfare in Ancient Greece*, eds. D. Kagan, G. F. Viggiano, New Jersey 2013, pp. 57–73.

Woźniak-Wieczorek A., *Problematyka restytucji na przykładzie rozproszenia kolekcji gołuchowskiej*, „Santander Art and Culture Law Review" 2015, vol. 1, pp. 249–262.

Иванчик А.И., *Кем были «скифские» лучники на аттических вазах эпохи архаики?*, „Вестник Древней Истории" 2002, no. 4, pp. 23–42 (Ivanchik A.I., *Kem byli "skifskie" lučniki na attičeskich vazach epochi archaiki*, "Vestnik Drevnej Istorii" 2002, no. 4, pp. 23–42).

Inga Głuszek

WYOBRAŻENIA WOJOWNIKÓW NA LEKYCIE MALARZA DIOSFOSA ZE ZBIORÓW MUZEUM NARODOWEGO W POZNANIU PRZYCZYNEK DO ANALIZY IKONOGRAFICZNEJ PRZEDSTAWIEŃ WOJOWNIKÓW W ATEŃSKIM MALARSTWIE WAZOWYM

Streszczenie. W zbiorach Muzeum Narodowego w Poznaniu znajduje się lekyt białogruntowany z przedstawieniem czarnofigurowym ukazującym dwóch wojowników greckich w otoczeniu łuczników w stroju scytyjskim. Temat wojowników na naczyniach greckich był szczególnie popularny w okresie archaicznym. Interpretacja przedstawień dokonywana w nurcie historycznym widzi w wizerunkach wojowników bohaterów eposów heroicznych. Rozpatrując naczynia z punktu widzenia wyrobów wysoko wyspecjalizowanego rzemiosła dystrybuowanych do często bardzo oddalonych od Aten kolonii greckich, zwraca się uwagę na inne możliwości interpretacji przedstawień.

Słowa kluczowe: wojownicy greccy, sceny wojny, łucznicy, lekyt białogruntowany

Kaveh Farrokh
Langara College
ORCID ID: 0000-0001-5732-2447

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 45–75
https://doi.org/10.18778/8331-461-7.04

A SURVEY OF PARTHIAN MILITARY ARCHITECTURE

Summary. This article provides a synopsis of Parthian military architecture by an initial examination of Arsacid military requirements for the defence of their empire. Following an overview of Central Asian circular systems, Parthian architectural innovations, Seleucid-Hellenic influences, and the tripartite system, Parthian military architecture in the empire's northeast and Central Asian territories (Margiana, Hyrcania, Aria, Bactria), Iran and the Persian Gulf, Mesopotamia and Syria are analysed. The article concludes with a discussion of possible defensive wall systems during the Parthian era.

Keywords: Arsacids, Architecture, Central Asia, Iran, Mesopotamia

Parthian military architecture was reflected in the regional miscellany of the Arsacid empire (e.g., Mesopotamia, Media, Central Asia), often combining an overall Parthian system with local styles. Despite their nomadic steppe background, the Arsacids regularly adopted the urban architectural methods of the regions they conquered.[1] Prior to their arrivals into Iran, the Arsacids were already acquainted with Central Asian circular defense systems. Parthian military architecture began early with the Arsacid ascendancy in the eastern Iranian realms, notably Parthava (Parthia). Parthian military architecture expanded to the west from Nysa into northern Iran (esp. Hecatompylos), Media (esp. Rayy, Ecbatana), and into Mesopotamia,[2] with Ctesiphon founded following the Parthian capture of Seleucia.

[1] M.J. Olbrycht, *Parthians cities and strongholds in Turkmenistan*, "International Journal of Eurasian Studies" 2014, vol. 2, p. 117.

[2] R. Rante, *The Iranian city of Rayy: urban model and military architecture*, "Iran" 2008, vol. 46, p. 209.

The fortifications of the spā d (Parthian army) were generally dispersed along the wide frontiers of the empire with critical cities and fortresses stationed with military garrisons.[3] Fortress construction of strategic locations was designed to secure the empire in three ways: (1) regional defense against foreign invasions,[4] (2) military consolidation within the empire and regional defense against internal political challengers, and (3) defense of strategic metropolitan centers and trade arteries. Strategic fortified cities could also serve as military bases, as seen for example with Mithradates (Mehrdad) II's (r. 121–91 BCE) utilisation of Nisa, Merv, and Rayy and Bactrian fortified towns for blocking Saka and Yueh-chi attacks from Central Asia.[5]

Central Asian Circular Fortification Systems

One of the major military impacts of the proto-Iranian arrivals into Iran was the introduction of Central Asian style circular fortification systems (for fortresses and settlements), which represents a different architectural tradition to that realised by the Greeks and Romans.[6] The earliest types of circular type settlements have been traced to c.1500 BCE Bactria, possibly in relation to the spread of Zoroastrianism in that region.[7] The circular design for defense against flanking attacks was later

[3] M.J. Olbrycht, *Parthian military strategy in wars against Rome*, [in:] *Military Archaeology. Weaponry and warfare in the Historical and Social Perspective*, *Materials of the International Conference 2–5 September 1998*, eds. G.V. Vilinbachov, V.M. Masson, St. Petersburg 1998, p. 139.

[4] H. Khanali, R. Rezalu, I.H. Azandaryani, *Motaleat-e tabighi rahaye tejari va nagshe ghela-e nezami bar pishrafi tejarat-e manteghe-i va fara-mantaghe-i shomal-e gharb-e Iran dar doreye Eslami (ba motale-e moredi shahrestan-e kosar dar ostan-e Ardabil)* [*Comparative study of trade routes and the role of military fortresses on the advance/promotion/development of regional and transregional trade in northwestern Iran in the Islamic era (with a case study of Kowsar city in Ardabil province)*], "Pazhoheshaye Bastanshenasiye Iran" 2014 [1393], no. 10, p. 193; M.J. Olbrycht, *Some remarks on Hellenistic influence upon the fortification of northeastern Iran in the Arsacid period*, "Folia Orientalia" 1993, vol. 29, p. 132.

[5] N. Overtoom, *Reign of Arrows: Rise of the Parthian Empire in the Hellenistic Middle East*, Oxford 2020, pp. 252–254.

[6] P. Ghasemi, *Tal-e Khandaq ("Moated Mound") a military structure in ancient Fars*, "Near Eastern Archaeology" 2012, vol. 75, no. 4, p. 249.

[7] G.A. Košelenko, V.A. Gaibov, *The Avestan Vara and the early towns of Central Asia*, "Parthica" 2014, vol. 16, pp. 69–91.

used by the Sakas of Central Asia,[8] who passed on this military architecture to the (Saka origin) Arsacids.[9] The circular defense system which the Parthians used[10] may have originated as a method of defending against enemy flank attacks,[11] for which the Parthians also developed polygonal and oval architectural systems.[12] Merv in Central Asia and Hatra in Mesopotamia were two prominent examples of Parthian era cities with the circular design. During the classical era, circular type cities also featured streets/lanes, with the later Sassanians continuing to develop circular systems such as those at Ardashir Khurra and Ā dur-Gushnasp.

Parthian-era Architectural Innovations

The Parthians introduced the *iwan*, dome, and stucco into Iranian architecture. An iwan is a barrel-vaulted chamber, open-fronted on one (or more) sides of a courtyard.[13] In contrast to Greek architecture in which the pillars were essential (with walls added later), the Parthian *iwan* had the walls built first with pillars added as decorative motifs.[14]

Another Parthian innovation was in new types of vaulting systems. Although the use of corridors is seen in pre-Parthian and Mesopotamian architecture (brick-based barrel vaults were already present 1500 years earlier at Susa), the innovative Parthian corridors provided buttress support for the vaulting systems by constructing side walls in order to counter the challenge of heavy lateral pressure forced by the vaulting itself.[15] More specifically, the challenge of brick vaulting's

[8] J. Sánchez-Gracia, K. Farrokh, *Trajano Pártico: Las victoriosas campañas de Trajano en Persia, 114–117 d.C.*, Zaragoza 2018/2019, p. 174.

[9] A. Matufi, *Tarikh-e-Chahar Hezar Sal-e Artesh-e Iran: Az Tamadon-e Elam ta 1320 Khorsheedi, Jang-e- Iran va Araqh*, Tehran 1378 [1999], p. 149.

[10] U. Ellerbrock, *The Parthians: The Forgotten Empire*, New York 2021, p. 126.

[11] R. Ghirshman, *The Art of Ancient Iran*, New York 1964, p. 35.

[12] K. Farrokh, G. Karamian, H. Karamian, *Military Architecture and the Four-Spāhbed System for Defense of the Sassanian Empire (224–651 CE)*, "Historia i Świat" 2021, no. 10, pp. 122–123.

[13] R. Schmitt, *Hatra*, [in:] *Encyclopaedia Iranica* 2003, vol. 12, fasc. 1, pp. 58–61.

[14] Г.А. Кошеленко, *Парфянская фортификация*, "Советская Археология" 1963, № 2, pp. 57–73; E.J. Keall, *The Parthians (247 BC–226 AD)*, [in:] *The Penguin Encyclopedia of Classical Civilizations*, ed. A. Cotterell, London 1993, p. 175.

[15] E.J. Keall, *Architecture II. Parthian period*, [in:] *Encyclopedia Iranica*, vol. 2, fasc. 3, London 1986, pp. 327–329.

heavy slanted thrust was addressed by placing flanking corridors, helping bolster the main vault by moving out the thrust by a series of parallel side walls.

The Parthians also contributed to dome architecture, as seen with the Nisa citadel featuring a square building with a rounded dome with a diameter of 17 m.[16] The Nisa structure was a new type of architectural innovation disconnected from the Hellenistic tradition and closer to a Near Eastern system.[17] Both iwans and this type of dome architecture were manifestations of an older East Iranian tradition of Central Asian (or greater Eurasian) architecture, as seen in 8th century BCE domed buildings in Tagisken and 5th century BCE buildings in ancient Chorasmia's Balandy (c. 2nd century BCE) and Koi Krylgan-Kala (4th to 2nd century BCE), located in modern-day Kazakhstan.[18] The Parthians, of Central Asian Saka (Scythian) origin, inherited this architectural tradition and brought it into Iran. These systems continued to evolve within Iran into the Sassanian era, as seen at palaces such as Firuzabad and Sarvistan, where the iwan-dome systems have been integrated.[19] Dome architecture reached Mesopotamia in Parthian times, as indicated by the display of domes and iwans on the triumphal arch of Emperor Lucius Septimius Severus.[20] Another Parthian-era contribution was the application of stucco decorations for buildings,[21] with examples seen at Nisa (plants, lion, Goryth, moon, archery gear, rosettes) and Hatra's mask motifs.[22]

Parthian Military Architecture and Hellenic Influences

Following the overthrow of the Achaemenid Empire by Alexander, the succeeding Seleucids established cities to consolidate their conquests. Although Hellenic poleis were rare within Iran during the Seleucid era as vast

[16] U. Ellerbrock, *op. cit.*, p. 126.

[17] A. Invernizzi, *A note on architectural traditions in Arsacid Parthia: the round hall at Nisa*, [in:] *The Parthian and Early Sasanian Empires: Adaptation and Expansion*, eds. V.S. Curtis, M. Alram, T. Daryaee, Oxford 2016, p. 83.

[18] U. Ellerbrock, *op. cit.*, p. 127.

[19] N. Spatari, *L'enigma delle Arti Asittite: Nella Calabria Ultramediterranea*, Mammola 2002, pp. 265–267, 275–291.

[20] U. Ellerbrock, *op. cit.*, p. 127.

[21] M.A.R. Colledge, *The Parthians*, New York 1967, p. 135.

[22] U. Ellerbrock, *op. cit.*, pp. 127–128.

territories within Iran were governed by de-facto independent dynasties established prior to the Seleucids,[23] some Seleucid strongholds were built in the regions of Hamedan, Borojerd, and Kermanshah.[24] At the same time, the observance of local architectural forms became more prominent in Western Iran and Mesopotamia (with the possible exception of Rayy). Seleucid fortified bases and urban centers in Iran and Central Asia were not simply a case of applying the Greek system, but also one of adoption and integration with local (pre-Parthian) Iranian styles, resulting in what is described as 'Perso-Hellenic' architecture.[25] In terms of military architecture, it was in Central Asia and the northeast Iranian marches where Hellenic techniques were integrated during the early Parthian era as seen with ramparts which, while following a general Hellenic system, later integrated with the Parthian introduction of Iranian architectural techniques such as vaulted corridors within massive walls and slits for firing arrows. Hellenic influences for wall defense in Central Asia, Parthava, and Hyrcania are seen in the use of platforms, moats, and towers.[26] Platforms were built at a substantial distance from the actual wall frontage, as seen with the wall at Merv, built around 8.5 m away from the façade. With respect to towers there is the example of the Parthian city of Old Nysa, with its Hellenistic type towers serving as focal resistance nodes; one of the towers had a chamber (3.45 x 6 m) capable of accommodating artillery systems. Building massive fortifications against powerful sieges (notably by siege engines) appears to be a Hellenic influence, as seen at Ai-Khanoum, Balkh, Merv, and Delbarjin in Central Asia and at Rayy in Media.[27] Another Hellenic introduction was square bricks, in contrast to Achaemenid era rectangular bricks. The dimensions of these square bricks were in the 40–43 x 40–43 x 10–15 cm range (e.g., wall of Gorgan, Old and New Nisa, Hecatompylos).[28] Hellenic civil engineers in Central Asia also

[23] V.G. Lukonin, *Political, social and administrative institution: taxes and trade*, [in:] *Cambridge History of Iran*, ed. E. Yarshater, vol. 3, no. 2, Cambridge 1983, pp. 714–715.

[24] M. Behroozi, *Siyasat-e shahr-saziye Selookian dar sarzaminhaye maftoheh*, "Pazhohesh-haye Bastan-shenasiye Iran" 1397 [2018], vol. 8, no. 17, p. 111.

[25] K. Jakubiak, *The origin and development of military architecture in the province of Parthava in the Arsacid period*, "Iranica Antiqua" 2006, vol. 41, p. 127.

[26] M.J. Olbrycht, *Some remarks on Hellenistic*..., pp. 134–135.

[27] R. Rante, *op. cit.*, p. 203.

[28] M.J. Olbrycht, *Some remarks on Hellenistic*..., pp. 133–134.

applied square and rectangular designs with perpendicular street patterns, as seen at Merv as introduced by Antiochus I, who also established the city of Dura-Europos with the same street plan system. However, it must be noted while the Hellenic arrivals facilitated such designs into the region, square-rectangular designs were already well-established within Iran,[29] pre-dating the Greco-Macedonian invasions. Iranian and Hellenic architectural integration also occurred in Anatolia (e.g., Cappadocia, Commagene), the Near East (e.g., Palmyra), the Bosphorus and Caucasus (e.g., Georgia, Armenia, and Calabria in southern Italy).[30]

The Tripartite System

The Parthian tripartite system of city-fortresses consisted of a *sharestan*, *kohandezh*, and *savad*.[31] The *sharestan was the 'inner city' where warriors, petty nobles and governmental administrators* resided; the *kohandezh* was a citadel usually constructed on a higher platform to enhance surveillance of areas outside the fortress and/or city and the interior.[32] As the chief quartering sector for primary military leaders and high-ranking nobles,[33] the *kohandezh* was built to repel attacks in case other parts of the fortress or city fell to the enemy. The *savad, or suburb,* was inhabited by non-military and non-governmental personnel (e.g., farmers, craftsmen). This tripartite system was present in Central Asia (e.g., Balkh, Ai-Khanoum, Merv), Parthava, Hyrcania, and Rayy below northern Iran.[34]

[29] A. Matufi, *op. cit.*, p. 240.

[30] T. Sulimirski, *The Scyths*, [in:] *The Cambridge History of Iran*, vol. 2: *The Median and Achaemenean Periods*, ed. I. Gershevitch, Cambridge 1985, pp. 149–199; I. Babaev, I. Gagoshidze, F.S. Knauss, *An Achaemenid "Palace" at Qarajamirli (Azerbaijan) Preliminary Report on the Excavations in 2006*, "Ancient Civilizations from Scythia to Siberia" 2007, vol. 13, no. 1–2, pp. 31–45; K. Farrokh, *An Overview of the Artistic, Architectural, Engineering and Culinary exchanges between Ancient Iran and the Greco-Roman World*, "AGON: Rivista Internazionale di Studi Culturali, Linguistici e Letterari" 2016, no. 7, pp. 68–76, 80–86.

[31] A. Matufi, *op. cit.*, p. 150; R. Rante, *op. cit.*, pp. 196–204.

[32] K. Farrokh, *Shadows in the Desert: Ancient Persia at War*, Oxford 2007, p. 174.

[33] J. Sánchez-Gracia, K. Farrokh, *op. cit.*, pp. 172–173.

[34] R. Rante, *op. cit.*, p. 209.

Military Architecture in North and Northeast Iran and Central Asia

Parthian military architecture in north and northeast Iran and Central Asia drew upon established systems as a result of military experiences against nomadic invasions.[35] The Parni of the Dahae confederation (henceforth known as Parthians) had consolidated in Parthava (Parthia) by the 3rd century BCE, and further consolidated into Hyrcania in northern Iran, Aria to the east (roughly modern-day western Afghanistan), and Margiana in Central Asia by the 2nd century BCE.

When the Parthians first entered Parthava, they engaged in construction of local military architecture. The key Parthian archaeological site of Nysa (in the southern regions of modern-day Turkmenistan; registered as a UNESCO World Heritage site[36]) was divided into two sections: New Nysa and Old Nysa.[37] New Nysa was a city on the plains with a fortified structure built upon a hilltop known as 'Old Nysa.'[38] The original Parthian capital may have been at Mithradadkert (Old Nysa), one of the earliest known Parthian fortified cities built by Mithradates (Mehrdad) I (r. 167 or 165–132 BCE)[39] as a sanctuary city.[40] The fortification's walls were 20–25 m high[41] and 10 m thick,[42] with the clay bricks 40–42 cm long and 10–12 cm thick.[43] Forty-four towers built in spans of 25–30 m have been identified at Old Nysa.[44] There was an elevated platform

[35] K. Jakubiak, *A Persian response. The organization of Defence in Mesopotamia under the Parthians and Sassanians*, [in:] *Understanding the Past: Papers offered to Stefan K. Kozlowski*, eds. J.M. Burdukiewicz, K. Cyrek, P. Dyczek, K. Szymczak, Warsaw 2009, pp. 155–163.

[36] *Parthian Fortresses of Nisa*, *UNESCO World Heritage Convention*, https://whc.unesco.org/en/list/1242 (access: 27 V 2022).

[37] *Nysa*, *British Museum*, https://www.britishmuseum.org/collection/term/x109972 (access: 27 V 2022).

[38] M. Canepa, *Seleukid sacred architecture, royal cult and the transformation of Iranian culture in the middle Iranian period*, "Iranian Studies" 2015, vol. 48, no. 1, p. 90.

[39] M. Canepa, *op. cit.*, pp. 90, 92.

[40] A. Invernizzi, *The culture of Parthian Nisa: between steppe and empire*, [in:] *After Alexander. Central Asia before Islam*, eds. J. Cribb, G. Herrmann, Oxford 2007, p. 164.

[41] G. Herrmann, *The Iranian Revival*, London 1977, p. 34.

[42] V.M. Masson, *Das Land der tausend Städte*, Wiesbaden-Berlin 1987, p. 122.

[43] U. Ellerbrock, *op. cit.*, p. 129.

[44] M.J. Olbrycht, *Some remarks on Hellenistic*..., p. 135.

designed to better resist attacks by powerful siege engines. The palace of Nysa also featured four *iwans* surrounding a central courtyard.[45]

Margiana was a historical territory centered around an oasis of Merv, with Parthian control consolidated during Phraates (Farhad) II's reign (c. 132–127 BCE).[46] Merv's origins date to the late first millennium BCE,[47] with the Achaemenid dynasty having also built a fortress at the city. That small citadel (50 x 50 m) was situated on a large mound (known as Erk Qala) around which a circular defense wall was later built.[48] Merv was then conquered by Alexander and renamed Alexandria Margiana, which was itself destroyed by the later attacks of the Saka of Central Asia. The city was then rebuilt by the Seleucid king Antiochus I (r. 281–261 BCE),[49] who installed a wall in c. 280 BCE and redesigned the urban layout according to a geometric pattern.[50] The Seleucid walls now protected the southern parts of Erk Qala, with the previous settlement having become the citadel of a larger, walled urban center. The new citadel, known as Gyaur Qala, was safeguarded with defensive walls at its southern sectors[51] with Merv's Seleucid-era defense wall placed on a three-meter-high ground base, itself two m in front of the façade.

After the Parthian king Mithradates I defeated the Greco-Bactrian king Eucradites (r. 171–145 BCE)[52] leading to the Parthian conquest of Merv, the Parthians built their own wall in c. 2nd century BCE, followed by additional wall construction in the 1st century CE.[53] Merv had the tripartite military architecture system of a *kohandezh*, a *sharestan*, and a *savad*, built mainly of mud-brick and sun-burnt bricks, with walls still standing 30 m high. The *sharestan* and *kohandezh* ramparts, built during the Hellenic era, were designed to resist siege engines. The Parthians applied significant military architectural upgrades as seen by the reinforcements and expansions of Gyaur Qala's outer walls at the entrance gate.[54]

---

[45] G. Herrmann, *op. cit.*, p. 23.

[46] K. Jakubiak, *The origin and...*, p. 132.

[47] Z.I. Usmanova, *New material on ancient Merv*, "Iran" 1992, vol. 30, p. 55.

[48] G. Herrmann, V.M. Masson, K. Kurbansakhatov, *The international Merv project, preliminary report on the first session (1992)*, "Iran" 1993, vol. 31, pp. 40–41.

[49] M. Behroozi, *op. cit.*, p. 109.

[50] U. Ellerbrock, *op. cit.*, p. 136.

[51] R. Rante, *op. cit.*, p. 196.

[52] Justin, *Epitome*, XLI, 6.

[53] I. Syvänne, K. Maksymiuk, *The Military History of the Third Century Iran*, Siedlce 2018, p. 48.

[54] U. Ellerbrock, *op. cit.*, p. 136 (fig. 7.13).

A total of 72 Parthian-era settlements have been identified in the contiguous Merv Oasis areas. One such settlement was the square fort of Gobekly Tepe, with towers on each corner and walls surrounding an inner central building built on a large base.[55] The Parthian-era wall was approximately 7 m wide with a maximum height of 6 m; there was an internal corridor approximately 3.5 m wide, with its ceiling most likely vaulted.[56] Gobekly Tepe's perimeter wall was 2.8 m wide with other walls standing today approximately 13 m high.[57] Wall construction involved a *paksha* layer set upon a foundation of compacted earth followed by alternate mud brick layers (bricks: 42 x 42 x 12 cm) with *paksha* set above.[58] Other notable fortresses in Margiana are Kyrk Teperese, Eliming Tappeh, Chilburj, and Durnali. Encompassing 12.3 ha, Kyrk Teperese had a fortified entrance and an oval-shaped citadel.[59] Built with square towers, the small square fort of Eliming Tappeh (100 m long on each side) encompassed just over one hectare. The trapezoid-shaped fort of Chilburj (longer sides measuring 260 and 230 m in length, both shorter sides 200 m)[60] had towers every 17–20 m, with walls having an inner gallery providing garrison troops practical access to arrow slits built into the walls. The bricks at Chilburj measured at 41–42 x 10–11 cm. Another Parthian-founded site in the Merv area is the walled fort of Durnali, with several square projecting towers built in spans of 10–17 m.[61]

Nysa's close vicinity to Central Asia made it vulnerable to Saka raids, obliging the Parthians to transfer their capital further west to Hecatompylos (also known as Shahr-e Qumis near modern Damghan) in Hyrcania, northern Iran. Significantly enlarged by the Parthians in the 2nd century CE, [the citadel at] Hecatompylos had stepped vaults with rounded and pointed arches (sites IV and VI), with a height of over 2 m at the apex of the pointed arches.[62] Captured by the Parni possibly sometime in 237 BCE, Hecatompylos is often cited as the

[55] St.J. Simpson, *Merv, an archaeological case-study from the Northeastern frontier of the Sasanian empire*, "Journal of Ancient History" 2014, vol. 2, no. 2, pp. 9, 10 (fig. 8).

[56] G.A. Košelenko, *The Fortifications at Gobekly-depe*, [in:] *After Alexander. Central Asia before Islam (Proceedings of the British Academy, 133)*, eds. J. Cribb, G. Herrmann, Oxford 2007, p. 272.

[57] K. Jakubiak, *The origin and*..., p. 136.

[58] G.A. Košelenko, *The Fortifications* ... , p. 272.

[59] K. Jakubiak, *The origin and*..., p. 134.

[60] *Ibidem*, pp. 138–140 (see also fig. 8).

[61] M.J. Olbrycht, *Some remarks on Hellenistic*..., p. 135.

[62] G. Herrmann, *op. cit.*, p. 37.

early Parthian capital, with the site of Asaak (at Astauene in northeast Iran), established by Arsaces I, as another possible capital.

During his battles against Parthian king Artabanus I (also known as Arsaces II), the Seleucid king Antiochus III (r. 211–191 BCE) first captured Hecatompylos, followed by the city of Tambrax in Hyrcania, and finally besieged the city of Syrinx which was defended by (1) a three-tier moat system,[63] with each moat supported by a double row of palisades; (2) a defensive fore-wall (*proteichisma*) situated outside of the main walls;[64] and (3) city defenses designed to withstand siege engines.[65] The Greek besiegers succeeded in capturing the city by filling the moats and breaching Syrinx's wall.[66] It is possible that Syrinx had been built for the Parthians under the direction of Greek engineers[67] as the city did have a settled Greek minority.[68] Other Parthian archaeological sites in northern Iran include the stone fortress of Shir Qaleh in Semnan Province, whose original platform is dated to Parthian times. Notable surviving features at Shir Qaleh are three partially intact large rounded towers, defensive walls, and an archway ingress. Shir Qaleh became critical for the protection of trade lanes along the Silk Road.

Mithradates I's defeat of Eucradites also led to the Parthian capture of much of Afghanistan, Tapuria (modern Mazandaran region in northern Iran) and Traxiane (encompassing parts of northeast Iran, Central Asia and Afghanistan).[69] Notable was the capture of Herat in Afghanistan – a city of tactical importance for Iranian empires since Achaemenid times – which facilitated Parthian expansion eastwards.[70] While major research has yet to be conducted on Herat's Parthian-era military architecture, Alexander is known to have built a citadel there which remains to this day.[71]

To the west of Aria was *Parthava* (Parthia) and to the northeast of Aria was *Bāxtriš* (Bactria) with its capital city in northeast Afghanistan known as *Bāxtra*

---

[63] G.M. Cohen, *The Hellenistic Settlements in the East from Armenia and Mesopotamia to Bactria and India*, Berkeley 2013, p. 222.

[64] Polybius, *The Histories*, X, 31.

[65] W. Tarn, *The Greeks in Bactria and India*, Cambridge 1951, p. 20.

[66] N. Overtoom, *op. cit.*, p. 127.

[67] W. Tarn, *op. cit.*, pp. 20–21.

[68] G.M. Cohen, *op. cit.*, p. 222.

[69] Strabo, *Geography*, XI.11.20.

[70] U. Ellerbrock, *op. cit.*, p. 31.

[71] *Ibidem*, p. 25.

(Bactra; also *Zariaspa* [Iranian: golden horse]; later known as *Balkh*). Bactra's circular military architecture system of defensive walls was over one kilometer in diameter, with the settlement's original foundations traceable to the 6th century BCE. The city's primary military architecture was possibly begun or augmented during the Achaemenid era. Alexander's subsequent conquest of the city was followed by a Persian-Hellenic synthesis in architecture as seen by the Greek system of laying out an extensive grid-design built around former Achaemenid citadels which, keeping their military role, now acted as fortified 'upper cities.'[72] The Achaemenid fortress of Bala Hissar was integrated with later Greek fortifications (notably at the lower city, which the Greeks rebuilt). While the Greeks combined the elevated fortress with the actual city below, the use of elevated platforms for city-fortress designs were already known by the former Achaemenids as seen, for example, in their construction of a 30-meter platform at ancient Kandahar.

Mention can be made of the military architecture of Ai-Khanoum (sometimes known as 'Alexandria on the Oxus.' Located in northeast Afghanistan, Ai-Khanoum was originally an Achaemenid fortress city destroyed by the Greco-Macedonians who later rebuilt it in c. 329–327 CE.[73] Ai-Khanoum's three sides (2 miles approx.) were well defended, with walls featuring prominent towers and a citadel on the southeast edge of the acropolis (height: 10 m; base: 20 x 11 m),[74] with the city's primary gate in the northern wall. Ai-Khanoum's royal palace had an Iranian-Achaemenid architectural plan, which the city combined with a Hellenic amphitheatre and temples.

Parthian Military Architecture in Iran and the Persian Gulf

As noted by Jakubiak: "In modern Iranian territories, almost no military architecture is known outside the Gorgān plain. Only a few structures, such as Tepe Čoragī and Ḳārkon near Hamadan and Malāyer, for example, may have

[72] M. Canepa, *'Afghanistan' as a cradle and Pivot of Empires: reshaping Eastern Iran's Topography of Power under the Achaemenids, Seleucids, Greco-Bactrians and Kushans*, [in:] *The Limits of Empire in Ancient Afghanistan*, eds. R.E. Payne & R. King, Wiesbaden 2020, p. 61.

[73] R. Mairs, *The Founder's shrine and the foundation of Ai Khanoum*, [in:] *Foundation Myths in Dialogue*, ed. N. Mac Sweeney, Philadelphia 2015, pp. 103–128.

[74] L. Martinez-Sève, *The spatial organization of Ai Khanoum, a Greek city in Afghanistan*, "American Journal of Archaeology" 2014, vol. 118, p. 268.

been erected during the Parthian period."[75] The aforementioned sites notwithstanding, the location and excavation of Parthian military architecture within Iran has been challenging. Ancient Praaspa of Media Atropatene, for example, which is known to us from classical sources in reference to Mark Antony's failed 36 BCE campaign in northwest Iran, has yet to be precisely located and excavated. Nevertheless, recent archaeological studies have discovered a significant number of Parthian fortifications in western Iran (notably in the regions of Hamedan, Nahavand, and Harsin) with Parthian-era structures also having been discovered in southern Iran and the Persian Gulf region.

The city of Rayy, located along the northern area of the Iranian plateau, was conquered by Mithradates I and later renamed Arsakia. Rayy's surviving fortress site featured the tripartite military architecture with respect to its *sharestan* and *kohandezh*, showing a number of parallels with Central Asian Parthian-era cities and fortresses.[76] The *sharestan*'s surface area was around 15 ha and its defensive wall was originally polygonal, with an approximately 3,6 ha triangular *kohandezh* (built-in with two terraces). Around the kohandezh's hill perimeter was a defensive wall made of square bricks, itself encircled by a canal. At the southern section of the rampart, the exterior wall mudbricks (each measuring 45 x 45 x 15 cm) were arranged in a fluted pattern, a system known by engineers in Media and Central Asia.[77] The internal (façade) mudbricks of the southern wall are 38 x 38 x 10–12 cm; the rampart's core is made of large mudbricks that range from 40–45 x 40–45 x 12–15 to 50 x 50 x 12 cm. Rayy's fortifications were constructed to withstand siege engines – towers were built into the rampart[78] and the wall was reinforced with a buttress 4,5 m thick, built of mudbricks of 33 x 33 x 8 cm. Archers were evidently placed on top of the rampart.

The ancient city of Ecbatana is identified in the region of Hagmatana Hill (Tappeh Hagmatāna),[79] which together with the hills of Moṣallā and Sang-e Shir is located in the city district of modern-day Hamedan (provincial capital of Hamedan province, western Iran). The Parthian archaeological layers discovered

[75] K. Jakubiak, *A Persian response*...

[76] R. Rante, *op. cit.*, pp. 191–192, 198, 200, 202.

[77] *Ibidem*, pp. 193, 194-fig. 6.

[78] R. Rante, *op. cit.*, p. 209.

[79] S.C. Brown, *ECBATANA*, [in:] *Encyclopedia Iranica*, 1997, vol. 8, fasc. 1, pp. 80–84.

at Hamedan city have revealed no Hellenic or older archaeological data to date.[80] In c. 147 BCE, Mithradates I captured Ecbatana,[81] a key strategic site linking the ancient Royal Road (founded in the Achaemenid era) with the Silk Route of Central Asia.[82] Moṣallā Hill featured a Parthian stone and brick stronghold at a sharp 80 m high summit with towers and a rectangular citadel.[83] Another Parthian stronghold at Hamedan is at Hagmatana Hill (with an area of 7–10 ha), featuring an outer wall and stout square towers.[84] Other Parthian sites include the one discovered in Nahavand county in Hamedan province, as reported by Tasnim News on April 30, 2017; however, no official details were provided as to the site's military architecture.[85] A year after that report, the Iranian archaeologists Jafarizadeh and Saraghi published a seminal study identifying forty-eight small Parthian strongholds in the Nahavand region characterised by elevated platforms and various circular, oval, square, and rectangular designs.[86] Two examples of these are at Tappeh Baba Ghassem (design: circular, diameter: 150 m, elevation from ground: 25 m) and Tappeh Gian (design: rectangular, dimensions: 20 x 10 m, elevation from ground: 0.5 m).

Archaeologists Mohammadi-Far, Chehri, and Hemati-Azandaryani examined the archaeological site in Harsin, in the east of Kermanshah province in western Iran, and reported of at least three Parthian forts in the region though they did not report extensively on their military architecture.[87] Qaleh Yazdigird

[80] U. Ellerbrock, *op. cit.*, p. 138.

[81] Strabo, *Geography*, 11.13.1, 16.1.16; Tacitus, *The Annals* 15.31.

[82] U. Ellerbrock, *op. cit.*, p. 138.

[83] S.C. Brown, *op. cit.*, pp. 80–84.

[84] R. Boucharlat, *Tappeh Heghmataneh va Ekbatan-e Bastan*, [in:] *Hegmataneh: Majomoe-ye Maghalat-e Hameyesh-e yek roozeh Bastanshenasi e Heghmataneh*, ed. Y. Mohamadi-Farr, Tehran 1392 [2014], pp. 229, 231, 236, 242.

[85] *Kashfe mohavateye Tarikhi az Dowran-e Ashkanian dar Nahavand*, "Tasnim News", April 30, 2017, https://www.tasnimnews.com/fa/news/1396/02/10/1392938/%DA%A9%D8%B4%D9%81-%D9%85%D8%AD%D9%88%D8%B7%D9%87-%D8%AA%D8%A7%D8%B1%DB%8C%D8%AE%DB%8C-%D8%A7%D8%B2-%D8%AF%D9%88%D8%B1%D8%A7%D9%86-%D8%A7%D8%B4%DA%A9%D8%A7%D9%86%DB%8C%D8%A7%D9%86-%D8%AF%D8%B1-%D9%86%D9%87%D8%A7%D9%88%D9%86%D8%AF (access: 30 V 2022).

[86] M. Jafarizadeh, N. Saraghi, *Olgohaye esteghrariye doreye Ashkani-e Dasht e Nahavand*, "Pazhoheshhaye Bastanshenasi" 1397 [2018], vol. 12–13, pp. 25–39.

[87] Y. Mohammadi-Far, R. Chehri, E. Hemati-Azandaryani, *Baresi va tahlil olgoye esteghrar-e mohavateye Ashkani-e mantagheye kohestni-e shahrestan-e Harsin*, "Pazhoheshhaye Bastanshenasi" 1397 [2018], vol. 12–13, p. 195.

(located in the western area of Kermanshah province close to the international border with Iraq, has foundations dated to the Parthian era.[88] Qaleh Yazdigird's overall plan consists of a stronghold, an upper castle, a lookout post, a defensive wall, a royal pavilion, and a palace garden. Many of the structures (i.e., the upper lookout post) and the encircling defensive wall exhibit Parthian-era military architecture. The upper castle had been integrated into defensive systems also tasked for defending the local water supply.[89] The defensive wall was notably stout, due to the three kilometers of open ground on the southeast side of the basin. Additional fortifications were built into the escarpment edge, resulting in a significant area (35–40 square kilometers) being within a protected zone.

The primary construction materials were mortar and stone, with masonry works also seen using the vertical design (located at castle's main defensive walls). The same vertical design is seen at the archway of Qaleh Zahak in northwest Iran as discussed further below. Of interest are baked bricks on stucco walls and ornamented halls[90] with these bricks, resembling those at Qaleh Zahak. Qaleh Yazdigird's bricks have also been 'autographed' by their builders.[91] Qaleh Yazdigird had vaulted corridors typical of Parthian and later Sassanian military architecture[92] and a series of well-placed lookout posts that were built to provide an excellent view of any deployments by potential attackers. The main defense wall features large numbers of reinforcement towers containing guard chambers.

One of these towers is nine meters in width along with a curtain wall of approximately 20 m built between this tower and the one next to it. Another tower has what appear to be many 'arrow' portholes on the ridge wall along its span. The top of each opening has two baked bricks set in an inverted 'V' resulting in an upward arrow shape. It is unclear as to whether these were archery portholes, as (1) they are too small for firing arrows through, as the outer slot is no more than 10 cm wide, (2) the 9-meter thickness of the walls, and (c) low ground elevation. These factors significantly limit an archer's ability to aim and shoot accurately against outside targets. One possible thesis is that these portholes were for observation purposes.

---

[88] E.J. Keall, *Qal'eh-i Yazdigird: an overview of the monumental architecture*, "Iran: British Journal of Persian Studies" 1982, vol. 20, pp. 51, 59.

[89] *Ibidem*, p. 56.

[90] *Ibidem*, pp. 61, 64.

[91] *Ibidem*, plates XIIIc–XIIId.

[92] *Ibidem*, p. 65, plates VIIIa–VIIb.

Media Atropatene was located primarily in Western Iran, extending to the western regions of northern Iran below the Caspian Sea. The capital of Media Atropatene in the latter part of the 1st century CE was the fortified city of Praaspa, possibly located south of Lake Urmia or near modern Maragheh. Cassius Dio reports that Praaspa's '*walls were strong and well-manned by defenders*.'[93] Apart from Dio's general description, along with Plutarch's even more general report of '*Phraata, a large city*...'[94], not much additional information is available as to Praaspa's military architecture. Praaspa's defenses were most likely powerfully constructed, given its ability to successfully repulse Mark Antony's siege of the city in 36 BCE.[95] Its defensive system was possibly characteristic of Parthian military architecture in general, such as thick and powerful walls with corridors, towers built in regular intervals (providing overlapping arcs of archery fire against attackers), and well-positioned archery slits.

Qaleh Zahak (Hashtroud county, East Azerbaijan province, northwest Iran) was a Parthian mountain fortress which possibly first served administrative functions and later became a Zoroastrian temple. Qaleh Zahak's strategic location was critical due to its close proximity to Iran's northwest borderlands adjacent to Armenia and Anatolia. Only a single structure remains standing at Qaleh Zahak, an *iwan* constructed with a hybrid system of vertical bricks at the crown and radial bricks at the haunch of the archway. Bazz castle (also Castle of Babak) near Kalibar city in East Azerbaijan province was founded in the Parthian era. Situated atop a large mountain, Bazz castle is built in mountainous terrain and integrates the area's geographic features into the military architecture of the stronghold in order to maximise defense.[96] Bazz castle's four features are (1) an elevation of approximately 2,500 m, (2) narrow and deep crevices (around 300 m deep) surrounding it which channeled attacking troops into rocky passes, exposing them to archers and counterattacks.

Another prominent Parthian era fortress is Qaleh Owltan in northwest Iran's Ardabil province. Qaleh Owltan's foundations comprise 320,000 square m; the fortress has parapet battlements and rounded towers with archery slits.

[93] Cassius Dio, *Roman History*, XLIX [49], 25.3.

[94] Plutarch, *Lives, Anthony*, 38.1.

[95] K. Farrokh, J. Sánchez-Gracia, *La invasión de Persia por los Árabes*, "Historia de la Guerra" 2021, no. 19, p. 10.

[96] K. Farrokh, *The Armies of Ancient Persia: The Sassanians*, Barnsley 2017, pp. 227–228.

The fortress of Takhte Suleiman (also known as Shiz) is also located in Iran's northwest, in West Azerbaijan province. Its primary structures date to the Sassanian era, except for a small Parthian-era fortification built on the northern rim of the local lake.[97] A fifth Parthian-era castle of note in Iran's northwest is Qaleh Qeshlaaq in the Mah Neshan city district of Zanjan province. The largest Parthian archaeological site in Zanjan, Qaleh Qeshlaaq is a fortress-city with its wall built with irregularly spaced towers.[98] Tower construction used lime mortar, gypsum, sand tones with mud mortar; large bricks were used for the towers' upper sections. The fortress' embankment is approximately oval in shape. The location of the embankment was strategic as the approaches to it are steep and rocky slopes, making direct assaults hazardous for attackers. Qaleh Qeshlaaq's defensive walls are generally built of heavy stones fitted together; however, the wall section along the flank where the approach to the fortress is least steep is built of mortar and stone. Two notable military architectural features at Qaleh Qeshlaaq are a 'triple tower' and a 'crooked arrow' walkway ('bridge of Qaleh Qeshlaaq')[99]. The 'triple tower' is a single tower in which three circular towers are built as three partially overlapping circles. It is possible that this design was intended to provide a wide range of archery fire (left, center, right). The elevated' "crooked arrow' walkway, flanked on either side by an approximately 1-meter high wall, is built of cut stones, mortar, and stones from the nearby river.

Following their conquest by Alexander[100] in 331 BCE and the subsequent Seleucid era, Susa and Šami (Shami) in southwest Iran's Khuzestan province witnessed Hellenic architectural influences such as Palmetto roofings, flat tiles, junction plates, and walls decorated with Hellenic motifs.[101] While more archeological studies are warranted to examine Susa's military architecture during the Seleucid and succeeding Parthian eras, it most likely would have had robust

[97] D. Huff, *Takt-E Solaymān*, [in:] *Encyclopedia Iranica*, 2002, https://www.iranicaonline.org/articles/takt-e-solayman (access: 3 VI 2022).

[98] A. Aali, A.R. Khosrowzadeh, *Qaleh Qeshlaaq: Mohaveteye Bozorge Ashkani dar Mah Neshan-e Zanjan* , "Pazhoheshha-ye Bastanshenasi Iran" 1389 [2010], vol. 2, no. 3, pp. 76, 79.

[99] *Ibidem*, pp. 81, 83–86.

[100] R. Boucharlat, *Susa iii. The Achaemenid Period*, [in:] *Encyclopedia Iranica*, 2009, https://www.iranicaonline.org/articles/susa-iii-the-achaemenid-period (access: 15 VI 2022).

[101] R. Boucharlat, *Greece VII. Greek art and architecture in Iran*, [in:] *Encyclopedia Iranica*, 2002, vol. 11, fasc. 3, pp. 329–333.

fortifications – however, the exact types remain undetermined (e.g., whether these had Central Asian Parthian-era influences). The edifices at Susa show Parthian architectural influences,[102] and the Šami sanctuary east of Susa also bears distinct Parthian architecture including historiated capitals, monumental sculpture, Iranian type columns, and large statues, as well as many Greek iconographic elements (e.g., Heracles).[103]

The Arg-e Bam (Bam citadel) located near Kerman city in Iran's southeast province of Kerman, was originally built in approximately 500 BCE[104] during the early Achaemenid era, followed by Hellenic-Seleucid occupation. The military archaeology of Bam during the subsequent Parthian era is notable as it is the only fortress-city inside Iran with strong architectural parallels with Rayy. The Parthians also built a qanat system in the citadel's southeast in the 2nd century BCE.[105] Strong cultural ties between the northern Persian Gulf (southern Mesopotamia, southwest Iran's Khuzistan and Persis regions, and southeast Iran) and the southern Persian Gulf (eastern and southern Arabia) regions[106] have been in place for millennia, notably in Parthian times. Kohor Langarchini (modern Nakhl-e Ebrahimi) along Iran's southeast coastline of Hormozgan province (above the Strait of Hormuz), where the remains of a brick fortress built in a 1/5 ha area have been excavated,[107] is the largest Parthian archaeological site excavated to date along the northern PG region. Also located in Hormozgan province is Kish Island (in Bandar Lengeh county's Kish region) with archaeological evidence of a large Parthian settlement.[108] Qeshm Island (the largest island in the PG) located off the coast of Hormozgan province, hosts Parthian-era architecture in the Kuh Mozi district, as shown by the remains of stone walls.[109]

---

[102] U. Ellerbrock, *op. cit.*, p. 139.

[103] R. Boucharlat, *Greece VII*..., pp. 329–333.

[104] K. Farrokh, *Shadows in the Desert*..., p. 270.

[105] R. Rante, *op. cit.*, pp. 207–208.

[106] A.R. Khosrowzadeh, *Mohavateha va esteghrerarhaye Ashkani-ye jazireye Qeshm*, "Pazhoheshha-ye Bastanshenasi Iran" 1392 [2014], vol. 3, no. 5, pp. 81, 91, 95.

[107] A.R. Khosrowzadeh, M.I. Ismaili-Jelodar, AND M. Ravaie, *Bastanshenasi-ye savahel-e shomaliye Khalije Fars, ba moror-e pazhoheshay-e Ashkani va Sassani-ye savahele jonoobi*, [in:] *Majmoeye Maghalat-e Hashtad Sal Bastanshenasi Iran*, eds. Y. Hassanzadeh, M. Miri, Tehran 1391 [2012], p. 217.

[108] M. Gibson, *The City and Area of Kish*, Miami 1972, p. 59.

[109] A.R. Khosrowzadeh, *Mohavateha va*..., p. 85.

The semi-autonomous Kingdom of Characene (in what is now regions of southern Iraq and Kuwait) was vital for the Arsacids,[110] but pledged itself to Emperor Trajan during his invasion of the Parthian Empire in 116 CE. Following Trajan's retreat, Characene was fully absorbed into the Parthian empire with a Parthian prince (Mehradad or "Mithradates") given rulership of Characene just before 131 CE.[111] Characene's influence over the southern PG[112] obliged the Parthians to rely on that kingdom for extending their authority over the PG. The Characenes inherited the Seleucid fleet and the former Seleucid PG maritime trade routes. As the Parthians lacked naval capabilities, the Characenes provided three military capabilities for the Arsacids:[113] (1) naval squadrons capable of amphibious operations with land units, (2) naval transport of Parthian cavalry across southern Iraq's channels and swamps leading into the PG, and (3) protection of commercial shipping routes linking Mesopotamia and Iran to trade centers in the PG and Indian coastal regions. The Parthian military presence in the PG was facilitated by the Characene navy. Parthian authority on the southern PG shores was consolidated by the mid-1st century CE,[114] followed by Oman's entrance into Parthian jurisdiction by 142 CE.[115]

Dozens of Seleucid Parthian and Sassanian sites have been excavated between Kuwait and Bahrain.[116] One of these is Taj (in eastern Arabia), which features a large Seleucid-Parthian archaeological area with a stone wall surrounding a 40-hectare area constructed in the 1st to 2nd centuries CE, as well as a Parthian-era stone barrier or wall remaining at Failaka island near Kuwait.[117] Parthian strongholds, with a square design with rounded towers on corners, have also been discovered in other southern PG regions such as Ed Dur (Umm

[110] L. Gregoratti, *A Parthian port on the Persian Gulf: Characene and its trade*, "Anabasis" 2011, vol. 2, p. 224.

[111] A.R. Khosrowzadeh, *Hozure- Partian dar manategh-e jonoobi-ye Khalij-e Fars (sharq va jonoob-e sharq-e shebhe jazireye Arabistan) bar asas-e madarek-e bastan-shenakhti be dast amadeh mohavate-haye parti-ye savahel-e jonoobiye Khalije Fars*, "Motalleast-e Bastanshenasi" 1391 [2012], vol. 2, no. 4, p. 77.

[112] E. Haernick, *The shifting pattern of overland and seaborne trade in SE Arabia: foreign pre-Islamic coins from Mleiha*, "Akkadica" 1998, vol. 106, p. 32.

[113] L. Gregoratti, *op. cit*., p. 213.

[114] A.R. Khosrowzadeh, *Hozure- Partian dar*..., p. 77.

[115] D.T. Potts, *The Parthian presence in the Arabian Gulf*, [in:] *The Indian Ocean in Antiquity*, ed. J. Reade, London 1996, p. 279.

[116] D.T. Potts, *The Arabian Gulf in Antiquity (2 volumes)*, Oxford 1990, pp. 30–48.

[117] A.R. Khosrowzadeh, M.I. Ismaili-Jelodar, M. Ravaie, *op. cit.*, pp. 216–217.

al Quwain, UAE),[118] with these types of forts appearing in Mesopotamia by the 2nd–3rd centuries CE.[119] The Parthian military presence in Bahrain is seen with two fortresses with a square plan and rounded towers[120] built between the 2nd to 3rd centuries CE, and the Qal'at al-Bahrain fortress having a late Parthian architectural phase.[121] Notable is the discovery of trilobe iron Parthian/Scythian style arrowheads at Falaika Island (near Kuwait), Janussan, Karrana (in Bahrain), Mleiha (in Sharjah, UAE), Shakura, and Ed Dur (in Umm al Quwain, UAE).[122] Trilobe iron Parthian/Scythian style arrowheads in the Southern PG were either (1) imports from the Iranian mainland (northern PG), as almost the same designs are evident at Parthian era sites in Iran's Kohor Langarchini and Tappeh Yahya, or (2) may have been locally produced based on Parthian designs.

Mesopotamia and Parthian Military Architecture

The Parthians were faced with the constant threat of Roman attacks into Mesopotamia as seen by the invasions of Emperors Trajan (r. 98–117 CE), Lucius Verus (r. 161–169 CE). and Septimius Severus (r. 193–211 CE). In Mesopotamia, the Parthian (and later Sassanian) strategic calculus was in three zones:[123] northern Mesopotamia (cities such as Hatra and Nisibis), central Mesopotamia (Ctesiphon and Seleucia with Nippur in the center-south regions) and southern Mesopotamia, contiguous with Iran's Khuzestan and PG regions.

Located in the Iranian-designated province of Khavaran, Hatra in Northern Mesopotamia was an important juncture in the Parthian defense of its western marches facing Rome[124] raising the possibility that the city may have been

[118] O. Lecomte, *Ed-Dur, les occupations des 3e et 4 e s. ap. J.-C.: contexte des trouvailles et matériel diagnostique*, [in:] *Materialien zur Archäologie der Seleukiden- und Partherzeit* im *südlichen Babylonien und im Golfgebiet*, ed. U. Finkbeiner, Tübingen 1993, pp. 195–217.

[119] A.R. Khosrowzadeh, *Hozure- Partian dar*..., pp. 75–76.

[120] *Ibidem*, p. 63, fig. 5.

[121] F. Højlund, *The dating of the coastal fortress at Qala'at al-Bahrain: Sasanian or Islamic?* "Arabian Archaeology and Epigraphy" 2006, vol. 17, pp. 238, 241, 242–244.

[122] P. Delrue, *Trilobite arrowhead at ed-Dur (U.A.E., Emirate of Umm al-Qaiwain)*, "Arabian Archaeology and Epigraphy" 2007, vol. 18, p. 241.

[123] K. Jakubiak, *A Persian response*..., pp. 155–163.

[124] K. Maksymiuk, *The capture of Hatra in light of military and political activities of Ardashir I*, "Historia i Świat" 2017, no. 6, p. 89.

a fulcrum in the Parthian *līmes* system.[125] Hatra featured two concentric and near-circular fortification walls[126] (separated between 300–500 m), along with a multiple fortification system of four gates (north, south, east, and west), 11 bastions, 26–28 large towers, and 120–160 smaller towers with many splayed arrowslits.[127] The city's defenses may have also included some type of ditch. Hatra's city center had a sacred precinct or rectangular temenos (with an area of 435 x 320 m)[128] that had *iwan* buildings.[129] Surrounded by a wall, the temenos was divided by segregating walls into numbers of courts. Hatra's formidable fortifications proved decisive in defeating the sieges of Trajan in 116 CE and Septimius Severus in 198 and 199 CE.

Located 51 km to the northeast of Hatra and 40 km from Ashur, Khirbeth Jaddalah was a strategic fortified palace, with the following characteristics[130]: (a) iIts primary wall was built of mud brick foundation and blocks of limestone, similar to those at Hatra, and had curtain walls with rectangular stone towers with smoothed corners and regularly spaced small rectangular buttresses (1,95 x 1,95 m). In addition it had regularly spaced arrowslits built into the walls and towers and a possible ditch.

Nisibis was another strategic city in northern Mesopotamia. The Armenian king Tigranes the Great strengthened Nisibis' military architecture,[131] with its powerful brick defensive walls proving largely resistant against Roman

---

[125] S. Hauser, *Ecological Limits and Political Frontiers: The 'Kingdom of the Arabs' in the Eastern Jazirah in the Arsacid Period*, [in:] *Landscapes. Territories, Frontiers and Horizons in the Ancient Near East. Papers Presented to the XLIV Rencontre Assyriologique Internationale. Venezia 7–11 July 1997, II: Geography and cultural landscapes*, eds. L. Milano, S. De Martino, G.B. Lanfranchi, Padova 2000, pp. 192–193; L. Gregoratti, *Hatra on the west of the east*, [in:] *Hatra. Politics, Culture And Religion Between Parthia And Rome*, ed. L. Dirven, Stuttgart 2013, pp. 49–50.

[126] R. Schmitt, *op. cit.*, pp. 58–61.

[127] U. Ellerbrock, *op. cit.*, p. 147; E. Foietta, *The defenses of Hatra: a revaluation through the archive of the Italian expedition*, [in:] *Broadening Horizons 4: Conference of young researchers working in the Ancient Near East, Egypt and Central Asia, University of Torino, October 2011 BAR International Series 2698*, eds. G. Affani, C. Baccarin, L. Cordera, A. Di Michele, K. Gavagnin, Oxford 2015, p. 295.

[128] U. Ellerbrock, *op. cit.*, p. 147, as per Schmitt, pp. 58–61.

[129] R. Schmitt who also cites the temenos at 440 x 320 m. R. Schmitt, *op. cit.*, pp. 58–61

[130] E. Foietta, *Khirbet Jaddalah and its land. A study of the military landscape in the eastern part of the kingdom of Hatra (2nd–3rd cent. AD)*, "Thiasos" 2021, vol. 10, no. 1, p. 261.

[131] N. Pigulevskaya, *Shahrhaye Iran dar Roozegare Partian va Sassanian*, transl. into Persian by E. Reza, Tehran 1337 [1998], pp. 77, 80–81.

siege engines, as reported by Cassius Dio.[132] After Artabanus II (r. 12–40 CE) seized control of the city in the early 1st century CE, it was granted to Izates II of Adiabene.[133] Nisibis fell under Roman control in 165 CE during Lucius Verus' campaign against the Arsacids. The city was also the site of the last major Roman-Parthian battle, in which Artabanus IV defeated the Roman emperor Macrinus in 217 CE.

Another key city in northern Mesopotamia along the Tigris River was Assur which fell under Parthian influence in c. 113 BCE (with a possibly earlier but temporary Parthian presence in c. 141 BCE). The primary Parthian structures at Assur are the palace with *iwan* structures and temple buildings built around 117 CE, during the time of Trajan's campaigns.[134] Assur's use of mudbricks is consistent with architectural materials used in Mesopotamia since ancient Assyrian times.

The major strategic cities of Central Mesopotamia were Ctesiphon and Seleucia. When Mithradates I defeated the Seleucid king Demetrius II (r. 146–139 BCE) in 139 BCE, the Parthians moved their capital further west into Mesopotamia, setting up their military camp on the eastern banks of the Tigris River in the 120s BCE, across from the city of Seleucia on the western side of the river. This camp later became the city of Ctesiphon, the primary winter residence of Parthian monarchs from Mithradates I to the fall of the dynasty in the early 3rd century CE. Seleucia remained virtually untouched by Mithradates I, most likely recognising the commercial importance of the city. According to Strabo, Ctesiphon's founding was due to the Arsacid realisation that it was not politically suitable for the Parthians to militarily enter the city of Seleucia itself;[135] Pliny states that the Parthians founded Ctesiphon in order to draw Seleucia's populace into the Parthian city.[136] By the time of Gotarzes I (r. 91 to 88–87 or 80 BCE) commercial goods arriving at Ctesiphon were being ferried across the Tigris into Seleucia. By approximately 58–57 BCE Ctesiphon was capital of the Parthian Empire and a major nexus of the silk route trade, connected to both the Persian Gulf commerce and linking the commerce of Iran, Central Asia, and China to the Roman Near East.

---

[132] Cassius Dio, *Roman History*, XXXVI (36), 6.2–3.

[133] Josephus, *Antiquities*, XX, 3.68.

[134] K. Schippmann, *Assyria iii. Parthian Assur*, [in:] *Encyclopaedia Iranica*, 1987, vol. 2, fasc. 8, pp. 816–817.

[135] Strabo, *Geography*, XVI, 1.16.

[136] Pliny, *Natural History*, VI.122.

Despite its importance, not much is known of the military archaeology of Ctesiphon during the Parthian era; however, it is possible that the city's plans were based on a circular design.[137] Ctesiphon's original construction may have also been partly influenced by pre-Parthian Mesopotamian military architectural methods.[138] Ammianus Marcellinus reports that the defensive walls of Ctesiphon were first built by Prince Pacorus[139] in c. 39 BCE, but this may have occurred at a later date. The overall consensus is that Ctesiphon's formidable fortifications were constructed during Pacorus (Pakrad) II's reign (r. c. 78–110 CE). Most likely Ctesiphon would have had a multiple fortification system like Hatra, featuring powerful walls inbuilt with towers and watchtowers, fortified gates, and possibly ditches and/or moats. Ctesiphon fell to three Roman emperors during the second century: Trajan in 116 CE, Lucius Verus in 165 CE, and Lucius Septimius Severus in 198 CE. Ctesiphon's defensive walls were rebuilt after the Roman withdrawals[140] and the succeeding Sassanians enlarged the city following their full consolidation in 228 CE. The city's military architecture became formidable in Sassanian times, evading capture by the Roman emperor Julian (r. 361–363 CE) in 363 CE.[141]

Nippur, in Iraq's center-south region, witnessed two phases (c. 70–80 CE and c. 93 CE) in the construction of a Parthian fortress on the ruins of the ancient temple of Enlil. Nippur was part of Valaksh (Vologases) I's (r. 51–78 CE) 'Southern Strategy' to stabilise southern Mesopotamia and protect Parthian maritime trade through Characene.[142] While the site at Nippur was selected for its higher platform, large amounts of additional earth were bought there during construction. Studies of Parthian military architecture at Nippur reveal an effective defense wall (as indicated by the south quadrant constructed during the 2nd phase) integrated with projecting rounded and square towers and various chambers (barracks?) constructed to the rear of the south quadrant wall.[143] Another Parthian-era structure of note is at Mount Babyl at Babylon, modern central Iraq (approximately 52–53

[137] U. Ellerbrock, *op. cit.*, p. 142.

[138] A. Matufi, *op. cit.*, p. 149.

[139] Ammianus Marcellinus, *The later Roman Empire*, XXIII, 6.23.

[140] J. Kröger, *Ctesiphon*, [in:] *Encyclopedia Iranica*, 1993, vol. 6, fasc. 4, pp. 446–448.

[141] K. Farrokh, G. Karamian, H. Karamian, *op. cit.*, pp. 141–142.

[142] E.J. Keall, *Parthian Nippur and Vologases' southern strategy: A hypothesis*, "Journal of the American Oriental Society" 1975, vol. 95, no. 4, pp. 620–632.

[143] *Ibidem*, p. 627, fig. 6.

miles south of modern Baghdad). Constructed during the later Parthian era, Mount Babyl's military architecture resembles the earlier-built Nippur fortress, with rounded towers projecting from its primary curtain wall.[144]

Dura Europos and Palmyra

Syria was of vital strategic importance for the Parthians, as Roman domination of this region allowed their armies to directly deploy eastwards into Parthian-controlled Mesopotamia. Given Syria's potential to serve as a Roman base for invading Mesopotamia and Iran, the city of Dura Europos (located along the Euphrates River in eastern Syria close to the Iraqi border) was a gateway into the Mesopotamian heartland. Conquered by Mithradates II in c. 113 BCE from the Seleucids, Dura Europos became a Parthian foothold in eastern Syria guarding the entrance to Mesopotamia. The city became even more critical for the Parthians after Rome annexed Syria and Palestine with Pompey's arrival in 63–62 BCE.

Originally a Greek city built in c. 300 BCE[145] during the reign of Seleucus I Nicator (r. 305–281 BCE),[146] Dura Europos' military architecture featured formidable walls with powerful towers and three gates in the city's primary wall.[147] By the mid-1st century BCE, the Parthians had built a palace-like structure with three Parthian-style iwans at the city's citadel.[148] Dura Europos changed hands many times: it fell to Emperor Trajan in 116 CE but was soon after handed back to the Parthians by his successor Emperor Hadrian (r. 117–138 CE). The city was again annexed by Rome following Lucius Verus' campaigns in 164 CE. The Romans were finally expelled from Dura Europos in c. 256 CE by the Sassanian successors of the Parthians.[149]

Palmyra in Syria combined Iranian and Hellenic architectural elements,[150] even though the city was not a part of the Parthian Empire. Three distinct

[144] K. Jakubiak, *A Persian response*...
[145] U. Ellerbrock, *op. cit.*, p. 143.
[146] M. Behroozi, *op. cit.*, pp. 305–281.
[147] K. Jakubiak, *A Persian response*...
[148] U. Ellerbrock, *op. cit.*, p. 144.
[149] *Oracula Sibyllina*, XIII, 89–102.
[150] U. Ellerbrock, *op. cit.*, p. 156.

Iranian influences in Palmyra were (a) local reliefs with respect to the Parthian system of frontality, as seen for example in the 1st-century CE Parthian-style Palmyran reliefs (e.g., the *Triad of Baal-Shamin*),[151] (b) tombstones and funerary-type reliefs such as the *Relief of Maliku*[152] in which the deceased figure (Maliku) is portrayed in Iranian dress while reclining, and (3) Iranian-style cavalry which proved their mettle against the rising Sassanians in the 3rd century CE.

The Question of Defensive Walls

Northeast Iran's Gorgan Wall, near Gorgan in Golestān Province, was believed to have had its origins in the Parthian era following excavations in 1971.[153] A 2006 scientific paper by Nokandeh et al. published dating information (optically stimulated luminescence and radiocarbon) of brick forges (alongside the wall), samples from the wall, etc. indicating that the wall itself is dated to the later Sassanian era (5th to 6th centuries CE).[154] While the present wall structures are scientifically proven to be Sassanian in origin, the existence of some type of Parthian-era fortifications in these regions cannot be categorically dismissed, as sophisticated military architecture was extant in regions such as Margiana, Parthava, Hyrcania, and Aria. The Parthians understood the strategic dangers of attacks from Central Asia into their empire's northeast marches.[155] The Parthians built a system of forts along the northeast access routes as seen in architectural plans of four Parthian-built fortresses along what later became the Great Wall of Gorgan: Qaleh Daland, Qaleh Yasaqi, Qaleh Kharabeh, and Qaleh Gug.[156] This suggests that the Parthians intended to build fortified protection against nomadic invasions (possibly a Roman-style līmes syste[157]). There is no evidence that this type of system had its origins during the Alexandrian conquests and subse-

[151] The Louvre Museum, inventory no. AO 19801.

[152] The Louvre Museum, inventory no. AO 2000.

[153] M.Y. Kiani, *Pāytakhthā-ye Ashkānian*, [in:] *Pāytakhthā-ye Īrān*, ed. M.Y. Kiani, Tehran 1374 [1995], pp. 240–241.

[154] J. Nokandeh et al, *Linear Barriers of Northern Iran: The Great Wall of Gorgan and the Wall of Tammishe*, "Iran" 2006, vol. 44, pp. 161–168.

[155] O. Lecomte, *op. cit.*, p. 311.

[156] K. Jakubiak, *The origin and*..., pp. 142–143.

[157] O. Lecomte, *op. cit.*, p. 311.

quent Hellenic era.[158] Consistent with fortresses in Margiana and Parthava, the designs of these four fortresses were primarily rectangular or square.

In 2019 archaeologists identified the remains of an unknown wall in western Iran's Sarpol-e Zahab district. Known as the 'Gawri Wall,' the structure stretched along the modern-day Iran–Iraq border on an approximately north-south axis for about 115 km (comparable in length to Hadrian's Wall). Construction would have required considerable manpower, material resources, and time, given Alibaigi's report of the structure's 'estimated volume of approximately one million cubic meters [35,314,667 cubic feet] of stone.'[159] The wall is generally estimated to have been four meters wide and three meters high. The wall's surviving structures suggest that these may have been an assortment of buildings (or barracks) and turrets. Alibaigi reports that the structure 'would only have been possible from the Parthian period (third century BC) onwards.'[160] Within the context of the reigns of Mithradates I, Phraates II, and Mithradates II, the construction of the Gawri Wall would have been strategic as the Parthians were still battling the Seleucids for control of Mesopotamia during the 2nd century BCE. Such a wall could have acted as a defensive line protecting the Iranian homeland in case the Parthians lost control of Mesopotamia. This thesis may be verified pending results of scientific dating (optically stimulated luminescence and radiocarbon) on the archaeological data of the Gawri Wall.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

The Louvre Museum, France

Département des Antiquités Orientales, Limestone relief depiction of Palmyran gods, Ba'alshamin, Aglibol, and Malakbel attired in a mixture of Parthian and Roman attire. 1st half of the 1st century CE, inventory no. AO 19801.

[158] K. Jakubiak, *The origin and*..., p. 142.

[159] S. Alibaigi, *The Gawri Wall: a possible Partho-Sasanian structure in the western foothills of the Zagros Mountains*, "Antiquity" 2019, vol. 93, no. 370, https://doi.org/10.15184/aqy.2019.97

[160] *Ibidem*.

Département des Antiquités Orientales, Limestone memorial relief depicting a Palmyran couple with the man lying on couch and his wife standing. 1st half of 3rd century CE, inventory no. AO 2000.

Źródła drukowane • Printed sources • Печатные источники

Ammianus Marcellinus, *The Later Roman Empire*, transl. W. Hamilton, London 1986.

Cassius Dio, *Roman History*, transl. E. Carey, London 1914.

Josephus, *The Antiquities of the Jews*, transl. W. Whiston, Ware 2006.

Justin (Justinus), *Epitome of Pompeius Trogus*, transl. J.S. Watson, London 1853.

Oracula Sibyllina, transl. into German J. Geffcken, Leipzig 1902.

Pliny, *Natural History,* Books 3–7, transl. H. Rackham, Cambridge 1940.

Plutarch*, Lives, Volume IX: Demetrius and Anthony. Pyrrhus and Gaius Marius*, transl. B. Perrin, Cambridge 1920.

Polybius, *The Histories*, transl. W.R. Paton, Cambridge 1922–1927.

Strabo, *Geography*, transl. H.L. Jones, Perseus project, Boston 2000.

Tacitus, *The Annals*, transl. A.J. Church, W.J. Brodribb, London 1876.

Opracowania • Secondary sources • Литература

Aali A., Khosrowzadeh A.R., *Qaleh Qeshlaaq: Mohaveteye Bozorge Ashkani dar Mah Neshan-e Zanjan*, "Pazhoheshha-ye Bastanshenasi Iran" 1389 [2010], vol. 2, no. 3, pp. 76–92, Appendix iv.

Babaev I., Gagoshidze I., Knauss F.S., *An Achaemenid "Palace" at Qarajamirli (Azerbaijan) Preliminary Report on the Excavations in 2006*, "Ancient Civilizations from Scythia to Siberia" 2007, vol. 13, no. 1–2, pp. 31–45.

Behroozi M., *Siyasat-e shahr-saziye Selookian dar sarzaminhaye maftoheh*, "Pazhoheshhaye Bastan-shenasiye Iran" 1397 [2018], vol. 8, no. 17, pp. 105–124.

Boucharlat R., *Greece VII. Greek art and architecture in Iran*, [in:] *Encyclopedia Iranica*, 2002, vol. 11, fasc. 3, pp. 329–333.

Boucharlat R., *Tappeh Heghmataneh va Ekbatan-e Bastan*, [in:] *Hegmataneh: Majomoe-ye Maghalat-e Hameyesh-e yek roozeh Bastanshenasi e Heghmataneh*, ed. Y. Mohamadi-Farr, Tehran 1392 [2014], pp. 229–242.

Brown S.C., *Ecbatana*, [in:] *Encyclopedia Iranica*, 1997, vol. 8, fasc. 1, pp. 80–84.

Canepa M., *'Afghanistan' as a cradle and Pivot of Empires: reshaping Eastern Iran's Topography of Power under the Achaemenids, Seleucids, Greco-Bactrians and Kushans*, [in:]

The Limits of Empire in Ancient Afghanistan, eds. R.E. Payne, R. King, Wiesbaden 2020, pp. 45–79.

Canepa M., *Seleukid sacred architecture, royal cult and the transformation of Iranian culture in the middle Iranian period*, "Iranian Studies" 2015, vol. 48, no. 1, pp. 71–97.

Cohen G.M., *The Hellenistic Settlements in the East from Armenia and Mesopotamia to Bactria and India*, Berkeley 2013.

Colledge M.A.R., *The Parthians*, New York 1967.

Delrue P., *Trilobite arrowhead at ed-Dur (U.A.E., Emirate of Umm al-Qaiwain)*, "Arabian Archaeology and Epigraphy" 2007, vol. 18, pp. 239–250.

Ellerbrock U., *The Parthians: The Forgotten Empire*, New York 2021.

Farrokh K., *An Overview of the Artistic, Architectural, Engineering and Culinary exchanges between Ancient Iran and the Greco-Roman World*, "AGON: Rivista Internazionale di Studi Culturali, Linguistici e Letterari" 2016, no. 7, pp. 64–124.

Farrokh K., *Shadows in the Desert: Ancient Persia at War*, Oxford 2007.

Farrokh K., *The Armies of Ancient Persia: The Sassanians*, Barnsley 2017.

Farrokh K., Sánchez-Gracia J., *La invasión de Persia por los Árabes*, "Historia de la Guerra" 2021, no. 19, pp. 5–12.

Farrokh K., Karamian G., Karamian H., *Military Architecture and the Four-Spāhbed System for Defense of the Sassanian Empire (224–651 CE)*, "Historia i Świat" 2021, no. 10, pp. 117–151.

Foietta E., *Khirbet Jaddalah and its land. A study of the military landscape in the eastern part of the kingdom of Hatra (2nd–3rd cent. AD)*, "Thiasos" 2021, vol. 10, no. 1, pp. 255–272.

Foietta E., *The defenses of Hatra: a revaluation through the archive of the Italian expedition*, [in:] *Broadening Horizons 4: Conference of young researchers working in the Ancient Near East, Egypt and Central Asia, University of Torino, October 2011 BAR International Series 2698*, eds. G. Affani, C. Baccarin, L. Cordera, A. Di Michele, K. Gavagnin, Oxford 2015, pp. 295–300.

Ghasemi P., *Tal-e Khandaq ("Moated Mound") a military structure in ancient Fars*, "Near Eastern Archaeology" 2012, vol. 75, no. 4, pp. 240–251.

Ghirshman R., *Iran, Parthians and Sassanians*, London 1962.

Ghirshman R., *The Art of Ancient Iran*, New York 1964.

Gibson M., *The City and Area of Kish*, Miami 1972.

Gregoratti L., *A Parthian port on the Persian Gulf: Characene and its trade*, "Anabasis" 2011, vol. 2, pp. 209–229.

Gregoratti L., *Hatra on the west of the east*, [in:] *Hatra. Politics, Culture And Religion Between Parthia And Rome*, ed. L. Dirven, Stuttgart 2013, pp. 45–56.

Haernick E., *The shifting pattern of overland and seaborne trade in SE Arabia: foreign pre-Islamic coins from Mleiha*, "Akkadica" 1998, vol. 106, pp. 22–40.

Hauser S., *Ecological Limits and Political Frontiers: The 'Kingdom of the Arabs' in the Eastern Jazirah in the Arsacid Period*, [in:] *Landscapes. Territories, Frontiers and Horizons in the Ancient Near East. Papers Presented to the XLIV Rencontre Assyriologique Internationale. Venezia 7–11 July 1997, II: Geography and cultural landscapes*, eds. L. Milano, S. De Martino, G.B. Lanfranchi, Padova 2000, pp. 187–201.

Herrmann G., *The Iranian Revival*, London 1977.

Herrmann G., Masson V.M., Kurbansakhatov K., *The international Merv project, preliminary report on the first session (1992)*, "Iran" 1993, vol. 31, pp. 39–62.

Højlund F., *The dating of the coastal fortress at Qala'at al-Bahrain: Sasanian or Islamic?*, "Arabian Archaeology and Epigraphy" 2006, vol. 17, pp. 238–247.

Invernizzi A., *A note on architectural traditions in Arsacid Parthia: the round hall at Nisa*, [in:] *The Parthian and Early Sasanian Empires: Adaptation and Expansion*, eds. V.S. Curtis, M. Alram, T. Daryaee, Oxford 2016, pp. 83–90.

Invernizzi A., *The culture of Parthian Nisa: between steppe and empire*, [in:] *After Alexander. Central Asia before Islam* (Proceedings of the British Academy, 133), eds. J. Cribb, G. Herrmann, Oxford 2007, pp. 163–177.

Jafarizadeh M., Saraghi N., *Olgohaye esteghrariye doreye Ashkani-e Dasht e Nahavand*, "Pazhoheshhaye Bastanshenasi" 1397 [2018], vol. 12–13, pp. 25–39.

Jakubiak K., *A Persian response. The organization of Defence in Mesopotamia under the Parthians and Sassanians*, [in:] *Understanding the Past: Papers offered to Stefan K. Kozlowski*, eds. J.M. Burdukiewicz, K. Cyrek, P. Dyczek, K. Szymczak, Warsaw 2009, pp. 155–163.

Jakubiak K., *The origin and development of military architecture in the province of Parthava in the Arsacid period*, "Iranica Antiqua" 2006, vol. 41, pp. 127–150.

Keall E.J., *Architecture II. Parthian period*, [in:] *Encyclopedia Iranica*, vol. 2, fasc. 3, London 1986, pp. 327–329.

Keall E.J., *Parthian Nippur and Vologases' southern strategy: A hypothesis*, "Journal of the American Oriental Society" 1975, vol. 95, no. 4, pp. 620–632.

Keall E.J., *Qal'eh-i Yazdigird: an overview of the monumental architecture*, "Iran: British Journal of Persian Studies" 1982, vol. 20, pp. 51–72.

Keall E.J., *The Parthians (247 BC–226 AD)*, [in:] *The Penguin Encyclopedia of Classical Civilizations*, ed. A. Cotterell, London 1993, pp. 163–175.

Khanali H., Rezalu R., Azandaryani I.H., *Motaleat-e tabighi rahaye tejari va nagshe ghela-e nezami bar pishraft tejarat-e manteghe-i va fara-mantaghe-i shomal-e gharb-e Iran dar doreye Eslami (ba motale-e moredi shahrestan-e kosar dar ostan-e Ardabil)* "Pazhoheshaye Bastanshenasiye Iran" 1393 [2014], no. 10, pp. 193–210.

Khosrowzadeh A.R., *Hozure-Partian dar manategh-e jonoobi-ye Khalij-e Fars (sharq va jonoob-e sharq-e shebhe jazireye Arabistan) bar asas-e madarek-e bastan-shenakhti be dast amadeh mohavatehaye parti-ye savahel-e jonoobiye Khalije Fars*, "Motalleast-e Bastanshenasi" 1391 [2012], vol. 2, no. 4, pp. 63–81.

Khosrowzadeh A.R., *Mohavateha va esteghrerarhaye Ashkani-ye jazireye Qeshm*, "Pazhoheshha-ye Bastanshenasi Iran" 1392 [2014], vol. 3, no. 5, pp. 79–100.

Khosrowzadeh A.R., Ismaili-Jelodar M.I., Ravaie M., *Bastanshenasi-ye savahel-e shomaliye Khalije Fars, ba moror-e pazhoheshay-e Ashkani va Sassani-ye savahele jonoobi*, [in:] *Majmoeye Maghalat-e Hashtad Sal Bastanshenasi Iran*, eds. Y. Hassanzadeh, M. Miri, Tehran 1391 [2012], pp. 209–228.

Kiani M.Y., *Pārytakhthā-ye Ashkānian*, [in:] *Pārytakhthā-ye Īrān*, ed. M.Y. Kiani, Tehran 1374 [1995], pp. 235–281.

Košelenko G.A., *The Fortifications at Gobekly-depe*, [in:] *After Alexander. Central Asia before Islam (Proceedings of the British Academy, 133)*, eds. J. Cribb, G. Herrmann, Oxford 2007, pp. 269–283.

Košelenko G.A., Gaibov, V.A., *The Avestan Vara and the early towns of Central Asia*, "Parthica" 2014, vol. 16, pp. 69–91.

Kröger J., *Ctesiphon*, [in:] *Encyclopedia Iranica*, 1993, vol. 6, fasc. 4, pp. 446–448.

Lecomte O., *Ed-Dur, les occupations des 3e et 4 e s. ap. J.-C.: contexte des trouvailles et matériel diagnostique*, [in:] *Materialien zur Archäologie der Seleukiden- und Partherzeit im südlichen Babylonien und im Golfgebiet*, ed. U. Finkbeiner, Tubingen 1993, pp. 195–217.

Lukonin V.G., *Political, social and administrative institution: taxes and trade*, [in:] *Cambridge History of Iran*, ed. E. Yarshater, vol. 3, no. 2, Cambridge 1983, pp. 681–747.

Mairs R., *The Founder's shrine and the foundation of Ai Khanoum*, [in:] *Foundation Myths in Dialogue*, ed. N. Mac Sweeney, Philadelphia 2015, pp. 103–128.

Maksymiuk K., *The capture of Hatra in light of military and political activities of Ardashir I*, "Historia i Świat" 2017, no. 6, pp. 89–95.

Martinez-Sève L., *The spatial organization of Ai Khanoum, a Greek city in Afghanistan*, "American Journal of Archaeology" 2014, vol. 118, pp. 267–283.

Masson V.M., *Das Land der tausend Städte*, Wiesbaden–Berlin 1987.

Matufi A., *Tarikh-e-Chahar Hezar Sal-e Artesh-e Iran: Az Tamadon-e Elam ta 1320 Khorsheedi, Jang-e- Iran va Araqh*, Tehran 1378 [1999].

Mohammadi-Far Y., Chehri R., Hemati-Azandaryani E., *Baresi va tahlil olgoye esteghrar-e mohavateye Ashkani-e mantagheye kohestni-e shahrestan-e Harsin*, "Pazhoheshhaye Bastanshenasi" 1397 [2018], vol. 12–13, pp. 195–209.

Nokandeh J., Sauer E.W., Rekavandi H.O., Wilkinson T., Abbasi G.A., Schwenninger J.L., Mahmoudi M., Parker D., Fattahi M., Usher-Wilson L.S., Ershadi M., Ratcliffe J., Gale R., *Linear Barriers of Northern Iran: The Great Wall of Gorgan and the Wall of Tammishe*, "Iran" 2006, vol. 44, pp. 121–173.

Olbrycht M.J., *Parthian military strategy in wars against Rome*, [in:] *Military Archaeology: Weaponry and warfare in the Historical and Social Perspective (2–5 September 1998)*, eds. G.V. Vilinbachov, V.M. Masson, St. Petersburg 1998, pp. 138–141.

Olbrycht M.J., *Parthians cities and strongholds in Turkmenistan*, "International Journal of Eurasian Studies" 2014, vol. 2, pp. 117–125.

Olbrycht M.J., *Some remarks on Hellenistic influence upon the fortification of northeastern Iran in the Arsacid period*, "Folia Orientalia" 1993, vol. 29, pp. 131–151.

Overtoom N., *Reign of Arrows: Rise of the Parthian Empire in the Hellenistic Middle East*, Oxford 2020.

Pigulevskaya N., *Shahrhaye Iran dar Roozegare Partian va Sassanian*, transl. into Persian E. Reza, Tehran 1337 [1998].

Potts D.T., *The Arabian Gulf in Antiquity (2 volumes)*, Oxford 1990.

Potts D.T., *The Parthian presence in the Arabian Gulf*, [in:] *The Indian Ocean in Antiquity*, ed. J. Reade, London 1996, pp. 269–285.

Rante R., *The Iranian city of Rayy: urban model and military architecture*, "Iran" 2008, vol. 46, pp. 189–211.

Sánchez-Gracia J., Farrokh K., *Trajano Pártico: Las victoriosas campañas de Trajano en Persia, 114–117 d.C.*, Zaragoza 2018/2019.

Schippmann K., *Assyria iii. Parthian Assur*, [in:] *Encyclopaedia Iranica, 1987,* vol. 2, fasc. 8, pp. 816–817.

Schmitt R., *Hatra*, [in:] *Encyclopædia Iranica*, 2003, vol. 12, fasc. 1, pp. 58–61.

Simpson St. J., *Merv, an archaeological case-study from the Northeastern frontier of the Sasanian empire*, "Journal of Ancient History" 2014, vol. 2, no. 2, pp. 1–28.

Spatari N., *L'enigma delle Arti Asittite: Nella Calabria Ultramediterranea*, Mammola 2002.

Sulimirski T., *The Scyths*, [in:] *The Cambridge History of Iran, vol. 2: The Median and Achaemenean Periods*, ed. I. Gershevitch, Cambridge 1985, pp. 149–199.

Syvänne I., Maksymiuk K., *The Military History of the Third Century Iran*, Siedlce 2018.

Tarn W., *The Greeks in Bactria and India*, Cambridge 1951.

Usmanova Z.I., *New material on ancient Merv*, "Iran" 1992, vol. 30, pp. 55–64.

Кошеленко Г.А., *Парфянская фортификация*, "Советская Археология" 1963, № 2, pp. 57–73 (Košelenko G.A., *Parfyanskaya fortifikatsiya*, "Sovetskaya Arkheologiya" 1963, no. 2, pp. 57–73).

Netografia • Netography • Интернет-источники

Alibaigi S., *The Gawri Wall: a possible Partho-Sasanian structure in the western foothills of the Zagros Mountains*, "Antiquity" 2019, vol. 93, no. 370, https://doi.org/10.15184/aqy.2019.97

Boucharlat R., *Susa iii. The Achaemenid Period*, [in:] *Encyclopedia Iranica*, 2009, https://www.iranicaonline.org/articles/susa-iii-the-achaemenid-period (access: 15 VI 2022).

Huff D., *Tak̲t-E Solaymān*, [in:] *Encyclopedia Iranica*, 2002, https://www.iranicaonline.org/articles/takt-e-solayman (access: 3 VI 2022).

Kashfe mohavateye Tarikhi az Dowran-e Ashkanian dar Nahavand, "Tasnim News", April 30, 2017, https://www.tasnimnews.com/fa/news/1396/02/10/1392938/%DA%A9%D8%B4%D9%81-%D9%85%D8%AD%D9%88%D8%B7%D9%87-%D8%AA%D8%A7%D8%B1%DB%8C%D8%AE%DB%8C-%D8%A7%D8%B2-%D8%AF%D9%88%D8%B1%D8%A7%D9%86-%D8%A7%D8%B4%DA%A9%D8%A7%D9%86%DB%8C%D8%A7%D9%86-%D8%AF%D8%B1-%D9%86%D9%87%D8%A7%D9%88%D9%86%D8%AF (access: 30 V 2022).

Nysa, *British Museum*, https://www.britishmuseum.org/collection/term/x109972 (access: 27 V 2022).

Parthian Fortresses of Nisa, *UNESCO World Heritage Convention*, https://whc.unesco.org/en/list/1242 (access: 27 V 2022).

Kaveh Farrokh

PRZEGLĄD PARTYJSKIEJ ARCHITEKTURY WOJSKOWEJ

Streszczenie. Niniejszy artykuł przedstawia zarys informacji na temat architektury wojskowej Partów na podstawie wstępnych badań dotyczących wymogów wojskowych dynastii Arsacydów w zakresie obrony ich imperium. Po dokonaniu przeglądu środkowoazjatyckich systemów obronnych na planie koła, partyjskich innowacji architektonicznych, wpływów Seleucydów i Hellenów oraz trójdzielnego systemu fortyfikacji (miasto-cytadela-podgrodzie), autor analizuje architekturę wojskową Partów na północno-wschodnich i środkowoazjatyckich terytoriach imperium (Margiana, Hyrkania, Aria, Baktria), w Iranie i Zatoce Perskiej, Mezopotamii oraz Syrii. Artykuł kończy się dyskusją na temat możliwych typów systemów murów obronnych wykorzystywanych w epoce Partów.

Słowa kluczowe: Arsacydowie, architektura, Azja Środkowa, Iran, Mezopotamia

Mariusz Mielczarek
Polish Academy of Sciences
ORCID ID: 0000-0002-2476-270X

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 77–95
https://doi.org/10.18778/8331-461-7.05

MONEY AS AN INSTRUMENT OF WAR IN THE ANCIENT GREEK WORLD UNTIL THE END OF THE HELLENISTIC PERIOD

Summary. Homer was convinced that peace between states promoted wealth. In Greece during the archaic period, people realised that financial resources were necessary to wage war. They knew that war had to be paid for, although in the 6th century BCE, a citizen of the polis was obliged to arm himself at his own expense. Over time, the idea that money was necessary to go to war became fully established.

In light of archaeological finds, we are entitled to believe that since the creation of the coin at the end of the 7th century BC in Asia Minor, money was quickly used to pay soldiers' wages – the coin was a practical means of payment, the quality of which was guaranteed by the issuer with his mark. It cannot be ruled out that the need to pay soldiers was one of the factors that influenced the production and distribution of coins, which may be confirmed by a find from Sardis, where a coin was found next to the body of a soldier. A text written by Alcaeus in the 6th century BC informs us that he was given 2000 Lydian staters for the army. The need to pay mercenaries encouraged the spread of coin production. Coin money became an excellent 'argument' when the enlistment of mercenaries was necessary. Thus, money and war became fused.

The opinion of Pericles (495–425) relating to the Peloponnesian War 495–429 BCE (as recorded by Thucydides) is symptomatic, testifying that in the 5th century BCE money was a 'natural' tool of war. In the 5th century BC, paying mercenary soldiers was commonplace, thus money was used to influence decisions relating to the number of troops and the timing of their use (mainly in relation to mercenaries). During the Peloponnesian War, an Athenian hoplite fighting at the Potidaea received one drachma per day (plus an allowance for 'servants' of one drachma).

The Peloponnesian War, fought between Athens and Sparta in the years 431–404, provides an example of another wartime custom, i.e., the issuing of replacement currency. The long-standing conflict between Athens and Sparta forced the Athenians to issue money to replace the well-reputed 'owls' when silver was in short supply.

In Demosthenes' speech from 351 BCE we find evidence that the idea of conscious accumulation of money for war purposes was commonly accepted. In order to pay the army, temples and their treasuries were plundered (in ancient Greece, temples conducted business). From the 4th century BC onwards, the confiscation of temples' resources to raise money for war became the norm. This change was brought about by an increase in the number of mercenary soldiers, which, in turn, was also associated with the need for longer war campaigns. These troops had to be paid for their service, indicating that money had become a tool of war. While Plato pointed

out that war and money are closely linked to each other, Aristotle developed this idea even further by stating that war was the art of earning money.

One particular example of when coins became a tool of war was the operations of the mint at Tarsus – it is believed that the money produced there was intended for Greek mercenaries in Persian service. It is worth recalling that, according to Arrian's account of Alexander III of Macedon (356–323) expedition to the East, Greek soldiers were worth the money they were paid for their service.

Alexander III of Macedon (336–323), following in Philip II's (357–336) footsteps, set off for Asia with scant, but well-calculated, funds at his disposal. When his general Parmenion (c. 400–330) captured the city of Damascus (where the Persian king Darius III (336–330) had established his quarters) and discovered a vast supply of bullion there, a mint was accordingly established. This mint operated from 330–320 BC and produced coins (at least in part) for military purposes. The quality of Alexander III's coins was one of the factors that determined their popularity.

During the Hellenistic period, the Ptolemaic army and the Seleucid army already had a 'professional' nature. Actions that were in line with the view that money had become a tool of war also involved establishing mints in places where none had previously existed.

Since Cretan mercenaries (mainly archers) were highly valued, they were used in battles in various regions of the Greek world. At the end of their contract they would return to Crete. Consequently, in the 5th century BC, coins from the Cyclades, Greece proper, western Asia Minor and, in the 4th century, also from Cyrenaica, were re-minted into coinage of the Cretan centres.

In this group, the situation of Rhodes coins minted in Crete is special. The presence of Rhodian soldiers on the island was associated with the economic expansion of Rhodes. The Rhodian money with which the mercenaries were paid became so popular that the island began to issue coins imitating Rhodian coins.

A tool of war thus became part of the local economy. A considerable amount of Seleucid bronze coins from the end of the 3rd century BC in Thrace is the result of the stay of a large army of Antiochus III the Great (241–187) in that area, which was paid with Seleucid money. Consequently, there were so many Seleucid coins in Thrace that they were accepted on the local money market. Once again, in a different situation, money became a tool of war. A large proportion of Ptolemaic bronze coins from the 3rd century BC minted in Alexandria and Cyprus and found in Greece proper are the result of the Ptolemaic soldiers' stay there and the Ptolemaic subsidies being transferred to Greece by the first three Ptolemies in connection with local armed conflicts.

However, with regard to Ptolemaic Egypt, we have epigraphic material proving that mercenaries from the Black Sea – soldiers of the armies of the Bosporan rulers – served in the Ptolemaic army. This may explain the presence of Ptolemaic coins on the Bosporus. Money earned in Egypt was spent on the Bosporus. This is an indication that paying mercenaries influenced the transfer of coins in various directions, sometimes even far from the place of their issuance. Money became a trans regional tool of war at that time.

Keywords: ancient Greece, war, money

In the *Odyssey* Homer expressed the opinion that peace between states promoted wealth.[1] For the Greeks of the archaic period the relationship between warfare and the resources available for it was evident,[2] which led to the conclusion that without adequate resources, including funds for the upkeep of the troops (even if the costs of maintenance were covered by the soldiers themselves), it was impossible to wage war.[3] Early estimates of the costs of war were based, at least in part, on an assessment of the value of the potential spoils (including seized territories) that could be acquired as a result of the war.[4] In the 6th and 5th centuries BCE, a citizen of the polis was obliged to arm himself and pay his own living expenses during the campaign. According to Heraclitus (c. 540–480), war was the father and king of all.[5]

As the duration of military operations, as well as the area covered by the conflict increased, there was a growing recognition of the need to gather resources to cover the costs of war, including money for soldiers. Initially, a major part of this was precious metals. However, we know of examples, primarily from the sphere of trade, that pieces of 'precious metal' (mainly silver) without the 'owner's mark', measured 'by weight', contained 'copper inclusions'.[6] Chopped pieces of silver (*hacksilver*[7]), regionally diverse,[8] popular in the ancient world before the

[1] Homer, *Odyssey*, 24.485–498. *Vide:* R. Seaford, *Money and the Early Greek Mind. Homer, Philosophy, Tragedy*, Cambridge 2004.

[2] It is worth recalling the often-cited response of Marshal Gian Jacopo Trivulzio, who, when asked by King Louis XII of France (1498–1515) what was required to defeat the Duchy of Milan, with whom he was at war, replied that three things were necessary – money, money, and yet more money. W. Kopaliński, *Słownik mitów i tradycji kultury*, Warszawa 1988, p. 860.

[3] C.M. Kraay, *Greek Coinage and War*, [in:] *Ancient Coins of the Graeco-Roman World. The Nickle Numismatic Papers*, eds. W. Heckel, R. Sullivan, Calgary 1984, pp. 3–18. However, it may be noted that Plato, *Politeia*, 371d and Aristotle, *Politics* 1257a, 19–40, pointed out the particular importance of coins for trade. Reference may be made here to the work *The Greek state at war, Parts I–V*, which was compiled and edited (Parts V) by W.K. Pritchett, Berkeley–Los Angeles–London 1971–1991.

[4] P. Brun, *Le financement des opérations militaires dans la guerre des cités (Ve-IVe siècles)*, [in:] *Guerres et societies dans les mondes grecs (490–322)*, Paris 1999, p. 266.

[5] Heraclitus, *De natura* 29 (B 53); K. Mrówka, *Heraklit. Fragmenty: nowy przekład i komentarz*, Warszawa 2004, pp. 167–169.

[6] M.S. Balmuth, *Hacksilber to Coinage. New Insights into the Monetary History of the Near East and Greek*, New York 2001; C.M. Thompson, *Sealed silver in Iron Age Cisjordan and the 'invention' of coinage*, "Oxford Journal of Archaeology" 2003, vol. 22, no. 1, pp. 67–107.

[7] D.M. Schaps, *The Invention of Coinage and the Monetization of Ancient Greece*, Ann Arbor 2003.

[8] F. Duyrat, *Wealth and Warfare. The Archaeology of Money in Ancient Syria*, New York 2016, pp. 7–8.

7th century BC,[9] testify to the fact that suspicions that a 'piece of metal' often contained less precious metal than indicated by its weight were correct.

A fundamental change occurred with the introduction and spread of coins, which became both a means of payment and an object of hoarding.[10] In the light of the finds (including those made in the course of archaeological excavations), we are entitled to believe that from the time coins were created (which probably happened in the second half of the 7th century BC in the western part of Asia Minor, with particular reference to Lydia), coin money was quickly used to pay soldiers' wages. The coin was a practical means of payment, its quality guaranteed by its issuer's mark. It cannot be ruled out that the need to pay soldiers was one of the factors that influenced the production and distribution of coins. Finds of coins that can be considered to be the oldest, apart from the Ephesian Artemision,[11] such as those from Gordion[12] in Phrygia (at that time subordinated to Lydia), seem to confirm that the appearance of coins quickly influenced warfare. A particular testimony to this is the remains of a soldier who had with him a coin made of electrum (coin of the oldest emission),[13] discovered during excavations on the walls of Sardis. A payment of 2,000 Lydian staters to the army is reported in the oldest text relating to the use of coins – a fragment of a work by Alcaeus dating from the 6th century BC.[14] It is assumed that the need to pay mercenary soldiers,[15] and therefore war necessity, was one of the most significant factors that facilitated the dissemination process of coinage.[16] Although the introduction of coins did not immediately increase the number of Greek

[9] R. Seaford, *op. cit.*, p. 97

[10] C.M. Kraay, *op. cit*., pp. 3–18; also R. Seaford, *op. cit.*

[11] *Vide*: M. Kerschner, K. Konuk, *Electrum coins and their archaeological context: the case of the Artemision of Ephesus*, [in:] *White Gold. Studies in early electrum coinage*, eds. P. van Alfen, U. Wartenberg, Jerusalem 2020, pp. 83–191.

[12] A. Bellinger, *Electrum coins from Gordion*, [in:] *Essays in Greek coinage presented to Stanley Robinson*, eds. C. Kraay, G.K. Jenkins, Oxford 1968, pp. 10–15.

[13] J. De Rose Evans, *Coins from the Excavations at Sardis. Their Archaeological and Economic Contexts. Coins from the 1973 to 2013 Excavations*, Cambridge, Mass. 2018, p. 9.

[14] Alcaeus frg. 69. The use of early coins to pay soldiers seems to be confirmed by archaeological finds, including the discovery of Lydian electron coins in Gordion, Phrygia, where a Lydian garrison was stationed.

[15] *Vide*: H.W. Parke, *Greek Mercenary Soldiers. From the Earliest Times to the Battle of Ipsus*, Oxford 1973 (first ed. 1933).

[16] *Vide*: D.M. Cook, *Speculations on the Origin of Coinage*, "Historia" 1958, vol. 7, pp. 257–260; C.M. Kraay, *Archaic and Classical Greek Coins*, Berkeley–Los Angeles 1976, p. 28.

mercenaries – many Greeks served Persian rulers[17] – the need to pay mercenaries encouraged the spread of coin production,[18] as coin money became an excellent 'argument' when the enlistment of mercenaries was necessary. Through the amount of payment – commanders received more money than ordinary soldiers – it was possible to 'regulate' relations with mercenary armies. Thus, money and war became fused.[19] The hoards discovered in the present day and linked to wartime events can be considered both as evidence of payment received and as spoils of war.[20] The validity of this opinion is proven by the content of Xenophon's *Anabasis*. The information contained in this work about the circumstances of the payment, the money used, and the amount of remuneration is exceptional, starting with the 10,000 darics (gold coins of Persian rulers) that Cyrus, the younger brother of the Persian king Artaxerxes II (404–358) gave to Clearchus (c. 450–401), a Lacedaemonian who served the Persians while in exile,[21] with which he was to raise an army.[22]

The opinion of Pericles (c. 495–429) on the Peloponnesian War[23] as mentioned in the work of Thucydides[24] is symptomatic of the military importance of coinage. Pericles is supposed to have remarked that Sparta, due to its lack of money, would not be able to withstand a long-lasting war.[25] These words demonstrate that awareness of the impact of the political and economic situation on the quality and quantity of money on the market developed quickly.[26] In Milos, during the Peloponnesian War, just before and during the siege of the town by

[17] D.M. Schaps, *op. cit*., pp. 146–147 – to a great degree these were mercenaries who served in the Persian army.

[18] The behaviour of the Greeks who were in the Egyptian army of Pharaoh Teos (Tachos) during the revolt against the Persian ruler Artaxerxes II (404–358) is a particular example. The Greeks refused to accept payment in bullion and demanded coins. M. Mielczarek, *Mennictwo starożytnej Grecji. Mennictwo okresów archaicznego i klasycznego*, Warszawa–Kraków 2006, p. 158.

[19] Y. Garlan, *Guerre et économie en Grèce ancienne*, Paris 1999, p. 56.

[20] F. Duyrat, *op. cit*., p. 9.

[21] T. Figueira, *The Power of Money. Coinage and Politics in the Athenian Empire*, Philadelphia 1998.

[22] Xenophon, *Anabasis* I.1. Also I.3–VII.2.

[23] *Vide*: D.M. Schaps, *op. cit.*, pp. 144–149.

[24] *Vide* also L. Kallet-Marx, *Money, Expense, and Naval Power in Thucydides' History 1-5.24*, Berkeley–Los Angeles–Oxford 1993; L. Kallet, *Money and the Corrosion of Power in Thucydides. The Sicilian Expedition and its Aftermath*, Berkeley–Los Angeles–London 2001.

[25] Thucydides, 1.141, 142.3.

[26] Inflation was not necessarily related solely to the effects of the war. D.M. Schaps, *op. cit*., pp. 121–122.

the Athenians[27] in 416 BC, coins were minted[28] from silver hoarded in the town (war reserve?).

In the 5th century BC, money constituted a tool of war that was used in various ways, but paying soldiers for their service was still its primary use. In the 5th century BC, paying mercenary soldiers by rulers or poleis was commonplace. Thus, money became a tool to influence decisions relating to the number of troops and the time of their use (mainly in relation to mercenaries). From Cyrus II (c. 600–530), the soldiers demanded more pay – instead of one daric, they received one and a half darics per head per month. The Thracian king Seuthes II (c. 405–387) paid Greek mercenaries with gold Cyzicene staters, i.e. Cyzicus coins,[29] which were very popular in Greece, Thrace, on the northern Black Sea coast, and in the centres of Asia Minor.[30] At that time they were the money used in many regions of the Greek world, including the centres of the northern Black Sea coast. In the absence of adequate resources, the war activities of one polis could be 'supported' with the money of one of its allies.[31] For the same reasons, some cities on the Chalkidiki peninsula started minting coins in the 5th century BC.[32] During the Peloponnesian War (431–404) an Athenian hoplite fighting at the Potidaea received one drachma per day, plus an allowance of one drachma for servants).[33]

---

[27] O. Picard, *Guerre et économie dans l'alliance athénienne (490–322 av. J.-C.)*, Paris 2000.

[28] C.M. Kraay, *Greek Coinage and...*, p. 5; M. Mielczarek, *Wojenne monety Melos*, [in:] *Pieniądz i wojna, Białoruś – Litwa – Łotwa – Polska – Słowacja – Ukraina*, ed. K. Filipow, Warszawa 2004, pp. 25–29.

[29] *Vide*: A. Bresson, *Electrum coins, currency exchange and transaction costs in Archaic and Classical Greece*, "Revue Belge de Numismatique" 2009, no. 155, pp. 71–80; J.R. Melville Jones, *The value of electrum in Greece and Asia*, [in:] *Studies in Greek Numismatics in Memory of Martin Jessop Price*, eds. R. Ashton, S. Hurter et al., London 1998, pp. 259–268; S.K. Eddy, *The value of the cyzicene stater at Athens in the fifth century*, "Museum Notes. American Numismatic Society" 1970, vol. 16, pp. 13–22; W.E. Thompson, *The value of Kyzikene stater*, "Numismatic Chronicle" 1963, vol. 3, pp. 1–4.

[30] M. Laloux, *La circulation des monnaies d'électrum de Cyzique*, "Revue Belge de Numismatique" 1971, no. 117, pp. 31–69; C. Preda, *In legatura cu circulatia staterilor din Cyzic la Dunera de jos*, "Pontica" 1974, vol. 7, pp. 139–146; Т. Герасимовъ, *Находки отъ електронови монети на градъ Кизик отъ България*, "Годишникъ на Народния Археологически Музей" 1942, no. 8; A.M. Butyagin, D.E. Chistov, *The hoard of cyzicenes and shrine of Demeter at Myrmekion*, "Ancient Civilizations from Scythia to Siberia" 2006, vol. 12, issue 1–2, pp. 77–131; M.G. Abramzon, N.A. Frolova, *Le trésor de Myrmekion de statères cyzicènes*, "Revue Numismatique" 2007, vol. 163, pp. 15–44.

[31] For instance: Thucydides, I.31, that the Aeolians 'supplied' money to the Corinthians; alongside the money, the Aeolians also sent ships.

[32] O. Picard, *Monnaies et querre en Grèce classique*, [in:] *Guerres et societies dans les mondes grecs à l'époque classique, Pallas*, "Revue d'Etudes Antiques" 1999, vol. 51, pp. 211–212.

[33] C.T. Griffith, *The Mercenaries of the Hellenistic World*, Chicago 1975 (repr. of 1935 ed.), p. 294.

Greeks acting as mercenaries in foreign armies (including those in the East) wanted to be paid in coins. The need to meet obligations towards their armies, especially mercenary troops,[34] was becoming a problem for the poleis, and therefore money could be used to influence warfare.[35]

On the other hand, Athens' long-standing conflict with Sparta forced the Athenians to issue money to replace their well-reputed 'owls' when silver was in short supply. Due to the blockade of Athens by the Spartans and the Athenians being cut off from silver deposits, gold coins were minted in Athens in 407–406 BC.[36] According to some scholars, gold coins were produced for 'outside' purposes – to pay mercenary soldiers[37] – although in the realities of late 5th century BC Athens, gold coins were considered substitute money.

Thus, a 'monetary' tool of war was becoming part of the local economy and politics of the *poleis* that created 'war funds.' This applies, *inter alia*, to Athens.[38] The custom of paying soldiers and sailors had developed in Athens already before the Peloponnesian War.[39] Further examples can also be named.

Silver-plated bronze coins the size of tetradrachms and drachmae appeared soon after.[40] A hoard of such coins has been discovered. It is possible that coins with lower denominations than drachmas were also minted.[41] The aim of this action taken in a crisis situation seems obvious – the objective was to draw as much silver from the market as possible and make it available for war needs. Silver-plated coins were directed primarily to the internal market. The fact that bronze money circulated in Athens was mentioned by Aristophanes in his comedy *The Frogs*, first staged in 405 BC. In one of the passages, a comparison of these bad coins with the

[34] On mercenaries of the Greek world *vide*: H.W. Parke, *op. cit.*; G. T. Griffith, *op. cit.*; M. Trundle, *Greek Mercenaries. From the Late Archaic Period to Alexander*, London–New York 2004.

[35] Most of the comments presented to date have focused on the infantry. *Vide*: I.G. Spence, *The Cavalry of Classical Greece. A Social and Military History*, Oxford 1993.

[36] W.F. Fergusson, *The Treasurers of Athena*, Cambridge Mass. 1932, p. 91.

[37] W.E. Thompson, *op. cit.*, p. 342.

[38] C. Howgego, *Ancient History from Coins*, London–New York 1995, pp. 18–19. *Vide* also for instance W.S. Ferguson, *op. cit.*, pp. 153–171.

[39] H.W. Parke, *op. cit*.

[40] C.M. Kraay, *op. cit.*, pp. 68–70; J. Kroll, *Aristophanes' πονηρα χαλκία*: a Reply, "Greek, Roman, and Byzantine Studies" 1976, vol. 17, no. 2, pp. 329–341; D.T. Engen, *op. cit.*, p. 370, also V. Ehrenberg, *The People of Aristophanes. A Sociology of Old Attic Comedy*, Oxford 1951.

[41] This may be supported by a passage from Aristophanes' comedy *Ecclesiazusae* (*The Assemblywomen*), 816–822.

older excellent silver coins valued by the Greeks and the Barbarians was used to voice the poor opinion about the Athenian politicians of the late 5th century BC, who did not match the excellent statesmen of the past.[42] Over time, the introduction of bronze coins into circulation as money 'in need' was treated as spoiling of money, although – as we can deduct from Aristophanes' text – it was previously agreed to. The restoration of the 'strength' of Athenian coinage became possible due to the Persian gold brought to Athens by Conon in 393 BC, when – before 392 BC (referring to the content of Aristophanes' comedy *The Assemblywomen*) – silver-plated bronze pieces were demonetised. Even low denominations of silver were minted, up to and including one-eighth of an obol.

In Demosthenes' speech from 351 BC we find evidence that the idea of conscious accumulation of money for war purposes was commonly accepted. It must be added, however, that at that time a fundamental change in the behaviour of the military took place. In order to pay the army, temples and their treasuries were being plundered (in ancient Greece, temples conducted 'business'). When the Phocians occupied Delphi in 356, they had no doubt that they could use the resources of the temple's treasury. The treasures taken from the temple – which was almost completely looted – not least those in monetary form, allowed the Phocians to continue to wage war.[43]

From the 4th century BC, raiding temple treasuries was commonplace – such a manner of raising money for war became the norm. This change was probably also brought by the increase in the number of mercenary soldiers, which in turn resulted from the need to extend the time of war campaigns. Long service had to be paid for – and for this, money was needed.

A similar assessment of the situation was made by Plato, who pointed out that war and money were closely related.[44] For Aristotle, war became the art of making money.[45] The costs of war varied, but they certainly put a strain on the finances of a city at war, despite the subsidies received, or loans from outside.[46]

---

[42] Aristophanes, *The Frogs*, 718–737. *Vide*: V. Ehrenberg, *op. cit.*, especially pp. 297–317.

[43] P. Brun, *Le financement des opérations militaires dans la guerre des cités (Ve–IVe siècles)*, [in:] *Guerres et sociétés dans les mondes grecs (490–322)*, Paris 1999, pp. 265–289.

[44] Plato, *Politeia*, 4.422 a.

[45] Aristotle, *Politics*, 1256b. *Vide*: M.I. Finley, *Aristotle and economic analysis*, [in:] *Studies in Ancient Society*, ed. Idem, Boston 1974.

[46] L. Migeotte, *Les finances des cités grecques aux periods classique et hellénistique*, Paris 2014, pp. 381–388, 552–583.

One particular example of when and how money became a tool to steer the military was the mint at Tarsus, in Cilicia, Asia Minor – the capital of the local dynasties. In the 4th century BC, Tarsus was an administrative centre of the Persian state, a seat of satraps and often the place where Achaemenid forces were mobilised.[47] At that time, the local mint produced coins with a depiction of the Persian commanders' head (the commander depicted, as the issuer of the coins, confirmed the value of the coins), and also with a silhouette of a Greek hoplite (an indication for whom the coins were minted). It is believed that this was, at least in large part, money intended for Greek mercenaries in Persian service.[48] It is worth recalling that, according to Arrian's account of Alexander III's (336–323) expedition to the East, Greek soldiers were worth the money they were paid for their service.[49]

Alexander III (336–323), following in Philip II's (357–336) footsteps, set off for Asia with scant, but well-calculated, funds at his disposal.[50] We should also recall Plutarch's account, with reference to Aristobulus, that when crossing the Hellespont in 334 BC, Alexander had no more than 70 talents for the upkeep of the army.[51] According to Onesekritos (360–290), Alexander was said to have incurred a debt of 200 talents.[52] Provisions were calculated to last 30 days;[53] the missing funds were to be obtained through warfare.[54] Without money there would be no war.[55] On the other hand, however, as already mentioned and as Aristotle,[56] Alexander's teacher, put it, war is 'the art of earning money.'[57]

---

[47] C.M. Kraay, *Greek Coinage and...*, pp. 7–8; M. Mielczarek, *Mennictwo...*, pp. 141–143.

[48] C. M. Kraay, *Greek Coinage and...*, p. 8.

[49] Arrian, *Anabasis*.

[50] From the extensive literature *vide*: H. Berve, *Das Alexanderreich auf prosopographischer Grundlage*, vol. 1, München 1926, pp. 302–303; N. Hammond, *Geniusz Aleksandra Wielkiego*, Poznań 2000, p.73.

[51] Plutarch, *Alexander*, 15.

[52] Plutarch, *Alexander*, 15. After Arrian, *Anabasis*, Alexander took out a loan of 800 talents.

[53] Plutarch, *Alexander*, 15.

[54] W.K. Pritchett, *The Greek State at War*, Part 5, Berkeley–Los Angeles–Oxford 1991, pp. 457 ff.; P. Millet, *Warfare, Economy, and Democracy in Classical Athens*, [in:] *War and Society in the Greek World*, eds. J. Rich, G. Shipley, London 1995, p. 184.

[55] *Vide*: M. Price, *The coinage in the name of Alexander the Great and Philip Arrhidaeus. A British Museum Catalogue*, Zurich–London 1991.

[56] Aristotle, *Politics*, 1256b, cf. 1257a 31–41.

[57] *Vide*: P. Brun, R. Descat, *Le profit de la guerre dans la Grèce des cités*, [in:] *Économie antique. La guerre dans les économies antiques*, Saint-Bertrand-de-Comminges 2000, pp. 211–230.

Therefore, wherever troops found loot[58] that allowed the production of coins, a mint was established. By the time of the Battle of Issus, Darius III (336–330) had established his quarters in Damascus. After capturing the city, Parmenion (c. 400–330), one of Alexander III's commanders, found in Damascus, among other things, a vast supply of bullion.[59] Accordingly, a mint was established there in 330 BC, which operated until 320 BC[60] and produced coins (at least in part) for military purposes. The quality of Alexander III's coins was one of the factors that determined their popularity.

The change came in the Hellenistic period,[61] when the Ptolemaic and Seleucid armies already had a fully professional character. Money had become a tool of war.[62]

What applies to the minting of the Ptolemies and Seleucids also applies to other rulers. One example worth mentioning are the wars of Mithridates III.[63] Undoubtedly, cities created their own armies being aware of the war requirements.[64] A similar reference should be made to the actions of the Antigonids.[65]

---

[58] They are calculated at around 180,000 talents, most likely silver. J. K. Davies, *Hellenistic Economies*, [in:] *The Cambridge Companion to the Hellenistic World*, ed. G.R. Bugh, Cambridge 2006, p. 80.

[59] N. Hammond, *op. cit*., p. 99.

[60] M.J. Price, *The Coinage*..., pp. 398–401.

[61] F. de Callataÿ, *Guerres et monnayages à l'époque hellénistique. Essai de mise en perspective suivi d'une d'une annexe sur le monnayage de Mithridate VI Eupatora*, [in:] *Economie antique. La guerre dans les economies antique*s, Saint-Bertrande-de-Commages 2000, pp. 337–364; G.T. Griffith, *op. cit.*; A. Chaniotis, *The impact of War on the Economy of Hellenistic Poleis: Demand Creation, Short Term Influences, Long Term Impacts*, [in:] *The Economies of Hellenistic Societes, Third to First Centuries BC*, eds. Z.H. Archibald, J.K. Davies, V. Gabrielsen, Oxford 2011, pp. 122–141.

[62] *Armées et fiscalite dans le monde antique*, Paris 1977; for example P. Leveque, *Monnaies et finances des cités italiotes engagés dans la guerre pyrhique*, [in:] *Armées et fiscalite dans le monde antique*, Paris 1977, pp. 455–473. *Vide* also G. Le Rider, F. de Callataÿ, *Les Séleucides et les Ptolémées. L'héritage monétaire et financier d'Alexandre le Grand*, 2006 [Éditions du Rocher].

[63] F. de Callataÿ, *L'histoire des guerres mithridatiques vue par les monnaies*, Louvain 1997.

[64] For instance P. Lévêque, *Monnaies et finances des cités italiotes engages dans la querre Pryrrehigue*, [in:] *Armés et fiscalitê dans le monde antique*, Paris 1977, pp. 455–473 [Colloques Nationaux du Centre National de la Recherche Scientifique 936).

[65] P.R. Franke, *Zur Finanzpolitik des makedonischen Königs Perseus während des Krieges mit Rom 171–168 v. Chr.*, „Jahrbuch für Numismatic und Geldgeschichte" 1957, vol. 8, pp. 31–50.

Since Cretan mercenaries, mainly archers,[66] were highly valued, they were employed to fight in various regions of the Greek world. Following the end of their contract they would return to Crete. Consequently, in the 5th century BC, coins from the Cyclades, Greece proper, western Asia Minor and, in the 4th century, also from Cyrenaica, were re-minted into coinage of the Cretan centres.[67] Coins were re-punched with local stamps. In order to conform to the requirements of the local weight standard, the edges of coins created outside Crete were sometimes filed so as to reduce their weight.

In this group, the situation of Rhodes coins minted in Crete is special. The presence of Rhodian soldiers on the island was associated with the economic expansion of Rhodes. Rhodian money, with which mercenaries were paid, became so popular that the island began to issue coins imitating Rhodian coins.[68] In turn, imitations of Rhodian coins became so important that they were even minted in several cities in central Greece.[69]

The considerable amount of Seleucid bronze coins from the end of the 3rd century BC in Thrace is the result of the stay of a large army of Antiochus III the Great (241–187) in that area[70] – the soldiers were paid with Seleucid money. Consequently, there were so many Seleucid coins in Thrace that they were accepted on the local money market. Once again, in a different situation, money became a tool of war. This is particularly evidenced by the fact that some Greek cities on

[66] The best evidence of the value of these warriors is the provision of the Treaty of Apamea from 188 BC between Antiochus III the Great, ruler of Syria, and Rome, which forbade Seleucid to hire Cretan archers for his army.

[67] G. Le Rider, *Monnaies crétoises du Ve au Ier siècle av. J.-C.*, Paris 1966; D. MacDonald, *Mercenaries and the Movement of Silver to Crete in the Late Fourth Century B.C.*, "Numismatika Chronika" 1996, vol. 15, pp. 41–47 (English version); M. Mielczarek, *Mennictwo*..., pp. 65–66.

[68] T. Hackens, *L'influence Rhodienne en Crete aux IIIe et IIe siècle av. J.-C. et le tresor de Gortyne 1966*, „Revue Belge de Numismatique" 1966, no. 116, pp. 37–58; A. Bresson, *Drachmes rhodiennes et imitation. Une politique économique dr Rhodes*, „Revue des Etudes Anciennes" 1996, vol. 98, pp. 65–77; R.H.J. Ashton, *Rhodian-type coinages from Crete*, „Schweizer Münzblätter" 1987, issue 146, pp. 29–36, also other works by this author: E. Apostolou, *Les drachmes rhodiennes et pseudorhodiennes de la fin du IIIe et du début du IIe siècle av. J.-C*, „Revue Numismatique" 1995, vol. 150, pp. 7–19; Μ.Ι. Στεφανακις, Β. Στεφανακι, *Ρόδος και Κρήτη. Νομισματκές Συναλλαγες, Επιρροες και Αντιδράσεις στις αρχες του 2ου αι*, „οβολός" 2006, vol. 8, pp. 165–175.

[69] R.H.J. Ashton, *Pseudo-Rhodian drachms from Central Greece*, "Numismatic Chronicle" 2000, vol. 160, pp. 93–116.

[70] B. Bar-Kochva, *The Seleucid Army. Organization and Tactics in the Great Campaigns*, Cambridge 1976.

the western Black Sea coast affixed countermarks to at least some of their coins. If one agrees with the opinion that these were 'local' countermarks, they probably attested to the legitimacy of such coins' circulation on the local market.

A large proportion of Ptolemaic bronze coins from the 3rd century BC minted in Alexandria and Cyprus and found in Greece proper, are the result of the Ptolemaic soldiers' stay there and the Ptolemaic subsidies being transferred to Greece by the first three Ptolemies in connection with local armed conflicts.

With regard to Ptolemaic Egypt, we have interesting epigraphic material[71] showing that mercenaries from the Black Sea – soldiers of the armies of the Bosporan rulers – served in the Ptolemaic army. This is interesting because it may be one of several explanations for the finding of Ptolemaic coins on the Bosporus. Money earned in Egypt was spent on the Bosporus. This is a clue indicating that paying mercenaries influenced the transfer of coins in various directions, sometimes even far from the place of their issuance.[72] Coins were also used in victory propaganda[73] by showing the defeat of the conquered.[74]

---

[71] The problem of the Bosporus-Rhodes relationship focused on ceramic material (J. Lund, *Rhodian transport amphorae as a source for economics ebbs and flows in the Eastern Mediterranean in the second century BC*, [in:] *The Economies of Hellenistic Societes, Third to First Centuries BC*, eds. Z.H. Archibald, J.K. Davies, V. Gabrielsen, Oxford 2011, pp. 280–295), amphorae, and tableware. Ю.С. Бадальяніц, *Торгово экономические связи Родоса с Северном Причерноморьем в эпоху эллинизма (По материалам керамической эпиграфики)*, "Вестник Древней Истории" 1986, vol. 1, pp. 87–99; M. Mielczarek, *Contribution numismatique a l'histoire des rapports de l'Égypte ptolémaique avec les villes greques du littoral Septentrional de la mer Noire au IIe siècle av.n.e.*, "Wiadomości Numizmatyczne" 1990, vol. 34, no. 3–4, pp. 113–119; idem, *Rhodes and the Bosporus. A contribution to the discussion*, in press; idem, *Cyzicene Electrum coinage and Black Sea Grain Trade*, [in:] *White Gold. Studies in Early Electrum Coinage*, eds. P. Van Alfen, U. Wartenberg, New York–Jerusalem [American Numismatic Society] 2020, pp. 665–688.

[72] An example of the long-distance transfer of coinage by soldiers, although outside the time frame of this study, is the discovery of a coin from Sparta from the 3rd century AD at Dura-Europos in Syria. H. Seyrig suggested that the coin arrived in the East in connection with the eastern campaign of Emperor Caracalla, who took a detachment of Spartiates on the expedition. Following the tradition of Classical Greece, this was supposed to ensure war success. A very interesting example of the effects of the carrying of coins by the military, later than the times covered by this article, is the discovery of Roman coins in Karlkriese, Germany. It is now uncontested that the Roman coins discovered there belonged to the legionary coffers of the Roman army that were defeated in 9 AD by the Germanic Chatti in the Teutoburg Forest.

[73] *Vide*: A. Kushnir-Stein, *Was late Hellenistic silver minted for propaganda purposes?*, "Numismatic Chronicle" 2001, vol. 161, pp. 41–51.

[74] E. Walczak, *Symbolika militarnego zwycięstwa w antycznym mennictwie greckim*, [in:] *Pieniądz a propaganda, wspólne dziedzictwo Europy*, ed. K. Filipow, Augustów–Warszawa 2015, pp. 18–23; A. Jankowska, *Pieniądz jako element ateńskiej propagandy. Kilka uwag*, [in:] *Pieniądz*

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Alcaeus, [in:] *Greek Lyric, volumin I: Sappho and Alcaeus*, ed. and transl. D.A. Campbell, Cambridge (Massachusetts)–London 1990.

Aristophanes, *Aristophanes: Clouds. Women at the Thesmophoria. Frogs*, transl. S. Halliwell, Oxford 2015.

Aristophanes, *Ecclesiazusae*, ed. A.H. Sommerstein, Liverpool 2015.

Aristotle, *Politics*, Polish transl. L. Piotrowicz, Warszawa 2004.

Arrian, *Anabasis Alexandri*, vol. 1–2, transl. P.A. Brunt, Cambridge 1976.

Heraclitus, De natura, [in:] *Heraclitus: Greek text with a short commentary*, ed. M. Markovich, Merida–Venezuela 1967.

Homer, *Odyssey*, Polish transl. J. Parandowski, Warszawa 1990.

Plato, *Politeia*, Polish transl. W. Witwicki, Kraków 2020.

Plutarch, *Alexander*, [in:] *Plutarch's lives: in eleven volumes. 7, Demosthenes and Cicero, Alexander and Caesar*, transl. B. Perrin, London 1958.

Xenophon, *Anabasis*, book III, Cambridge 2019.

Opracowania • Secondary sources • Литература

Abramzon M.G., Frolova N.A., *Le trésor de Myrmekion de statères cyzicènes*, "Revue Numismatique" 2007, vol. 163, pp. 15–44.

Apostolou E., *Les drachmes rhodiennes et pseudorhodiennes de la fin du III^e et du début du II^e siècle av. J.-C*, "Revue Numismatique" 1995, vol. 150, pp. 7–19.

Ashton R.H.J., *Pseudo-Rhodian drachms from Central Greece*, "Numismatic Chronicle" 2000, vol. 160, pp. 93–116.

Ashton R.H.J., *Rhodian-type coinages from Crete*, "Schweizer Münzblätter" 1987, issue 146, pp. 29–36.

---

a propaganda wspólne dziedzictwo Europy, pp. 18–23; M. Mielczarek, *Monety jako sposób komunikowania się w antycznej greckiej polis i poza nią. Z przykładem Olbii nad Morzem Czarnym*, [in:] *Pieniądz a propaganda wspólne dziedzictwo Europy*, pp. 5–17. See also an example from the Roman period – M.H. Crawford, *Roman imperial coin types and the formation of public opinion*, [in:] *Studies in Numismatic Methods Presented to Philip Grierson*, eds. C.N.L. Broke, B.H.I. Steward, J.G. Pollard, T.R. Volk, Cambridge 1983, pp. 47–64.

Balmuth M.S., *Hacksilber to Coinage. New Insights into the Monetary History of the Near East and Greek*, New York 2001.

Bar-Kochva B., *The Seleucid Army. Organization & Tactics in the Great Campaigns*, Cambridge 1976.

Bellinger A., *Electrum coins from Gordion*, [in:] *Essays in Greek Coinage Presented to Stanley Robinson*, eds. C. Kraay, G.K. Jenkins, Oxford 1968, pp. 10–15.

Berve H., *Das Alexanderreich auf prosopographischer Grundlage*, vol. 1, München 1926.

Bresson A., *Drachmes rhodiennes et imitation. Une politque éconmique dr Rhodes*, "Revue des Etudes Ancienes" 1996, vol. 98, pp. 65–77.

Bresson A., *Electrum coins, currency exchange and transaction costs in Archaic and Classical Greece*, "Revue Belge de Numismatique" 2009, no. 155, pp. 71–80.

Bresson A., *La citè marchande*, Bordeaux 2000.

Brun P., *Le financement des operation militaires dans le querre des cites (V^e–IV^e siècles)*, [in:] *Guerres et sociétés dans les mondes grecs (490–322),* Paris 1999, pp. 265–289.

Brun P., Descat R., *Le profit de la guerre dans la Grèce des cites*, [in:] *Économie antique. La guerre dans les économies antiques*, Saint-Bertrand-de-Comminges 2000, pp. 211–230.

Butyagin A.M., Chistov D.E., *The hoard of cyzicenes and shrine of Demeter at Myrmekion*, "Ancient Civilizations from Scythia to Siberia" 2006, vol. 12, issue 1–2, pp. 77–131.

Callataÿ F. de, *Guerres et monnayage. Monnaie, finances et politiqerands à I'époque hellénistique. Essai de mise en perspective suivi d'une annexe sur le monnayage de Mithridate VI Eupator*, [in:] *Economie antique. La querre dans les economies antiques*, Saint-Bertrande-de-Commages 2000, pp. 337–364.

Callataÿ F. de, *L'histoire des guerres mithridatiques vue par les monnaies*, Louvain 1997.

Chaniotis A., *The impact of War on the Economy of Hellenistic Poleis: Demand Creation, Short Term Influences, Long Term Impacts*, [in:] *The Economies of Hellenistic Societes, Third to First Centuries BC*, eds. Z.H. Archibald, J.K. Davies, V. Gabrielsen, Oxford 2011, pp. 122–141.

Cook R.M., *Speculations on the origin of coinage*, "Historia" 1958, vol. 7, pp. 257–260.

Crawford M.H., *Roman imperial coin types and the formation of public opinion*, [in:] *Studies in Numismatic Methods Presented to Philip Grierson*, eds. C.N.L. Broke, B.H.I. Steward, J.G. Polard, T.R. Volk, Cambridge 1983, pp. 47–64.

DeRose Evans J., *Coins from the Excavations at Sardis. Their Archaeological and Economic Contexts. Coins from the 1973 to 2013 Excavations*, Cambridge, Mass. 2018.

Duyrat F., *Wealth and Warfare. The Archaeology of Money in Ancient Syria*, New York 2016 (The American Numismatic Society, Numismatic Studies 34).

Eddy S.K., *The value of the cyzicene stater at Athens in the fifth century*, "Museum Notes. American Numismatic Society" 1970, vol. 16, pp. 13–22.

Ehrenberg V., *The People of Aristophanes. A Sociology of Old Attic Comedy*, Oxford 1951.

Ferguson W.S., *The Treasures of Athena*, Cambridge, Mass 1932.

Figueira T., *The Power of Money. Coinage and Politics in the Athenian Empire*, Philadelphia 1998.

Finley M.I., *Aristotle and economic analysis*, [in:] *Studies in Ancient Society*, ed. Idem, Boston 1974.

Franke P.R., *Zur Finanzpolitik des makedonischen Königs Perseus während des Krieges mit Rom 171–168 v. Chr.*, "Jahrbuch für Numismatik und Geldgeschichte" 1957, vol. 8, pp. 31–50.

Garlan Y., *Guerre et économie en Grèce ancienne*, Paris 1999.

The Greek state at war, Parts I–V, ed. W.K. Pritchett, Berkeley–Los Angeles–London 1971–1991.

Griffith G.T., *The mercenaries of the Hellenistic World*, Chicago 1975 (reprint 1935 ed.).

Hackens T., *L'influence Rhodienne en Crete aux IIIe et IIe siècle av. J.-C. et le tresor de Gortyne 1966*, "Revue Belge de Numismatique" 1970, no. 116, pp. 37–58.

Hammond N., *Geniusz Aleksandra Wielkiego*, Poznań 2000.

Howgego Ch., *Ancient History from Coins*, London–New York 1995.

Jankowska A., *Pieniądz jako element ateńskiej propagandy. Kilka uwag*, [in:] *Pieniądz a propaganda wspólne dziedzictwo Europy*, Augustów–Warszawa 2015, pp. 24–33.

Kallet L., *Money and the Corrosion of Power in Thucydides. The Sicilian Expedition and its Aftermath*, Berkeley–Los Angeles–London 2001.

Kallet-Marx L., *Money, Expense, and Naval Power in Thucydides' History 1–5.24*, Berkeley–Los Angeles–Oxford 1993.

Kerschner M., Konuk K., *Electrum coins and their archaeological context: the case of the Artemision of Ephesus*, [in:] *White Gold. Studies in early electrum coinage*, ed. P. van Alfen, U. Wartenberg, Jerusalem 2020, pp. 83–191.

Kopaliński W., *Słownik mitów i tradycji kultury*, Warszawa 1988.

Kraay C.M., *Archaic and Classical Greek Coins*, Berkeley–Los Angeles 1976.

Kraay C.M., *Greek coinage and war*, [in:] *Ancient Coins of the Graeco-Roman World*. The Nickle Numismatic Papers, eds. W. Heckel, R. Sullivan, Calgary 1984, pp. 3–18.

Kroll J., *Aristophanes' πονηρα χαλκία*: a Reply, "Greek, Roman, and Byzantine Studies" 1976, vol. 17, no. 2, pp. 329–341.

Kushnir-Stein A., *Was late Hellenistic silver minted for propaganda purposes?*, "Numismatic Chronicle" 2001, vol. 161, pp. 41–51.

Laloux M., *La circulation des monnaies d'électrum de Cyzique*, "Revue Belge de Numismatique" 1971, no. 117, pp. 31–69.

Lazenby J.F, *The Spartan Army*, Warminster 1985.

Le Rider G., *Alexandre le Grand. Monnaie, finances et politique*, [Paris] 2003.

Le Rider G., *Monnaies crétoises du V^e^ au I^er^ siècle av. J.-C.*, Paris 1966.

Le Rider G., de Callataÿ F., *Les Séleucides et les Ptolémées. L'héritage monétaire et financier d'Alexandre le Grand*, 2006 [Éditions du Rocher].

Lévêque P., *Monnaies et finances des cités italiotes engages dans la querre Pryrrehigue*, [in:] *Armés et fiscalitê dans le monde antique*, Paris 1977, pp. 455–473 [Colloques Nationaux du Centre National de la Recherche Scientique 936].

Lund J., *Rhodian transport amphorae as a source for economics ebbs and flows in the Eastern Mediterranean in the second century BC*, [in:] *The Economies of Hellenistic Societes, Third to First Centuries BC*, eds. Z.H. Archibald, J.K. Davies, V. Gabrielsen, Oxford 2011, pp. 280–295.

MacDonald D., *Mercenaries and the Movement of Silver to Crete in the Late Fourth Century B.C.*, "Numismatika Chronika" 1996, vol. 15, pp. 41–47.

Melville Jones J.R., *The value of electrum in Greece and Asia*, [in:] *Studies in Greek Numismatics in Memory of Martin Jessop Price*, eds. R. Ashton, S. Hurter et al., London 1998, pp. 259–268.

Mielczarek M., *Contribution numismatique a l'histoire des rapports de l'Égypte ptolémaique avec les villes greques du littoral Septentrional de la mer Noire au IIe siècle av.n.e.*, "Wiadomości Numizmatyczne" 1990, vol. 34, no. 3–4, pp. 113–119.

Mielczarek M., *Cyzicene electrum coinage and Black Sea Grain Trade*, [in:] *White Gold. Studies in Early Electrum Coinage*, eds. P. Van Alfen, U. Wartenberg, New York–Jerusalem 2020, pp. 665–688.

Mielczarek M., *Mennictwo starożytnej Grecji. Mennictwo okresów archaicznego i klasycznego*, Warszawa–Kraków 2006.

Mielczarek M., *Monety jako środek komunikowania się w antycznej greckiej polis i poza nią. Z przykładem Olbii nad Morzem Czarnym*, [in:] *Pieniądz a propaganda, wspólne dziedzictwo Europy*, ed. K. Filipow, Augustów–Warszawa 2015, pp. 5–17.

Mielczarek M., *Rhodes and the Bosporus. A contribution to the discussion*, in press.

Mielczarek M., *Wojenne monety Melos*, [in:] *Pieniądz i wojna, Białoruś – Litwa – Łotwa – Polska – Słowacja – Ukraina*, ed. K. Filipow, Warszawa 2004, pp. 25–29.

Migeotte L., *Les finances des citès grecques aux periods classique et hellênistique*, Paris 2014.

Millet P., *Warfare, economy, and democracy in classical Athens*, [in:] *War and society in the Greek World*, eds. J. Rich, G. Shipley, London 1995.

Mrówka K., *Heraklit. Fragmenty: nowy przekład i komentarz*, Warszawa 2004.

Parke H.W., *Greek Mercenary Soldiers. From the Earliest Times to the Battle of Ipsus*, Oxford 1973 (repr. of 1933 ed.).

Picard O., *Guerre et économie dans l'alliance athénienne (490–322 av. J.-C.)*, Paris 2000.

Picard O., *Monnaies et querre en Grèce classique*, [in:] *Guerres et societies dans les mondes grecs à l'époque classique*, "Pallas" 1999, vol. 51, pp. 211–212.

Preda C., *In legatura cu circulatia staterilor din Cyzic la Dunera de jos*, "Pontica" 1974, vol. 7, pp. 139–146.

Price M., *The Coinage in the Name of Alexander the Great and Philip Arrhidaeus. A British Museum Catalogue*, Zurich–London 1991.

Pritchett W.K., *The Greek State at War*, part 5, Berkeley–Los Angeles–Oxford 1991.

Schaps D.M., *The Invention of Coinage and the Monetization of Ancient Greece*, Ann Arbor 2003.

Seaford R., *Money and the Early Greek Minds. Homer, Philosophy, Tragedy*, Cambridge 2004.

Spence I.G., *The Cavalry of Classical Greece. A Social and Military History*, Oxford 1993.

Thompson C.M., *Sealed silver in Iron Age Cisjordan and the 'invention' of coinage*, "Oxford Journal of Archaeology" 2003, vol. 22, no. 1, pp. 67–107.

Thompson W.E., *The value of Kyzikene stater*, "Numismatic Chronicle" 1963, vol. 3, pp. 1–4.

Trundle M., *Greek Mercenaries. From the Late Archaic Period to Alexander*, London–New York 2004.

Walczak E., *Symbolika militarnego zwycięstwa w antycznym mennictwie greckim*, [in:] *Pieniądz a propaganda, wspólne dziedzictwo Europy*, ed. K. Filipow, Augustów–Warszawa 2015, pp. 18–23.

Στεφανακις M.I., Στεφανακι B., *Ρόδος και Κρήτη. Νομισματκές Συναλλαγες, Επιρροες και Αντιδράσεις στις αρχες του 2ου αι*, "οβολός" 2006, vol. 8, pp. 165–175 (Stefanákis M.I., Stefanáki V., *Ródos kai Krítī. Nomismatkés Synallages, Epirroes kai Antidráseis sti*, "ovolós" 2006, vol. 8, pp. 165–175).

Бадальянц Ю.С., *Торгово экономические связи Родоса с Северном Причерноморьем в эпоху эллинизма (По материалам керамической эпиграфики)*, "Вестник Древней Истории" 1986, vol. 1, pp. 87–99 (Badal'yants Yu.S., *Torgovo ekonomicheskiye svyazi Rodosa s Severnom Prichernomor'yem v epokhu ellinizma (Po materialam keramicheskoy epigrafiki)*, "Vestnik Drevney Istorii" 1986, vol. 1, pp. 87–99).

Герасимовъ Т., *Находки отъ електронови монети на градъ Кизик отъ България*, "Годишникъ на Народния Археологически Музей" 1942, no. 8, pp. 72–89 (Герасимовъ Т., *Nachodki ot jelektronowi monieti na grad Kizik ot Błgarija*, "Godishnik na Narodniya Arkheologicheski Muzey" 1942, no. 8, pp. 72–89).

Mariusz Mielczarek

PIENIĄDZ JAKO NARZĘDZIE WOJNY W ANTYCZNYM ŚWIECIE GRECKIM, DO KOŃCA OKRESU HELLENISTYCZNEGO

Streszczenie. Homer był przekonany, że pokój między „państwami" sprzyja zamożności. W Grecji okresu archaicznego zdawano sobie sprawę, że aby prowadzić wojnę niezbędne są środki finansowe. Wiedziano, że za wojnę trzeba płacić, chociaż w VI w. p.n.e. obywatel polis zobowiązany był do uzbrojenia się na swój koszt. Z czasem ugruntowane zostało przekonanie, że aby prowadzić wojnę niezbędne są pieniądze.

W świetle znalezisk mamy prawo sądzić, że od czasu wykreowania monety, co stało się w końcu VII w. p.n.e. na terenie Azji Mniejszej, szybko wykorzystywano je do płacenia

żołnierskiego żołdu – moneta była praktycznym środkiem płatniczym, którego jakość gwarantował swoim znakiem emitent. Nie da się wykluczyć, że potrzeba płacenia żołnierzom, była jednym z czynników wpływających na produkcję i rozpowszechnienie monet. Może to potwierdzać znalezisko z Sardes, gdzie monetę przy zwłokach żołnierza. O przekazaniu wojsku 2000 lidyjskich staterów informuje tekst Alkaiosa z VI w. p.n.e. Konieczność opłaty najemników sprzyjała jednak rozpowszechnieniu produkcji monet. Pieniądz monetarny stał się znakomitym „argumentem" w sytuacji, gdy niezbędny był zaciąg najemników. Pieniądze i wojna zostały ze sobą „połączone".

Znamienna jest opinia Peryklesa (ok. 495–429) przekazana w dziele Tukidydesa, odnosząca się do wojny peloponeskiej (431–404 p.n.e.) świadcząca że w V w. p.n.e. pieniądz był „naturalnym" narzędziem wojny – narzędziem różnie wykorzystywany. W V w. p.n.e. płacenie żołnierzom najemnym było działaniem codziennym, tym samym pieniądz stał się narzędziem pozwalającym wpływać na decyzje odnoszące się do liczebności wojska i czasu jego wykorzystania (głównie w odniesieniu do najemników). W okresie wojny peloponeskiej ateński hoplita walczący pod Potideą otrzymywał jedną drachmę dziennie (plus dodatek na „służących" w wysokości 1 drachmy).

Wojna peloponeska, toczona między Atenami i Spartą w latach 431–404 dostarcza przykładu kolejnego wojennego zwyczaju. Emisji pieniądza zastępczego. Długoletni konflikt Aten ze Spartą zmusił Ateńczyków do emisji pieniądza, który w sytuacji niedoboru srebra zastąpił cieszące się dobrą opinią „sówki".

Dowody akceptacji idei świadomego gromadzenia pieniądza na cele wojenne znajdujemy w mowie Demostenesa z 351 r. p.n.e. W celu opłacenia wojska zaczęto plądrować świątynie i ich skarbce (w starożytnej Grecji świątynie prowadziły „działalność gospodarczą"). Od IV w. p.n.e. sięganie siłą do zasobów świątyń, aby zdobyć pieniądze na wojnę stało się „normalnością". Na zmianę tę wpłynął wzrost liczby żołnierzy najemnych, co wynikało również z konieczności wydłużenia czasu kampanii wojennych. Trzeba było płacić za służbę. Jest to wskazówka, że pieniądz stał się narzędziem wojny. Platon zwrócił uwagę na to, że wojna i pieniądze pozostają w ścisłej zależności od siebie. Dla Arystotelesa wojna stała się sztuką zarabiania.

Jednym ze szczególnych przykładów tego, kiedy monety stawały się narzędziem pozwalającym na kierowanie wojskiem, była działalność mennicy w Tarsos – uważa się, że były to pieniądze przeznaczone dla greckich najemników w służbie perskiej. Warto przypomnieć, że w świetle opinii Arriana, który opisał wyprawę Aleksandra III (356–323) na Wschód, żołnierze greccy warci byli pieniędzy, które płacono im za służbę.

Aleksander III Wielki (336–323) kontynuując kroki podjęte przez Filipa II (357–336), wyruszył do Azji mając do dyspozycji znikome, ale dobrze obliczone środki finansowe. Dariusz III (336–330) założył w Damaszku swoją kwaterę. Po opanowaniu miasta Parmenion (c. 400–330) znalazł w Damaszku, między innymi ogromne zasoby kruszcu. W związku z tym w 330 r. p.n.e. założono mennicę; działała do 320 r. p.n.e. Jej produkcja, przynajmniej w części, przeznaczona była na potrzeby wojska. Jakość monet Aleksandra III była jednym z czynników, który zadecydował o ich popularności.

W okresie hellenistycznym, armia ptolemejska oraz armia Seleukidów miały już charakter „zawodowy". Działania pozostające w zgodzie z opinią, iż pieniądze stały się narzędziem wojny, można wzbogacić o zakładanie mennic tam, gdzie ich wcześniej nie było.

Wysoka ocena kreteńskich najemników, głównie łuczników, skutkowała tym, że wykorzystywano ich w walkach w różnych regionach greckiego świata. „Po kontrakcie" wracali na Kretę. W konsekwencji, w V w. p.n.e. na monety ośrodków kreteńskich przebijane były pieniądze pochodzące z Wysp Cykladzkich, Grecji Właściwej, zachodniej Azji Mniejszej, a w wieku IV z Cyrenajki.

Szczególna jest sytuacja z monetami Rodos bitymi na Krecie. Obecność żołnierzy rodyjskich na wyspie wynikała z ekonomicznej ekspansji Rodos. Pieniądz rodyjski, którym płacono najemnikom, stał się tak popularny, że na wyspie zaczęto emisję monet naśladujących pieniądz rodyjski.

Narzędzie wojny stawało się więc elementem lokalnej gospodarki. Znaczna ilość brązowych monet Seleukidów z końca III w. p.n.e. na terenie Tracji, to efekt pobytu tam dużej armii Aniocha III Wielkiego (241–187), opłacanych pieniędzmi Seleukidów. W efekcie w Tracji było tak wiele monet Seleukidów, iż zostały one zaakceptowane na miejscowym rynku pieniężnym. Po raz kolejny, w odmiennej sytuacji, pieniądz uwidaczniał się jako narzędzie wojny. Duża część brązowych monet Ptolemeuszy z III w. p.n.e., wybitych w Aleksandrii i na Cyprze, znalezionych w Grecji właściwej, to efekt pobytu tutaj żołnierzy ptolemejskich oraz ptolemejskich subsydiów przekazanych do Grecji przez pierwszych trzech Ptolemeuszy w związku z lokalnymi konfliktami zbrojnymi.

W odniesieniu do ptolemejskiego Egiptu dysponujemy jednak materiałem epigraficznym, świadczącym, że w armii ptolemejskiej służyli najemnicy znad Morza Czarnego, żołnierze armii władców bosporańskich. Może to tłumaczyć obecność monet ptolemejskich na Bosporze. Pieniądz „zarobiony" w Egipcie wydawano na Bosporze. To wskazówka, że płacenie najemnikom wpłynęło na przenoszenie monet w rozmaite strony, niekiedy nawet daleko od miejsca ich emisji. Pieniądz stał się w tym czasie ponadregionalnym narzędziem wojny.

Słowa kluczowe: starożytna Grecja, wojna, pieniądze

Zoltán Szolnoki
Móra Ferenc Muzeum, Szeged
ORCID ID: 0000-0001-7670-466X

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 97–113
https://doi.org/10.18778/8331-461-7.06

THE TOOLS OF WAR IN THE CANCELLIERI VENDETTA

Summary. The Cancellieri vendetta, a conflict between members of the Cancellieri clan, took place in the 13th century, perhaps in the year 1300. In terms of narrative sources, we can identify two distinct groups of records: the Florentine tradition and the Pistoia chronicle. The vendetta determined the history of both Pistoia and the Tuscan region, as the antagonisms among the Pistoiain elite caused similar factional strife in Florence as well when the leaders of the two Cancellieri factions moved to the nearby city. The so-called 'White' Cancellieri were linked with the Florentine White Guelphs; the other party were linked with the Florentine Black Guelphs. The leaders of the Florentine factions – the Donati (Blacks) and the Cerchi (Whites) – were opponents in everyday politics. The impulse of the Cancellieri clan members had a huge effect on the situation leading to violent factional wars in Florence that ended in 1308. In my study, I analyse the narrative sources of this period, both from Pistoia and from Florence, and examine the tools used in the fights: the 'tangible' weapons that were mentioned by the anonymous writer from Pistoia and the 'narrative' tools of the Florentine tradition.

Keywords: vendetta, Cancellieri, Pistoia, Florence, factional strives

Introduction

Giovanni Villani, one of the most famous Florentine chroniclers, wrote that Pistoia was a felicitous and pleasant city before the fights between the two branches of the Cancellieri family began.[1] From a historical viewpoint, we can suggest that the violent actions that shook the small Tuscan town of Pistoia were important events during the strife between the Florentine Black and White Guelphs. According to the literature on the subject and based on various narrative sources we can observe two different viewpoints of the chronology of the Cancellieri vendetta. The first suggests that the famous factional strife started in 1286 while

[1] G. Villani (hereinafter: Villani), *Nuova Cronica*, ed. G. Porta, Parma 1991, IX, pp. 38–39.

the other dates the outbreak of the conflict to around the year 1300.[2] The earlier date (1286) could be derived from the work of Tolomeo da Lucca,[3] while other Tuscan historical works place the famous vendetta close to the escalation of the conflict between the Florentine Blacks and Whites, i.e., around 1300. The latter idea could be based on the following nexus: according to the majority of the chroniclers, the Cancellieri had strong ties with Florence and their conflict caused the fights between the Black and the White Guelph parties. However, since in the archives of the nearby town of Prato there are records written between 1286 and 1292 that refer to the banished members of the Cancellieri family who were in exile from Pistoia because of the local factional conflicts,[4] we can conclude that the Cancellieri vendetta may in fact have taken place much earlier than the outbreak of the Florentine conflict, preceding it by at least eight years.

In the case of the Cancellieri vendetta, we have to mention the existence of two narrative traditions: Florentine and Pistoiese. The first narrative tradition is made of the most important Florentine chronicles. In chronological order, the first of these sources is the *Nuova cronica* written by Giovanni Villani (1280–1348).[5] Villani was the contemporary of Dino Compagni (1247–1324), the author of another prominent source, the *Cronica*.[6] While both chroniclers came from the middle ranks of Florentine society, they had different occupations and experiences: Villani was primarily a banker and Compagni was an active politician. The historical tradition of writing local chronicles continued with the work of Marchionne di Coppo Stefani (1336–1385)[7] titled *Cronaca* and ended with the work of Leonardo Bruni (1370–1444).[8] The latter was,

[2] D. Herlihy, *Medieval and Renaissance Pistoia, The Social History of an Italian Town, 1200–1435*, New Haven 1967, pp. 201–202; G. Cherubini, *Storia di Pistioa 2*, *L'età del libero comune*, *Dal inizio del XII alla metá del XIV secolo*, Firenze 1998, p. 60.

[3] *Ptolemaie Luccensis: Annales*. *Documenti di Storia Italiana*, vol. 6, Cronache dei Secoli XIII e XIV, Firenze 1876, p. 96.

[4] R. Piattoli, *Vanni Fucci e Focaccia de' Cancellieri alla luce di nuovi documenti*, "Archivio Storico Italiano" 1934, vol. 92 (Serie 7, vol. 21), no. 1 (349), pp. 93–115.

[5] Villani, IX, 38–39.

[6] *Cronica di Dino Compagni* (hereinafter: Compagni), introduzione e note di Gino Luzzatto, Torino 1968, I 25.

[7] Stefani Di Marchionne di Coppo (hereinafter: Stefani) *Cronaca Fiorentina*, ed. N. Rodolico, [in:] *Rerum Italicarum Scriptores*, vol. 30, part I, ed. L.A. Muratori, Città di Castello 1903, rubrica 216.

[8] L. Bruni, *Istoria Fiorentina*, trans. D. Acciajuoli, intr. C. Monzani, Firenze 1861 (Progetto Manuzio, E-text kiadás, 2004), pp. 192–193.

however, more a Renaissance writer than a medieval chronicler, as was Niccolò Machiavelli (1469–1527) who also wrote about the Cancellieri vendetta.[9] This reoccurrence of the vendetta topic in the works of various authors in the period of over 100 years signifies its importance for late medieval Florentine society and the nascent Renaissance era.[10]

In contrast, the other narrative tradition contains only one work: the *Storie pistoriensis* (Chronicle of Pistoia) attributed to an unknown writer called 'Anonimo Pistoiese.'[11] The accurate details of the work suggest that the author was nearly contemporary to the events described in it, or at least used other sources that were written around the time of the Cancellieri vendetta. In the case of this work, we see one important difference: while the Florentine sources mentioned only one stage of the conflict, the so-called 'origin' of the vendetta, the Pistoia chronicler recorded the first years of the factional strife. For this reason, I will begin my analysis of the conflict with the Pistoia narrative.

---

[9] N. Machiavelli (hereinafter: Machiavelli) *Istorie fiorentine*, Progetto Manuzio 1998, II 16.

[10] It is important to know that the work of Giovanni Villani was well-known by later writers. Although Dino Compagni was a contemporary author, they didn't know each other. Compagni's *Cronica* was practically unknown until the end of the 19th century. The main part of Compagni's work was dedicated to the inner city politics between 1290 and 1314, which was unique at that time (L. Green, *Chronicle into History. An essay on the interpretation of history in Florentine fourteenth-century chronicles*, Cambridge 1972, p. 11). The *Nuova cronica* became the most important narrative about the history of Florence during the Middle Ages. Therefore, Marchionne di Coppo Stefani used Villani's work: in some cases he copied whole passages from *Nuova cronica* into his own historical work, the *Cronaca* (A. De Vincentiis, *Scrittura e politica cittadina: la Cronaca fiorentina di Marchionne di Coppo Stefani*, "Rivista storica italiana" 1996, vol. 108, pp. 231–297). While the main goal of the above-mentioned chroniclers was to write down the history of the city, later authors, such as Leonardo Bruni, wanted to highlight the glory of Florence. It's important that while Villani, Compagni, and Stefani wrote in Italian, Bruni returned to Latin (P. Viti, *Storia e storiografia in Leonardo Bruni*, "Archivio Storico Italiano" 1997, vol. 155, No. 1 (571), pp. 49–98). At the end of the Middle Ages, Niccolo Machiavelli tried to use the much earlier works to support his view on the events of the Medici era. He cited Poggio Braccolini and the earlier Giovanni Villani as proof of his own knowledge about the history of Florence, although his historical concept emphasised a 'cyclical decline' of the city (S. Di Maria, *Machiavelli's Ironic View of History: The Istorie Fiorentine*, "Renaissance Quarterly" 1992, vol. 45, no. 2, pp. 248–263). For this reason, the Cancellieri vendetta played an important role in Machiavelli's work: the author could present the continuous inner fights. Thus, *Istorie Fiorentine* shows us which historical events had important meaning at the beginning of the 16th century.

[11] *Storie pistoresi*, ed. S.A. Barbi, *Rerum Italicarum Scriptores*, vol. 11, part 5, pp. 4–5.

The Cancellieri vendetta in the local chronicle

The origin

The Cancellieri family was one of the most powerful clans in Pistoia in the medieval history of the city. The Cancellieri often fought against other prominent families: first the Lazzari, then the Panciatichi.[12] Around the first half of the 13th century, the Cancellieri became divided into two branches: one named *Cancellieri neri* ('Cancellieri Blacks') and the other known as *Cancellieri bianchi* ('Cancellieri Whites'). The rift between the clan members increased further when an argument between drunken young men playing a game led to a serious fight. Carlino di Gualfredi from the Cancellieri Whites fought with Dore di Guiglielmo from the Cancellieri Blacks. When the latter was defeated he felt 'dishonoured.' That same night he tried to avenge this insult by attacking Carlino's brother, Vanni (who had not taken part in the tavern brawl). In the attack, Dore seriously injured him with a sword, causing Vanni to lose his arm.

These events had serious consequences. It seems that at the beginning the Blacks feared the Whites' potential vendetta – a few days after his attack on Vanni, Dore's brothers forced him to ask forgiveness of Gualfredo, Vanni's father. However, when Dore arrived at the Whites' house, Vanni's brothers attacked him and cut off his hand. This was, as the chronicler Anonimo Pistoiese wrote in the *Storie pistoriensis*,[13] 'the point of no return.' It was now impossible to return to a peaceful conversation and amicable solution.

[12] These fights were examined by Vieri Mazzoni. *Vide*: V. Mazzoni, *Tra mito e realta: le fazioni pistoiesi nel contesto Toscano*, [in:] *La Pistoia comunale nel contesto toscano ed europeo, secoli XIII–XIV*, ed. P. Gualtieri, Pistoia 2008.

[13] „essendo à una cella, dove si vendea vino, e havendo bevuto di soperchio, nacque scandolo in tra loro giocando; Onde vennero a parole, e percossonsi insieme, si che quello della parte Bianca sopraseo à quello della parte Nera: lo quale havea nome Dore di M. Guiglielmo, uno e maggiori di Casa sua, Cioè della parte Nera. Quello della parte Bianca, chel'havea battuto havea nome Carlino di M. Gualfredi pure de' maggiori della Casa della parte Bianca. Onde vedendosi Dore essere battuto, e oltraggiato, e vitoperato dal consorto suo, e non potendosi quivi vendicare, peroch'erano più fratelli à darli: partissi, e propuosesi di volersi vendicare. fratelli del detto Carlino, ch'havea offeso lui, ch'havea nome M. Vanni di M. Gualfredi, e era giudice, passando a cavallo in quel luogo, dove Dore stava in posta, Dore lo chiamo, e egli non sapendo quello, ch'el fratello gl'havea fatto ando à lui, e volendoli Dore dare d'una spada in su la testa a M. Vanni per riparare lo colpo, paro la mano; onde

The phases of the conflict

After the initial attacks, members of the opposing branches of the Cancellieri family started fighting with each other. I believe that the conflict may be divided into several stages, even if the factional strife was a continuous chain of events. For the sake of clarity, in the plate presented below I tried to draw the phases of the Cancellieri fights. I think that each battle or event during the vendetta had an initial point that, at the same time, was usually also the ending point of the previous clash. This approach is based on the logic and viewpoint of Anonimo Pistoiese, who described each step as a kind of revenge for the earlier events. I also think that the conflict became deeper after every battle since the culminating point was the flight of the *podestà* – the law enforcement officer – from the city, as he was intimidated by the factions and feared their retaliation. After this, the local community of Pistoia asked Florence for help. The readers will see in the next part of this paper that Anonimo Pistoiese's chronicle is a useful source in explaining the offences committed by the Cancellieri and their consequences, while its modern analysis is important for the understanding of the logical structure of vendetta narratives.

Based on our primary source, the *Storie pistoriensis*, I identified at least ten phases of the fights during the Cancellieri vendetta. The first phase consisted of a street fight after the initial mutilation of young Vanni – Detto di Sinibaldo of the Blacks was seriously wounded. Fighting in the streets became commonplace between the members of the feuding families and the Whites and the Blacks appeared to the locals as equal forces. In the second and third phases, the aggressors were the Blacks who, according to the *Storie pistoriensis,* always provoked the Whites aiming to avenge the wounds of Detto di Sinibaldo, who was not only a family member but the leader of the house. In the fourth phase, the initiative was still on the Blacks' side – in this case, they attacked a member of the Vergolesi family, not a direct member of the Cancellieri family but a relative of the wife of Focaccia, who was an infamous leader of the Whites and a well-known persona also in Florence (as evidenced by the fact that Focaccia's name can be found in

Dore menando gli taglio il volto, e la mano per modo, che non ve li si partio, (...) e M. Vanni andonne a casa sua e quando 'lo padre, e fratelli, e gl'altri consorti lo videro cosi fedito, n'hebbero grande dolore". *Storie pistoriensis*..., pp. 4–5.

Dante Alighieri's *Divine Comedy*).[14] With this action, the Blacks expanded the conflict further and what was initially a family feud started to spread to other families of Pistoia.

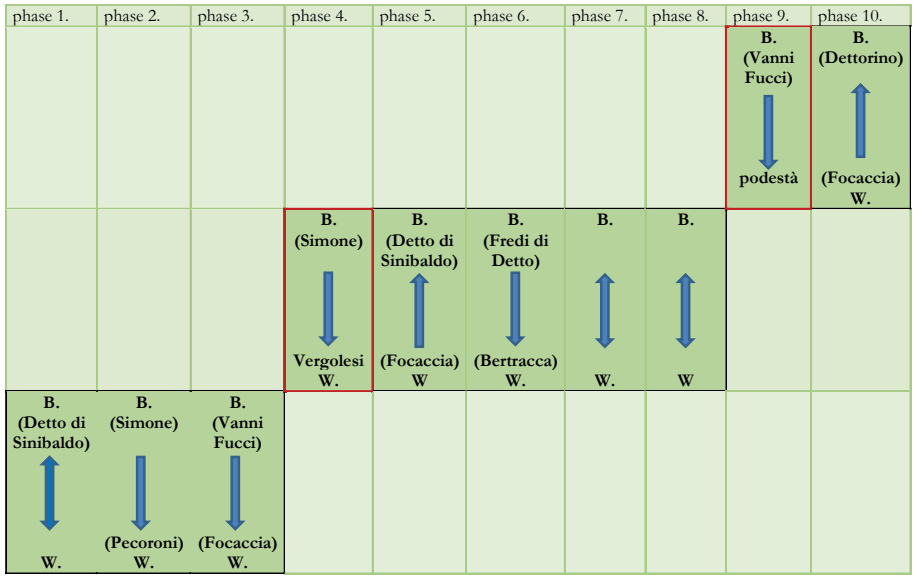


Fig. 1. The main interactions between the two Cancellieri branches The cascading construction symbolizes the increase of the fight. The red columns indicate the turning points. (Source: based on *Storie pistoresi*, ed. S.A. Barbi, *Rerum Italicarum Scriptores*, vol. 11, part 5, pp. 4–11)

Up to this point only close Cancellieri family members and their men had been involved in the conflict; the attack against a member of the Vergolesi family took the conflict to the next level. According to the chronicler Anonimo Pistoiese, the Whites retaliated immediately: they killed Detto di Sinibaldo (the prominent leader of the Blacks mentioned above), which intensified hostilities even further. Now the main targets became the heads of the opposing houses. Soon Detto's illegitimate son Fredi killed Focaccia's father Bertracca.[15] After this, the chronicler reported two street fights that took place at different

[14] J. Ahern, *Apocalyptic onomastics: Focaccia („Inferno" XXXII, 63)*, "Romance Notes" 1982, vol. 23, no. 2, pp. 181–184. Francesco Bruni wrote a chapter about the effects of the factional strife on Dante. F. Bruni, *La città divisa. Le parti e il bene comune da Dante a Guiccardini*, Bologna 2003, pp. 100–107.

[15] *Storie pistoriensis*..., pp. 12–13.

houses and towers, in each case involving several participants. The aggravation of the fights led to what we can see as the ninth phase of the conflict, when the Blacks began to insult and attack the men of the *podestà*,[16] the head of the city security forces at that time, whose main task was to maintain peace and enforce the law. Following the attack on his men, the *podestà* abandoned his position and fled to his home city. Thus, in reality, the government of Pistoia did not have many real tools to prevent the violence to begin with, and when the *podestà* left his post lost the last tools and resources to act against the feuding factions. In order to give the readers some idea of the course of the conflict below I include two passages from the *Storie pistoriensis* describing two attacks from the fourth and fifth phases of the vendetta, which in my opinion were typical of that conflict.

Phase 4. (Attack on the Vergolesi house)
On a late evening, they [the Blacks] went to Vergolesi house, who were prominent members of the White party. Focaccia was married to M. Lippo's daughter. They entered the garden of the house where they found just one knight, M. Bettino, who was the most noble and kind knight in Pistoia at that time. They immediately killed him, and then left the city. His death was a major incident. This was the moment when the factional strife became wider.[17]

Phase 5. (Revenge for the Vergolesi murder)
M. Detto di M. Sinibaldo from Black Cancellieri went to the Piazza Lazzari, and because he used to come here from time to time, he wasn't guarded by his men. He thought that nobody wanted to take vendetta against him (...) Focaccia and Freduccio with numerous men entered the 'bottega' and killed him. Then they left.[18]

[16] *Ibidem*, pp. 13–14.

[17] „M. Simone Cancellieri, e con altri della parte Nera con buona brigata di fanti una sera al tardi andarono a casa de' Vergolesi, ll qual' erano grandi Caporali della parte Bianca. (...) El Focaccia havea per moglie la figliuola dl M. Lippo, entrarono nel cortile delle cafe a quivi trovarono uno cavalieri, ch' avea nome M. Bettino, el quale era il piú nobile, Più cortese Cavalieri, ch' a quel tempo havesse Pistoia; e subito l'uccisono, e partironsi della città; e della morte di cosui sue tenuto gran de danno". *Storie pistoriensis*..., pp. 8–9.

[18] „M. Detto di M. Sinibaldo de Canciglieri Neri venisse alla Piazza de' Lazzari, e peroche alcuna volta si volea venire non guardandosi da consorti suoi, che non credea, ch' eglino volessono fare le vendette altrui nel sangue loro medesimo. On de uno di venendo M. Detto alla detta Piazza, e entrando in una bottega d'uno, che li facea un farletto di zendado presso à casa de'figliuoli di M. Rinieri: lo Focaccia, e Freduccio con certa quantità di fanti, entrarono nella detta bottega, e quivi l'uccisono, e partironsi." *Storie pistoriensis*..., p. 10.

The tools of the fight

The Pistoia chronicle narrative provides details about the fights, including the names of the leading participants, the place and type of the attack, and the types of weapons used in the skirmishes.

	Numbers	Field	Special elements	Weapons
Phase 1.	**two groups**	**street fights**	**houses**	**cavalier armour; stones**
Phase 2.	**"*gran brigata di fanti*"**	**Attack on a public square**		
Phase 3.	**three leaders with "*brigata di fanti*"**			
Phase 4.	**One leader with "*brigata di fanti*"**	**Rush against a house at night**		
Phase 5.	**Two leader with "*fanti*"**	**Raid on a pitch**		
Phase 6.	**One leader with "*fanti*"**	**Raid at night**		
Phase 7.	**two groups**	**street fights**	**houses and towers**	**spears, cross-bows, Stones, cavalier armour, heavy horses**
Phase 8.	**two leaders with "*compagni*"**	**conflict at a house**		***spada*, *pavese* shield, heavy armour**
Phase 9.	**one leader with "*compagni*"**	**conflict at a loggia**		***spada*, knights armour**
Phase 10.	**one leader with "*fanti*"**	**Raid at night in a tavern**		**heavy armour**

Fig. 2. The main details of the fights Particular view about the tools used in the ten phases.(Source: based on *Storie pistoresi*, ed. S.A. Barbi, *Rerum Italicarum Scriptores*, vol. 11, part 5, pp. 4–11)

I identified the so-called special elements such as, for example, the use of fortified houses or towers. Based on fig. 2 presented above, we can see that information about the weapons used by the attackers appears mostly in phases seventh, eighth, and ninth. These were stones, swords, spears, crossbows, and

a *pavise* shield. I also separated those cases in which we read about the 'armour' of the participants, although no specific details are mentioned by the author. In one case we get information about an equipped horse, which possibly could be a warhorse. Overall, the most common types of weapons were stones and swords. Stones, in particular, could be described as the standard tool used in the urban warfare. Another important observation is that the weapons used in the conflict became more serious over time: in addition to stones and swords, we see a crossbow, a spear, and especially the *pavise.* This means that as the feud intensified the fighting men started using military-grade weapons. In terms of the form of the attacks, the most typical were night raids and battles fought in houses. It is almost impossible to determine the numbers of the participants – the chronicle uses the words '*compagni*' and '*fanti*' when referring to the groups, which do not give us clues about their number. '*Compagni*' could mean 'comrades' and '*fanti*' may refer to servants.[19]

We can conclude the analysis of the *Storie pistoriensis* by saying that this chronicle gives us an abundance of details about the Cancellieri vendetta. Therefore, we should turn to the Florentine historical tradition for comparison.

The Florentine version of the vendetta

Unlike the *Storie pistoriensis*, the Florentine narratives don't include many details about the Cancellieri vendetta. The longest narratives about the conflict can be found in Giovanni Villani's *Nuova cronica* and Marchionne di Coppo Stefani's *Cronaca*, although both authors concentrated just on the initial conflict (the origin of the vendetta) and the mutilation of Vanni Cancellieri. On the pages of the *Nuova cronica* we read that the noble Cancellieri family was the most powerful house in Pistoia. Villani wrote that the members of that family were rich and well-known all over Tuscany. Moreover, he stated that they had one hundred armed men at their disposal. However, according to Villani, the 'devil's workings' caused the growing antagonism between the members of the family. Somebody from the Blacks faction offended one of the Whites, which in turn led to the attack that ended with the mutilation in a melee.[20] What is

[19] *Ibidem*, p. 5.

[20] Villani 245–246 (9/38).

significant is that Villani didn't mention any names in his retelling of the story – this shows us that the specifics of the conflict were not particularly important for the Florentine writer; he was more interested in the 'logic' of the conflict. Villani ended the story by stating that the inhabitants of Pistoia finally had enough of it and forced the Cancellieri parties into exile to Florence.[21]

Dino Compagni, who in his *Cronica* provides almost no details on the events, wrote that the antagonism between the Cancellieri Blacks and Whites was one of the origins of the later fights between the Cerchi and the Donati (or the Whites Guelphs and Black Guelphs) in Florence.[22]

Stefani, who lived in the second half of the 14th century, also stated that the Pistoia vendetta was the main cause of the Florentine factional strife. His version of the story shows parallels with the *Nuova cronica*. Stefani also recorded the legend according to which the Cancellieri Whites got their name from their ancestor's first wife named Bianca, while the descendants from his second marriage became the Blacks. This, supposedly, was at the root of the divide within the Cancellieri clan's ranks. Stefani's *Cronica fiorentina* includes many more details concerning the vendetta than the *Nuova cronica*. Stefani mentioned the main actors by name: Lore, a young man of the Cancellieri Blacks, son of Giulielmo; and Bertracca, the head of the opposing side of the family. According to *Cronica Fiorentina*, when Lore cut off the hand of Bertracca's son, Giulielmo wanted to resolve the matter amicably. A unique feature of Stefani's work is that he inserted his own thoughts in the narrative in the form of words spoken by the actors.[23] Thus, in *Cronica fiorentina* Giulielmo sent his son to the rival house with the following words: '*Go to messer Bertracca and ask for pardon, and ask forgiveness from his son, too.*'[24] Bertracca's reaction was recorded in the next sentence: '*It wasn't a wise thought that you came here, and your father was not wise to have sent you.*'[25] After Bertracca ordered his servants to mutilate Lore, he said: '*Bring the hand back to your father, who sent you here.*'[26] Stefani said that the bloody fight between

[21] Villani 245–246 (9/38).

[22] Compagni 18 (1/25).

[23] Stefani 79 (rubrica 216).

[24] „Va a messer Bertacca e chiedigli perdono, e vuoglia pregare il figliuolo che ancora egli perdoni" Stefani 79 (rubrica 216)

[25] „Tu fosti poco savio a venirci, e tuo padre a mandartici" Stefani 79 (rubrica 216).

[26] „Porta la mano tuo padre che qua t'ha mandato" Stefani 79 (rubrica 216).

the two parties was condemned by the people of Pistoia, so in the end, the Pistoiese *comune* sent them to Florence.[27]

Leonardo Bruni, who lived much later than Compagni and Stefani, wrote that there was an inner conflict among the richest and most powerful families of Pistoia, the consequence of which was the fights between the two Cancellieri parties. In his version of the story, the conflict was not limited to Pistoia but also affected Florence. He didn't mention other details but emphasised the manner in which the conflict spread to Florence: the Florentines were fed up with the fights and they forced the Cancellieri to move to the nearby city in an attempt to restore peace.[28]

In the second book of *Istorie fiorentine* Machiavelli gave a much more detailed description of the events of the Cancellieri vendetta.[29] In addition to Lore, he mentioned Bertracca's son Geri. In his version of the story, Lore's father wanted to resolve the situation amicably but inadvertently worsened it when he ordered Geri to go and ask for pardon from Lore's father, to which Bertracca responded: '*Go back to your father and tell him that wounds can't be healed with words, but with iron*.'[30] After this, the Black and White Cancellieri called their men to arms, and after some time they moved to Florence.[31]

The story of the Cancellieri vendetta as told in Florentine sources can be divided into two groups: the shorter versions (Compagni, Bruni) and the longer descriptions (Villani, Stefani, Machiavelli). The common points in all these versions are naturally the passages that emphasise that the conflict escalated and moved to Florence. In addition, both the *Nuova cronica* and Machiavelli's *Istorie fiorentine* condemn Bertracca's aggressive reaction to the peace offering from Giulielmo and his son and make this the focal point of the story.

As I already mentioned, we do not find many details about the Cancellieri factional strife in the Florentine versions and therefore we cannot establish the phases of the conflict on the basis of the Florentine tradition. However, the fact that well-known Florentine writers such as Villani or Compagni wrote about the effects of the Cancellieri family members' actions in Florence suggests

[27] Stefani 79 (rubrica 216).

[28] Bruni, pp. 192–193.

[29] Machiavelli, p. 39 (2/16).

[30] „Torna a tuo padre, e digli che le ferite con il ferro e non con le parole si medicano" Machiavelli, p. 39 (2/16).

[31] Machiavelli, p. 39 (2/16).

that the conflict did in fact spread from Pistoia to Florence and likely caused the feud between the Florentine Blacks and Whites, who took their names from the Cancellieri factions.

The Florentine expanse and Pistoia

In order to gather further details of the conflict we should examine the relations between the two cities, i.e. Pistoia and Florence, at that time. The larger and more powerful Florence had strong agendas and a very active foreign policy. As Pietro Gualtieri concluded, from a geopolitical view it was highly important for the city to stabilise its political and diplomatic influence over the smaller towns in Tuscany, primarily in the Valdelsa and Valdarno valleys.[32] Several researchers have pointed out that the key subject matters for Florentine authorities were the control over main roads and ensuring the safety and uninterrupted operation of commercial routes. Florence wanted to secure the way grain and other products were transported from Romagna through the mountain passes in the north, which were partly located in Pistoia's territory.[33] After the Battle of Campaldino that took place between the Guelphs and Ghibellines in 1289, Florence showed her primacy in Tuscany over her former rivals, such as Siena or Arezzo.[34] [From this point onwards,] the Florentine's grip over the region intensified. We can name several different 'tools' with which Florence asserted its power. One was sending 'friendly' officers to the neighbouring cities to stabilise local politics, represent Florence's political agenda, and manipulate the local factions. Some good examples of this approach were the towns of Colle, Prato, and San Miniato, where around the year 1300 the Florentines introduced local officers representing Florence's interests – first *podestàs*, then *gonfaloniere* and *capitano*.[35] Although we can perceive these actions as unwelcome interference from a much

[32] P. Gualtieri, *„Col caldo e furore di certi Fiorentini" Espansione fiorentina e preminenza signorile a Prato, Pistoia e nei centri della Valdesa e del Valdarni inferiore*, [in:] *Le signorie cittadini in Toscana Esperienze di potere e forme di governo personale (secoli XIII–XV)*, ed. A. Zorzi, Roma 2013, pp. 221–222.

[33] R. Zagnoni, *Le controverisie fra Pistoia e Bologna per il posseso per Pavana e Sambuca nel secolo XIV*, [in:] *Pistoiai e la Toscana nel Medioevo, Studi per Natale Rauty*, ed. E. Vanucchi, Pistoia 1997, pp. 139–141; D. Herlihy, *op. cit.*, pp. 19–22.

[34] P. Grillo, *La falsa inimicizia. Guelfi e ghibellini nell'Italia del Duecento*, Roma 2018, pp. 92–97.

[35] P. Gualtieri, *op. cit.*, pp. 221–222.

stronger neighbour, in reality the effects of such arrangements for local town or city governments could be useful as they often prevented the escalation of conflict between opposing factions that disturbed *pax urbana*. Nevertheless, in some cases, the governments did not have any choice or say in that matter, as they didn't want to upset Florence and get involved in a conflict with their powerful neighbour. The expansion of Florentine political influence soon caused Pistoia to fall within its sphere of interest. David Herlihy and Laura de Angelis conclude that the Florentines sent *podestàs* to Pistoia at least in 13 or 14 political cycles with the aim of strengthening their domination,[36] especially when there was an economic or political crisis in Pistoia. Florentine decision-makers carefully watched the course of events in the nearby cities and when they decided that a situation was becoming unstable they tried to remedy it.[37] In this way, Florence extended a 'helping hand' while expanding its political influence.

While Florence was developing its foreign policy and asserting its power in Tuscany, however, it was torn by internal conflicts and the struggle between various parties trying to gain control and banish their opponents from the city. As already mentioned, the two key Florentine factions of that time were the Cerchi, led by Messer Vieri Cerchi, and the Donati, led by Messer Corso Donati.[38] Although this particular feud and Florence's internal struggles are not the subject of this paper, it is important to note that, as Giovanni Cherubini and Andrea Zorzi have concluded, the Donati and the Cerchi tried to involve their kin from Pistoia in the conflict and sought allies within the local factions. Thus, the Cerchi had relations with the White Cancellieri and the Donati were linked to the Black Cancellieri.[39]

As implied above, the effect of the Florentine parties' involvement on Pistoia is a complex topic. For instance, Laura De Angelis demonstrates that the *podestàs* that were sent by the Florentine government to Pistoia came from both the Black and the White factions. Furthermore, these officers were appointed for a limited period of time and usually changed every six months. De Angelis also noted that there was a specific key to these nominations: the men representing

[36] D. Herlihy, *op. cit.*, pp. 225–227, L. De Angelis, *I Podestà di Pistoia*, [in:] *La Pistoia comunale*..., pp. 149–168.

[37] D. Herlihy, *op. cit.*, pp. 225–227.

[38] A. Zorzi, *Conflitti e sistemi giudiziari: La faida Cerchi-Donati*, [in:] *La transformazione di un quaádro politico: ricerche su politica e giustizia a Firenze dal comune allo stato territorial*, ed. A. Zorzi, Firenze 2008, pp. 100–103; J.M. Najemy, *A History of Florence 1200–1575*, Malden 2006, pp. 88–95.

[39] G. Cherubini, *op. cit.*, pp. 60–63; A. Zorzi, *op. cit.*, pp. 115–118.

the Blacks and Whites were usually appointed alternately to prevent them from concentrating power in Pistoia.[40] Furthermore, Dino Compagni mentioned in his *Cronica* that the *podestàs* were usually corrupt and aided either the Cancellieri Blacks or the Cancellieri Whites. Compagni even recorded the names of the officers who supported one of the local factions, whether in sympathy or for money.[41] Unfortunately, the chronicler didn't write about the exile of the Cancellieri to Florence or their role or their relations there, which is a bit surprising, since he must have known about these matters – he was an active politician at that time and in his work included quite a few details about the fights between the Black and White Guelphs. Unlike his contemporary Dino Compagni, Giovanni Villani wasn't involved in daily political events and perhaps was not as well informed. Since the most detailed source, the *Annales pistoriensis*, states that following the tenth phase of the conflict Pistoia's local government called for the Florentines who sent their people to help make peace in the town, we can conclude that Compagni's, and not Villani's, version was right about the political causes of the conflict. At the same time it is worth noting that from earlier studies we know that Villani's work did have a significant effect on later historical writers, including Stefani, Bruni, and Machiavelli.

In any case, we can summarise this analysis by stating that when the Florentine chroniclers wrote that the Cancellieri somehow 'moved' to the city, they meant that the animosities were brought to Florence. Therefore, the main goal of the simplified versions of the Cancellieri vendetta, as recorded by the Florentine authors, was to explain the internal struggles and feuds between various factions in Florence itself, and not to provide a detailed report on the actual conflict between the members of the Cancellieri family – the story of this particular vendetta was thus only a kind of a narrative tool.

Conclusion

We can summarise this discussion with the following thoughts. First of all, we can conclude that there are two different types of narrative sources and two different viewpoints referring to the events associated with the Cancellieri

[40] L. De Angelis, *op. cit.*, p. 164.

[41] Compagni 18 (1/25).

vendetta. The Florentine tradition does not pay much attention to the exact course of the fighting but is focused on the initial conflict. The Pistoia chronicle – the local version of the story – provides much more information on the stages of the conflict, its participants and their weapons. In my opinion, this suggests that the fighting was much longer and the conflict much deeper than reported by the Florentine authors. Secondly, based on Anonimo Pistoiese's report, at the beginning the opponents fought only with swords and stones but in the later stages of the feud used military-grade weapons, such as spears, crossbows, and *pavise* shields, which shows the escalation of the conflict. This source also provides us with valuable information about the tactics of urban warfare: 'rush, raid, ambush.' Naturally, in this type of combat local knowledge and spying techniques must have been invaluable: the aggressors usually knew the target's position. Theoretically, Fredi's attack was successful because as a bastard he was less well-known in the city – and thus less visible – so he could quietly plan his ambush.

However, even though they are less detailed and shorter than *Storie pistoriensis*, the Florentine versions of the story also provide important information. They concentrated on the aggressive behaviour of the Cancellieri and its resultant effects on Florentine politics, which was a narrative tool of warfare. The Florentine chronicles emphasised the role that was played by the Cancellieri in the White Guelf – Black Guelf factional strife; this was perhaps an element of legitimising the subsequent Florentine expansion. This hypothesis should be verified through further research.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Bruni L., *Istoria fiorentina*, Progetto Manuzio 2004.

Compagni D., *Dino Compagni e la sua cronica*, ed. I. Del Lungo, Firenze 1870.

Machiavelli N., *Istorie fiorentine*, Progetto Manuzio 1998.

Ptolemaie Luccensis: Annales. Documenti di Storia Italiana, vol. 6, Cronache dei Secoli XIII e XIV, Firenze 1876.

Stefani Di Marchionne di Coppo, *Cronaca Fiorentina*, ed. N. Rodolico, [in:] *Rerum Italicarum Scriptores*, vol. 30, part 1, ed. L.A. Muratori, Città di Castello 1903.

Storie pistoresi, ed. S. A. Barbi, *Rerum Italicarum Scriptores*, vol. 11, part 5.

Villani G., *Nuova Cronica*, ed. G. Porta, Parma 1991.

Opracowania • Secondary sources • Литература

Ahern J., *Apocalyptic onomastics: Focaccia („Inferno" XXXII, 63)*, "Romance Notes" 1982, vol. 23, no. 2, pp. 181–184.

Bruni F., *La città divisa. Le parti e il bene comune da Dante a Guiccardini*, Bologna 2003.

Cancellieri G.G., *Pistoia nel XIII secolo, Saggio storico sulla stripe dei Cancellieri di Pistoia*, Firenze 1965.

Cherubini G., *Storia di Pistioa 2, L'età del libero comune, Dal inizio del XII alla metá del XIV secolo*, Firenze 1998.

De Angelis L., *I Podestà di Pistoia*, [in:] *La Pistoia comunale nel contesto toscano ed europeo (secoli XIII–XIV)*, ed. P. Gualteri, Pistoia 2008, pp. 149–168.

De Vincentiis A., *Scrittura e politica cittadina: la Cronaca fiorentina di Marchionne di Coppo Stefani*, "Rivista storica italiana" 1996, vol. 108. pp. 231–297.

Di Maria S., *Machiavelli's Ironic View of History: The Istorie Fiorentine*, "Renaissance Quarterly" 1992, vol. 45, no. 2, pp. 248–263.

Green L., *Chronicle into history. An essay on the interpretation of history in Florentine fourteenth-century chronicles*, Cambridge 1972.

Grillo P., *La falsa inimicizia. Guelfi e ghibellini nell'Italia del Duecento*, Roma 2018.

Gualtieri P., *„Col caldo e furore di certi Fiorentini" Espansione fiorentina e preminenza signorile a Prato, Pistoia e nei centri della Valdesa e del Valdarni inferiore,* [in:] *Le signorie cittadini in Toscana Esperienze di potere e forme di governo personale (secoli XIII–XV)*, ed. A. Zorzi, Roma 2013, pp. 209–230.

Herlihy D., *Medieval and Renaissance Pistoia, The Social History of an Italian Town, 1200–1435*, New Haven 1967.

Mazzoni V., *Tra mito e realta: le fazioni pistoiesi nel contesto Toscano*, [in:] *La Pistoia comunale nel contesto toscano ed europeo, secoli XIII–XIV*, ed. P. Gualtieri, Pistoia 2008, pp. 223–240.

Najemy J.M., *A History of Florence 1200–1575*, Malden 2006.

Piattoli R., *Vanni Fucci e Focaccia de' Cancellieri alla luce di nuovi documenti*, "Archivio Storico Italiano" 1934, vol. 92 (Serie 7, vol. 21), no. 1 (349), pp. 93–115.

Viti P., *Storia e storiografia in Leonardo Bruni*, "Archivio Storico Italiano" 1997, vol. 155, no. 1 (571), pp. 49–98.

Zagnoni R., *Le controverisie fra Pistoia e Bologna per il posseso per Pavana e Sambuca nel secolo XIV*, [in:] *Pistoiai e la Toscana nel Medioevo, Studi per Natale Rauty*, ed. E. Vanucchi, Pistoia 1997, pp. 139–152.

Zorzi A., *Conflitti e sistemi giudiziari: La faida Cerchi-Donati*, [in:] *La transformazione di un quaádro politico: ricerche su politica e giustizia a Firenze dal comune allo stato territoriale*, ed. A. Zorzi, Firenze 2008, pp. 95–120.

Zoltán Szolnoki

NARZĘDZIA WOJNY W WENDETCIE CANCELLIERI

Streszczenie. Wendeta Cancellieri, konflikt pomiędzy członkami rodu Cancellieri, miał miejsce w XIII w., być może w roku 1300. Pod względem źródeł narracyjnych wyróżnić możemy dwie odrębne grupy przekazów: tradycję florencką oraz kronikę Pistoi. Wendeta zadecydowała o historii zarówno Pistoi, jak i regionu Toskanii, gdyż antagonizmy wśród elity Pistoiain wywołały podobne konflikty frakcyjne również we Florencji, gdy przywódcy dwóch frakcji Cancellieri przenieśli się do pobliskiego miasta. Tzw. „biali" Cancellieri byli powiązani z florenckimi białymi gwelfami; druga strona była powiązana z florenckimi czarnymi gwelfami. Przywódcy frakcji florenckich – Donati (Czarni) i Cerchi (Biali) – byli przeciwnikami w codziennej polityce. Działania członków klanu Cancellieri wywarły ogromny wpływ na sytuację, która doprowadziła do gwałtownych wojen frakcyjnych we Florencji, które zakończyły się w 1308 r. W swoim opracowaniu poddaję analizie źródła narracyjne tego okresu, zarówno z Pistoi, jak i Florencji, oraz badam narzędzia używane w walkach: broń „namacalna", o której wspomniał anonimowy pisarz z Pistoi, oraz narzędzia „narracyjne" tradycji florenckiej.

Słowa kluczowe: wendeta, Cancellieri, Pistoia, Florencja, dążenia frakcyjne

Ferenc Sebők
University of Szeged
ORCID ID: 0000-0003-3688-1789

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 115–123
https://doi.org/10.18778/8331-461-7.07

MILITIA PORTALIS

Summary. The *militia portalis* system was introduced in Hungary in 1397. According to royal decree, each landowner was required to equip one mounted archer for every 20 peasant plots (*porta*) on his estate. Members of the lesser nobility were required to join their financial resources and do the same for every 20 peasant plots. This system was employed against the Ottomans and other opponents of the realm, though it was most effective against Turkish light cavalry, as their way of warfare was similar to that of Hungarian light cavalry. Warriors serving in the banderia of ecclesiastical and secular lords cannot be regarded as mercenaries in the proper sense of the word (though sometimes they received money for their services) – in most cases they served their lords for subsistence, provisions, land donations, and support for rise in social status. From a military point of view, the soldiers of ecclesiastical banderia were the most effective, and the ones serving in the units of secular lords and the counties were less useful on the battlefield. During the rule of King Matthias (1458–1490) the first mercenary army in Hungarian history was organised, but the *militia portalis* system was also upheld. In the Jagiellonian period (1490–1526) the system was reinvigorated and served successfully against smaller-scale Ottoman forces, but it was incapable of withstanding the all-out attacks in 1521 and 1526.

Keywords: army supply, mobilisation and deployment, Ottoman wars, battle worthiness

The Ottomans landed in Europe in 1354 for the first time and immediately set about conquering the European parts of the Byzantine empire and the territory of the Balkan states. In 1389 Serbia suffered a decisive defeat at the hands of the Ottomans, and two years later the first incursions into the parts of medieval Hungary took place. King Sigismund of Luxembourg (1368–1437) took the threat seriously, personally leading several minor counter attacks against Ottoman raiding parties, as well as a full-scale counterstrike in the form of a crusade in 1396, in which several European realms represented themselves with their military contingents. The campaign ended in the disastrous defeat of Nicopolis,[1]

[1] About these events *vide*: D. Nicolle, *Nicopolis 1396*, Oxford 1999; P. Engel, *Magyarország és a török veszély a Zsigmond-korban* [*Hungary and the Turkish Threat in the Era of King Sigismund*], [in:]

which marked a turning point in the military policy of King Sigismund against the Ottomans: from the offensive he turned to the defensive. His new military doctrine relied on three pillars: alliance with the Balkan states already under pressure by the Ottomans, build-up of a strong line of castles along the borders of his realm, and the creation of a military force capable of successfully deterring the Turks, as its warfare would be similar to that of its opponent.

The third element of the king's military policy is the point we are concerned with here. After his adventurous return from the battle of Nicopolis, Sigismund convened the Diet of Temesvár (today Timişoara, Romania), where he issued a decree[2] concerning the defence of Hungary against the Ottomans. According to this decree, each landowner should equip one mounted archer for every twenty peasant plots in his possession. Those members of the lesser nobility who possessed less than twenty plots should send a mounted archer jointly for every twenty peasant plots (*porta* in Latin). The fact that the decree demanded mounted archers is worth noting. By 1397 the events of the Hundred Years' War were well-known, and the English victories at the battles of Crecy[3] in 1346 and Poitiers[4] in 1356 could have justifiably contributed to the employment of massed archers, whose firepower was capable of breaking the French knights' attack. It is true that the English archers fought in the above-mentioned battles on foot, but for greater mobility and adaptability they campaigned on horseback. It is also true that Ottoman armies employed a different type of warfare from that of their European foes, as it had turned out at Nicopolis. On the other hand, the Turkish light cavalry was quite mobile, so to counter this threat, Sigismund had to field a similarly mobile force instead of an army centred around the traditional heavy cavalry base. That means that Sigismund's idea of creating a force capable of countering the Ottomans had a fundamentally sound base.

Nagy Képes Milleniumi Hadtörténet [*Great Millenary Military History*], ed. Á. Rácz, Budapest 2000; P. Engel, *Szent István birodalma* [*The Realm of Saint Stephen*], Budapest 2001, pp. 173–174 (English version: P. Engel, *The Realm of Saint Stephen*, London 2001).

[2] F. Döry, G. Bónis, V. Bácskai, *Decreta Regni Hungariae. Gesetze und Verordnungen Ungarns 1301–1457*, Budapest 1976, pp. 157–174. Article VI concerns *militia portalis* on pp. 161–162.

[3] D. Nicolle, *Crécy 1346*, Oxford 2000; A. Ayton, P. Preston, *The Battle of Crécy, 1346*, Woodbridge 2005; for a conflicting view *vide*: M. Livingstone, K. Devries, *The Battle of Crécy. A Casebook*, Liverpool 2015; M. Livingstone, *Crécy. Battle of Five Kings*, Oxford 2022.

[4] D. Nicolle, *Poitiers 1356*, Oxford 2004.

How much of this reform, however, was actually put into effect? Earlier historiography tended to voice misgivings about the king's military reform, doubting whether it was observed in reality. However, later research has unearthed information which might be related to the employment of this decree. In 1427, Sigismund ordered his authorities to perform a comprehensive survey of peasant plots (*porta*), about which some sources relating to some north-eastern counties survive.[5] The king obviously wanted the number of peasant plots to be counted in order to calculate how many warriors he could expect in the upcoming campaign against the Ottomans. In 1428, King Sigismund unsuccessfully besieged the castle of Galambóc (Golubac, Serbia), which had been handed over to the Turks by its castellan instead of to him, as the Agreement of Tata made with George Branković would have required.[6]

The evolving system of *militia portalis*[7] worked in the following way: the prelates and secular aristocrats of the realm mobilised their retinues (*banderia*) on the basis of the number of peasants living on their territories, that is, they equipped one mounted archer for every twenty peasant plots, which provided them, depending on the number their plots, with retinues of different sizes. Those nobles who possessed less the twenty plots, sent a soldier jointly to the county *banderium*, which was led by the *comes comitatus*.

Who made up the members of the retinues and the county *banderia*? In Hungary a special variation of feudal bondage[8] can be observed in the sources of the high Middle Ages called *familiaritas*.[9] According to this system an aristocrat provided members of the lesser nobility the opportunity to serve him in times of war and peace, in the former as warriors, in the latter as officials of estates, representatives in legal affairs, bodyguards, retinue members, etc. In return for their services they received food, accommodation, land donations, and sometimes

[5] P. Engel, *Kamarahaszna-összeírások 1427-ből* [*Lucrum Camerae Conscriptions from 1427*], „Új Történelmi Tár" [New Historical Thesaurus]. Fontes Minores ad Historiam Hungariae Spectantes, vol. 2, Budapeszt 1989.

[6] T. Pálosfalvi, *Nikápolytól Mohácsig, 1396–1526*, Budapest 2005, pp. 59–64.

[7] *Magyarország hadtörténete. A kezdetektől 1526-ig*. [*The Military History of Hungary. From the Beginnings till 1526*], ed. R. Hermann, Budapest 2017, pp. 237–239.

[8] M. Bloch, *La société féodale*, Paris 1939 (Translated into English as *Feudal Society*, London 1961). Bloch's work is by now outdated in many respects, but is definitely still worth considering. For a more modern approach *vide*: S. Reynolds, *Fiefs and Vassals. The Medieval Evidence Reinterpreted*, Oxford–New York 1994.

[9] G. Szekfű, *Szerviensek* és *familiárisok* [*Servientes and Familiares*], Budapest 1912.

money from their lords, but mainly support and opportunity of rise in social status. The quality of these troops was generally high, as the soldiers serving in retinues of prelates or aristocrats spent their whole life in warlike circumstances, so they were well-versed in the use of weapons, and their morale was also high, especially in the retinues of prelates. These members of the lesser nobility served their masters in times of war as members of their retinue.

Those members of the lesser nobility, who had their own lands but had a smaller number of peasant plots and were unable to field a whole *banderium* on their own, sent their soldiers to the *banderium* of the respective county where they lived contributing to the creation of the county contingent. Their warriors were either their own family members or sometimes peasants or town dwellers, so their battle-readiness was usually lower than that of the ecclesiastical and secular retinues, and their morale was also lower.

These soldiers cannot be regarded as mercenaries in the true sense of the word, as they did not make a living from warfare. Real mercenaries received their pay almost exclusively in cash, and in times of peace they offered their services to other masters who were engaged in war, so for them participation in combat was the sole activity they were accustomed to and good at, they had no other means of making a living. Warriors serving in the *militia portalis* system, however, served their masters in several ways both in times of peace and of war; their service was often lifelong; they served the same masters their fathers and grandfathers had served. Only at the end of the medieval period did a new type of warrior, called *servitor*, begin to emerge. These warriors tended to change their masters more often than their forefathers had, and they sometimes (but not exclusively) received their pay in cash, so the bonds between lords and servants began to weaken in the last decades of the Middle Ages in Hungary. In summary, we can conclude that although these soldiers were paid for their services and they sometimes even received money from their masters, in most cases their masters provided for their living in kind, so they cannot be regarded as mercenaries in the strict sense of the word.

As to the equipment of warriors serving in the system of *militia portalis*, we possess relatively rich source references, but in most cases they refer to the requirements and not to the actual armament of these soldiers. When the system was introduced in 1397, the decree insisted on mounted archers whose way of warfare could easily be adapted to Ottoman light cavalry. Later

requirements varied – according to decrees issued by the kings of the 15th and 16th centuries, the laws demanded *banderia* of 50% heavy cavalry and 50% hussars (in Hungary, 'hussars' referred to light cavalry, unlike the later Polish heavy cavalry known by the same name). Theoretically, heavy cavalry in this period would be equipped with full body plate armour, a long lance for mounted shock combat, and various hand weapons such as a sword, a mace, a battle-axe or a dagger for close quarter combat. However, the equipment of a heavy cavalry man was very expensive, so the sources (especially at the beginning of the 16th century) tend to complain that *banderia* consisted mostly of light cavalry, whose equipment was considerably cheaper. The warriors were fielded on lighter horses and equipped with less armour. On the basis of 16th-century parallels we can conclude the Hungarian light cavalrymen went to war wearing a helmet, a breastplate made of steel (but in many cases simply of leather), had a light lance, a sabre, a dagger, and a shield for defence. In point of fact, these *huzarones* were more adaptable to the changing circumstances of the Ottoman front, and could defy Turkish incursions, but in case of a major campaign like in 1521 and 1526, they were not able to withstand the Ottoman onslaught. In the 16th century, some towns in Hungary were required to field infantrymen, some equipped with a musket, and royal towns were required to supply guns and powder.

During the time of King Matthias (1458–1490), the importance of the *militia portalis* system decreased, especially after the king organised his mercenary army (the 'Black Army,' as it was called after the king's death). However, it must be stressed that even during the rule of Matthias, the prelates, secular lords, and counties mobilised their forces in times of war on the basis of the *militia portalis* system. On the Ottoman front these contingents, which mainly consisted of light cavalry, but sometimes also included the units of counties and towns which were partly or exclusively infantry, were apt to keep the Turks at bay. In point of fact, they were more effective against the Ottomans than was the king's mercenary army, as they demonstrated in 1476.[10] In response to the Turkish raid in 1474, which reached as far as Nagyvárad (now Oradea, Romania) and devastated its suburbs, King Matthias retaliated with the siege of Szabács (now Šabac, Serbia) in late 1475 and managed to occupy the fortress in early 1476. Though the campaign was a limited success, the heavily armed mercenaries were almost

[10] T. Pálosfalvi, *op. cit.*, p. 149.

useless against the Turks, while the retinues of prelates and lords took the brunt of the fight and proved their battle worthiness.

The same can be said about the battle of Kenyérmező in Transylvania (now Câmpul Pâinii, Romania) in 1479. When the Ottomans attacked the south of Transylvania with a substantial force, they were met by an army of Transylvanian troops led by voivode István Bátori. Although the Transylvanian troops' system of mobilisation was different from that of the troops of Hungary proper, the *banus* of Temesvár, Pál Kinizsi, came to Bátori's aid with his troops, which were mobilised on the basis of the *militia portalis* system. The resulting battle ended in a devastating defeat for the Turks, who did not dare to enter the territory of Hungary again until 1521. This battle proved once again that light cavalry troops supported by some contingents of heavy cavalry were capable of defeating the Ottomans, in spite of their superior numbers.[11]

After the death of King Matthias, Hungary was in upheaval and on the verge of internal strife, from which King Vladislaus II emerged victorious in 1492. His success was partly due to the employment of Matthias' mercenaries, the so-called Black Army. However, after his military victory, the new king was unable to pay his mercenary army any longer, and it was disbanded. The decree of 1492 returned to the *militia portalis* system as the main military force of the realm.[12] This system was much cheaper, as formerly King Matthias had paid 3 florins a month to each foot soldier and 6 to each heavy cavalryman, which amounted to an exorbitant sum, which Hungary was hardly able sustain even under Matthias' reign. Under the *militia portalis* system, in contrast, the soldiers were partly paid by their ecclesiastical and secular lords and partly by the king's treasury, which conceded 50% of the king's tax as *pecunia exercitualis* to the prelates and lords in return for deploying their troops in times of war. During the period of the Jagellonian kings (Vladislaus II, 1490–1516, Louis II, 1516–1526) the *militia portalis* system remained in effect, but with certain modifications. In times of peace with the Ottomans, land owners had to mobilise one warrior for every 36 peasant plots, with the exception of southern Hungary, where the original system (one warrior for every 20 plots) remained in force. The decree of 1498 enumerated those prelates and secular lords who had to mobilise a *banderium*

[11] *Ibidem*, pp. 151–162.

[12] S. Kolosvári, K. Óvári, *Corpus Iuris Hungarici 1000–1526*, Budapest 1899, pp. 490–492 (articles 19–21).

– in theory each would have contained 400 warriors, which would have meant quite substantial force if they had been mobilised in reality.[13] However, in times of war, mobilisation posed serious problems, as food and fodder prices were relatively high before harvest time and by the time prices fell back to the normal level, the Ottomans were already at the borders of the realm. In most cases, only about 50% of the above-mentioned contingents could be fielded, due to financial difficulties.

The composition of the troops mobilised on the basis of the *militia portalis* system also changed during the Jagellonian period. Originally the decrees ordered the prelates and lords to send heavy cavalry to their *banderia*. Later, although the experiences on the Ottoman front led to the realisation that light cavalry troops are more useful in countering the Turkish raiding parties, the decrees still insisted that 50% of troops in the banderia should be heavy cavalry. Prelates and barons, and especially the counties, were reluctant to supply heavy cavalry in great numbers, however, because they were more expensive to equip. The fact that the royal decrees kept repeating the requirement that the *banderia* should be 50% heavy cavalry and 50% light cavalry proves that in most cases the prelates and secular lords sent light cavalry troops, by that time called *huzarones* (hussars).

A few decades later open war broke out between Hungary and the Ottoman Empire, which led to the fall of Nándorfehérvár (now Belgrade, Serbia) in 1521 and the battle of Mohács in 1526, a devastating defeat for Christendom. Hungary lost her independence and huge territories of the realm became parts of the Ottoman Empire for 150 years.

After 1521, Hungarian military leadership felt the necessity for the creation of a more effective military force, so steps were taken to set up a mercenary army in addition to the *militia portalis* system, as well as for seeking aid from other Christian countries. Mostly due to financial reasons, however, these ideas could only partly be put into effect. As a result, most of the Hungarian forces participating in the battle of Mohács were still mobilised on the basis of the *militia portalis* system.

In conclusion we can establish that the system introduced by King Sigismund and modified by later rulers proved its effectiveness against smaller Ottoman raids, but it was unable to counter the full-scale campaigns of Sultan Suleiman, whose military machine was by far the most fearsome in contemporary Europe.

[13] *Ibidem*, pp. 606–608 (articles 20–22).

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Döry F., Bónis Gy., Bácskai V., *Decreta Regni Hungariae. Gesetze und Verordnungen Ungarns 1301–1457*, Budapest 1976.

Engel P., *Kamarahaszna-összeírások 1427-ből* [*Lucrum Camerae Conscriptions from 1427*], Új Történelmi Tár [New Historical Thesaurus]. Fontes Minores ad Historiam Hungariae Spectantes, vol. 2, Budapest 1989.

Kolosvári S., Óvári K., *Corpus Iuris Hungarici 1000–1526*, Budapest 1899.

Opracowania • Secondary sources • Литература

Ayton A., Preston P., *The Battle of Crécy, 1346*, Woodbridge 2005.

Bloch M., *La société féodale*, Paris 1939 (English version: *Feudal Society*, London 1961).

Engel P., *Magyarország és a török veszély a Zsigmond-korban* [*Hungary and the Turkish Threat in the Era of King Sigismund*] [in:] *Nagy Képes Milleniumi Hadtörténet* [*Great Millenial Military History*], ed. Á. Rácz, Budapest 2000.

Engel P., *Szent István birodalma* [*The Realm of Saint Stephen*], Budapest 2001.

Livingstone M., *Crécy. Battle of Five Kings*, Oxford 2022.

Livingstone M., Devries K., *The Battle of Crécy. A Casebook*, Liverpool 2015.

Magyarország hadtörténete. A kezdetektől 1526-ig. [*The Military History of Hungary. From the Beginnings till 1526*], ed. R. Hermann, Budapest 2017. (The corresponding chapter was written by A. Bárány).

Nicolle D., *Crécy 1346*, Oxford 2000.

Nicolle D., *Nicopolis 1396*, Oxford 1999.

Nicolle D., *Poitiers 1356*, Oxford 2004.

Pálosfalvi T., *Nikápolytól Mohácsig, 1396–1526* [*From Nicopolis to Mohács, 1396–1526*], Budapest 2005.

Reynolds S., *Fiefs and Vassals. The Medieval Evidence Reinterpreted*, Oxford–New York 1994.

Szekfű G., *Szerviensek és familiárisok* [*Servientes and Familiares*], Budapest 1912.

Ferenc Sebők

MILITIA PORTALIS

Streszczenie. System *militia portalis* został wprowadzony na Węgrzech w 1397 r. dekretem królewskim, zgodnie z którym każdy właściciel ziemski był zobowiązany do wystawienia i wyposażenia jednego konnego łucznika na każde 20 chłopskich działek ziemi (*porta*) znajdujących się w jego dobrach. Przedstawiciele mniej zamożnej szlachty zobowiązani byli połączyć swoje zasoby finansowe, tzn. podzielić się kosztami, i także wystawić jednego konnego łucznika na każde 20 parcel chłopskich. Powyższy system został wdrożony jako obrona przeciwko zagrożeniu ze strony Osmanów i innych przeciwników Królestwa Węgier, ale okazał się najbardziej skuteczny przeciwko tureckiej lekkiej kawalerii, której sposób walki był zbliżony do stylu węgierskiej lekkiej kawalerii. Wojownicy służący w pocztach (*banderia*) kościelnych i świeckich możnowładców, choć czasami otrzymywali pieniądze za swoje usługi, nie mogą być uważani za najemników we właściwym znaczeniu tego słowa – w większości wypadków służyli swoim panom w zamian za utrzymanie, wyżywienie, nadania ziemi i protekcję w celu podniesienia statusu społecznego. Z militarnego punktu widzenia żołnierze kościelnych *banderii* byli najskuteczniejsi, a ci służący w oddziałach panów świeckich i oddziałach ziemskich byli mniej przydatni na polu bitwy. Za panowania króla Macieja Korwina (1458–1490) zorganizowano pierwszą w historii Węgier armię złożoną z najemników, ale utrzymano też system *militia portalis*. W okresie panowania Jagiellonów (1490–1526) system ten został wzmocniony i z powodzeniem służył jako obrona przeciwko mniejszym siłom osmańskim. Nie był jednak w stanie przeciwstawić się zmasowanym atakom, które nastąpiły w 1521 i 1526 r.

Słowa kluczowe: zaopatrzenie armii, mobilizacja i rozmieszczenie wojsk, wojny osmańskie, zdolność bojowa

Simone Picchianti
University of Trieste
ORCID ID: 0000-0001-5211-1990

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 125–144
https://doi.org/10.18778/8331-461-7.08

PRODUCTION AND LOGISTICS OF CROSSBOW BOLTS IN THE EARLY RENAISSANCE FLORENCE AND THE WAR AGAINST LUCCA (1429–1433)

Summary. In the autumn of 1429, Florence declared war on Lucca, to complete its domination over the north of Tuscany. The siege began in December and continued until the mercenary chief Niccolò Piccinino defeated the Florentine army outside the walls of Lucca, but the war continued until May 1433.

In this period, although firearms already existed, the use of crossbows was still very important. To satisfy the requests of Florence, the men of Montefioralle, a small town in Chianti, specialised in the production of crossbow bolt heads. In this village of about two hundred inhabitants, every man was a blacksmith and together they produced on average 100,000 metal elements every six months. The shafts for the crossbow bolts were, on the other hand, produced by other specialised craftsmen in the mountains of the Casentino, and were assembled in other places. The Florentine war office, the *Dieci di Balìa*, took care of the logistics both to connect the different artisans and to send the ammunition to the battlefields and fortresses.

Thanks to the documents kept in the State Archives of Florence, it has been possible to reconstruct the entire network of artisans, the management of shipments, and the quantity and expense for these ammunitions.

Keywords: renaissance Florence, Florentine guilds, renaissance warfare, arms and armour, war production

Introduction: From Siege to Peace

From the mid-fourteenth century Florence began to significantly expand its borders. Initially the territories of the north Mugello region were conquered, and shortly thereafter other places of importance were annexed such as Pescia, Prato, Pistoia, and San Gimignano, to which were added Volterra and San Miniato. A second

important phase of increasing territorial possessions began through the subjugation of Arezzo and Montepulciano, and finally Pisa and Cortona in the last quarter of the century. At the beginning of the fifteenth century, the Florentine borders delimited a territory that covered more than two-thirds of present-day Tuscany, and a part of Romagna.[1]

Florence then went from being a *Comune* to becoming a 'territorial state', with specific offices for its government clearly codified within the city statutes of 1415.[2] In the following decades Florence continued its expansionist policy, and opened up new outlets in the Mediterranean Sea through the 1421 purchase from Genoa of Livorno and Porto Pisano.

The Florentine attitude aroused concerns not only in Siena – Florence's historical enemy – but also in Milan. As a consequence, between 1423 and 1453, central northern Italy was in a state of constant war where each city state wanted to limit the other's expansion by changing alliances rapidly and continuously.

Although a peace agreement had been signed between Milan and Venice and their allies in April 1428, by the autumn of the following year Florence was preparing to conquer Lucca. Among the reasons for the war against Lucca was the fact that the lord of the city, Paolo Guinigi, had sent his son and his army to support Milan and not Florence during the previous conflict. In any case, for Florence the conquest of Lucca meant acquiring the last important city in the

[1] As Pirillo has highlighted, from the end of the 13th century Florence started a process of transformation of the borders, aimed at changing them from a zonal to a linear dimension. This territorial classification and, consequently, of the population present there, responded to multiple needs of various kinds: administrative, judicial, fiscal, and, last but not least, military. P. Pirillo, *Fines, termini et limites. I confini nella formazione dello Stato fiorentino*, „Reti Medievali Rivista" 2006, vol. 7, no. 1, pp. 1–12; P. Pirillo, «Incerti fines». Il confine medievale tra norme e pratiche sociali, [in:] *Terre di confine tra Toscana, Romagna e Umbria. Dinamiche politiche, assetti amministrativi, società locali (secoli XII–XVI)*, Conference proceedings, Florence 17 May 2019, Perugia 8–9 November 2019, eds. P. Pirillo, L. Tanzini, Florence 2020, pp. 3–12.

[2] On the formation of the Florentine territorial state we refer to the historiographical cornerstones on the subject: M.B. Becker, *Florence in Transition*, vol. 1–2, *Studies in the Rise of the Territorial State*, Baltimore 1968; G.A. Brucker, *The Civic World of Early Renaissance Florence*, Princeton 1977; E.F. Guarini, *Potere e società negli stati regionali italiani del '500 e '600*, Bologna 1978, pp. 7–47; G. Ghittolini, *La formazione dello Stato regionale e le istituzioni del contado. Secoli XIV e XV*, Torino 2021, pp. 225–265; S.K. Cohn Jr., *Creating the Florentine State, Peasants and Rebellion, 1348–1434*, Cambridge 1999; A. Zorzi, *The material constitution of the Florentine dominion*, [in:] *Florentine Tuscany, Structures and Practices of Power*, eds. W.J. Connell, A. Zorzi, Cambridge 2000, pp. 6–31.

north of Tuscany, thus unifying almost the entire region, with the sole exclusion of the Sienese territories.[3]

In December 1429 Florence besieged Lucca. In August of the following year the lord of the city was deposed in a coup, and the city returned to a collegial government.[4]

A few days later, the citizens of Lucca reached out for help to Filippo Maria Visconti, duke of Milan. Bound by the 1428 peace agreements with Florence, Visconti could not provide direct help – instead he released the famous mercenary commander Francesco Sforza from his contract and allowed his army to join Lucca's defence. At the beginning of October, however, Sforza – bought by the Florentines – left Lucca, and the city immediately sought an alliance with Genoa. In the first days of December, Genoa sent the mercenary chief Niccolò Piccinino, freed from a contract with Milan, who defeated the Florentine army on the banks of the Serchio river.[5]

Concerned that the Duke of Milan would take advantage of the situation to conquer the northern territories of Tuscany, Venice and Pope Eugene IV re-established the alliance with Florence. At the beginning of January 1431, hostilities also began in northern Italy.[6]

The first four months of 1431 were difficult for the Florentines and their allies: Piccinino conquered many localities throughout Lunigiana and subsequently in the counties of Volterra, San Miniato, and Arezzo; Francesco Sforza – on behalf of the Duke of Milan – defeated the Venetians in March; Lucca made further alliances with Genoa and Siena. After Niccolò Piccinino's return to the Po Valley, the Florentine army managed to regain the lost territories. The clashes also continued at sea, and at the end of August of that year the Venetians and Florentines defeated the Visconti-Genoese fleet in the battle of Rapallo.[7]

---

[3] D. Boninsegni, *Storie della città di Firenze. Dall'Anno 1410 al 1460*, ed. T. Guadagni, Firenze 1637, pp. 29–30.

[4] I. del Punta, *La signoria di Paolo Guinigi a Lucca (1400–1430): un modello paternalistico?*, [in:] *Le signorie cittadine in Toscana. Esperienze di potere e forme di governo personale (secoli XIII–XV)*, ed. A. Zorzi, Roma 2013, pp. 301–321;

[5] A. Pellegrini, *Tre anni di Guerre tra le Repubbliche di Firenze e di Lucca. 1430–1433*, [in:] *Studi e Documenti di Storia e Diritto*, Roma 1898, pp. 174–177.

[6] *Storia di Milano. Il ducato visconteo e la Repubblica Ambrosiana (1392–1450)*, vol. 6, ed. F. Cognasso, Milano 1955, p. 266.

[7] *Ibidem*, p. 278. Further information on the organisation of the Florentine fleet can be found in: M. Mallett, *The Florentine Galleys in the Fifteenth century with Diary of Luca di Maso degli Albizzi Captain of the Galleys 1429–1430*, Oxford 1967.

The fighting continued throughout the first part of 1432. At the beginning of June, the Florentines defeated the army of Lucca, Siena, and part of the Milanese in the battle of San Romano. From this moment Florence maintained a defensive position, without instigating any new important clashes. In northern Italy the battles continued until November, when the Visconti army defeated the Venetians in the battle of Delebio.

In December the parties began to look for an acceptable agreement, signing a peace treaty in Ferrara on 26 April 1433.[8]

Production and Logistic

Crossbows were used almost continuously in Europe from the Classical Age to Modern times, but the period of greatest use was from the 11th to the 16th century[9]. Besides the longbow, a crossbow was the most powerful (and the easiest to use) among all portable weapons, to the point that it remained appreciated in hunting fields centuries after it had been supplanted on battlefields by flintlock firearms. For these reasons, the production of crossbow bolts was very important for the states of the period and required a very well-developed production organisation to meet the high demand.

The best way to reconstruct the overall purchases of crossbow bolts made by the Republic of Florence during the war against Lucca is to study the actions of the *Dieci di Balìa*, the Florentine office of war. After its establishment in 1384 the *Dieci* was only summoned in case of war. It was composed of ten members (hence the name), who were the most important political figures in the city; normally, their office lasted six months. Their duties ranged from the creation of the army and the hiring of mercenary troops, to the purchase of armaments for the army and fortifications, as well as performing foreign policy tasks.[10]

[8] *Storia di Milano*..., p. 293.

[9] On the evolution of the crossbow over the centuries *vide*: M. Loads, *The Crossbow*, Oxford 2018, pp. 7–28.

[10] G. Pampaloni, *Gli organi della Repubblica fiorentina per le relazioni con l'estero*, „Studi politici internazionali" 1953, vol. 20, pp. 270–276; G. Guidubaldo, *Il governo della città-repubblica di Firenze nel primo Quattrocento. Gli istituti «di dentro» che componevano il governo di Firenze nel 1415*, vol. 2, Firenze 1981, pp. 203–112.

In times of peace, defence organisation depended on multiple offices with specific tasks.[11]

Much information is collected in the registers of the purchases of the *Dieci di Balìa*. First of all, the producers are listed with the relative goods they sell to the Republic, reporting the quantity and selling price. There are also other lists that show where such goods are sent to, such as fortresses or to mercenary chiefs; in this second case, there are the quantities of the goods in addition to any transport costs. Sometimes specific lists show the dispatch of *biscotto*, food supplies for the army, or the purchase of food for some cities. Listed among the ammunition there are also the artisans who were hired to work at specific fortresses, in order to fortify or repair them, or those who were sent to the siege camps for the construction of siege machines or other works that required specific skills of carpenters or stone workers.[12]

The making of crossbow bolts allowed for the division of the work into three production phases: the making of the heads, the manufacture of the rods, and their assembly and completion. Obviously, the great use of crossbows in the war field reflected on the need for a large quantity of ammunition, differing by various characteristics.

Fig. 1. Crossbow Bolt, 15th or 16th century, Western Europe, MET, New York, A. N. 14.25.1591a–l (Source: Author's own elaboration)

[11] S. Picchianti, *Per la difesa dei confini della Repubblica di Firenze Le fortificazioni e la loro gestione secondo gli Statuti del 1415*, [in:] *Confini e sconfinamenti*, eds. I. Candelieri, C. Daffonchio, Trieste 2022, pp. 4–6.

[12] In order to reconstruct the total number of crossbow bolts purchased, the locations where they were built and where they were sent, the following records were analysed: Archivio di Stato di Firenze (hereinafter: ASFi), *Dieci di Balìa, Munizioni*, 1–2 and 4. Since the register corresponding to the semester June 1430–December 1430 is missing, another source of a fiscal nature was used. This register was compiled by the *Camera del Comune* of Florence, the office that dealt with the income and expenditure of the state: ASFi, *Camera del Comune*, *Specchi di Entrata e di Uscita*, 42.

All types of crossbow bolts consist of three elements: the head, the shaft, and the feathers (fig. 1).[13] Five types were produced during the war of Lucca: *verrettoni da gamba*, small compared to the others and used on hand-loaded crossbows; *verrettoni da cianfogna*, of medium size and used on reel crossbows; *passatoi*, with particularly sharp heads with a circular section; *quadrelli* (quarrel), with a square section and high penetrating power; *cianfognoni* for galley, similar to *cianfogna* but larger in size and with a specific use in naval battles.[14]

Crossbow bolt heads are classified mainly on the basis of three aspects: use, method of attachment to the shaft, and bolt head shape. They could be used for military or for hunting; the fixing could take place by means of a socket or a tang; the bolt heads came in many forms.[15]

Hunting bolt heads are easily recognisable as they have particular shapes based on the type of prey. Military bolt heads tended to favour characteristics that increased their penetrating power in armour, such as a very sharp shape. Obviously, war crossbow bolts could also have been used for hunting. Most bolt heads, especially the war ones, had a socket fixing, probably because it was easier to assemble than those with a tang.[16]

Florentine production was mainly concentrated in five localities:[17] Montefioralle; Greve; Florence, San Miniato al Tedesco, and Vico (fig. 2).

The largest number of these products were created in Montefioralle, which exceeded 700,000 items, as well as being the only place to produce *quadrelli* and

[13] For the types of crossbows and ammunition used in Tuscany in 13th and 14th centuries, *vide*: D. De Luca, R. Farinelli, *Archi e balestre. Un approccio storico-archeologico alle armi da tiro nella Toscana meridionale (secc. XIII–XIV)*, „Archeologia Medievale" 2002, vol. 29, pp. 455–487.

[14] ASFi, *Dieci di Balìa*, *Munizioni*, 2, cc. 34v; 37v; 38r.

[15] C. Rau, *European Arrowheads and Crossbow Bolts. From the Bronze Age to the Late Middle Ages*, Berlin 2018, pp. 187–191.

[16] *Ibidem*, pp. 185–187.

[17] Any information concerning the quantities of crossbow darts purchased by the *Dieci di Balìa* is contained in the following documents: ASFi, *Dieci di Balìa*, *Munizioni*, 1, cc. 32r–59r (12/1429–06/1430); ASFi, *Camera del Comune*, *Specchi di Entrata e di Uscita*, 42, cc. 344r–357v (06/1430–12/1430); ASFi, *Dieci di Balìa*, *Munizioni*, 1, cc. 82r–180r (12/1430–06/1431); ASFi, *Dieci di Balìa*, *Munizioni*, 2 cc. 228r–349r (06/1431–12/1431); ASFi, *Dieci di Balìa*, *Munizioni*, 2, cc. 34r–126r (12/1431–06/1432); ASFi, *Dieci di Balìa*, *Munizioni*, 4, cc. 2r–15r and 20r–30v and 34r–61v and 80r–84v and 90r–92v (06/1432–12/1432); ASFi, *Dieci di Balìa*, *Munizioni*, 4, cc. 16r–19r and 31v–33v and 64v–77r and 84v–89r and 93v–105r (12/1432–06/1433).

cianfognoni for galley. In second place was the town of Greve, not far from Montefioralle, with a total production of over 188,000 bolt heads. In addition to these places, the *famigli* are also present in the graph. The *famigli* were trusted men of the members of some Florentine offices, to whom large amounts of money could be delivered in order to carry out certain tasks, such as hiring mercenaries, buying supplies, paying spies or, as in this case, buying armaments. These 'assistants' were given this specific task only during the period December 1430–June 1431. It is likely that the producers could not satisfy the requests of the Republic, which is why the *famigli* were instructed to purchase all the bolt heads available in the domains.

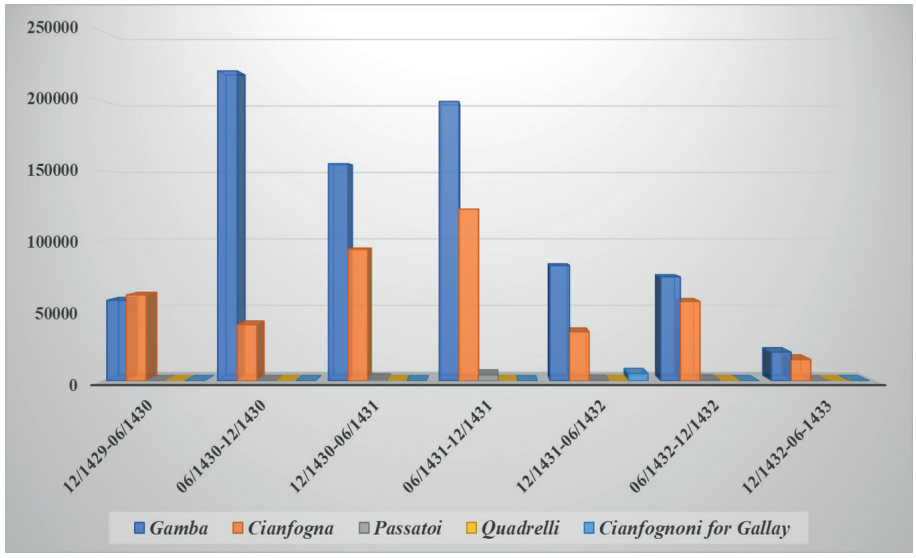


Fig. 2. Production of Crossbow Bolt Heads (Types), December 1429–June 1433
(Source: Author's own elaboration)

More than 1,200,000 bolt heads were created over the course of the conflict. The maximum production was reached in the second half of 1431, with over 325,000 items (fig. 3). The request at this specific moment by the Republic of Florence was due to a change of course in the conflict after the reconquest of the villages and fortresses that the Piccinino had conquered. Ammunition and troops were sent to these locations to increase their defenses.[18] The fewest bolt heads were purchased in the last six months of the war, but levels had

[18] A. Pellegrini, *op. cit.*, p. 182.

already dropped significantly by the preceding semester. As mentioned, in the last year of the war the clashes between the opposing armies were considerably reduced and, consequently, the purchases of ammunition followed the same downward trend.

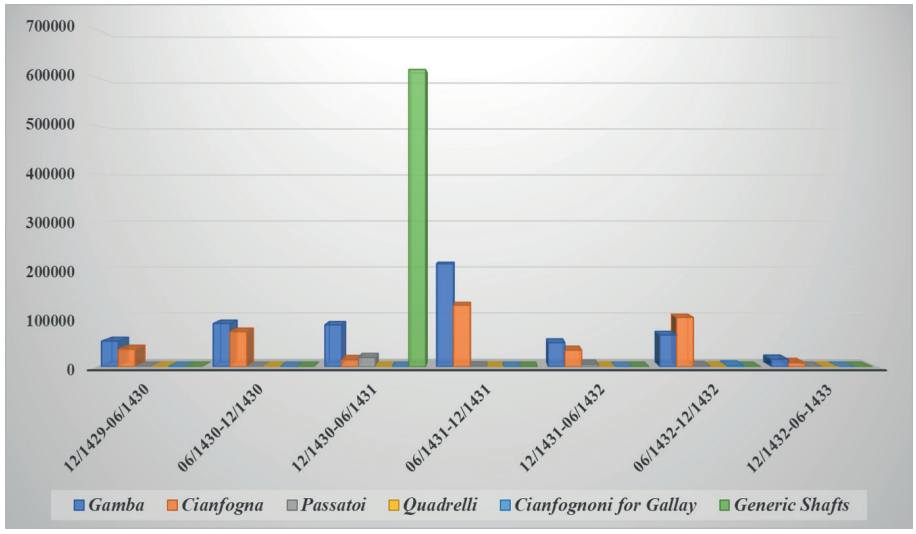


Fig. 3. Production of Crossbow Bolt Shafts (Types), December 1429–June 1433
(Source: Author's own elaboration)

The most produced crossbow bolt heads were those for *verrettoni da gamba*, about 64%, followed by the *verrettoni da cianfogna*, about 34%. The prices for bolt heads varied according to the type of steel, quantity of steel used in production, and the time needed to make them. The most expensive were the *passatoi* and the *quadrelli*, made with a steel rich in carbon in order to increase their penetrating power. Their value was six times that of the less expensive *verrettoni da gamba* heads. After the *quadrelli* follow the *cianfognoni* for galley, created with the same metal as the *gamba* and *cianfogna* ones but larger in size.[19]

[19] The value corresponds to the purchase price of 500 pieces, the standard quantity of a case of complete crossbow bolts. The unit of measurement that will be used is the *Lira* (L): *Gamba* 10 L; *Cianfogna* 16 L; *Passatoi* 66. 67 L; *Quadrelli* 65.03 L; *Cianfognoni* for galley 20 L. ASFi, *Dieci di Balìa*, *Munizioni*, 2, cc. 34v, 37v; 38r. To understand how much similar figures corresponded at the time, a crossbowman hired to defend the city of Pisa, the highest paid of the flourishing domains, received monthly 16 L, equal to the cost of 500 *cianfogna* crossbow bolt heads. ASFi, *Camera del Comune*, *Scrivano di Camera*, *Uscita*, *Duplicato*, 218, c. 16r.

Returning to the analysis of the locations where crossbow bolt heads were produced, according to the sources, the production organisation at Montefioralle appears as the early proto-industrial system. Fortunately, the registry of those enrolled in the *Arte dei Fabbri* (Guild of Blacksmiths) in Florence and its countryside still exists.[20] Through this register it was possible to identify thirty-three blacksmith masters from Montefioralle enrolled during the war of Lucca.[21] Most of these were able to join the guild thanks to the fact that their fathers were already members; only five were new members. Their names also testify

[20] From the statute of the *Arte* we learn the internal subdivision based on the types of products they created: *Statuti delle Arti dei Corazzai, dei Chiavaioli, Ferraioli e Calderai e dei Fabbri di Firenze (1321–1344)*, ed. G. Camerani Marri, Florence 1957, pp. 128–129: «Et primo quod ars fabrorum dividatur et distinguatur per membra hoc modo videlicet: Quod omnes et singuli exercentes in civitate et districtus Florentie infrascripta fabrilia opera et fabricantes et facientes de infrascriptis misteriis vel operibus vel aliquo eorum sint, appellantur et habeantur fabri et de arte fabrorum predicte civitatis et districtus Florentie, videlicet quod omnes et singuli facientes bumeros, marras, vangas, secures, mannarias, segas, stateras, succhiellos, martellinos, quadrellos, moschectas, palectas, catenas, et similia sit unum membrum, quod nominetur membrum artis grosse. Et ferratores, marischalchi et facientes ferros et chiovos equorum, mulorum, asinorum et bovum sit aliud membrum et censeatur membrum ferratorum. Et facientes frenos, calcaria, fibulas, bullas, acus, sprangas, puntales et ferra pro correggiis, pro spatis et cultellis et ferramentis et pro forcerinis et catenellas et stagnatores sit aliud membrum et nominetur frenariorum et fibiariorum. Et facientes cultellos cuiuscumque conditionis et generis, forcines, rasorios, cultellinos et facientes manicas pro gladiis vel cultellinis et arotatores et tenentes ruotas pro arotando ferros, incisoria vel alia ferramenta et similia sit aliud membrum et nominetur membrum cultellariorum. Et facientes enses, quadrellos et spuntones, pomes, elsas, doratores cultellorum et spuntorum cultellinorum et similia sit aliud membrum et censeatur membrum spadariorum. Et facientes elmos, cappellos, crestutas, baccinectos, cervellaria et similia sit aliud membrum et censeatur membrum cervellariorum. Et subesse debeant, teneantur et cogi possint sub consulibus dicte artis fabrorum. Et quod dicta membra omnia sint unum corpus dicte artis et facientium et fabricantium de misteriis fabrilibus suprascriptis vel aliquo eorum.»

[21] ASFi, *Arte dei Fabbri*, 5: Carlone di Piero, c. 18r; Biagio di Piero, c. 12r; Donato di Iacopo, c. 23r; Agnolo di Cristofano Santi, c. 4r; Cristofano di Iacopo, c. 18r; Cerbone di Piero, c. 18r; Piero d'Andrea, c. 65r; Lorenzo di Marco, c. 48v; Marco di Arrigo, c. 53r; Fruosino di Stefano, c. 29r; Giovanni di Ghirigoro, c. 37r; Ambruogio di Fruosino di Benvenuto, c. 4v; Fruosino di Lorenzo, c. 29v; Simone di Lodovico, c. 72r; Sandro di Bartolo, c. 72r; Michele di Domenico, c. 54r; Simone di Bartolo, c. 72r; Antonio di Fruosino, c. 5r; Bartolomeo di Lodovico, c. 13r; Papino di Fruosino, c. 65v; Bartolomeo d'Agostino, c. 13r; Fruosino di Iacopo, c. 29v; Giuliano di Bartolo di Stefano, c. 38r; Filippo di Bartolo di Stefano, c. 29v; Francesco di Nanni di Marco, c. 29v; Fruosino di Giovanni di Mico, c. 30r; Bastiano di Michele, c. 13r; Mariano di Giovanni, c. 54v; Matteo d'Andrea, c. 54v; Chimenti d Cristofano, c. 18v; Gerino di Iacopo, c. 38r; Stefano di Giovanni di Ghirigoro, c. 72v; Zanobi di Stefano di Marco, c. 79r.

that most of them were brothers or cousins, further demonstrating the strong family tradition of the blacksmith's trade in Montefioralle. Comparing their number with that of all those enrolled in the *Arte dei Fabbri* of the Florentine countryside, this locality had the largest number of members throughout the fifteenth century.[22]

Based on the tax documentation, we know that seventy men of working age lived in Montefioralle in 1427.[23] Counting that thirty-three of these were masters, we can easily hypothesise that the remaining men worked in the workshops and that the children were apprentices. Consequently, almost all men produced crossbow bolt heads, thus showing us how it was possible to produce on average over 100,000 items every six months, also reaching maximum production levels of over 196, 000 items per month. The purchase of such huge quantities of bolt heads from Montefioralle entailed for the Republic of Florence an expense of over 18,600 L during the war period.[24]

The production of the shafts was mainly divided into six locations: Trappola, Poggio, Cocollo, Maggiona, Loro Ciuffenna, and Camaldoli (fig. 4).[25]

Most of the shafts were produced in the town of Trappola, in the Arezzo Mountains. This town appears similar to the case of Montefioralle. With a population of about fifty inhabitants, it managed to produce about 983,000 shafts during the war, reaching the maximum six-monthly production of 454,000 items in the first part of 1431. Those who fabricated the shafts for the crossbow bolts were called *legnaiuoli* and in Florence and its countryside the guild they joined was the *Arte dei Legnaiuoli* (Guild of Woodworkers).[26] Unlike Montefio-

[22] The main localities of the Florentine countryside for the presence of blacksmiths enrolled in the guild were: Castel Fiorentino; Figline Valdarno; Empoli; Poggibonsi, San Giovanni Valdarno; Montevarchi. S. Picchianti, *L'Arte dei Fabbri a Firenze e nel suo contado attraverso gli statuti e le matricole (1344–1481)*, "Ricerche Storiche" 2018, p. 142.

[23] E. Conti, *La formazione della struttura agraria moderna nel contado fiorentino*, 2nd part, Rome 1965, p. 294.

[24] The total expense for the crossbow bolt heads was 30,904.14 L.

[25] Other locations indicated: San Chimento, Cascia, Chiassaia, Montemarciano, Raggiolo, Rocca Ricciarda, and Castel Focognano.

[26] ASFi, *Arte dei Legnaiuoli*, 4, c. 6r. «Questi sono li Statuti dell'Arte e università de legnaioli grossi, Cassettai, Chofanai, Bottai e barlettai della città e distretto di Firenze e di qualunque altro s'aspettasse e partenesse a detta arte, overo per vighore delli infrascritti statuti o d'alchuno di quelli sotto detta arte e suoi consoli tenuti di giurare e di promettere, cioè venditori di legname e acconciatori di legname con ferro e venditori di lastre e facitori o venditori di chofani, forzieri, forzerini, casse, scrigni,

ralle, due to the lack of registers of those enrolled in the guild it was not possible to identify all the names of the masters who lived in Trappola.

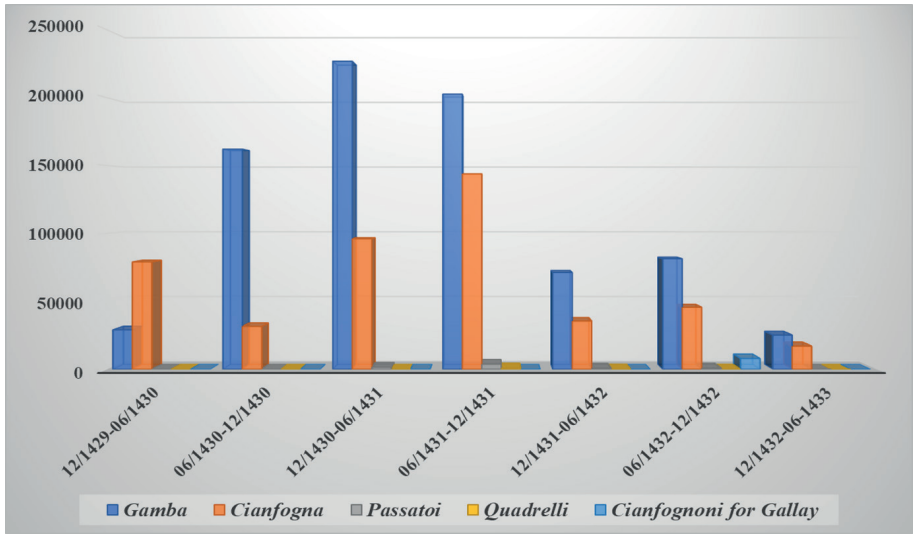


Fig. 4. Assembly of Crossbow Bolts (Types), December 1429–June 1433
(Source: Author's own elaboration)

The peak of production occurred in the first half of 1431, with the exorbitant construction of over 735,000 bolt shafts (fig. 5).

Although the shafts were usually specific to the single types of bolt heads, in the first half of 1431, 'generic' ones were created in the number of over 616,000 pieces, equal to one third of all those produced during the war. At that time, the *Dieci di Balìa* had asked their *famigli* to procure all the shafts on the market. This need for ammunition stockpiling perhaps led to the request for generic shafts, which could probably be used both for the *gamba* bolt heads and for the *cianfogna* ones. By analysing the sale prices of the shafts, we learn that the generic ones cost the same as the *cianfogna*.[27] The most expensive shafts were those of

lettiere, tavole, deschi, banche, arche, madie, selle da bestie, pale di legno, rastrelli damondar grano, archi da battere, telai, gramole, asserelli, vanghini, botte, tini, bighonce, barili, cerchi, pavere e simile chose d'alchuna di dette cose e chi segha detti legnami chon seghe grosse a telaio echi tira detti legnami chon buoi e chi di dette chose o d'alchuna di quelle facesse compra o venditaacconcime o facitura havendo e tenendo bottegha o luogho in città borgi o sottoborghi ocontado di Firenze».

[27] In this case the value refers to 500 pieces, and the unit of measurement present here is the *Lira* (L): *Gamba* 1.75 L; *Cianfogna* 2 L; *Passatoi* 3.50 L; *Quadrelli* 3.50 L; *Cianfognoni* for galley 12.26;

the *cianfognoni* for galley, given their clearly superior dimensions to those of the other types, exceeding the price of the most expensive seconds by more than three times, the *passatoi*. Although the quantities of shafts are huge, the final cost for their purchase at the expense of the Republic turns out to be of little impact, equal to 6,288 L. Although the making of good shafts for this ammunition was absolutely necessary, perhaps the low cost of the material and the speed of realisation led to a much lower price than the bolt heads, which were made of steel and individually forged by blacksmiths.

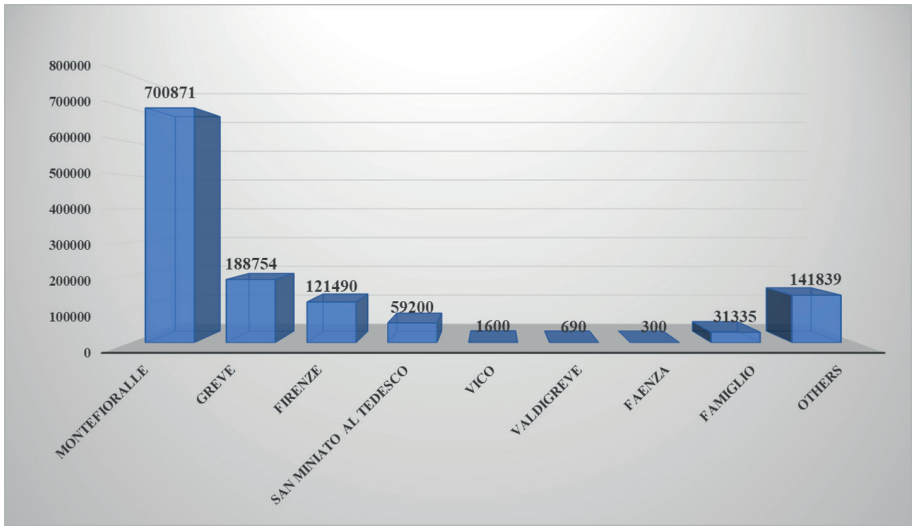


Fig. 5. Production of Crossbow Bolt Heads (Place), December 1429–June 1433 (Source: Author's own elaboration)

The main locations where bolt heads and shafts were sent to be assembled were Florence, Ricasoli, and Camaldoli (fig. 6).[28] *Inastatori* combined the shafts with the bolt heads and completed the ammunition by adding feathers. Unfortunately, in most cases the place where they worked is not indicated in the documentation. In many cases this means that they were Florentine citizens, but without further investigation one cannot be certain.[29] A notable detail occurs in the first half of

Generic Shafts 2 L. ASFi, *Dieci di Balìa*, *Munizioni*, 1, c. 92v; ASFi, *Dieci di Balìa*, *Munizioni*, 2, c. 61v; ASFi, *Dieci di Balìa*, *Munizioni*, 4, c. 60r.

[28] In small and sporadic numbers at Dovadola and Pietra Santa.

[29] Even the *inastatori* were members of the *Arte dei Legnaiuoli*. As for those who produced the shafts, it was not possible to identify the names in the registers of the guild.

1431. At that time, as we have just seen, the *Dieci di Balìa* tried to find all the bolt heads and shafts on the market and simultaneously hired all those who could assemble and complete the ammunition. Given the contingent needs, they also resorted to those who were serving a sentence in the city prison, the *Stinche*.[30] However, their work was paid on par with that done by their colleagues in freedom.

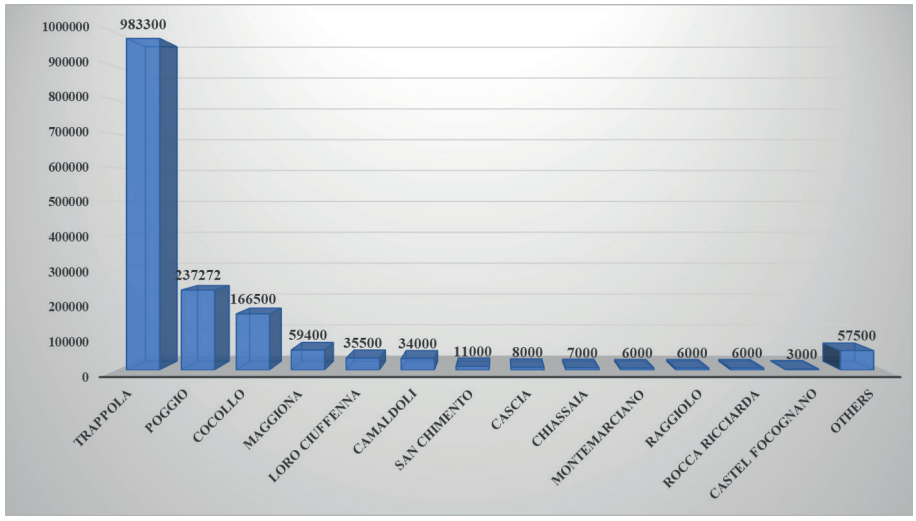


Fig. 6. Production of Crossbow Bolt Shafts (Place), December 1429–June 1433
(Source: Author's own elaboration)

As in the case of the bolt heads, the production peak was reached in the second half of 1431, with over 351,000 pieces completed, a figure slightly higher than the previous half which had 324,000 (fig. 7).

This production phase also had different prices based on the type of crossbow bolts: the most expensive were the *quadrelli* and *passatoi*, followed by *cianfogna* and lastly the remaining models.[31] As appears from the figures, the importance of the assembly and completion of the ammunition had to be considerable, given that this task was paid more than the creation of the shafts.

[30] ASFi, *Dieci di Balìa*, *Munizioni*, 1: Antonio di Domenico *inastatore*, c. 99v; Carlo de Lanzimanni, c. 102r; Piero di ser Bartolomeo detto Quore, c. 103r, Bartolo di Zeppi *inastatore*, c. 165v; Pietro d'Agnolo, c. 178r; Quore di Bartolomeo c. 179r.

[31] Also, in this case the value refers to 500 pieces, and the unit of measurement present here is the *Lira* (L): *Gamba* 3.00 L; *Cianfogna* 4.50 L; *Passatoi* 10 L; *Quadrelli* 10 L; *Cianfognoni* for galley 3.75; ASFi, *Dieci di Balìa*, *Munizioni*, 1, c. 48v; ASFi, *Dieci di Balìa*, *Munizioni*, 2, cc. 254r and 273r; ASFi, *Dieci di Balìa*, *Munizioni*, 4, c. 42r.

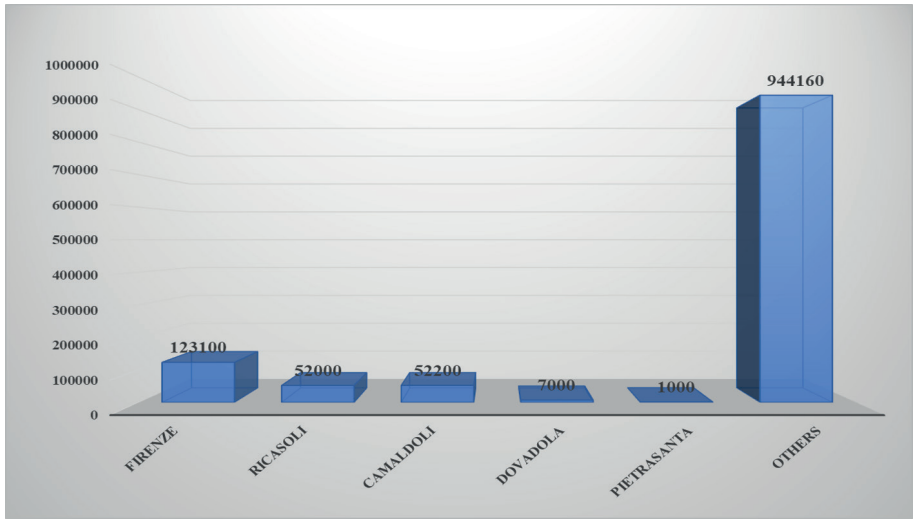


Fig. 7. Assembly of Crossbow Bolts (Place), December 1429–June 1433
(Source: Author's own elaboration)

Logistics management concerning the movement of ammunition was a task entrusted to the *Dieci di Balìa*.[32] This management primarily concerned the delivery of the components of the crossbow bolts (heads and shafts) to the assemblers.[33] When the assemblers had fulfilled their duties, the ammunition was moved to Florence to the *Camera dell'Arme* (the Florentine Armory) located on the ground floor of *Palazzo Vecchio*. We know that the *Camera dell'Arme* was established at the beginning of the fourteenth century and continued to be operational until the end of the Medici government in Tuscany. According to the citizen statutes of the early fifteenth century, it was managed by lay and religious *camarlinghi*, a treasurer, a notary, a *massaio* (accountant), and numerous scribes.

[32] Any information concerning the logistic of crossbow darts sent by the *Dieci di Balià* is contained in the following documents: ASFi, *Dieci di Balìa*, *Munizioni*, 1, cc. 3r–55r (12/1429–06/1430); ASFi, *Dieci di Balìa*, *Munizioni*, 1, cc. 226r–319v (12/1430–06/1431); ASFi, *Dieci di Balìa*, *Munizioni*, 2 cc. 228r–349r (06/1431–12/1431); ASFi, *Dieci di Balìa*, *Munizioni*, 2, cc. 376r–443r (12/1431–06/1432); ASFi, *Dieci di Balìa, Munizioni*, 4, cc. 110r–145v (06/1432–12/1432); ASFi, *Dieci di Balìa, Munizioni*, 4, cc. 145v–169v (12/1432–06/1433).

[33] An interesting comparison on the management of the logistics of crossbows and ammunition coeval with the period in question is possible thanks to the studies on the government of Count Guidantonio da Montefeltro: P. Biscarini, *Balestre e verrettoni per luoghi fortificati e castelli durante il governo del Conte Guidantonio*, [in:] *Balestrando per Gubbio. Storie e documenti tra età comunale e signorile*, ed. P. Biscarini, F. Cece, A. Menichetti, Gubbio 2018, pp. 93–102.

The custody and maintenance of armaments stored in the *Camera* was the primary task of these state officials.[34]

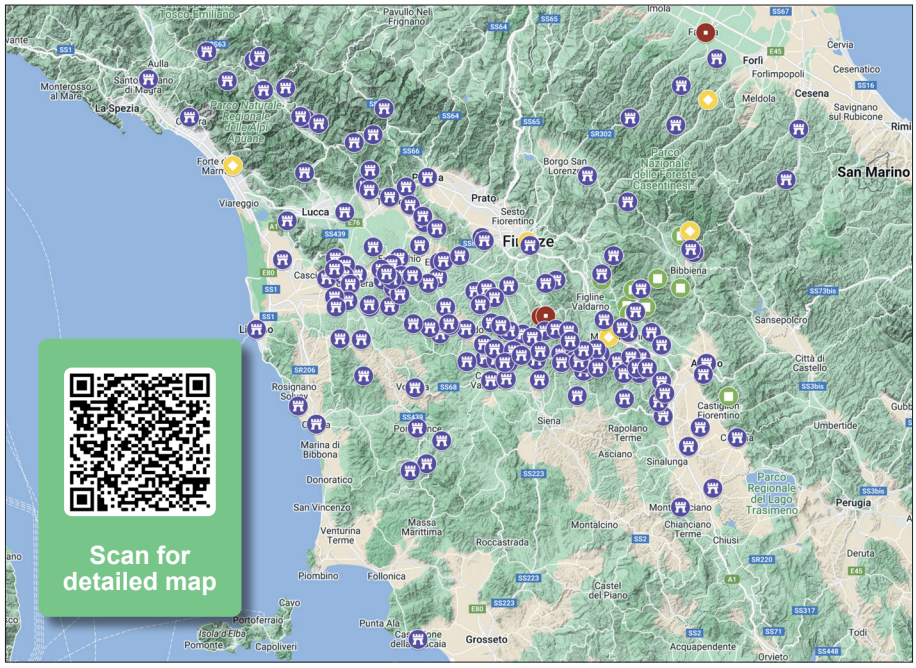


Fig. 8. Production centers of crossbow bolts and location that received ammunition, December 1429–June 1433. By scanning this QR code with a mobile device, the map created via Google-MyMaps will be displayed. The map indicates and subdivides the locations according to the place of production of crossbow bolt heads and shafts, where these ammunitions were assembled, and where they were sent (Source: Author's own elaboration)

The ammunition and various armaments were sent throughout the Florentine territory, from the various fortresses to the main cities of the domain such as Pisa, Arezzo, San Miniato, and Volterra, or to mercenary chiefs for their armies (fig. 8). The transport took place by means of *vetturali*, transporters of goods, which mainly used mules, or *carradori* (carters). All shipments were managed from Florence but the expense could be borne either by the capital or by the local communities who sent their own transporters to receive the necessary goods. The sending

[34] *Statuta populi et communis Florentiae publica auctoritate collecta castigata et praeposita anno salutis MCCCCXV*, ed. M. Kluch, vol. III, Freiburg 1783, V, II, pp. 283–284; G. Guidubaldo, *op. cit.*, vol. 2, Firenze 1981, pp. 280–281. Further information on the previous period: L. Tanzini, *Statuti e legislazione a Firenze dal 1355 al 1415. Lo Statuto cittadino del 1409*, Firenze 2004, p. 65.

of transporters from the places that were to receive ammunition was a very widespread practice and probably favoured by the fact that in this case the Republic would not have to bear the transport costs. Unfortunately, this procedure doesn't allow us to know the actual number of mules sent to the Florentine territory, since it didn't incur an expense. During the conflict more than 1,000 mules were sent by Florence to the fortifications, cities, or mercenary camps present in the territory.

The sending of materials by the Republic was in fact managed by a single transport company, that of Checcho del Grasso, nickname of Francesco di Zanobi, enrolled in a Florentine guild as an *albergatore* (host).[35] Unfortunately, no trace of this important entrepreneur has yet been found. His absence from the *Catasto* of 1427 suggests that he wasn't a Florentine citizen; a single mention of him is made in the archive of the cathedral of *Santa Maria del Fiore*, as he had to be paid for a transport he had arranged.[36]

Transport rates varied based on the distance that mules would have to travel: among the most expensive places to reach there was Camporignano (12 L by mule), Castiglione (10.10 L by mule), Barga (10 L by mule); while the least expensive were Pisa, Librafatta, and Caprona (Vicopisano) (3 L by mule).[37] By calculating the average price of the journeys and the total number sent by Checco del Grasso, his company obtained for its services during the war a remuneration exceeding 6,000 L.

Conclusion

As we have seen, the well-organized production of crossbow bolts was fundamental for a state of the early fifteenth century. The infantry of that time was still divided equally between palvesari, lancers, and crossbowmen, and in this context crossbow bolts were undoubtedly the most important ammunition.[38]

[35] There is a second company, that of Arrigo and Angelo Castellani, but during the conflict they sent just over forty mules.

[36] AOSMFi, II.1.72, c. 47v.

[37] There is an interesting price list with many other locations within one of the ammunition registers. ASFi, *Dieci di Balia*, *Munizioni*, 1, c. 36r.

[38] On the organisation of foot soldiers on the battlefields: A.A. Settia, *De re militari. Pratica e teoria nella guerra medievale*, Roma 2008, pp. 207–238. On the armies defending the Florentine fortifications: P. Pirillo, *Castellani e guarnigioni nei castelli del contado e del distretto fiorentino (secolo XIV)*, [in:] *Connestabili. Eserciti e guerra nell'Italia del primo Trecento*, ed. P. Grillo, Soveria Mannelli 2018, pp. 159–173. S. Picchianti, *Per la difesa...*, pp. 11–12.

To fulfill this demand, Florentine artisans created specialized production centers that we can define as proto-industrial, as in the case of Montefioralle for the crossbow bolt heads and Trappola for the shafts, reaching a maximum production over 196,000 and 454,000 items respectively in six months. The specialization of work was therefore fundamental, as the case of Montefioralle clearly testifies. The total population of that town was 200 inhabitants, and all the men were probably dedicated to the manufacture of bolt heads, not only during the war of Lucca but probably throughout the entire fifteenth century.

The creation of the crossbow heads, shafts, and assembly significantly affected the expenses for ammunition.[39] During the war, spending on ammunition – which in addition to crossbow bolts mainly included defensive armaments, gunpowder crossbows, artillery, and spears – totaled 183,437.88 L. The expense for crossbow bolts was just over 25%, equal to 46,241.36 L. To this figure must then be added the cost of transport and that of the crates in which the crossbow bolts were shipped and then stored in the arsenals or on the battlefields.

The organisation of logistics was of equal importance. Managing the dispatch of over 1,000 mules loaded with goods every six months demonstrates how the war office was particularly capable in this task. Obviously, the creation of a monopoly on transport had an impact on facilitating this duty.

Further investigations on the production of arms and armour in the medieval period, and more generally on war spending, will certainly increase our knowledge in this field of study and also on the economic history and on the organisation and specialisation of work in that period.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

Archivio dell'Opera di Santa Maria del Fiore

AOSMFi, II.1.72

[39] The prices refer to 500 complete and assembled crossbow bolts: *Gamba* 14,75 L; *Cianfogna* 22,50 L; *Passatoi* 80,17 L; *Quadrelli* 78,53 L; *Cianfognoni* for galley 36,01 L.

Archivio di Stato di Firenze

ASFi, *Arte dei Legnaiuoli*, 4

ASFi, *Arte dei Fabbri*, 5

ASFi, *Camera del Comune*, *Specchi di Entrata e di Uscita*, 42

ASFi, *Dieci di Balìa, Munizioni*, 1, 2, 4

ASFi, *Camera del Comune*, *Scrivano di Camera*, *Uscita*, *Duplicato*, 218

Źródła drukowane • Printed sources • Печатные источники

Boninsegni D., *Storie della città di Firenze. Dall'Anno 1410 al 1460*, ed. T. Guadagni, Firenze 1637.

Statuta populi et communis Florentiae publica auctoritate collecta castigata et praeposita anno salutis MCCCCXV, ed. M. Kluch, vol. III, Freiburg 1783, V, II.

Statuti delle Arti dei Corazzai, dei Chiavaioli, Ferraioli e Calderai e dei Fabbri di Firenze (1321–1344), ed. G. Camerani Marri, Florence 1957.

Opracowania • Secondary sources • Литература

Becker M.B., *Florence in Transition*, vol. 1–2, *Studies in the Rise of the Territorial State*, Baltimore 1968.

Biscarini P., *Balestre e verrettoni per luoghi fortificati e castelli durante il governo del Conte Guidantonio*, [in:] *Balestrando per Gubbio. Storie e documenti tra età comunale e signorile*, ed. P. Biscarini, F. Cece, A. Menichetti, Gubbio 2018, pp. 93–102.

Brucker G.A., *The Civic World of Early Renaissance Florence*, Princeton 1977.

Cohn Jr. S.K., *Creating the Florentine State, Peasants and Rebellion, 1348–1434*, Cambridge 1999.

Conti E., *La formazione della struttura agraria moderna nel contado fiorentino*, 2nd part, Rome 1965.

De Luca D., Farinelli R., *Archi e balestre. Un approccio storico-archeologico alle armi da tiro nella Toscana meridionale (secc. XIII–XIV)*, „Archeologia Medievale" 2002, vol. 29, pp. 455–487.

Ghittolini G., *La formazione dello Stato regionale e le istituzioni del contado. Secoli XIV e XV*, Torino 2021.

Guarini E.F., *Potere e società negli stati regionali italiani del '500 e '600*, Bologna 1978.

Guidubaldo G., *Il governo della città-repubblica di Firenze nel primo Quattrocento. Gli istituti «di dentro» che componevano il governo di Firenze nel 1415*, vol. 2, Firenze 1981.

Loads M., *The Crossbow*, Oxford 2018.

Mallett M., *The Florentine Galleys in the Fifteenth century with Diary of Luca di Maso degli Albizzi Captain of the Galleys 1429–1430*, Oxford 1967.

Pampaloni G., *Gli organi della Repubblica fiorentina per le relazioni con l'estero*, „Studi politici internazionali" 1953, vol. 20, pp. 261–296.

Pellegrini A., *Tre anni di Guerre tra le Repubbliche di Firenze e di Lucca. 1430–1433* [in:] *Studi e Documenti di Storia e Diritto*, Roma 1898, pp. 171–189.

Picchianti S., *L'Arte dei Fabbri a Firenze e nel suo contado attraverso gli statuti e le matricole (1344–1481)*, „Ricerche Storiche" 2018, pp. 123–146.

Picchianti S., *Per la difesa dei confini della Repubblica di Firenze Le fortificazioni e la loro gestione secondo gli Statuti del 1415*, [in:] *Confini e sconfinamenti*, ed I. Candelieri, C. Daffonchio, Trieste 2022, pp. 3–21.

Pirillo P., *Castellani e guarnigioni nei castelli del contado e del distretto fiorentino (secolo XIV)*, [in:] *Connestabili. Eserciti e guerra nell'Italia del primo Trecento*, ed. P. Grillo, Soveria Mannelli 2018.

Pirillo P., *Fines, termini et limites. I confini nella formazione dello Stato fiorentino*, „Reti Medievali Rivista" 2006, vol. 7, no. 1, pp. 1–12.

Pirillo P., *«Incerti fines». Il confine medievale tra norme e pratiche sociali*, [in:] *Terre di confine tra Toscana, Romagna e Umbria. Dinamiche politiche, assetti amministrativi, società locali (secoli XII–XVI)*, Conference proceedings, Florence 17 May 2019, Perugia 8–9 November 2019, ed. P. Pirillo, L. Tanzini, Florence 2020, pp. 3–12.

del Punta I., *La signoria di Paolo Guinigi a Lucca (1400–1430): un modello paternalistico?*, [in:] *Le signorie cittadine in Toscana. Esperienze di potere e forme di governo personale (secoli XIII–XV)*, ed. A. Zorzi, Roma 2013, pp. 301–321.

Rau C., *European Arrowheads and Crossbow Bolts. From the Bronze Age to the Late Middle Ages*, Berlin 2018.

Settia A.A., *De re militari. Pratica e teoria nella guerra medievale*, Roma 2008.

Storia di Milano. Il ducato visconteo e la Repubblica Ambrosiana (1392–1450), vol. 6, ed. F. Cognasso, Milano 1955.

Storia di Venezia. Dalle origini alla caduta della Serenissima. Il Rinascimento, politica e cultura, vol. 4, eds. A. Teneti, U. Tucci, Roma 1996.

Tanzini L., *Statuti e legislazione a Firenze dal 1355 al 1415. Lo Statuto cittadino del 1409*, Firenze 2004.

Zorzi A., *The material constitution of the Florentine dominion*, [in:] *Florentine Tuscany, Structures and Practices of Power*, eds. W.J. Connell, A. Zorzi, Cambridge 2000, pp. 6–31.

Simone Picchianti

PRODUKCJA I LOGISTYKA DOSTAW BEŁTÓW DO KUSZ WE WCZESNYM RENESANSIE. FLORENCJA I WOJNA Z LUKKĄ (1429–1433)

Streszczenie. Jesienią 1429 r. Florencja wypowiedziała wojnę Lukce, pragnąc zakończyć walkę o swoją dominację nad północną Toskanią. Oblężenie rozpoczęło się w grudniu i trwało do momentu pokonania florenckiej armii pod murami Lukki przez dowódcę oddziałów najemnych Niccolò Piccinino – choć sama wojna trwała jeszcze do maja 1433 r.

W tym okresie, mimo że broń palna już istniała, nadal bardzo ważne było wykorzystanie kusz. Aby zaspokoić potrzeby Florencji, mieszkańcy Montefioralle, małego miasteczka w regionie Chianti, wyspecjalizowali się w produkcji bełtów. W tej liczącej około dwustu mieszkańców miejscowości każdy mężczyzna był kowalem i wszyscy przez sześć miesięcy łącznie produkowali średnio 100 000 metalowych elementów kusz. Trzony bełtów były z kolei wytwarzane przez innych wyspecjalizowanych rzemieślników zamieszkujących góry Casentino oraz montowane w innych miejscach. Florenckie biuro do spraw wojny, *Dieci di Balìa*, zajmowało się logistyką zaopatrzenia koordynując i łącząc pracę różnych rzemieślników oraz wysyłając amunicję na pola bitew i do fortec.

Dzięki dokumentom przechowywanym w Archiwum Państwowym we Florencji udało się zrekonstruować całą sieć rzemieślników, system zarządzania dostawami oraz ustalić ilość i koszty produkowanej amunicji.

Słowa kluczowe: renesansowa Florencja, florenckie gildie, renesansowe działania wojenne, broń i uzbrojenie, produkcja wojenna

Joseph Rafael Gudmann
University of Szeged, Doctoral School of History
ORCID ID: 0000-0002-2241-746X

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 145–155
https://doi.org/10.18778/8331-461-7.09

CAPITULATION OF FRENCH TROOPS AT ATELLA (23 JULY 1496)

Summary. In this paper, I'll present the first phase of the Italian Wars, specifically the period between 1494 and 1498. The study focuses on the French troops' capitulation at Atella, which was a very important event as the war tide started to turn against the French following their victorious campaign through the Italian peninsula. The main source for the study was Mario Sanuto's work called *I diarii* ('Diaries') – a detailed record of the aforementioned events that allow us to analyse the situation and gain clarity about the military, political, and economic aspects of the French army's capitulation.

Keywords: Renaissance, Italian Wars, diplomacy, capitulation, 15th century, warfare, French history, Spanish history, history of Naples, Italian history

The purpose of this study is to present the process that led to the disarmament of French troops at Atella. The opening moment of this series of events was the crossing of the Alps by the French army led by Charles VIII in September 1494. The French set out from Grenoble on 29 August 1494. Charles VIII's goal was to conquer the Kingdom of Naples. This ambition was supported by the House of Anjou's historical claim to the throne of the Kingdom of Naples and Sicily, which was a useful pretext for the invasion, as upon the demise of the House of Anjou in 1481 the claim to the Kingdom of Naples passed to the French crown along with the Angevin estates. Another target for the French conquest may have been the Republic of Genoa, since the Italian city-state was under direct French influence on several occasions during the 15th century and capturing that territory was important to ensure a maritime connection between France and Naples. On the other hand, Charles VIII probably did not want to conquer the Duchy of Milan and it only became the subject of his interest because of its potential as a gathering ground for the French troops.[1]

[1] On the other hand, conquering the Duchy of Milan became an important goal for Charles VIII's successor, Louis XII, who laid claim to the Duchy of Milan as his own inheritance, stating that it should have come to him by right of his paternal grandmother Valentina Visconti.

Charles VIII's campaign was preceded by lengthy military and diplomatic preparations that included reconciliation with France's neighbours. Charles VIII made peace with Henry VII by signing the Treaty of Étaples (2 November 1492), which ended the English invasion of France. It was agreed that Henry VII would accept French rights to the Duchy of Brittany and return territories previously occupied by the English, while Charles VIII would end support for Perkin Warbeck (the Yorkist pretender to Henry's throne) and settle his debts to the English monarch. Next, Charles signed the Treaty of Barcelona (19 January 1493) with the Crown of Aragon, in which he promised to return the Aragon counties of Cerdagne (Cerdaña) and Roussillon (Rosellón) – territories located in the foothills of the Pyrenees invaded by Louis XI in 1463. Although in the Treaty of Barcelona Charles did not quite renounce his claim to these territories, later that year Ferdinand of Aragon promised to maintain neutrality during Charles VIII's forthcoming invasion of Naples. By signing the Treaty of Senlis (23 May 1493) with Maximilian I of Habsburg and his son Philip the Handsome, Archduke of Austria, Charles VIII ended hostilities between France and the House of Habsburg, having agreed to cede the counties of Franche-Comté and Artois to Philip. These diplomatic manoeuvres clearly show that the French monarch did not shy away from making territorial concessions to his opponents in so far as he could deter them from interfering with his political and military plans. At the same time, the above-mentioned concessions show us how important the conquest of the Kingdom of Naples was to Charles.

As I mentioned above, the French army departed from Grenoble on 29 August 1494 to conquer the Kingdom of Naples. The troops continued their march south throughout the autumn and winter of that year, advancing along the western part of the Apennine Peninsula. In February 1495, virtually unopposed, Charles VIII and his army finally arrived in the territory of the Kingdom of Naples. Of course, the king of Naples, Alfonso II, was not merely a passive spectator of the imminent French invasion. He renewed his treaties with some of his earlier *condottieri*, such as Fabrizio Colonna and Giangiacomo Trivulzio, and made pacts with new ones, including, among others, Niccolò Orsini di Pitigliano, to strengthen the defence of the Kingdom. Alfonso's goal was to prevent the French army from reaching the territory of the Kingdom of Naples. He expected the French to attack from the eastern side of the Apennine Peninsula. For this reason, he commanded the defence at the border at the head of a unit

consisting of 30 cavalry squadrons, while sending his son and heir to the throne, Ferdinand (sometimes called by his contemporaries 'Ferrandino' do distinguish him from his grandfather), with an army to attack the French. Ferdinand's army were aided by Florentine and Papal troops. At the same time, Virginio Orsini, one of the leaders of the Neapolitan army, waited near Rome with 200 heavy cavalrymen.

The troops led by Ferdinand were supposed to meet with the French in the north, preferably even in the territory of the Duchy of Milan, so they have arrived in Romagna by mid-July.[2] However, Ferdinand's troops proved too weak to threaten the Duchy of Milan and French units led by Bernard Stuart (Lord of Aubigny) and Gianfrancesco da Sansevino. The French opened their way south by laying siege on Mordano and capturing it on 19 October 1494, where they massacred the defenders and civilians seeking refuge in the castle. Following Ferdinand's defeat and the sacking of Mordano, the Florentine and Papal troops abandoned his army. Ferdinand himself retreated at the end of October with his remaining troops to Cesena. Only then (i.e., at the end of October) did Charles VIII decide to cross the Apennine Mountains and move south along the western side of the Apennine Peninsula. Having failed to reach an agreement with the Florentines to provide free passage and supplies for their army, the French looted the first Florentine fortress located in their path, Fivizzano (26–29 October 1494). Subsequently, horrified by the French attack on Florence, Piero di Lorenzo de' Medici agreed to negotiate with Charles VIII and agreed, among other things, to surrender to the French the fortresses in Sarzana, Pietrasanta, Pisa, and Livorno and let the French pass through the Florentine territories.

As the French troops gradually pushed towards Naples (at the end of November, they left Florence and headed for Rome via Siena), so did Ferrandino with his troops. Finally, in December 1494, he managed to meet with the units of the Neapolitan army stationed around Rome. One of the Neapolitan units joined to the Condotta led by Fabrizio Colonna in Ostia, another marched east to secure the way to Abruzzo, while the main army marched towards Rome. Ferrandino wanted to retreat before his road to the Kingdom of Naples was cut off, so he concluded a truce with the French to be able to retreat. On 29 December, the

[2] F. Guicciardini, *Storia d'Italia*, ed. S. Seidel Menchi, I millenni, Turin 1971, Libro I, Capitolo 3 – Libro III, Capitolo 5, pp. 10–258; P. Pieri, *Il Rinascimento e la Crisi Militare Italiana*, Einaudi 1952, pp. 324–366.

French advance army, led by Montpensier, marched into Rome, and Charles arrived two days later with Pope Alexander VI's permission, while the Pope locked himself in the Castel Sant'Angelo. The French king did not want to act against Alexander VI, so it was agreed that the pope would provide a free route and supplies for the French troops, and the key forts of Terracina, Ostia, and Civitavecchia were placed under temporary French occupation.

The French army commanded by Charles VIII departed from Rome on 28 January 1495. Alfonso II abdicated in favour of his son (from now on known as Ferdinand II) and left for Sicily. On 9 February the French captured and destroyed Castello di Monte San Giovanni Campano, orchestrating yet another massacre. The violent actions of the French troops paired with King Alfonso II's failure to ensure the safety of the Kingdom, his abdication and subsequent escape to Sicily did not strengthen the Neapolitan population's spirit and further undermined Ferdinand II's position and possibilities of waging war against the advancing French troops. The young king's last chance remained to wait on the border for the French army to arrive and fight the enemy there. However, the French troops were divided into several groups moving along different routes and managed to quickly encircle the Neapolitan Army. Thus, Charles VIII outsmarted Ferdinand II and his commanders and forced Ferdinand to withdraw his troops to Capua.[3]

Because of the advance of French troops and the turmoil it caused in Naples, Ferdinand II had to leave Capua and return to the capital. However, he failed to win the support of the city's population, so he hid with his troops in the Castel Nuovo and the Castel dell'Ovo and ordered them to set fire to the ships and render the cannons unusable. On 22 February, French troops entered Naples. The Neapolitan nobles welcomed Charles VIII and crowned him king of Naples, while Ferdinand fled to Ischia. Although Castel Nuovo and Castel dell'Ovo were still held by the Napolitans, the French army managed to eliminate the resistance of the garrison of the forts in three weeks. Ferdinand II sailed from Ischia to Sicily, where he sought the help of Ferdinand II of Aragon to retake his kingdom.

In the summer of 1494, that is, before the French troops set out to conquer Naples, the King of Aragon attempted to form an anti-French alliance with the Venetians and Maximilian I of Habsburg. This coalition was finally formed after

[3] *The Cambridge Modern History*, vol. I: *The Renaissance*, eds. A.W. Ward, G.W. Prothero, S. Leathes, New York–London 1902, pp. 112–118.

the successful French attack – the agreement on it was signed on 31 March 1495 by the Imperial, Spanish, Venetian, and Milanese envoys in Venice, and the alliance itself became known as the Holy League (ostensibly it was established against the Ottoman Empire and the threat it posed for the allies, but its real purpose was to drive the French army out of Italy).

During his brief stay in Naples, Charles VIII attempted to consolidate his power over the Kingdom of Naples. For instance, the most important offices were shared by Neapolitans and Frenchmen and the King distributed estates and property to his Neapolitan supporters and the French nobles, striving to maintain balance without upsetting the existing institutional structure and the balance of powers. However, the emerging anti-French alliance (the Holy League) made the French monarch's return home more urgent. Thus, on 20 May 1495, Charles VII left Naples for France taking most of his troops with him and leaving Gilbert de Bourbon (Count of Montpensier) to defend the kingdom with an army of about 4,000 men.[4]

Following the establishment of the Holy League, Duke Ludovico Sforza of Milan sent Galeazzo da Sanseverino with a small army to take Asti from the French. Louis of Orléans, who was stationed in the city, did not surrender and managed to defend Asti. Moreover, on 10 June he captured the town of Novara. Louis's primary task was to defend Asti, as the city was the key of the road to France. By attacking Novara, Louis with his troops became trapped there, leaving Asti unprotected. At the same time, however, he tied up the Holy League's forces (mainly those of Milan) and gave Charles VIII time to retreat northwards.

In the meantime, the Venetian Signoria sent troops and a smaller fleet to Apulia under the command of Antonio Grimani and Girolamo Contarini to fight the French troops. At the same time, the Signoria ordered an army to be formed on the Terraferma, commanded by Francesco Gonzaga (Marquis of Mantua). The first action of the Venetian expeditionary army was the capture of Brindisi, followed by the siege of Monopoli, where the cannons of the ships of the fleet were deployed to shoot at the city walls.[5]

[4] M.E. Mallett, Ch. Shaw, *The Italian Wars, 1494–1559: War, State and Society in Early Modern Europe*, Harlow–New York 2012, pp. 6–38.

[5] P. Bembo, *Della historia Vinitiana*, vol. 12, book 3, Venegia 1552, pp. 91–93. Based on Bembo's description, the Venetian fleet consisted of 20 galleys and 1 or 2 larger ships equipped with cannons.

Charles VIII with the core of the French army kept marching north to return to France, while Gonzaga with the main army of the Holy League was already waiting for his arrival in Parma. It was here, in Fornovo near the city of Parma, on 6 July 1495, that the first major battle between the French and the Holy League took place, involving 10,000–11,000 French soldiers, and around 20,000–21,000 soldiers of the Holy League. The outcome of the Battle of Fornovo is ambiguous, with each side seeing it as their own victory. What we can certainly say is that strategically, the outnumbered French army managed to win, as it was able to continue the retreat to France, while the League's army followed them from a distance. The French army reached Asti on 15 July, while Gonzaga, with the Holy League's troops, joined the Milanese forces besieging Novara.

On 26 August 1495, Charles VIII signed a treaty with the Florentine envoys, in which Florence undertook to provide a loan of 70,000 ducats to the French monarch and send 250 horsemen paid by the Florentines to aid the French forces stationed in Naples in exchange for the return of the forts previously occupied by the French. On 9 October, Charles VIII and Ludovico Sforza concluded the Peace of Vercelli between France and Milan, under which Ludovico Sforza allowed the French to use the port of Genoa to reinforce their Neapolitan troops.

While Charles VIII was fighting in the north, the Spaniards and Venetians came to the aid of Ferdinand II of Naples, so that he could regain his kingdom. The Spanish expeditionary army was led by Gonzalo Fernández de Córdoba, who landed at Calabria on 24 May 1495. However, Spanish help came at a price: the young king had to cede many Calabrian cities to Ferdinand II of Aragon, including Reggio di Calabria. A battle took place between the parties at Seminara (21 June 1495), where the Neapolitan-Spanish army suffered a heavy defeat by a much smaller French force led by d'Aubigny. After that, for months the Spaniards did not engage in open battles with the French, although Fernández De Córdoba, using guerrilla-like tactics, slowly retook the rest of Calabria.

Following the lost Battle of Seminara, Ferdinand II went to Messina, where he gathered a smaller fleet and sailed to Naples. In early July, with the help of his fleet and the support of the city's inhabitants, accompanied by Prospero and Fabrizio Colonna, he finally managed to retake Naples, following the uprising

that broke out on the night of 6–7 July and which paved the way for Ferdinand's arrival. Gilbert de Bourbon-Montpensier withdrew his French troops to the Neapolitan fortresses.[6] A relief army arrived under the command of Francois de Tourzel (Baron of Précy) and was joined by pro-French Neapolitan barons. The French defeated the Neapolitan army sent against them by Ferdinand II at Eboli. However, soon Montpensier and some of his troops left Naples and fled to Salerno across the sea to join d'Aubigny and his army. Ferdinand II interpreted this as a breach of peace and laid siege to Castel Nuovo, which he occupied on 8 December. On 17 February 1496, the French garrisons of Castel Nuovo and Castel dell'Ovo finally surrendered to Ferdinand II.

In Apulia, the Venetians fought against the French, as Ferdinand II promised them the ports of Trani, Brindisi, and Otranto in return for their assistance (22 January 1496). In Marino Sanuto's work there is a letter summarising the state of the war in April 1496, according to which the opposing armies could be described as having even forces – according to Sanuto's letter (which also cites Virginio Orsini), Montpensier may have had a total of 8,000–9,000 men, including 800 heavy cavalrymen and 5,000 infantrymen (Swiss, German, and Italian mercenaries). In contrast, the army led by Ferdinand II consisted of 8,000 infantrymen, 1,200 heavy cavalrymen and 800 stratioti units, or roughly 10,000 men.

By mid-1495, Calabria, Puglia and most of the Terra di Lavoro had fallen into Ferdinand's hands – with the exception of a few strategically important places – but almost the entire Abruzzo was still occupied by the French. Venetian troops arrived in Abruzzo under the command of Frencesco Gonzaga and Filippo de Rossi (700 stratioti and 3,000 infantrymen) and were joined by Spanish troops. On 1 July 1496, the Venetians occupied Monopoli.

By the end of 1495, the fighting between the parties had reached a standstill and was not resumed until April 1496. Since both sides needed money to continue the war, toll posts with significant revenues became the targets for attacks. One of the most important locations was the customs office in Foggia, with the revenue of tens of thousands of ducats. For this reason, the Orsini family aided by Ferdinand II launched an attack on Abruzzo with an army of about 4,000 horsemen. On another occasion, Camillo Vitelli with his horsemen carried out

[6] D. Potter, *Renaissance France at War: Armies, Culture and Society, c.1480–1560*, New York 2008, pp. 27–30.

a successful raid on the German infantrymen in Ferdinand II's service. Thus, for a time, the war against the French was reduced to cavalry raids like those mentioned above. During this time, Ferdinand II and his troops united with the Venetian troops led by Gonzaga. The French military leadership lacked a sense of purpose – Montpensier wanted to march against Naples, but this did not happen as the mercenaries who had not received their pay refused to fight – so the French army headed for Apulia and camped at Atella.[7]

By June 1496, the French troops led by Montpensier had become effectively trapped in Atella. This fact was first mentioned in a letter from Paolo Capello to the Venetian envoy to the Kingdom of Naples dated 20 June. Due to its central location within the Kingdom of Naples, the fortress of Atella had strategic importance and was convenient for French troops to obstruct the connection between the territories controlled by the Holy League. In his subsequent letters, Capello stated that the castle had not yet been surrounded by the League's troops, so that French troops from Abruzzo and other areas could still arrive there freely for some time.[8] In Atella, French troops were besieged by Spanish troops led by Gonzalo Fernández de Córdoba and Ferdinand II. The scale of the war is well illustrated by Capello's description of the size of the Spanish army: '*don Consalvo Ferante con homeni d'arme 100, fanti 2000, cavali zanetari 400, et 200 schiopetieri*.'[9] On 23 July 1496, following negotiations, the parties signed a treaty leading to the capitulation of the French troops. As can be seen from the following quote, the treaty was accepted and signed by all opposing parties or their representatives:

> The clauses, conditions, and agreements begin here and they are signed by His Majesty Ferdinand II, who by the grace of God is the king of Sicily and Jerusalem, etc., and on the other hand, the renowned Ms. Gilbert, Count of Montpensier, vicar and deputy of France's most Christian royal highness in the Kingdom of Sicily, and by the renowned Virginio Orsini, the captain of the aforementioned great lord, who signs in the name of all the other masters and captains and soldiers, whether footman or horsemen, who are in Atella.
>
> First article, they agreed to the venerable Ms. Cardinal Juan Borgia, legatus of Holiness on behalf of the Pope, and the distinguished Gonzalo Fernández [de

[7] P. Pieri, *op. cit.*, pp. 359–363.

[8] M. Sanuto, *I diarii di Marino Sanuto*, vol. 1, ed. F. Stefani, Venezia 1879, pp. 224–228, col.

[9] "*...don Gonzalo Donandez with 100 men-at-arms, 2.000 foot soldiers, 400 jinetes (a kind of Spanish light cavalary), and 200 arquebusier...*", M. Sanuto, *op. cit.*, p. 228, col.

Córdoba], chief of the most merciful king and queen of Spain, and the most prominent Ms. Francesco de Gonzaga the Marquis of Mantua, the Chief of the Venetian Signoria, and the dignified Paolo Capello, the ambassador of the most prominent Signoria said, and the dignified Francesco Casato, the envoy of the most eminent Duke of Milan, on behalf of their masters and the most merciful league, will guard what has been described above, and at the same time, together with them, it will be received in his own name by the most eminent Ms. Don Federico, Duke of Altamura.

Furthermore, he was sworn to the present articles and signed with his own hands by the king of [Naples] and the said Ms. Montpensier, and the others whose names are described above, sealed it with their seals and made two copies of it: one remains with the king of [Naples], the other with Ms. Montpensier.[10]

The treaty signed at Atella gave the French army 30 days to notify Charles VIII and organise the arrival of the French relief forces. According to the treaty, however, the relief troops could only come from outside the territory of the Kingdom of Naples. Furthermore, according to the provisions of the treaty, the French troops were to acquire food at their own expense.[11] The agreement was guaranteed by guarantees and exchange of hostages.

[10] 'I capitoli, pacti et convention initi et firmati tra la majestà del signor don Ferando secundo, per la divina gratia re de Sicilia et Hierusalem etc. ex una parte, et lo illustre monsignore Giliberto conte de Monpensero, vicario et locotenente generale de la cristianissima majestà del re de Franza nel regno de Sicilia, et lo illustre signor Virginio Ursino capitaneo de dicta majestà, e per tutti li altri signori et capitanei et soldati, tanto da pede come da cavalo, che sono dentro d' Atella de l'altra parte. (...)

Item, è convenuto che il reverendissimo monsignor Joanne Borgia cardinale et legato da latere in nome di la santità del papa, et lo illustre Consalvo Ferandes gran capitanio generale de li serenissimi signori re et regina de Spagna, et lo illustrissimo signor Francesco de Gonzaga marchexe de Mantua capitaneo generale de la illustrissima Signoria de Venetia, et lo magnifico messier Paulo Capello ambasiatore de la dicta illustrissima Signoria, et lo magnifico messier Francesco Casato ambasciatore de lo illustrissimo signor ducha de Milano, in nome dei loro signori et de la serenissima lega, li farà observare lo suprascripto, et pariter con loro promete nomine proprio lo illustrissimo signor don Federico principe d'Altamura.

Item, li presenti capituli se habiano ad jurare, subscrivere de manu propria del signor re et del preffato signor de Monpensero et de li altri in nome de chi sono facti, et sigilar de loro sigillo, et se ne habiano ad fare due para: l'uno reste in potere del signor re, et l'altro in potere de Monpensero.' M. Sanuto, *op. cit.*, pp. 253, 258–259 col.

[11] To this end, Gilbert de Bourbon borrowed 10,000 ducats from Ferdinand (half of it in food) after the contract had been signed. Ferdinand II got his 10,000 ducats back, as the French commander received 12,000 ducats from the Florentines, M. Sanuto, *op. cit.*, pp. 253–259.

Despite the 30-day deadline, the French troops left Atella for Castellammare within a week following the capitulation and most of the French soldiers had arrived there by 16 August. According to the treaty, the retreating French troops were accompanied by Venetian and Neapolitan troops in order to ensure their own safety and that of the population. The French marched in the middle, the Venetians in the front and the Neapolitans in the back. The French army was disarmed: they left all the cannons and ammunition in Atella, and their weapons were taken away from them.[12]

By the end of August 1496, the allies had also achieved the capitulation of the dukes of Salerno and Bisignano, who laid down their arms and left the Kingdom of Naples together with the French soldiers. The French troops were decimated by disease and climate – while their numbers were 4,500 when they arrived in Castellammare, only 3,340 remained just a month later. On 19 September, Marino Sanuto was informed that duke of Montpensier was at that time in Naples, but not as a prisoner – the Venetian envoy reported that Montpensier was treated more as a kind of guest at the Neapolitan court, since his safety was guaranteed by treaty.[13]

Overall, the treaty of Atella helped the anti-French alliance to achieve its goals, as it neutralised the French troops stationed in the territory of the Kingdom of Naples – most of them laid down their arms at Atella; the troops that continued fighting following the conclusion of the treaty were scattered across the Neapolitan territories and had no opportunity to unite or escape. The naval advantage provided by the Venetian and Spanish fleets guaranteed that the French could neither bring reinforcements nor leave the Kingdom of Naples. Thus, the French units were forced to surrender one by one. Although the French resistance in the Kingdom of Naples finally ceased only with the fall of Taranto in 1498, in practical terms the French troops had no possibility of launching another attack. Therefore, the treaty of Atella postponed the French force's renewed attack on Naples and created for the Neapolitans the opportunity of another intervention and allowed them to concentrate their forces and finally drive the French out of the Kingdom of Naples.

[12] The issue of cannons was discussed separately in the treaty of Atella, since Ferdinand II wanted to compensate for the artillery lost in the French attack at the expense of the French troops. M. Sanuto, *op. cit.*, pp. 253–259, col.

[13] M. Sanuto, *op. cit.*, pp. 259, 263–265, 275, col.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Bembo P., *Della historia Vinitiana*, vol. 12, Venegia 1552.

Guicciardini F., *Storia d'Italia*, ed. S. Seidel Menchi, I millenni, Turin 1971.

Sanuto M., *I diarii di Marino Sanuto*, vol. 1, ed. F. Stefani, Venice 1879.

Opracowania • Secondary sources • Литература

The Cambridge Modern History, vol. 1: *The Renaissance*, eds. A.W. Ward, G.W. Prothero, S. Leathes, New York–London 1902.

Mallett M.E., Shaw Ch., *The Italian Wars, 1494–1559: War, State and Society in Early Modern Europe*, Modern Wars in Perspective, Harlow–New York 2012.

Pieri P., *Il Rinascimento e la Crisi Militare Italiana*, Einaudi 1952.

Potter D., *Renaissance France at War: Armies, Culture and Society, c. 1480–1560*, New York 2008.

Joseph Rafael Gudmann

KAPITULACJA WOJSK FRANCUSKICH POD ATELLĄ (23 LIPCA 1496)

Streszczenie. W tym artykule przedstawię pierwszą fazę tzw. wojen włoskich, a konkretnie okres między rokiem 1494 a 1498. Artykuł koncentruje się na kapitulacji wojsk francuskich pod Atellą – istotnym wydarzeniu, które wpłynęło na zmianę układu sił w przebiegu wojny. Od tego momentu, po zwycięskiej kampanii na Półwyspie Apenińskim, Francuzi zaczęli tracić przewagę militarną. Głównym źródłem do badania było dzieło Mario Sanuto zatytułowane *I diarii* (*Dzienniki*) zawierające szczegółowy zapis wspomnianych wydarzeń, które pozwala nam przeanalizować sytuację i uzyskać jasność w sprawie wojskowych, politycznych i ekonomicznych aspektów kapitulacji armii francuskiej.

Słowa kluczowe: Renesans, wojny włoskie, dyplomacja, kapitulacja, XV wiek, działania wojenne, historia Francji, historia Hiszpanii, historia Neapolu, historia Włoch

Oleg Hański
University of Lodz
ORCID ID: 0000-0002-1957-0631

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 157–175
https://doi.org/10.18778/8331-461-7.10

CAVALRY UNIT OF JAN BUCZACKI FROM THE YEAR 1501

Summary. This article considers the offensive and defensive armament, organisational structure, and condition of horses in the King of Poland's 200-horse mercenary company under the command of rittmeister (*rotmistrz*) Jan Buczacki in 1501. As a part of the permanent defence system (*obrona potoczna*), this company was stationed in the territory of the Kingdom of Poland's Ruthenian Lands in order to protect the lives and property of the local residents from the military threats of Tatar and Moldavian forces. The article presents the results of a source study and a statistical analysis of a part of a hand-written military registry from 1501, which is stored in the Central Archives of Historical Records in Warsaw. In the registry records, 24 knights (men-at-arms, or companions – *towarzysze*), including the captain, were mentioned by their name or nickname, while the majority of the soldiers and squires remained anonymous. In total, the company comprised 171 men (including 24 knights and 2 military musicians) and 29 squires. The records report that the company had 135 pieces of offensive armament (102 crossbows, 30 lances, 3 matchlocks) and 174 pieces of defensive armament (28 full plate knights' armours, 106 shooters' armours, 5 chain mails, a breastplate, a sallet helmet, an armet helmet, and a small shield – a buckler). According to the type of armaments, the soldiers of the unit can be divided into four categories: heavy lancers (*kopijnicy*), arbalists, demi-lancers (*półkopijnik*), and swordsmen. In addition, the registry includes detailed records describing the company's horses, which were classified as either spearman or shooters' horses. In particular, there were 56 heavy lancers' horses, 137 shooters' horses, and 7 horses belonging to neither of those categories.

Keywords: Kingdom of Poland, Ruthenia, Podolia, arms, armour, mercenaries, cavalry, Jan Buczacki

The primary source for learning about the structure and armament of the permanent defence (*obrona potoczna*) troops are the manuscripts stored in the Central Archives of Historical Records in Warsaw, in the Archives of the Crown Treasury section, division 85 of the Enlistment inventories of the Crown Army. These are mainly inspection records written down by royal scribes when accepting men into service or extending service for the next quarter for enlisted troops. The source basis for the study is a register of a 200-horse

unit (*rota*) of enlisted cavalry under the command of *woyewodycz Johannes* from 1501.[1]

The army serving in the Ruthenian Lands of the Kingdom of Poland has been the subject of interest for a large group of historians. The first to take up the subject in their research were Konstanty Górski,[2] Tadeusz Korzon,[3] and Ludwik Kolankowski.[4] Marek Plewczyński,[5] Tadeusz Grabarczyk,[6] and Aleksander Bołdyrew[7] also dealt with this issue. Classical works on weaponry by Wendelin Boeheim,[8] Edwart Oakeshott[9] and, above all, studies by Polish researchers, including Zdzisław Żygulski junior,[10] Jan Szymczak,[11] Marian Głosek,[12] and

[1] The Central Archives of Historical Records, Archives of the Crown Treasury, Division 85, Rejestry popisowe wojska koronnego (Enlistment inventories of the Crown Army), sign. 5, c. 2–12 (hereinafter: CAHR, ACT, Division 85, sign. 5).

[2] K. Górski, *Historia piechoty polskiej*, Kraków 1893; idem, *Historya Jazdy Polskiej*, Kraków 1894.

[3] *Vide*: T. Korzon, *Dzieje wojen i wojskowości w Polsce*, vol. 1, Lwów–Warszawa–Kraków 1923.

[4] L. Kolankowski, *Roty koronne na Rusi i Podolu 1492–1572*, „Ziemia Czerwieńska" 1935, vol. 1, no. 2, pp. 141–174.

[5] M. Plewczyński, *Wojny Jagiellonów z wschodnimi i południowymi sąsiadami Królestwa Polskiego w XV wieku*, Siedlce 2002; idem, *Wojny i wojskowość polska w XVI wieku*, vol. 1, Zabrze 2011.

[6] T. Grabarczyk, *Piechota zaciężna Królestwa Polskiego w XV wieku*, Łódź 2000; idem, *"Po racku, po husarsku, z przyprawą tatarską" – początki przemian wojskowości polskiej u schyłku XV w.*", [in:] *In tempore belli et pacis. Ludzie – Miejsca – Przedmioty*, eds. T. Grabarczyk, A. Kowalska-Pietrzak, T. Nowak, Warszawa 2011, pp. 117–128; idem, *Udział wojsk zaciężnych w obronie południowo-wschodnich kresów Królestwa Polskiego w latach 1499–1500*, [in:] *Kresy, granice i pogranicza w historii wojskowej*, ed. A. Olejko, Rzeszów 2014, pp. 402–412; idem, *Jazda zaciężna Królestwa Polskiego w XV wieku*, Łódź 2015.

[7] A. Bołdyrew, *Produkcja i koszty uzbrojenia w Polsce w XVI wieku*, Warszawa 2005; idem, *Piechota zaciężna w Polsce w pierwszej połowie XVI wieku*, Warszawa 2011; idem, *Equus Polonus: koń w wojsku polskim w XVI wieku*, Piotrków Trybunalski 2016.

[8] In preparing the article, I used the Russian edition of W. Boeheim's work, *Handbuch der Waffenkunde* (Leipzig, 1890). *Vide*: В. Бехайм, *Энциклопедия оружия*, пер. А. Девель, ред. А. Кирпичников, Санкт-Петербург 1995.

[9] In preparing the article, I used the Russian edition of E. Oakeshott's works. *Vide*: Э. Окшотт, *Оружие и воинские доспехи Европы. С древних времен до конца Средневековья*, пер. Л. Игоревский, Москва 2009.

[10] Z. Żygulski, *Broń w dawnej Polsce na tle uzbrojenia Europy i Bliskiego Wschodu*, Warszawa 1982.

[11] J. Szymczak, *Produkcja i koszty uzbrojenia rycerskiego w Polsce XIII–XV w.*, Łódź 1989; idem, *Początki broni palnej w Polsce (1383–1533)*, Łódź 2004; idem, *Rycerz w hełmie, w zbroi i z tarczą*, Warszawa 2016; idem, *Rycerz z bronią zaczepną*, Warszawa 2017; idem, *Rycerz i jego konie*, Warszawa 2018.

[12] M. Głosek, *Miecze środkowoeuropejskie z X–XV w.*, Warszawa 1984; idem, *Broń biała*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003 (hereinafter: UWPS), pp. 23–40; idem, *Broń drzewcowa i obuchowa*, [in:] UWPS, pp. 40–52.

Włodzimierz Kwaśniewicz,[13] as well as a collective work edited by Andrzej Nowakowski on weaponry in Poland in the years 1450–1500, were helpful in analysing the armament of soldiers from Jan Buczacki's rota.[14]

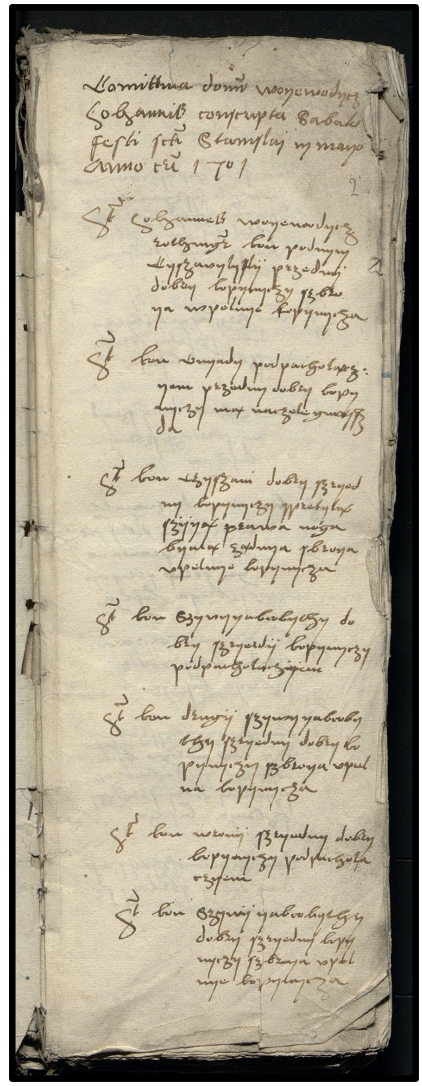


Fig. 1. The first page of the enlistment inventories of Jan Buczacki's *rota* (Source: CAHR, ACT, Division 85, sign. 5, c. 2)

[13] W. Kwaśniewicz, *Leksykon dawnego uzbrojenia ochronnego*, Warszawa 2005.

[14] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003.

In 1500, the Crimean Tatars, inspired by Moscow, twice carried out heavy raids on the Crown Lands. In order to counteract such occurrences in the following year, on 13 April 1501, Stanisław of Chodecz was appointed the new general starost of Ruthenia, replacing the discredited Piotr Myszkowski. To defend the borders, 200 footmen soldiers and 2,150 cavalry were then recruited, divided into 13 units or *rotas*. One of them, which was commanded – as noted by the scribe who drew up the register – by *woyewodycz Johannes*, will be discussed in this paper.

Firstly, we should clarify who the '*woyewodycz Johannes*' commanding this unit was. The answer to the question of the identity of the above-mentioned commander was given by L. Kolankowski in 1935. Kolankowski established that he was Jan, son of Jakub Buczacki (1430/1438–1501), Voivode of Podolia (1485–1497) and Ruthenia (1499–1501). The Buczacki family was called by Vitalii Mykhaylovskyi 'the uncrowned rulers of Podolia.'[15] Jan Andrzej Buczacki (d. 1509) of the Abdank coat of arms, was a crown dapifer (*podczaszy*), starost of Międzybórz and Rawa. Jan spent his youth as a royal courtier. His name was mentioned more than once on the pages of the registers of the royal court banner. Together with his brother Jakub (d. 1541) he was a student at the University of Kraków. On 14 June 1497, in Lviv, before marching to Moldavia, King Jan Olbracht granted Buczacki a number of estates in the Halych region.[16] He took part in the 1497 Moldavian expedition as a royal courtier. From 1501 onwards, he served as a rittmeister in the permanent defence. In 1502, he fought against the Tatars in Lithuania and defeated a strong Tatar detachment near Bobruysk. In 1503, he took part in Piotr Myszkowski's envoy to Moscow. In 1508, he represented the king's interests in Lithuania in connection with Prince Michał Gliński's uprising (1467–1534). In 1509, he was a member of an envoy to Hungary and Turkey. While on his way back, he died suddenly in Timișoara, where he was buried.[17]

---

[15] В. Михайловський, *Еластична спільнота. Подільська шляхта в другій половині XIV – 70-х роках XVI ст.*, Київ 2012, pp. 117.

[16] „villas Monasterczani, Chothkowo, Czerniew, Chomykow et Jabloncza, terrae Haliciensis", CAHR, Crown Metric (Metryka Koronna), sign. 16 (hereinafter: CAHR, CM), c. 66; *Matricularum Regni Poloniae summaria, excussis codicibus, qui in Chartophylacio Maximo Varsoviensi asservantur*, part 2, ed. T. Wierzbowski, Varsoviae 1907, no. 742 (hereinafter: MRPS).

[17] B. Stachoń, *Buczacki Jan Andrzej*, [in:] *Polski Słownik Biograficzny*, vol. 3, Kraków 1937, p. 84; В. Михайловський, *op. cit.*, pp. 117, 124–126, 170; T. Korzon, *op. cit.*, pp. 232, 251, 361; J. Kałużny, *Chorągiew nadworna królów Polski w latach 1447–1501*, PhD thesis written under the supervision of Professor T. Grabarczyk, Łódź 2021, pp. 169, 170, 237, 332, 422.

Jan Buczacki started his preparations for service in 1501 on 27 March when, while staying in Kraków, he received a letter of command (the so-called *litterae indemnitatis*) that allowed him to begin forming a 200-horse cavalry unit.[18] The recruited unit reported for inspection on 8 May 1501 and was probably enlisted for duty near Lviv.[19] According to the register drawn up at the time, rittmeister Buczacki served in full heavy lancer's armour, rode a good heavy lancer's horse, and appeared at the head of a 40-horse retinue, testifying to his wealth. The commander had 2 soldier-signallers at his disposal: a trumpeter (*pyszczek*) and a drummer (*bąbewnisk*), both listed in shooter's armour.[20] Large 12-horse retinues were led by Podlodowski (name unrecorded), Piotr Umiński, Kacper Maciejowski) while others, such as Mikołaj Szramek, presented as few as one shooter.[21] In total, the company comprised 171 servicemen (including 24 knights and 147 ordinary soldiers, including 2 military musicians) in addition to 29 squires.

Table 1

Membership of Jan Buczacki's *rota*

No.	Companion	Category	Number of soldiers in the retinue	Knights	Squires	Folio
1	Jan Buczacki	heavy lancer	40	36	4	c. 2
2	Podlodowski	heavy lancer	10	9	1	c. 4
3	Umiński Piotr	heavy lancer	11	9	2	c. 4v
4	Maciejowski Kacper	heavy lancer	11	9	2	c. 5v
5	Dołuski Jan	heavy lancer	9	7	2	c. 6– 6v
6	Dołuski Stanisław	heavy lancer	9	7	2	c. 7v

[18] CAHR, CM, sign. 19, c. 20; MPRS, part 2, no. 1465.

[19] As A. Bołdyrew rightly pointed out, it is most likely that the inspection of all 13 troops was carried out by one person. Perhaps the vetting of the *rota* in question was carried out by Stanisław Chodecki, starost of Lviv, whose name can be found in the title of Piotr Oleski's description of the unit (CAHR, ACT, Division 85, sign. 5, c. 103) from 1501. On this basis, it can be concluded that Buczacki's *rota*, like the rest of the troops, may have been recorded in the vicinity of Lviv.

[20] CAHR, ACT, Division 85, sign. 5, c. 3.

[21] CAHR, ACT, Division 85, sign. 5, c. 2–4, 4–6, 10v.

Table 1 (cont.)

No.	Companion	Category	Number of soldiers in the retinue	Knights	Squires	Folio
7	Orzechowski Jan	heavy lancer	7	6	1	c. 7v
8	Kartkowski	heavy lancer	4	3	1	c. 7v
9	Jaromirski Marcin	heavy lancer	7	6	1	c. 8
10	Jaromirski Ambroży	heavy lancer	4	3	1	c. 8v
11	Zborowski Dawid*	heavy lancer	7	6	1	c. 8v
12	Ścibor	heavy lancer	5	4	1	c. 9
13	Mikołaj, standard-bearer	heavy lancer	5	4	1	c. 9
14	Borański (Dorański) Piotr	heavy lancer	5	4	1	c. 9v
15	Piwko Mikołaj	heavy lancer	7	6	1	c. 10
16	Stanisławski Kacper	heavy lancer	4	3	1	c. 10
17	Szramek Mikołaj	arbalist	1	1	0	c. 10v
18	Izdebski Paweł	arbalist	2	2	0	c. 10v
19	Borzynowski Piotr	arbalist	2	2	0	c. 11
20	Krzyżanowski Stanisław	arbalist	2	2	0	c. 11
21	Mylakowski Mikołaj	arbalist	3	2	1	c. 11
22	Słupski Martin	heavy lancer	9	8	1	c. 11v
23	Boratyński Jan	heavy lancer	7	6	1	c. 11v
24	Trepka Jan	heavy lancer	6	5	1	c. 12

* *Szboronski David*. CAHR, ACT, Division 85, sign. 5, c. 8v.

Source: Own compilation based on CAHR, ACT, Division 85, sign. 5, c. 2–12v.

At the end of the 15th and the beginning of the 16th century, enlisted cavalry units were usually divided into two basic categories of horsemen: heavy lancers and arbalists. However, the armament of some of the men in Buczacki's *rota* does not allow them to be unequivocally described as heavy lancers or arbalists. We find the division presented by Jan Ostroróg, the Voivode of Poznań (1436–1501), in his work *Memoriał o urządzeniu Rzeczypospolitej* [*The Memorandum on the Organisation of the Republic*] of 1477 useful when classifying the horsemen. Ostroróg proposed the following categories of soldiers in cavalry units based on their armament: heavy lancers (*hastarii*), demi-lancers (*semihastarii*),

arbalists (*saggitarii*), and swordsmen (*gladiatores*).[22] These categories of horsemen were also found in the enlisted cavalry.

Table 2

Armament in Jan Buczacki's *rota*

Offensive armament			Protective armament							
Ranged weapon		Pole weapon	Set of armour			Torso protection		Helmets		Shields
Crossbow	Handgonne	Lightweight lance	Heavy lancer's full armour	Heavy lancer's armour	Shooter's armour	Chain mail	Breastplate	Armet helmet	Sallet helmet	Buckler
102	3	30	6	22	137	5	1	1	1	1

Source: Own compilation based on CAHR, ACT, Division 85, sign. 5, c. 2–12v.

The core of the *rota* was heavy lancers – 29 (16.96%) such knights served in the unit. Six soldiers wore armour described as *zvpelnya kopynycza* (full heavy lancer's armour), and 22 *kopynycze* (heavy lancer's armour).[23] These were full plate armours typical of heavy-armed knightly cavalry. The neck and upper torso were protected by a gorget consisting of two plates and a neck guard. The knight's torso was protected by a cuirass that consisted of two parts: the upper part, which included the *plach*, i.e., a breastplate with a lance-rest (a hook for supporting the lance; French: *faukre*, German: *rüsthaken*) on the right side with a backplate, and the lower part with movable faulds (armour segments) and tassets. Protection for the arms (rerebraces) consisted of pauldrons, arm guards (besagues), couters with 'wings,' forearm guards (vambraces), and plate gauntlets. Chain mail sleeves or long-sleeved

[22] J. Ostroróg, *Memoriał w sprawie uporządkowania Rzeczypospolitej*, transl. A. Obrębski, Łódź 1994, p. 41; T. Grabarczyk, *Jazda*..., p. 62.

[23] With caution, it can be assumed that the addition of the word *vpelnye* (i.e. complete) may have meant full plate armour, and simple *zsbroya kopynycza* may have meant half-armour, so-called ¾, i.e., without the greaves and plate sabatons.

mail shirts were also used.[24] The legs were protected by cuisses, poleyns, greaves, and plate sabatons with spurs. Underneath the armour, the knights wore arming doublets (Old Polish: *kabath*). In the mid-16th century, the price for an arming doublet ranged from 3 to 18 groschen.[25] The whole set of armour (together with the helmet) could cost from 21 to 50 florins. However, the compensation that enlisted men received for the loss of their armour at that time was only 9–10 florins.[26]

It is not known what type of helmets were used by Buczacki's heavy lancers. It is most likely that these were sallet helmets which were popular at the end of the Middle Ages, possibly worn with a high bevor.[27] It is also possible that the heavy lancers also wore closed helmets with visors (armet helmets).[28]

The source says nothing about the offensive armament of the heavy lancers. We can only assume that each such horseman must have been equipped with a lance and a sword. In the 15th century, lances were 3.8–4 m long on average, often decorated with paint and coloured pennants with tassels.[29]

Most of the soldiers in Buczacki's *rota* were arbalists. 105 (61.4%) arbalists were serving in this unit at the time, of whom 102 were armed with crossbows. The price of a crossbow was about 2 florins, but the enlisted men were compensated only 1 florin

[24] T. Grabarczyk, *Jazda*..., pp. 110–112; P. Klučina, *Zbroj a zbraně: Evropa 6. – 17. století*, Praha–Litomyśl 2004, pp. 18–17.

[25] J. Szymczak, *Rycerz w hełmie, w zbroi i z tarczą,* Warszawa 2016, pp. 116–126; T. Grabarczyk, *Jazda*..., pp. 97, 113–114; W. Kwaśniewicz*, Leksykon dawnego uzbrojenia ochronnego*, Warszawa 2005, pp. 31, 134.

[26] T. Grabarczyk, *Jazda*..., pp. 86–87; idem, *Piechota zaciężna Królestwa Polskiego w XV wieku*, Łódź 2000, pp. 156–60; A. Bołdyrew, *Piechota zaciężna w Polsce w pierwszej połowie XVI wieku,* Warszawa 2011, pp. 246–248; W. Kwaśniewicz, *Leksykon*..., p. 154; A. Swaryczewski, *Płatnerze krakowscy*, Warszawa–Kraków 1987, pp. 23–26; J. Szymczak, *Rycerz w hełmie*..., pp. 65–66.

[27] A. Nowakowski, *Uzbrojenie ochronne*, [in:] UWPS, pp. 75–109, pp. 75–76.

[28] More on this topic in: W. Kwaśniewicz*, Leksykon*..., pp. 8, 22, 95, 134; P. Klučina, *Zbroj*..., pp. 372–374; A. Nowakowski, *Uzbrojenie*..., pp. 75, 78–79; Э. Окшотт, *Оружие и воинские доспехи Европы. С древних времен до конца Средневековья*, пер. Л. Игоревский, Москва 2009, p. 437; T. Grabarczyk, *Piechota*..., pp. 92–93; idem, *Jazda*..., p. 93; idem, *Шлемы наемников в польском войске второй половины XV в.*, [in:] *История военного костюма: от древнего мира до наших дней. Материалы Международной военно-исторической конференции 19 ноября 2015 г.*, ред. А. Аранович, Д. Алексеев, Санкт-Петербург 2016, pp. 88–90; A. Bołdyrew, *Produkcja*..., p. 109; J. Szymczak, *Rycerz w hełmie*..., p. 66; Z. Żygulski, *Broń w dawnej Polsce na tle uzbrojenia Europy i Bliskiego Wschodu*, Warszawa 1982, pp. 101–103, 148.

[29] T. Grabarczyk, *Jazda*..., p. 80; M. Głosek, *Broń drzewcowa i obuchowa*, pp. 43–44; M. Plewczyński, *Wojny i wojskowość*..., vol. 1, pp. 48–49; W. Kwaśniewicz, *Leksykon*..., p. 31; J. Szymczak, *Rycerz z bronią zaczepną,* Warszawa 2017, pp. 82–89; Z. Żygulski, *Broń*..., p. 112.

if they lost it.[30] Three shooters in Buczacki's *rota* were armed with firearms. Like the foot soldiers at the time, they used handgonnes (*rucznycza*). In Poland, gunmen in mounted troops were first recorded in 1497, but as the register of Buczacki's *rota* shows, this type of weapon was still not very popular in the case of cavalry units.[31]

Riders armed with firearms also wore armour, which was referred to in the register as 'arbalist's armour.' Jan Ostroróg wrote that every arbalist should have '*galeam, loricam et bombardam vel balistam cum viginti sagittis.*'[32] A set of shooter's armour would have consisted of components that did not interfere with the soldier's use of the crossbow and would have given a wide field of vision. Compensation for the loss of such armour in 1471 was 90 groschen. For such a sum, it was possible to purchase a sallet helmet (30 groschen) together with chain mail (60 groschen). At the end of the 15th century, shooter's armour should have consisted of at least a helmet (sallet or kettle hat), cuirass or chain mail, gorget, and possibly also tassets and chain mail sleeves.[33]

As mentioned above, the unit also had three handgonnes at its disposal. The first belonged to a soldier from the rittermastser's retinue; the other two were in the retinues of Podlodowski and Jan Trepka, respectively. The soldiers with the handgonnes wore shooter's armours and rode shooter's horses (Polish: *koń strzelczy*)[34] – the same as men equipped with crossbows.[35] The handgonnes of the time were long-barrelled firearms with a matchlock, a long barrel on a stock with a clearly marked butt. The average length of these weapons was 1–1.2 m, weight 10–15 kg, and calibre up to 15 mm. The barrels were made of iron or bronze. Handgonnes were fired with bullets made of lead, stone, or even glass.

---

[30] T. Grabarczyk, *Jazda*..., pp. 81–83; P. Klučina, *Zbroj*..., pp. 52, 411–417; W. Kwaśniewicz, *1000 słów o broni białej i uzbrojeniu ochronnym*, Warszawa 1983, pp. 95–97; Z. Wawrzonowska, *Broń strzelcza*, [in:] UWPS, pp. 55–60.

[31] T. Grabarczyk, *"Po racku*..., pp. 117–128; T. Grabarczyk, *Hand Firearms in 15th-Century Poland. Why Did the Breakthrough Happen?*, „Fasciculi Archeologiae Historicae" 2021, vol. 34, pp. 102–121.

[32] '*An arbalist* [should have] *a helmet, chain mail, and a bombard or a crossbow with twenty arrows*'. J. Ostroróg, *Memoriał*..., p. 41; T. Grabarczyk, *Jazda*..., p. 62.

[33] *Ibidem*, pp. 87–89; Т. Грабарчик, *Шлемы*..., pp. 86–88.

[34] The term *koń strzelczy* – a shooter's horse – refers to a horse that is smaller than a lancer's horse and larger than the small horses used, for example, by Tartars or Cossacks. Shooters' horses were ridden by riders armed with crossbows, bows, and firearms, but also by riders who did not have ranged weapon, but had lighter protective armour, which distinguished them from the heavy-armed lancers.

[35] CAHR, ACT, Division 85, sign. 5, c. 3v, 4v, 12.

The firing speed of the handgonnes was low (about one shot every 10 minutes) and the effective range of fire was up to a hundred metres. Soldiers did not fire the handgonnes while on horseback, but on foot.[36]

In Buczacki's *rota*, 30 soldiers were armed with lightweight lances (*drzewcze*) and wore shooter's armour. The exceptions were two horsemen, the first of whom served in chain mail with a shield-buckler, while the second served in a breastplate (*plach przedny*) and helmet (sallet).[37] This group can be referred to as 'demi-lancers.' It was probably this type of horsemen that J. Ostroróg called *semihastarii*. According to Jan Ostroróg, such a soldier should have 'an armet helmet (*przyłbica*), chain mail (*pancerz*), arming doublet (*kaftan*), gorget (*obojczyk*), and gauntlets (*rękawice*).'[38] The introduction of such equipped horsemen into the ranks of the enlisted cavalry was the forerunner of the so-called 'Rac reform,' in which light-armed *Rac* riders and hussars were to serve alongside the heavy-armed lancers and arbalists.[39] It is possible that one of the soldiers in the *rota* discussed in this paper was a hussar, i.e., equipped with a lightweight lance and (*drzewcze*) and a shield (buckler – *pucklarsz*). *Rotas* with a larger number of light-armed men were more mobile and better equipped to fight against opponents such as Tatars, Moldavians, or Turks.[40] It is worth noting that the percentage of demi-lancers (*semihastarii*) reached 17.54%, and together with the heavy lancers (16%) constituted a third of the unit.

The *drzewcze* mentioned in the register was a type of pole weapon similar to the lances used by hussars.[41] Tadeusz Grabarczyk and Marek Plewczyński claim that it was a shorter version of the Hungarian hussar lance (about 3.5 m) which was hollow inside and had a ball ('knob') and a pennant. The price of these weapons averaged from 8 to 20 groschen, with *drzewcze* alone costing 6 groschen and

[36] J. Szymczak, *Początki broni palnej w Polsce (1383–1533),* Łódź 2004, pp. 45, 99–100, 311–312, 315–316; T. Grabarczyk, *Jazda*..., pp. 84–85; idem, *Piechota*..., pp. 143, 150–151; idem, *Hand Firearms*..., pp. 102–121; A. Bołdyrew, *Piechota*..., pp. 222–223; M. Mielczarek, *Ręczna broń palna*, [in:] UWPS, pp. 64–65.

[37] CAHR, ACT, Division 85, sign. 5, c. 8v.

[38] J. Ostroróg, *Memoriał*..., p. 41; T. Grabarczyk, *Jazda*..., p. 62.

[39] *Vide:* T. Grabarczyk, "*Po racku*..., pp. 117–128.

[40] CAHR, ACT, Division 85, sign. 5, c. 4v, 6, 7, 8, 8v; *Słownik polszczyzny XVI wieku*, vol. 34: *Przyrabiać–Ṕ*, Warszawa 2010, p. 417; W. Kwaśniewicz, *Leksykon*..., p. 98.

[41] CAHR, ACT, Division 85, sign. 5, c. 34–42v. *Vide*: О. Ганський, *Озброєння і обладунки «затяжної» кінної роти Струся з 1501 р.*, [in:] *Історія давньої зброї. Дослідження 2020*, Київ 2023, pp. 194–196.

the hollow lightweight version 12 groschen or more. The cost of the spearhead was 2–6 groschen.[42]

The armament of one demi-lancer was described as '*plach przedny lapka drzewcze*' (breastplate, sallet, lightweight lance).[43] This soldier from Ambroży Jaromirski's retinue was the only one whose recorded equipment included a breastplate (*plach przedny*),[44] and the only one listed with a helmet – *lapka* (sallet).[45]

The discussed *rota* also included six soldiers (3.51% of the unit) that are recorded as having protective armour only. Three were listed with shooter's armour (two in the rittmeister's retinue, one in the retinue of Jan Dołuski), one in armour and an armet helmet (in Stanisław Dołuski's retinue), and the remaining two in armour only (in the retinues of Marcin Jaromirski and Kacper Mącznieniowski).[46] The term *panczersz* meant chain mail. Prices for this type of armour ranged between 42 and 96 groschen. In the event of the loss of chain mail, soldiers were compensated: in the 1470s, a distinction was made between a heavy lancer's chain mail, valued at 288 groschen, and an shooter's chain mail, priced at 192 groschen. However, from the late 15th century onwards enlisted soldiers were reimbursed less for lost chain mail, as low as 60 groschen.[47]

The helmet noted on one soldier's equipment is a *przelbycza* (identified with an armet helmet). However, it is unlikely that a light rider equipped only with chain mail would have been wearing a heavy helmet with a visor. In the case of this soldier, the term 'visor' should be rather identified with a *misiurka* (прилбица, мисюрка-прилбица) known from Eastern Europe – a helmet consisting of a shallow skull and an attached coif of mail.[48]

---

[42] A. Bołdyrew, *Produkcja*..., pp. 84–85; T. Grabarczyk, *Jazda*..., pp. 80–81.

[43] CAHR, ACT, Division 85, sign. 5, c. 8v.

[44] W. Kwaśniewicz, *Leksykon*..., p. 81; T. Grabarczyk, *Piechota*..., p. 166; idem, *Jazda*..., pp. 104–105; A. Bołdyrew, *Piechota*..., pp. 250–251.

[45] Э. Окшотт, *Оружие*..., pp. 437–438; W. Kwaśniewicz, *Leksykon*..., p. 103; P. Klučina, *Zbroj*..., pp. 376–377.

[46] CAHR, ACT, Division 85, sign. 5, c. 3v, 6–8.

[47] W. Kwaśniewicz, *Leksykon*..., pp. 62–63; A. Bołdyrew, *Produkcja*..., p. 107; T. Grabarczyk, *Jazda*..., p. 100.

[48] А. Болдырев, Т. Грабарчик, *Ротмистр Александр Сенявский герба Лелива и его конная рота в 1557 году*, „Stratum Plus. Археология и культурная антропология" 2022, № 5, p. 432; idem, *Озброєння козацької роти Бернарда Претвича в 1557 році*, [in:] *Історія давньої зброї. Дослідження 2020*, Київ 2023, p. 83; T. Grabarczyk, *Rota Mikołaja Sieniawskiego z 1557 roku*, „Acta Universitatis Lodziensis. Folia Archaeologica" 2021, no. 36, p. 349; О. Шиндлер, *Русские шлемы XVI века*,

We know nothing about the offensive armament of the above-mentioned soldiers. There are no crossbows recorded in their equipment, as in the case of the shooters equipped similarly in terms of protective armament. There is also no indication that they had pole weapons; however, it can be assumed *a priori* that each horseman must have had a sword or sabre. It can therefore be concluded that these six soldiers were so-called swordsmen (*gladiatores*, Polish: *mieczownicy*). They were mentioned by Ostroróg, according to whom this category of horsemen should be equipped with an armet helmet, shield, and sword.[49] Sword prices in the first half of the 16th century ranged between 20 and 30 groschen.[50]

Table 3

Categories of riders in Jan Buczacki's *rota*

Category	Heavy lancers	Arbalists	Demi-lancers	Swordsmen
Number	28	105	30	6 (8)*
%	16.96	63	17.54	3.5 (4.7)*

* Including two signallers in shooter's armour.

Source: Own compilation based on CAHR, ACT, Division 85, sign. 5, c. 2–12v.

To give a complete picture of the *rota*, it is necessary to include information about the horses that belonged to rittmeister Buczacki's soldiers. The registry records 200 horses, of which 171 were ridden by soldiers and 29 by squires. The scribe's task was to describe the horse in such a way that it could be identified in the event of theft or swap. To this end, the animal's colouring (e.g. *szwyathlognyady*, *szwronaszywy*, *gorczyczathy*, *gnyady*) or distinctive features (*s byalą grzywy*, *gwiasda na czele*) were described in great detail. Information on their size was also recorded in the register. Horses are listed in the said register with the following terms: *rowny*, i.e., probably average, typical size (30 horses). In addition,

[in:] *История военного дела: исследования и источники*, т. 8, 2016, pp. 204–205, http://www.milhist.info/2016/05/10/schindler_3/ (access: 19 III 2023); W. Kwaśniewicz, *Leksykon*..., p. 75.

[49] J. Ostroróg, *Memoriał*..., p. 41.

[50] M. Głosek, *Broń biała*, [in:] UWPS, pp. 25–32; A. Bołdyrew, *Piechota*..., p. 196; T. Grabarczyk, *Piechota*..., pp. 113–114; M. Plewczyński, *Wojny*..., vol. 1, p. 56; Э. Окшотт, *Оружие*..., pp. 214; Z. Żygulski, *Broń*..., p. 110.

medium-sized horses (87 horses) and small horses (24 horses) are mentioned. In the case of 61 shooters' horses, it was noted that they were geldings (30.5%).

The mounts were divided into two basic categories: heavy lancers' horses and shooters' horses. There were 56 heavy lancers' horses in the unit (28%) of which the majority (46) were assessed as 'good.' These were powerful mounts – such horses usually cost between 10 and 15 florins.[51] As many as 137 (69%) of the mounts in the *rota* were shooters' horses, lighter and of finer build than the heavy lancers' horses. These animals were not expected to have great physical strength but were valued for their agility. 74 of the shooters' horses were described as 'good.' The price for such a horse was 5–7 florins.

Six horses, including 4 'good' horses, were not qualified either as heavy lancers' or shooters' horses. It is difficult to determine the reason for omitting such information – perhaps it was a simple oversight on the part of the scribe. Out of this group, four horses belonged to arbalists with crossbows, the fifth to the aforementioned soldier with a lightweight lance (*drzewem*) and shield (*puklerz*), and the sixth was ridden by a squire.[52]

Information about visible wounds and diseases in the animals was also recorded in the registers. Thus, we read that one horse had a wound on the neck (*s przebytą szyją*) and another had a cut on its left ear (*s raszrząszanym uchem lewym*).[53] Another horse was diagnosed with an eye disease – glaucoma, and yet another was generally described as 'unwell' (*neszdrzawij*).[54] Horses were valuable and, as a result, they were cared for, as evidenced by the fact that when two heavy lancers' horses from Umiński and Kartkowski's retinues fell ill, it was decided to treat them. The cost of treatment for both horses was 5 florins in total. Also, we have general information about 7 lost shooters' horses (while the treatment of Mikołaj Szramek's horse was valued at 2 florins). Ultimately, 2 heavy lancers'

[51] *Ibidem*, p. 617; J. Szymczak, *Rycerz i jego konie*, Warszawa 2018, p. 58–66.

[52] „Item bedavia gnyadaszmyatha dobrą szbroya strelcza kusha", CAHR, ACT, Division 85, sign. 5, c. 3v; „Item bedavia wrona dobra panzarsz puclarsz drezwcze; Item kon byaly bedavya strelcza szbroya strelcza kusha", CAHR, ACT, Division 85, sign. 5, c. 4v; „Iszdebszky Paul[u]s strzelecz. Item kon podnym szgnyadaplesznyvij sprothymij noszdrzamy szryednij dobry szbroya kusha", CAHR, ACT, Division 85, sign. 5, c. 10v; „Item kon szyvy pod pacholączyem szryedny dobry", CAHR, ACT, Division 85, sign. 5, c. 11.

[53] CAHR, ACT, Division 85, sign. 5, c. 2, 3v.

[54] *Item valach czyszavi szloyerzowathy lyszy nyeszprothymij neszdrzawij szbroya strelcza kusha* CAHR, ACT, Division 85, sign. 5, c. 4; *Item kon szywy drugij yabcobythy prawe oko yaszkrane szbroya strelcza kusha szryedny*, CAHR, ACT, Division 85, sign. 5, c. 4, 12v.

horses and 5 shooters' horses were irretrievably lost during service. As compensation for the lost mounts, the soldiers received 90 florins in total.[55]

In total, 125 (62.5%) of the 200 horses were described as 'good' in the register. On the other hand, horses described as *przednij dobry* should be regarded as 'very good' mounts. There were three of these (1.5%) in the unit, two of which belonged to the rittmeister himself.[56] In the case of a few sick horses, information on their treatment was recorded. Thus, the condition of the mounts in Buczacki's *rota* can be considered satisfactory.

Table 4

Horses in Jan Buczacki's *rota*

Horse type	'Good' heavy lancers' horses	Heavy lancers' horses	'Good' shooters' horses	Shooters' horses	'Good' horses	Horses	Total
Number	46	10	75	63	4	2	200
%	23	5	37	32	2	1	

Source: Own compilation based on CAHR, ACT, Division 85, sign. 5, c. 2–12v.

Summary

Consisting of 171 soldiers and 29 squires, Jan Buczacki's *rota* was a typical unit in terms of size. With regard to the armament, the following categories of soldiers can be distinguished: heavy lancers with lances, so-called demi-lancers, arbalists with crossbows and handgonnes, and soldiers who probably belonged to the group of swordsmen (*gladiatores*). The function of signallers was performed

[55] "In iste comitiva duo equis hastares in dampnis, Item reformationem duobus equorem quinque flor. sagittare septem equi in dampnis. Summarum pro omnibus equis facit in toto nonaginta flor(enorum)", CAHR, ACT, Division 85, sign. 5, c. 5, 7v, 10, 10v, 12v.

[56] „Johannis woyewodycz rothmistr kon pod nym cyszawy lysy przednij dobry koń kopijniczy zbroya zupelna kopynycza | gniady pod pacholęciem przedny dobry kopijniczy ma na czele gwiazda", CAHR, ACT, Division 85, sign. 5, c. 2; „kon szrydzaplesznywy ma na czele lyszyna, lewą nogą byalą szadnyą kon strzelczy dobry przednij zbroya strzelcza", CAHR, ACT, Division 85, sign. 5, c. 2v.

by two armed soldiers equipped respectively with drums and a trumpet. The average size of a retinue was seven men.

In terms of organisation and armament, therefore, the unit was typical of the Polish cavalry guarding the south-eastern borderlands of the Kingdom of Poland in the early 16th century. There was a visible tendency to reduce the large number of heavy lancers and replace them with lighter-equipped horsemen, who were better adapted to clashes with opponents representing the eastern style of combat.

The task of the *rota* discussed in this paper, like that of other units mobilised in 1501, was to defend the local population against an anticipated Tatar attack. Though the Tatar attack did not materialise, the region of Pokuttia was invaded that summer by the army of the Moldavian hospodar Stefan III the Great (1429–1504). It is not known, however, whether Jan Buczacki's *rota* took part in the battle against the Moldavians at that time.[57]

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

The Central Archives of Historical Records

Crown Metric, sign. 16, 19

Archives of the Crown Treasury, Division 85, sign. 5

Źródła drukowane • Printed sources • Печатные источники

Matricularum Regni Poloniae summaria, excussis codicibus, qui in Chartophylacio Maximo Varsoviensi asservantur, part 2, ed. T. Wierzbowski, Varsoviae 1907.

Ostroróg J., *Memoriał w sprawie uporządkowania Rzeczypospolitej*, transl. A. Obrębski, Łódź 1994.

[57] M. Plewczyński, *Wojny*..., p. 161; idem, *Wojny i wojskowość*..., pp. 89–93, 132–133; *vide*: T. Grabarczyk, *Udział wojsk*..., pp. 402–412; Z. Spieralski, *Z dziejów wojen polsko-mołdawskich*, „Studia i Materiały do Historii Wojskowości" 1965, vol. 11, part 2, pp. 77–82; L. Kolankowski, *op. cit.*, pp. 142–143.

Opracowania • Secondary sources • Литература

Bołdyrew A., *Equus Polonus: koń w wojsku polskim w XVI wieku*, Piotrków Trybunalski 2016.

Bołdyrew A., *Piechota zaciężna w Polsce w pierwszej połowie XVI wieku*, Warszawa 2011.

Bołdyrew A., *Produkcja i koszty uzbrojenia w Polsce w XVI wieku*, Warszawa 2005.

Głosek M., *Broń biała*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003, pp. 23–40.

Głosek M., *Broń drzewcowa i obuchowa*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003, pp. 40–52.

Głosek M., *Miecze środkowoeuropejskie z X–XV w.*, Warszawa 1984.

Górski K., *Historia piechoty polskiej*, Kraków 1893.

Górski K., *Historya Jazdy Polskiej*, Kraków 1894.

Grabarczyk T., *Hand Firearms in 15th-Century Poland. Why Did the Breakthrough Happen?*, „Fasciculi Archeologiae Historicae" 2021, vol. 34, pp. 102–121.

Grabarczyk T., *Jazda zaciężna Królestwa Polskiego w XV wieku*, Łódź 2015.

Grabarczyk T., *Piechota zaciężna Królestwa Polskiego w XV wieku*, Łódź 2000.

Grabarczyk T., *"Po racku, po husarsku, z przyprawą tatarską" – początki przemian wojskowości polskiej u schyłku XV w.*, [in:] *In tempore belli et pacis. Ludzie – Miejsca – Przedmioty*, eds. A. Kowalska-Pietrzak, T. Nowak, T. Grabarczyk, Warszawa 2011, pp. 117–128.

Grabarczyk T., *Rota Mikołaja Sieniawskiego z 1557 roku*, „Acta Universitatis Lodziensis. Folia Archaeologica" 2021, nr 36, pp. 345–355.

Grabarczyk T., *Udział wojsk zaciężnych w obronie południowo-wschodnich kresów Królestwa Polskiego w latach 1499–1500*, [in:] *Kresy, granice i pogranicza w historii wojskowej*, ed. A. Olejko, Rzeszów 2014, pp. 402–412.

Klučina P., *Zbroj a zbraně: Evropa 6.–17. století*, Praha–Litomyšl 2004.

Kolankowski L., *Roty koronne na Rusi i Podolu 1492–1572*, „Ziemia Czerwieńska" 1935, vol. 1, no. 2, pp. 141–174.

Korzon T., *Dzieje wojen i wojskowości w Polsce*, vol. 1, Lwów–Warszawa–Kraków 1923.

Kwaśniewicz W., *1000 słów o broni białej i uzbrojeniu ochronnym*, Warszawa 1983.

Kwaśniewicz W., *Leksykon dawnego uzbrojenia ochronnego*, Warszawa 2005.

Mielczarek M., *Ręczna broń palna*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003, pp. 60–65.

Nowakowski A., *Uzbrojenie ochronne*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003, pp. 73–106.

Plewczyński M., *Wojny i wojskowość polska w XVI wieku*, vol. 1–2, Zabrze 2011.

Plewczyński M., *Wojny Jagiellonów z wschodnimi i południowymi sąsiadami Królestwa Polskiego w XV wieku*, Siedlce 2002.

Spieralski Z., *Z dziejów wojen polsko-mołdawskich*, „Studia i Materiały do Historii Wojskowości" 1965, vol. 11, no. 2, pp. 62–122.

Stachoń B., *Buczacki Jan Andrzej*, [in:] *Polski słownik biograficzny*, vol. 3, Kraków 1937, p. 84.

Swaryczewski A., *Płatnerze krakowscy*, Warszawa–Kraków 1987.

Szymczak J., *Początki broni palnej w Polsce (1383–1533)*, Łódź 2004.

Szymczak J., *Rycerz i jego konie*, Warszawa 2018.

Szymczak J., *Rycerz w hełmie, w zbroi i z tarczą*, Warszawa 2016.

Szymczak J., *Rycerz z bronią zaczepną*, Warszawa 2017.

Wawrzonowska Z., *Broń strzelcza*, [in:] *Uzbrojenie w Polsce średniowiecznej 1450–1500*, ed. A. Nowakowski, Toruń 2003, pp. 52–60.

Żygulski Z., *Broń w dawnej Polsce na tle uzbrojenia Europy i Bliskiego Wschodu*, Warszawa 1982.

Бехайм В., *Энциклопедия оружия*, пер. А. Девель, ред. А. Кирпичников, Санкт-Петербург 1995 (Boeheim W., *Entsiklopediya oruzhiya*, per. A. Devel, ed. A. Kirpichnikov, Sankt-Peterburg 1995).

Болдырев А., Грабарчик Т., *Ротмистр Александр Сенявский герба Лелива и его конная рота в 1557 году*, „Stratum Plus. Археология и культурная антропология" 2022, №5, pp. 427–434 (Bołdyrew A., Grabarczyk T., *Rotmistr Aleksandr Senyavskij gerba Leliva i ego konnaya rota v 1557 godu*, „Stratum Plus. Arheologiya i kulturnaya antropologiya" 2022, №5, pp. 427–434).

Болдирев А., Грабарчик Т., *Озброєння козацької роти Бернарда Претвича в 1557 році*, [in:] *Історія давньої зброї. Дослідження 2020*, ред. М.Ф. Дмитрієнко, Г.В. Боряк, Д.В. Тоїчкін, В.В. Томозов, В.М. Прокопенко, О.О. Попельницька, Київ 2023, pp. 75–88 (Bołdyrew A., Grabarczyk T., *Ozbroiennia kozatskoi roty Bernarda Pretvycha v 1557 rotsi*, [in:] *Istoriia davnoi zbroi. Doslidzhennia 2020*, ed. M.F. Dmytriyenko, H.V. Boryak, D.V. Toyichkin, V.V. Tomozov, V.M. Prokopenko, O.O. Popel'nyts'ka, Kyiv 2023, pp. 75–88).

Ганський *О., Озброєння і обладунки «затяжної» кінної роти Струся з 1501 р.*, [in:] *Історія давньої зброї. Дослідження 2020*, ред. М.Ф. Дмитрієнко, Г.В. Боряк, Д.В. Тоїчкін, В.В. Томозов, В.М. Прокопенко, О.О. Попельницька, Київ 2023, pp. 189–208 (Hanskyi O., *Ozbroiennia i obladunky «zatiazhnoi» kinnoi roty Strusia z 1501 r.*, [in:] *Istoriia davnoi zbroi. Doslidzhennia 2020*, ed. M.F. Dmytriyenko, H.V. Boryak, D.V. Toyichkin, V.V. Tomozov, V.M. Prokopenko, O.O. Popel'nyts'ka, Kyiv 2023, pp. 189–208).

Грабарчик Т., *Шлемы наемников в польском войске второй половины XV в.*, [in:] *История военного костюма: от древнего мира до наших дней. Материалы Международной военно-исторической конференции 19 ноября 2015 г.*, ред. А. Арановичь, Д. Алексеев, Санкт-Петербург 2016, pp. 82–100 (Grabarczyk T., *Shlemy nayemnikov v polskom voyske vtoroy poloviny XV v.*, [in:] I*storiya voyennogo kostyuma: ot drevnego mira do nashikh dney. Materialy Mezhdunarodnoy voyenno-istoricheskoy*

konferentsii 19 noyabrya 2015 g., eds. A. Aranovich, D. Alekseyev, Sankt-Peterburg 2016, pp. 82–100).

Михайловський В., *Еластична спільнота. Подільська шляхта в другій половині XIV– 70-х роках XVI ст.*, Київ 2012 (Mykhaylovs'kyy V., *Elastychna spil'nota. Podil's'ka shlyakhta v druhiy polovyni XIV – 70-kh rokakh XVI st.*, Kyiv 2012).

Окшотт Э., *Оружие и воинские доспехи Европы. С древних времен до конца Средневековья*, пер. Л. Игоревский, Москва 2009 (Okshott E., *Oruzhiye i voinskiye dospekhi Evropy. S drevnikh vremen do kontsa Srednevekovia*, per. L. Igorevskiy, Moskva 2009).

Praca doktorska • PhD thesis • Кандидатская диссертация

Kałużny J., *Chorągiew nadworna królów Polski w latach 1447–1501*, Doctoral thesis writen under supervision of Professor T. Grabarczyk, Łódź 2021.

Netografia • Netography • Интернет-источники

Шиндлер О., *Русские шлемы XVI века*, [in:] *История военного дела: исследования и источники*, т. 8, 2016, pp. 167–219 (Shindler O., *Russkiye shlemy XVI veka*, [in:] *Istoriya voyennogo dela: issledovaniya i istochniki*, vol. 8, 2016, pp. 167–219), http://www.milhist.info/2016/05/10/schindler_3/ (acessed: 19 III 2021).

Oleg Hański

ROTA KONNA JANA BUCZACKIEGO Z 1501 ROKU

Streszczenie. Artykuł jest poświęcony uzbrojeniu zaczepnemu i ochronnemu, strukturze organizacyjnej, kondycji koni jazdy zaciężnej roty dowodzonej przez Jana Buczackiego w 1501 r. Oddział ten, był na służbie króla Polski, wchodził w skład tzw. obrony potocznej. Była to jedna z rot, które miały odpierać najazdy tatarskie i mołdawskie na południowo-wschodnie ziemie Królestwa Polskiego. Podstawowym źródłem, na którym oparto ten artykuł jest rejestr roty J. Buczackiego przechowywany w Archiwum Głównym Akt Dawnych w Warszawie. Oddział ten liczył 200 koni, w tym 24 dowódców pocztów (tzw. towarzyszy), którzy zostali odnotowani z imienia i nazwiska (lub przydomku). Imion pozostałych żołnierzy nie odnotowano. Rota liczyła 171 żołnierzy (w tym 24 towarzyszy, oraz 2 muzykantów wojskowych) i 29 pacholąt. Na kartach źródła odnotowano 135 elementów uzbrojenia zaczepnego (102 kusze, 30 lekkich kopii – tzw. drzewek, 3 rusznice). Zostały również zapisane 174 elementy uzbrojenia ochronnego (28 zbroi kopijniczych, 106 zbroi strzelczych, 5 pancerzy, napierśnik, hełmy typu łebka i przyłbica oraz tarcza). Charakter uzbrojenia poszczególnych jeźdźców pozwala podzielić ich

na cztery kategorie: kopijników, strzelców, półkopijników, mieczowników. Bardzo szczegółowo zostały opisane konie podzielone na dwie główne kategorie: konie kopijnicze, których odnotowano 56 oraz strzelcze, występujące w liczbie 137. W przypadku pozostałych 7 wierzchowców nie określono żadnej kategorii. Oddział Buczackiego był typową dla tego okresu rotą.

Słowa kluczowe: Królestwo Polskie, Ruś, Podole, uzbrojenie, zaciężni, jazda

Manouchehr Moshtagh Khorasani
Frankfurt School of Finance and Management
ORCID ID: 0000-0002-7663-1963

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 177–201
https://doi.org/10.18778/8331-461-7.11

JEWELS OF CRAFTS: FORGING BLADES, FLETCHING ARROWS, MAKING NAPHTHA, AND MANUFACTURING BLACK POWDER – A PERSIAN MANUSCRIPT ON WARFARE

Summary. The present article deals with an undated Persian manuscript titled *Javāher al-Sanāye'* جواهرالصنایع [*Jewels of Crafts*]. Many Persian manuscripts provide invaluable information on weapon-making, forging swords, archery techniques, attacking fortifications, casting cannons and making firearms, and military strategies. Most accounts on making crucible steel are part of books on jewels and stones. In my last book *Jewels and Patterned Crucible Steel: Books of Jewels, Stones, and Metals*, I provided a translation and annotation of the book *Goharnāmeh* [*Book of Jewels*] written by Mohammad ben Mansur for the ruler Uzun Hasan Āq Qoyonlu in the 15th century CE (9th century Hijra). The *Goharnāmeh* by Ben Mansur describes precious and semi-precious stones, animal products, and metals. An essential part of the book deals with blades and making crucible steel. However, the manuscript *Javāher al-Sanāye'* [*Jewels of Crafts*], which is the topic of this article, is about the transformation of stones and metals. The book describes how the craftsmen made crucible steel and expands on how ironworkers used crucibles for conducting other alchemical processes to change and transform the colour of stones, among other processes. *Javāher al-Sanāye'* [*Jewels of Crafts*] is a gem for war-related topics as it provides invaluable information on how to make crucible steel blades, how to identify and classify swords, how to make the adhesive glue for attaching the blade tang to the handle of the sword, how to make glue for fletching arrows, how to make naphtha (burning material) for attacking fortifications, and how to make the black powder.

Keywords: crucible steel, sword, arrow, naphtha, bow varnish, black powder, Persia, Iran, Medieval Era, dynasty

1. Introduction

The manuscript *Javāher al-Sanāye'* جواهرالصنایع [*Jewels of Crafts*] is written in Persian and is kept in the Library of Iranian Parliament with the number 2,849. Although the author does not identify himself in the manuscript,

he notes that he describes one hundred sixty crafts in his book,[1] and that the book consists of forty parts, each divided into smaller chapters or sections. However, the author contradicts himself some sentences later by adding that his book consists of twenty-four parts, and each part contains several chapters. This inconsistency could be due to different reasons – the author could have used another manuscript as its source, or the scribe made a mistake in counting different parts/chapters of the book (assuming that the author and scribe were two distinct persons). The manuscript itself has 101 sheets, each consisting of 2 pages, for a total of 202 pages. Each page has thirteen sentences written in a beautiful *naste'aliq* script, with the titles of parts and chapters written in red. The book has unique topics. Although the book is written mainly in Persian, pages 97–100 are in Arabic.

M. Chatra'i assumes that some parts of these sheets written in the Arabic language could be a direct quote from Mohammad Zakariya Rāzi's works. Based on the prose style and collocations, Chatra'i assumes that the manuscript *Javāher al-Sanāye'* [*Jewels of Crafts*] was written during the Safavid period; however, he does not provide any hard evidence for this assumption.[2] Some pages have handwritten explanations added by an editor on the corner of some pages, quoting the books *Maxzan al-Adviyeh* [*Treasure of Medicines*] written in Persian by Mohammad Hossein Aqili Alavi Khorasani in 1771–1781 CE (1185–1195 Hijra) and *Qarābā Din* [*Graphidion*], dedicated to the study of traditional medicine, written in 1771 CE (1185 Hijra). These notes serve to explain some parts of the book and especially describe the suggested ingredients in the original manuscript.[3] Therefore, the manuscript was written before 1771 CE. Note that the Safavid period lasted from 1501 to 1736 CE. *Javāher al-Sanāye'* attributes some crafts and operations to some masters such as Master Filsuf al-Maqrebi (p. 5), Kālenj Hakim (p. 72), Yāquti Mosta'sami (p. 73), Ya'qub ibn Ishāq Kāraz (p. 75), and Master Evaz Mobser (p. 181). We do not have any further information about the mentioned masters to deduce more information about the correct dating of the manuscript.

[1] M. Chatra'i, *Matni az Ruzegār Safaviyān dar Bāreye Honarhā va Sanāye'e Gunāgun*, "Payyām-e Bahārestān" 1390 [2011], vol. 3, no. 13, pp. 306–307.

[2] *Ibidem*.

[3] *Ibidem*.

2. Similar manuscripts

Two similar manuscripts in the collection, *Majma' al-Sanāye'* [*Assembly of Crafts*] and *Majmuat al-Sanāye'* [*Collection of Crafts*] (National Library and Archive of Iran, NLAI, numbers 12,248 and 15,617, respectively), deal with the same topic. Although Chatra'i identifies them as copies of the manuscript *Javāher al-Sanāye'*, a closer look at *Majmuat al-Sanāye'* which is dated by the NLAI to 1717 CE (1129 Hijra) reveals fundamental differences between these two manuscripts.[4] If we take the date of 1717 CE (1129 Hijra) proposed by the NLAI into account, this date places the manuscript in the Safavid period of Iran. Further, the NLAI identifies the manuscript number as 978f, in contradiction to the manuscript number 15,617 given by Chatra'i. *Majmuat al-Sanāye'*, with 110 pages, is almost half the length of *Javāher al-Sanāye'*. However, since each page of the manuscript *Majmuat al-Sanāye'* has 19 lines and each page of the manuscript *Javāher al-Sanāye'* has 13 lines, *Javāher al-Sanāye'* has a total of 2,626 lines, and *Majmuat al-Sanāye'* has 2,090 lines.

Regarding the possible author of the text, Chatra'i quotes Daneshpajuh who quotes the manuscript *Javāher al-Sanāye'* itself, naming its author as 'Mir Yahyā Hakim Filsuf Maqrebi.' However, Daneshpajuh does not offer any source for his claim.[5] Possibly, he thought that the name of Master Filsuf al-Maqrebi, who is mentioned in the text as one of the masters of the crafts, should be the author of the text. On the other hand, F. Qasemlu titles the same treatise as *Majmuat al-Sanāye'* [*Collection of Crafts*] written by Mir Yahyā or Hakim Filsuf Maqrebi in India.[6] *Majmuat al-Sanāye'* mentions the names of the following masters: Master Filsuf al-Maqrebi, Kāleh Hakim, Aflātun Hakim (a reference to the Greek philosopher Plato), Mohammad Zarkes, Ostād Hāji, Ostād Ayyāz, Ostād Sa'dāh, Ostād Avvaz Baqdādi, and Mobārak Šāh Ra'dandāz.[7] The text does not refer to any of them as the author of the text. The following table shows the differences between the two manuscripts discussed above:

[4] *Ibidem*.

[5] *Ibidem*, pp. 306–307.

[6] F. Qasemlu, *Javāhernāmeh*, [in:] *Encyclopaedia Islamica*, 2014 and Archives.

[7] *Ibidem*.

Table 1

Comparisons of two manuscripts

Title	*Javāher al-Sanāye'* [*Jewels of Crafts*] جواهرالصنایع	*Majmuat al-Sanāye'* [*Collection of Crafts*] مجموعه‌الصنایع
Date	undated	Dated 1717 CE (1129 Hijra)
Provenance	Library of Iranian Parliament	National Library and Archives of Iran
Manuscript number	2,849	978f
Number of pages	202	110
Number of lines in each page	13	19
Total number of lines	2,626 lines	2,090 lines
Author	unknown	unknown
Number of parts	24 parts, each part containing one to several chapters	42 parts, each part containing one to several chapters
language	Persian; four pages (97–100) in Arabic	Persian
Mentioned Masters of the crafts	- Master Filsuf al-Maqrebi - Kālenj Hakim - Master Evaz Mobser - Yāquti Mosta'sami - Ya'qub ibn Ishāq Kāraz	- Master Filsuf al-Maqrebi - Kāleh Hakim - Aflātun Hakim - Mohammad Zarkes - Ostād Hāji - Ostād Ayyāz - Ostād Sa'dāh - Ostād Avvaz Baqdādi - Mobārak Šāh Ra'dandāz
Period editing	Comparisons to *Maxzan al-Adviyeh* [*Treasure of Medicines*] and *Qarābā Din* [*Graphidion*]	None

Source: Author's own elaboration.

3. Topics of the *Javāher al-Sanāye'* [*Jewels of Crafts*]

The book *Javāher al-Sanāye'* [*Jewels of Crafts*] has twenty-three parts. Most parts deal with how to make big pearls by gluing broken smaller parts together, how to dye rock crystal stones red so they resemble rubies and spinels, how to make cinnabar with the colour of rubies and spinels, how to purify lapis lazuli, how to

enamel and make enamelled bowls, cups, and jugs, how to make different types of oxides (silver oxides, copper oxides), how to manufacture various types of alums, how to make different types of lead, silver, antimony, copper, iron, brass slags, and mercury, how to construct a dissolving pit and refractory cement, how to produce different types of colours for dyeing glasses and rock crystals, how to make putties, how to produce bezoars, how to melt gold to be used for calligraphy, how to dye and starch paper, how to colour ivory, how to make hair colours and how to have longer hair, how to decorate with silver and golden palms, and how to perform exotic sciences.

Fig. 1. A page of the manuscript *Javāher al-Sanāye'*
(Source: Library of Iranian Parliament, no. 2849)

The following parts of the book are relevant for the study of warfare:

- **Part nine** – About making foreign blades: The author explains how to make blades that are so flexible that they can be folded like a piece of paper. In addition, these blades are so sharp that they can pierce glass, cut iron, and pick up copper coins from the ground. This section consists of three chapters.

- **Part thirteen –** About attaching the feathers on arrows: The author explains that the feathers should be attached so tightly that even if the arrows were placed in water for ten days, the feathers would not become loose. This section consists of one chapter.
- **Part nineteen** – About making *eskandari* oil and fat and using them as burning materials for attacking fortifications.
- **Part twenty-three** – About making black powder for guns and fireworks.

3.1. Making blades and quenching processes

Part 9 provides invaluable information on forging blades and it describes two different forging methods. The first chapter of this part describes the following forging process:

> First chapter: To make foreign blades, they bring old iron horseshoes that have been used under the hooves of horses. They are placed on a strong fire, [melted] and made into one [piece]. Before placing [the piece] on the fire again, they immerse it in a solution of 'alkali stone.' Then they place it on fire and straighten it as far as they see fit. This way, they put the mass on the fire [again] and allow it to cool in the mentioned water [liquid]. They keep doing this until it is finished, it is flexible and soft, can be folded like paper, is sharp, and can cut glass and steel. It can pick up one deram coin from the ground.

The text mentions horseshoes as a significant material for making blades. The use of old horseshoes for making steel in general and blades in particular had a long tradition in Persia.

One of these manuals is the book *Ta'id Besarat* [*Aid to Sight*] written in Delhi in 1706–1707 CE (1118 Hijra) by a Persian named Mirzā Lotfallāh. He wrote his treatise *Ta'id Besarat* [*Aid to Sight*] on the sword, sword making, and sword analysis (*šamširšenāsi* شمشیرشناسی) under the pseudonym Nithār with the honorary epithet of Nosratallāh Xān. Mirzā Lotfallāh also talks about the use of horseshoes in making steel and distinguishes between two methods: a) the Hindustani method and b) the Gujarati method:

a) **Hindustani method**: The ironworkers use raw iron (*āhan-e xām*) also called 'used horseshoe' (*na'lpāre*) and a second type of iron, *kahiri,* to make steel. *Kahiri* is shining dark (*tirebarrāq*). They use various recipes to make steel.

b) **Gujarati method**: They do not use *sakileh* in Gujarat as they mix hard dark iron (*āhan saxttire*), which is known as the wise (*dānā*) in that region, in it [the crucible steel charge]. The difference in colour between the *kahiri* and the wise in blades is that the *kahiri* is shining dark similar to a jet stone or touchstone, and the dark iron is whitish dark (*tirebarrāq*) similar to the colour of burned lime. Although both types of iron are hard, as far as dryness is concerned, the wise is drier than the *kahiri*. If they melt the steel and try their best to melt the iron, the *sakileh* does not turn out right due to its hardness and the low quality of the wise.[8]

As we see above, the horseshoe is used in both methods, and they only differ in the usage of the second type of iron that is added to the used horseshoe. As the 19th-century French traveller to Persia Julien de Rochechouart reports, old horseshoes were also used in the process of making gun barrels. De Rochechouart reports that Persian smiths collected two old iron horseshoes and a certain quantity of small bits and pieces of ordinary iron. The total amounted to 15 *sirs*,[9] which is almost 1 kg. He further documents how the smiths layered the iron in such a way that the horse irons made up the exterior. The smiths placed the iron in the fire, and they heated it until it almost reached the melting point. In the next step, they forged the iron on the anvil until all the pieces became one uniform, compact mass. The smiths repeated the forging process several times. Then, they drew out the metal until it became a bar about 75 cm in length. They made 12 of these bars, attached them, and put the entire billet into the forge. After heating the billet sufficiently, they took the mass out and forged and cut it wherever the various parts had blended. The smiths stretched and reduced the billet to the size and thickness of a finger and rounded the corners. The next step involved taking four of these strips and twisting them into spirals, extending them on an iron blade, and beating and heating the mass until it was compact. Afterwards, the smiths twisted a mass of

[8] M.M. Khorasani, *Aid to Sight: A 17th-century Persian Treatise on Sword Classification from India*, Frankfurt am Main 2022.

[9] According to *The Digital Lexicon of Dehkhoda*, a *satir* is a weight measurement that means *sir* (garlic) and based on weight measurements of Tabriz, *satir* is 15 *methqal*. According to Emam Shushtari (*Tārix-e Megyāsāt va Nogud dar Hokumat-e Eslami*, Tehran 1961, pp. 44–45), two different weights were described as *methqal* during the Abbasid period. One of them was called *methqal Arabi* (Arabian *methqal*), also called *methqal shar'i*, and the other one was called *methqal Seirafi* or *methqal Bagdadi*. *Methqal Arabi* was equal to 4.265 grams, and *methqal Bagdadi* was equal to 4.948 grams. *Methqal Bagdadi* was the weight measurement used in Iran. Therefore, 15 *sir* is exactly 1113.30 grams, a little bit over 1 kg.

this last strip and beat and heated it to obtain the welding, whereupon they withdrew the mass, polishing and smoothing the interior of the gun barrel. In the next stage, they polished the exterior, covering the surface with a mixture of two parts sulphur and one part salt, which were mixed into a water solution. The smiths put the coated barrel in a hot and humid place, such as the interior of a bath, for 24 hours. At the end of that period, they took the barrel out, and it was complete.[10] As we see, the process of making the gun barrel also involved adding ordinary iron to two old horseshoe irons. The same process of making pattern-welded steel was used for making gun barrels in Iran.[11]

In the second chapter, the author describes the process of making finely curved (*mehrābi*) and Egyptian (*mesri*) blades. He writes:

> They take five sir of old and used horseshoes as mentioned before and make two discs of them. They make eight to nine holes in each iron disc. Then they take four deram of tin, four deram of marcasite, two deram of sieved and heated mercury, two deram of small pieces of copper, and ten deram of lead. Then they add tin, small pieces of copper, and mercury, and heat them to a melting point. Then they add mercury and marcasite and mix and add them to the openings of iron discs. Then they attach two discs by placing them on each other. They close all the openings very tightly and place them under the sunlight so that they dry up. Then they place them in the fire, and when they reach a red colour, they take them out and hammer them so that both discs become one [piece]. Then they cut it into two halves and make two discs again. They make holes in them and add the second disc as mentioned before. Then they close all openings and dry and heat it again until it turns red. They take it out, hammer it, make two discs of it, add the ingredients and repeat the whole process ten times. Then they make blades of the round iron in the shape of an Egyptian [blade]. They also make dešne daggers, knives, and daggers. This is the Egyptian method. Foreign knives which are brought here are also made of this round iron. This sword is better than the Egyptian sword as they need to polish the Egyptian sword, but this sword does not need polishing. Even if they put it *daršekāl* in water, it does not change colour. These swords are only made for kings and are kept in royal treasuries.

Based on the text, we can make the following calculation: 5 *sir* x 15 *mesqāl* x 4.948 grams = 371.10 grams. Thus, the text suggests using 371.19 grams of a horseshoe to make an iron disc. Additionally, as the text recommends using two iron discs, the amount of used iron adds up to 371.19 x 2 = 742.2 grams.

[10] W. Floor, *Traditional Crafts in Qajar Iran (1800–1925)*, Costa Mesa 2003.

[11] M.M. Khorasani, *Persian Fire and Steel: Historical Firearms of Iran*, Frankfurt am Main 2018.

Iron gained from used horseshoes, however, was not the only material added to the charge. The text also describes adding metals such as tin, mercury, copper, and lead. The mineral marcasite is also added after making nine holes in each iron disc. The text describes using the weight measurement *deram* to measure the ingredients. These include four *deram* of tin, four *deram* of marcasite, two *deram* of sieved and heated mercury, two *deram* of small pieces of copper, and ten *deram* of lead. The weight measurement *deram* (or *derham)* is 6 *dāng*, each *dāng* is two *qirāt*, each *qirāt* is two *tasuh*, and each *tasuh* is equal to two average barleycorns in weight. In other words, each *derham* is equal to the weight of 48 average barleycorns.[12] We know that since antiquity, grains of barley or wheat have been used by traders to specify units of mass. It is hard to define the exact weight of a grain of barley used in such a system, but the modern average weight is circa 65 mg. Thus, each *deram* is equal to 1 x 6 x 2 x 2 x 2 x 0.065 = 3.12 grams. The following table shows the calculated amount of each item in grams as described in the text.

Table 2

Type of ingredients and their respective amount added to the crucible charge

Ingredient	Amount in *deram*	Amount in grams
Lead	10 *deram*	10 x 3.12 = 31.2 grams
Tin	4 *deram*	4 x 3.12 = 12.48 grams
Marcasite	4 *deram*	4 x 3.12 = 12.48 grams
Mercury	2 *deram*	2 x 3.,12 = 6.24 grams
Copper	2 *deram*	2 x 3.12 = 6.24 grams
The total amount of ingredients added to the charge		68.64 grams

Source: Author's own elaboration.

Using these calculations, the whole charge together with added ingredients amounts to:

742.2 grams of iron gained from horseshoes + 68.64 grams of added ingredients = 810.84 grams total.

[12] M.M. Khorasani, *Lexicon of Arms and Armor from Iran: A Study of Symbols and Terminology*, Tübingen 2010, p. 225.

Other Persian treatises also discuss adding copper to the crucible charge. In the *Ādāb al-Harb va al-Šojā-e* [*Customs of War and Bravery*] written in Lahore or Delhi in 1229 CE (626 Hijra) or 1230 CE (627 Hijra), Mobārak Šāh talks about adding silver and copper to the steel charge. He specifically says that to make *benāh* blade, master smiths add copper and silver to *narmāhan* نرم‌آهن [soft iron]. It results in having steel with larger patterns. He adds that the wound inflicted by this kind of sword does not heal easily.[13]

In the *Ta'id Besārat*, Mirzā Lotfallāh also mentions adding silver to the crucible steel charge. He writes that by adding silver to the charge, the steel obtains a good pattern. Therefore, in Arlase, they mix silver in the charge. The more silver they add, the more expensive it becomes. The precious steel was exported to the trusteeship (*velāyat*, possibly Iran). If they add gold, the pattern becomes golden. But because adding gold is very expensive, it is rare. Mirzā Lotfallāh adds that the steel pattern is first due to the addition of silver and second due to other ingredients in the mixture. Further, Mirzā Lotfallāh adds that the practical blade has hard iron in its nature, in contrast to the noble blade that has soft iron. Its 'softness' (flexibility) is because of the presence of silver, which is a bit soft, but hardens during the quenching process. Mirzā Lotfallāh also says that the high quality of the noble iron is because of the presence of silver. He explains that the iron of the noble blade is very oily and soft in its nature. If the iron of the practical blade is heated extensively, its flexibility disappears, and it becomes darkish white like tin; if it is heated moderately, it remains hard and dark.[14]

In 1841 CE, Captain Massalski published the process of making crucible steel in French in a Russian mining journal. He describes the process of adding silver to the crucible steel charge.[15] Massalski distinguishes between three metals used for making this type of steel: iron, cast iron, and silver. He stresses that their proportions depend on the quality of each component. The iron used in the recipe is recycled from old nails, steel plates, and other objects that are cleaned of rust. Cast iron should be of the best quality. The silver must also be pure and of very high quality. Massalski stresses that the normal proportion is one part cast iron and

[13] M.M. Khorasani, *Aid to Sight*... For another translation, *vide*: R. Elgood, *Rajput Arms & Armour: The Rathores & Their Armoury at Jodhpur Fort,* vol. 1–2, New Delhi 2017.

[14] M.M. Khorasani, *Aid to Sight*...

[15] W. Floor, *op. cit.*; J. Allan, B. Gilmour, *Persian Steel: The Tanavoli Collection*, Oxford 2000.

three parts iron, measured according to weight. Iron and cast iron are reduced to small pieces and mixed thoroughly, and then the mixture is poured into refractory crucibles. The dimension of these crucibles is fivefold the height, fourfold the outer, and threefold the interior diameter depending on the amount of steel one wants to make. In Iran, the quantity was usually ¼ to 1 *batman* (2.46 kg). Massalski describes the base of the crucible as slightly concave. The mixture amounts to 1/3 of the crucible's capacity.[16] Eyewitnesses traveling to India across centuries reported adding gold and more commonly silver to a steel blade.[17] Another reason for adding silver to the steel charge was to make it auspicious.[18]

Additionally, historical Persian texts report on making an alloy by mixing different metals. For example, in the treatise *Goharnāmeh* [*Book of Jewels*], Ben Mansur talks about an alloy named *haftjuš* that consists of seven metals: iron, silver, copper, lead, gold, zinc, and tin.[19] The book *Javāher al-Sanāye'* [*Jewels of Crafts*] also talks about mixing five metals – iron, copper, tin, lead, and mercury – to make steel.

Table 3

Metals added to the crucible charge to make steel based on two different manuscripts

Metals	iron	silver	copper	lead	tin	gold	zinc	mercury
Goharnāmeh [*Book of Jewels*]	present	present	present	present	present	present	present	absent
Javāher al-Sanāye' [*Jewels of Crafts*]	present	absent	present	present	present	absent	absent	present

Source: Author's own elaboration.

The treatise *Javāher al-Sanāye'* [*Jewels of Crafts*] recommends only marcasite as a mineral that should be added to the charge of metals. Other Persian manuscripts specify more ingredients that should be mixed with iron. These

[16] M.M. Khorasani, *Arms and Armor from Iran: The Bronze Age to the End of the Qajar Period*, Tübingen 2006; W. Floor, *op. cit.*, p. 452.

[17] R. Elgood, *op. cit.*, vol. 1, p. 22.

[18] *Ibidem*.

[19] M.M. Khorasani, *Jewels and Patterned Crucible Steel: Books of Jewels, Stones, and Metals,* Frankfurt am Main 2021.

ingredients were added to the iron and heated so that they melt better. They either contain carbon from different types of plants and fruits, such as oak apples,[20] pomegranate peel,[21] sour pomegranate,[22] or myrobalan,[23] or they contain lime (calcium carbonate), such as mother pearl,[24] or coral.[25] Other ingredients can also provide the crucible charge with both lime and carbon, such as bone, shell, etc. Persian manuscripts also report about the use of a coloured soft stone or clay named manganese,[26] famed for its use in glassmaking. The glass melts early on in the process and protects the molten mass from oxidisation and the creation of bubbles. Some manuscripts also report on the usage of flux, which also helps keep the charge from oxidising.[27] The flux mixes with the oxides and together they lower the melting temperature and the viscosity of the oxides. They also used marcasite and lava stone for the same purpose.[28] Other Persian treatises also talk about the usage of various organic materials, such as leather and sheep liver, and insects such as *Peganum harmala*.[29] Both have clear carbon content, and it shows that ancient Persian smiths knew exactly what they were doing with the crucibles. Although they did not have the scientific methods of today, centuries of practical experience helped them conduct complex operations to create watered steel blades.

The third chapter of part nine of *Javāher al-Sanāye'* talks about how to quench blades, arrowheads, and spearheads in such a way that they cause mortal wounds that cannot be healed. The text differentiates between six types of quenching although it numbers only two methods first, and mentions the rest without numbering them. The first type describes a process of making molten steel in a crucible and a type of quenching process for cooling the heated crucibles. The text states:

[20] O.E. Khayyām-E Neišāburi, *Noruzname*, annotated by A. Hosuri, Tehran 2003.

[21] M.A.B. Johari Nezāmi, *Javāhernāme-ye Nezāmi*, annotated by I. Afšār, Tehran 2004.

[22] A.M.H. Šarif Mohammad, Untitled Manuscript. Attributed to the period of Šāh Esmā'il Safavid (1502–1524 CE), Tehran.

[23] M.A.B. Johari Nezāmi, *op. cit.*; A.M.H. Šarif Mohammad, *op. cit.* (original manuscript).

[24] M.A.B. Johari Nezami, *op. cit.*; O.E. Khayyām-E Neišāburi, *op. cit.*, p. 53.

[25] O.E. Khayyām-E NeišāburI, *op. cit.*, p. 53.

[26] M.A.B. Johari Nezami, *op. cit.*, pp. 326–327; O.E. Khayyām-E Neišāburi, *op. cit.*, p. 53.

[27] M.A.B. Johari Nezami, *op. cit.*, pp. 326–327.

[28] *Ibidem*.

[29] O.E. Khayyām-E Neišāburi, *op. cit.*

> First type: To make blades, arrowheads, and spearheads, they take and add ten parts iron, three parts verdigris, and three parts of a mixture of patinated tin, lead, and brass. Then they mix up all three [main] parts [iron, verdigris, and patinated tin, lead and brass] well and place them in a big crucible. They add borax to it and place it in a strong fire. Then they place the crucible in the urine of a donkey so that it cools. They repeat the same process with that piece of iron three times. Then they can make any type of weapon with that iron. The slightest injury caused by it will lead to certain death, and there will be no medicament for healing its injury.

As we see, the text suggests mixing ten parts of iron, three parts of verdigris, and three parts of a mixture of patinated tin, lead, and brass. They should be mixed well and then placed in a crucible. Then, they add borax (*tankār*) to the mixture and place it on a strong fire so that the whole mixture melts. In contrast to other recipes in which the heated crucibles were left to cool slowly by being exposed to the air in a furnace that was turned off, the *Javāher al-Sanāye'* describes a process where the heated crucibles were cooled in the donkey's urine. The text does not describe at which temperatures the heated crucibles should be placed in urine. We know that air exposure was done slowly, so as not to crack the crucibles.

The second process is applied to cold blades. The text describes the following:

> Second type: In quenching without using fire. If they want to be successful and victorious in any war, they take the plant extract and grind it in vinegar. Then they add salammoniac and dissolve all in naphtha. Then they get a piece of cotton, immerse it in the solution and rub it seven times on the [blade of the] weapon and dry it in the shade. It makes it very sharp and well quenched even without using fire. So that it can cut iron and glass and when taken in any war, it will lead to victory.

The plant extract described as *saber* is the extract of the Ilvā tree, which is bitter and grows in India.[30] They add Sal ammoniac to the extract, and then dissolve the mixture in naphtha to prepare the quenching liquid. The solution is applied seven times to the cold blade to quench it.

The third method for quenching involves a heating method. The text states:

> Another method to quench weapons: They mix mud, limestone, acanthus and dung together, and pound them and moisten them with donkey urine. Then they

[30] *Digital Lexicon of Dehkhodā*, https://www.parsi.wiki/ (access: 12 IV 2022).

> rub [this mixture] on blades and weapons, then they heat them, and cool them in alkali stone liquid. This results in a quenching which inflicts mortal injuries on the enemy within one hour even if the injury is as big as a needle head.

The *Javāher al-Sanāye'* describes pounding and mixing mud, limestone, acanthus, and dung. Then they moisten them with donkey urine. Then they apply the paste to blades and then heat the blades and quench them in alkali stone liquid.

The text also provides a fourth method for quenching the blades. This method involves heating the blade as well and is as follows:

> Another method: They mix mud and donkey dung and mix both with Doronicum scorpioides and moisten the mixture with donkey urine. They rub this mixture on any weapon, heat it, and then add Doronicum scorpioides to donkey urine [again] and then immerse the weapon in the liquid. It becomes such that any injury caused by it never heals.

This method consists of mixing mud, donkey's dung, and Doronicum scorpioides. In the next step, they added the donkey urine to the mix. They apply the paste to the blade and coat it with the mixture. Then they add Doronicum scorpioides to donkey urine and immerse the coated blade in it, and quench it.

The fifth method is quenching the blade in a cold state again. The *Javāher al-Sanāye'* describes this method as: "Another method: Quenching a weapon which is special, they rub Yemenite alum and mined Sal ammoniac and dissolve them in water. When they apply it to any weapon, it becomes quenched and gets a nice appearance".

The fifth method recommends mixing Yemenite alum with mined Sal ammoniac in water and applying the liquid to the blade. The sixth method suggests putting a mixture on a heated blade:

> Another method of quenching a blade so that if an injury is caused by it, it does not heal well and causes itching. They take clay and wet donkey dung and mix them and apply the mixture to the blade. Then they heat the blade and quench it so that it becomes sharp and the injuries [caused by it] do not heal.

This method involves mixing clay and wet donkey dung and coating the blade with the mixture. Then they heat the blade and quench it.

As we have seen, *Javāher al-Sanāye'* differentiates between three methods of quenching: a) quenching in the crucible, b) quenching the heated blade, and

c) quenching the cold blade. Additionally, the author proposes the use of different liquids for various quenching processes: a) donkey's urine, b) alkali stone liquid, c) naphtha, and d) water. As far as the ingredients for the heated and cold processes are concerned, the author suggests the following ingredients for different processes: a) animal products: dung, donkey urine; b) plants: acanthus, extract of the Ilvā tree, Doronicum scorpioides; and c) minerals: mud, limestone, alkali stone, clay, naphtha, Sal ammoniac, Yemenite alum. The following table shows the specific details for each quenching process:

Table 4

Different quenching methods described in *Javāher al-Sanāye'*

Quenching in the crucible						
First method	Ingredients in the crucible				Quenching element	
	Ten parts iron, three parts of verdigris, and three parts of a mixture of patinated tin, lead, and brass.				donkey urine	
Quenching the heated blade						
Third method	mud	limestone	acanthus	dung	donkey urine	alkali stone liquid
Sixth method	clay			wet donkey dung		
Quenching the cold blade						
Second method	**Ingredients**					
	extract of the Ilvā tree		Sal ammoniac	naphtha		
Fourth method	donkey dung		mud	Doronicum scorpioides		donkey urine
Fifth method	Yemenite alum		mined Sal ammoniac			water

Source: Author's own elaboration.

Other Persian manuals also describe how the quenching process affects the colour of patterned crucible steel as well. Colour is one of the most important factors in distinguishing the quality of patterned crucible steel. In the *Aid to Sight: A 17^{h}-century Persian Treatise on Sword Classification from India*, Mirzā Lotfallāh states that the main difference between the good quality of noble and the lesser quality of practical blades is due to the quenching process. Mirzā

Lotfallāh stresses that if they quench the blade correctly, the colour of each sword will have the proper colour. If they do not quench the blade properly, the colour will change accordingly.[31] This is very essential information as many restorers and collectors of today believe that the colour of patterned steel is due to the etching process only. Although *Javāher al-Sanāye'* does not talk about the effects of quenching on the blade colour, other Persian manuscripts report on how the quenching process can influence the colour of the blade.

- **Red colour:** In the *Tohfat al-Qarāyeb*, al-Hāseb al-Tabari reports that the smiths should use blue vitriol (copper sulfate) and green vitriol (ferrous sulfate) in the quenching process to make the blade red.[32] In an untitled manuscript, Šarif Mohammad reports that they should use old clear vinegar, copper oxide, and yellow vitriol in the quenching process to make the blade red.[33] In the *Bayān al-Sanā'āt*, Taflisi states that they should use blue vitriol and green vitriol in the quenching process to make the blade red.[34]
- **Yellow colour:** To make the blade yellow, al-Hāseb al-Tabari explains that the smiths should use yellow vitriol in the quenching process.[35] Taflisi states that they need to use blue vitriol to make the blade yellow.[36]
- **Green colour:** To make the blade green, al-Hāseb al-Tabari states that smiths should use leeches, *Cichorium intybus*, vitriol, and cow gall bladder.[37] To make the blade green, Taflisi states that the smiths should use *Cichorium intybus* and white vitriol.[38]

3.2. Attaching feathers to arrow shafts

Part thirteen of the treatise *Javāher al-Sanāye'* deals with the important topic of attaching feathers to arrow shafts. The text describes:

[31] M.M. Khorasani, *Aid to Sight*...

[32] M.A. Al-Hāseb Al-Tabari, *Tohfat al-Qarāyeb*, Tehran 1992 (original manuscript).

[33] A.M.H. Šarif Mohammad, *op. cit.*

[34] H.E.M. Taflisi, *Bayān al-Sanā'āt*, [in:] *Farhang-e Irān Zamin*, vol. 5, second edition, Teheran 1354 [1975], p. 317.

[35] M.A. Al-Hāseb Al-Tabari, *op. cit.*

[36] H.E.M. Taflisi, *op. cit.*, p. 317.

[37] M.A. Al-Hāseb Al-Tabari, *op. cit.*

[38] H.E.M. Taflisi, *op. cit.*, p. 317.

> Part thirteen: on attaching the feathers to arrows so that even if they [the arrows] are placed in water for ten days the feathers do not detach and get wasted. This consists of one chapter. They take one and a half parts of casein glue as mentioned before, one part of fish glue, and one part of oil for making the bow (sandarac oil). First, they place fish glue in water and heat it over fire so that it is dissolved. They sieve and clean it [the liquid]. Then they add bow oil so that they become one. They place casein glue in [a mixture of] limestone liquid and egg white. Then they add fish glue and sandarac oil. They rub the whole with a stone so that they are mixed well. Then they place it on arrow feathers and arrow shaft [and stick them together]. When it dries and cools, the feathers do not detach anymore.

Table 5

Ingredients for making the glue for attaching feathers to the arrow shafts

Ingredients				
Bow varnish *roqan-e kamān*	Fish glue *serišom-e māhi*	Casein glue (*serišom-e panir*)	Limestone liquid *āb-e āhak*	Egg white *sefideh beyzeh*

Source: Author's own elaboration.

In making and preserving the bow, a special oil (*roqan kamān* or bow varnish) was used. This was a transparent, yellowish resin[39] that was called sandarac.[40] The bow oil was derived from the small tree *Tetraclinis articulata*. Its resin was used as oil for varnishing bows. Generally, the bow oil is a mixture of resins and oil melted together.[41] The treatise *Jāme al-Hadāyat Fi Elm al-Romāyat* [*Complete Guide Concerning the Science of Archery*] dated 1574 CE (982 Hijra) mentions this type of bow varnish concerning Damascus arrows for use at sea: "The arrow is made of wood, of 'sandalwood.' Unless it is good and chosen carefully, the master does not use the tendon for attachment. Instead of the tendon, they twist 'silk' around the arrow, and instead of the natural glue they use 'bow varnish.' This is called the 'sandarac arrow'."[42]

[39] *Digital Lexicon of Dehkhodā*, https://www.parsi.wiki/ (access: 25 V 2022).

[40] A. Ma'tufi, *Tārikhe* Čāhr *Hezār Sāleye Arteš Irān: Az Tamaddon Ilām Tā 1320 Khoršidi, Jange Irān Va Arāq*, vol. 1–2, Tehran 1999.

[41] M.M. Khorasani, *Arms*..., pp. 294–295.

[42] B. Dwyer, M.M. Khorasani, *Jāme al-Hadāyat Fi Elm al-Romāyat* [*Complete Guide Concerning the Science of Archery*] *by Nezāmeldin Ahmad ben Mohammad ben Ahmad Šojāeldin Dorudbāši Beyhaqi*, "*Quaderni Asiatici*" 2012, no. 97, pp. 45–60.

The quality of the glue was extremely important for the bowyers since it held the component materials of a composite bow together even under great strain.[43] There were four different forms of glue: a) tendon/sinew glue, b) ear and hide glue, c) fish glue, and d) a mixture of fish and sinew glue.[44] The text of the treatise *Javāher al-Sanāye'* mentions only fish glue among four types of glue. Therefore, I will summarise it here. Based on Kani [the famed Ottoman archery expert], fish glue was almost of equal quality to tendon/sinew glue. It was made from the skin of the palate of the Danube sturgeon. In other cultures, glue from the air bladder of fish was widely used. The size of the palate skin depends on the size of the fish and can be up to two hands. It is translucent, whitish sugar-coloured, and as strong as leather. To obtain the skin, a circular incision was made, and the skin was pulled out. Then, the skin pieces were dried. To obtain the glue, the bowyer soaked the skins in water for 24 hours. After that, he stacked several pieces on a marble block and pounded them with a wooden club. The club was frequently moistened with saliva since it was believed that moistening with water adversely affected the quality of the glue. After the mass became thin as a result of continuous striking, circular pieces were cut from the sheet. These were dried and used as glue. To use them, the bowyer cut them into pieces and dissolved them in clean water over a charcoal fire.[45]

Javāher al-Sanāye' discusses the third ingredient, casein glue, in chapter three of part five of the book. It reads as follows:

> The third chapter is about making casein glue and dissolving bodies that are used for dyeing; there are six types. The first type: About the characteristics of casein glue, which is an exotic and secret science. But it is a necessity to explain, as most operations in this book are done with the help of this type of natural glue. There is only one way. They bring fresh casein, as much as they wish, and cut it into narrow long pieces. The narrower the width the better it is. They bring a clean wooden plank and place it on a level surface. They mix the casein pieces in dried limestone liquid and place them at the bottom of a crucible. Then they place another wooden plank on it. Then they place a heavy stone on the wooden plank of the same length and width in the sun. The heavier the stone the better it is. After ten days, they take them out and wash them so that they can wash off all traces of limestone. They place them in the sun for the whole day. After its water is vaporised, the fat appears. Like the first

[43] P.E. Klopsteg, *Turkish Archery and the Composite Bow: A Review of an Old Chapter in the Chronicles of Archery and a Modern Interpretation*, Evanston 1947, p. 24.

[44] *Ibidem*, p. 40.

[45] *Ibidem*. Also *vide*: M.M. Khorasani, *Arms*...

time, they add the limestone as before. Then they place the same wooden planks and stone on them as mentioned before. They do it as long as it is required. They keep them for seven days and on the eighth day, they take them out and wash them with hot water and clean them with white fabric. They keep them in the sun for the whole day. On the next day, they place them in a big cauldron and put on it a trivet. They add salt water to it and place the [casein] pieces in it. They burn fire under it and boil it. After the water vaporises, they add salt water again and keep boiling it for the whole day. Then they take them out and wash them with fresh water. They clean them in fabric and dry them in the sun for the whole day. Then they boil them in salt water again. As mentioned before, they clean them with fresh water and a piece of fabric. Then they dry them in the sun. They keep the dust away. They keep doing this process a couple of times so that no fat from the casein appears in the sunlight. If it appears, they repeat the whole process so that its fat and redness disappear. It should look like 'limestone clay.' They grind them into mill powder. They place it in a glass vessel and keep the dust away and that is an absolute requirement. When they want to use it, they bring fresh white egg (albumen) and place it in a container and stir it. They take its foam and keep stirring it a couple of times so that it starts to shine and it does not foam anymore. They place a bit of that casein on [a polishing stone made of] porphyry or 'polisher made of glass' and add the white egg by dropping it and rubbing them together. They keep doing it until the mixture sticks to the lower stone. If they want it to get more fluid, they dissolve dried limestone in water so that the water looks like a 'yogurt drink.' They distill it with great care and add some of that water to it and rub it so that it becomes fluid and is not very thick. Then they can use it the way they want. To use it, they dissolve the powder of casein [in water]. If it remains more than one hour, it becomes hard, and they cannot scratch it with anything and they cannot take pieces of it out. This is the glue and it is so hard that it neither boils in water nor does it burn in fire. Iron cannot penetrate it and no gun, no arrow, no spear/lance, and no push-dagger can damage it. If they make shields, kotalhāyejanneh [meaning of this word is unknown], atkarkahi [meaning of this word is unknown], armguards, helmets, *kančom* [meaning of this word is unknown], or similar things they will be very hard, light, and flexible, and nothing can penetrate them. One cannot even imagine all things that can be made of this. It is a rarity that is unprecedented. It is a common and tested method.[46]

Swordmakers also used casein glue to attach the crossguard of a *šamšir* (sword) to the blade tang. It is one of the strongest glues I have ever encountered. We have replicated the casein glue based on the above recipe.[47]

[46] This part of the text was translated and published by the author and replicated already. For the whole process of replication, *vide*: M.M. Khorasani, N. Arjmandi, *Structural Analysis of Handles of Highly Curved Iranian Swords*, "Kafkas University Journal of the Institute of Social Sciences" 2020, no. 26, pp. 725–745.

[47] *Ibidem*.

3.3. Making black powder

Chapter one of part twenty-three of the treatise *Javāher al-Sanāye'* provides information on how to make black powder for guns and fireworks. Although the recipe for making black powder for guns is very short, the treatise provides detailed information on the component parts of black powder for different types of fireworks. As the present article deals with warfare, I concentrate only on the recommendation of the text for making black powder for guns. Part twenty-three has a short description of how to make black powder or gunpowder. The text reads: "Another type: Powder mixture for gun: They take two parts and five sir saltpeter, one sir charcoal, and three parts sulphur".

As it was explained before, a *sir* is equal to 15 *mesqāl,* and each *mesqāl* is equal to 4.948 grams. The text uses the term *pare* which means 'part,' and it is not clear what type of measurement the author refers to. We should note that making gunpowder was a tedious process: first, saltpeter was scraped from the walls of stables. Because this source was insufficient, urine and dung was collected so valuable nitrates could be extracted from it. To extract saltpeter from urine, gunpowder manufacturers established niter beds made of straw and filtered the urine through the straw, concentrating the salts for easy collection. Fortunately, there is an account of how Baxtiyāri tribes made gunpowder in Iran. It reads:

> In places such as caves or stables where they keep domestic animals with a floor made of rocks, after a while a layer of sheep waste is created. Due to the hard nature of the rocks, only the urine of domestic animals penetrates the rocks and stays there. One collects that layer in the fall and moistens it with water. Then one places the collected liquid in a hemp bag or a canvas nosebag. Then one hangs the bag and places a container below it to collect the liquid. Then one adds boiled water to the residue to remove the rest as far as possible. Then one places the liquid in a pot and boils it above a fire until all the water evaporates; then one places the thick liquid on a tray or wooden plank so that the liquid gets cold. When it is cold, one can see salt-like crusts which build up the sediments with a water layer on top. One removes the water and lets the tray dry under the sun. Then they dry up the gained salt-like sediments and they add willow charcoal with a weight of 20% of the weight of salt-like sediments, which is made from willow wood without any knots. Then with 20% of the weight of the salt-like sediment, they add yellow sulfur (which has been ground and sieved through a fabric). One adds the whole mixture to a stone pit and grinds it with a wooden pestle. After two hours, one adds the mixture to a container and places it in the shade for two days. After that period, one pounds the whole again

and adds some water so that it is sticky. Then one sieves the dough so that it turns into small grains. Then one places the grains in a piece of fabric and shakes them so that they turn into small grains the size of millet or even smaller (circa 1 millimeter). Then one places this mixture on a plate and places it in the sun (away from the wind and dust) and lets it dry. After this, the gunpowder is ready.[48]

3.4. Making naphtha

Chapter two of part nineteen of the treatise *Javāher al-Sanāye'* deals with *eskandari* oil (Greek fire) that is used in warfare.

Chapter two: About making eskandari oil

They take one part of each of the following items: Persian naphtha, sandarac [Tetraclinis articulata], calcined talc, reed oil, and one-tenth of mercury naphtha, and place them all in a thick stable container made of zinc which has a narrow throat. The cover of the container should also be made of zinc so that they fit tightly. They place the cover/lid tightly, and place it in a heated furnace for two days and nights. Then they take it out and make a jug of the same size as the container. Then they place the container in the jug and place fire under it for one day and night. Then they take it out and allow it to cool for one week. After one week, they open its lid and use it when needed as will be explained. If they throw two deram of this oil in the enemy's city or castle, it will be completely burned, and no matter what they try, they will not be able to extinguish the fire. The only way to extinguish it is to mix menstrual blood from female genitals with vinegar, rub it on stones, and throw them at the fire; this immediately puts it out.

Table 6

Ingredients for making naphta

Ingredients	Persian naphtha	Sandarac	Calcined talc	Reed oil	Mercury naphtha

Source: Author's own elaboration.

The text differentiates between Persian naphtha and mercury naphtha, but it does not provide any information on their respective ingredients or nature.

[48] M.M. Khorasani, *Persian*..., p. 43–44; B.A. Ahmaādiyān, *Paĵuheši Dar Bāre-ye Il-e Baxtiyāri*, Tehrān 2008, pp. 121–122.

Fortunately, the text provides information on reed oil at the end of chapter two of part nineteen. It reads:

> A chapter about making reed oil, which is necessary for making eskandari oil, and for its usage. Its making is one of the secrets, but I have not kept it confidential. They take lots of fresh reeds, which are still fresh but yellowish. They cut them into pieces and place them in oil of black sesame [Sesamum indicum] so that they absorb and soak the oil. Then they put them in a glass and put refractory cement around the glass. Then they place in its throat [of the glass] hair from a horse's mane. Then they place it in a hole of dried brick so that the mouth of the glass [container] extends over the dried brick. They cover it in refractory cement and place the glass [container] upside down. They place a container below the mouth of the glass and place dried cow dung taken from the fields around the glass's mouth and place a fire around it. The oil starts to drop [into the container]. They collect it and boil it with the oils, which have been mentioned before, as great God willing.

Table 7

Ingredients for making reed oil

Ingredients for making reed oil inside the container	Fresh reed	Black sesame oil	Hair of horse mane
Ingredients outside the container	Dried cow dung		

Source: Author's own elaboration.

The third chapter of part nineteen describes how to make hollow grenades to be filled with naphtha and thrown by catapults at the enemy's fortifications, also noting that naphtha can be used to fill fire arrows to be shot at enemies. The text reads:

> The third chapter is about making the mentioned eskandari oil which puts fire in castles and cities. They bring iron and make hollow balls. Each ball has a capacity of two *deram* or even more. There should be a hole in each ball so that they can fill it with the mentioned oil. They place a fuse in it. The ball should be made in a way so that if they put it in a catapult and ignite its fuse and throw it at the enemy's cities, the fire reaches the cavity of the ball through the fuse and the moment the ball reaches the city, fire will engulf the whole castle, and the entire city will burn down completely. If they place this oil in the crevice of the air arrow [fire arrow], it can also set everything on fire, and it never cools unless they do what was mentioned before.

Then the text describes how to ignite a fuse or use a piece of cloth to ignite the naphtha. The text describes:

> Another method for making it is to burn cities and castles. They bring female hair and place it in a melon. They place dried straws below the melon and hold Syrian [magnifying] glass to shine on the straws. They also place pieces of rock crystal on the straws. Then they let the sun shine on them so that the straws catch fire. They put a cloth under them so that the side of the cloth catches fire.

The treatise *Javāher al-Sanāye'* also provides a recipe for making another type of explosive as follows: "Another type: They bring ground dried donkey dung and mix ground sandarac with it. They grind sulfur and add it to the mixture step by step. Then they throw it at the enemy's fortifications, which will catch fire immediately. This is also a tested method".

Table 8

Ingredients for making another type of explosive

Ingredients	Donkey dung	Ground sandarac	Sulfur

Source: Author's own elaboration.

4. Conclusion

As we have seen, the Persian manuscript *Javāher al-Sanāye'* جواهرالصنایع [*Jewels of Crafts*] deals with many different topics of changing the colours of different types of stones. The text describes one hundred and sixty crafts divided into forty parts. Each part consists of different chapters. The book is important for war-related research as it describes how the craftsmen made crucible steel and quenched blades. It also describes the process of making casein glue for attaching the blade tang to the handle and for using in the mixture of glue used for attaching feathers to arrow shafts. It also describes the formula for making naphtha and making grenades for holding naphtha. In earlier research, we were able to replicate the casein glue for attaching the blade tang to the sword handle. Future research should try to replicate the crucible steel process, quenching processes, the glue for attaching arrows, and also the formulas for making naphtha as described in the treatise. Old treatises on warfare, such as the present example, provide us with invaluable information on the material culture of the period and with a better understanding of historical artifacts such as swords and armour.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

Library of Iranian Parliament

Manuscript *Javāher al-Sanāye'*, no. 2849.

Źródła drukowane • Printed sources • Печатные источники

Johari Nezāmi M.A.B., *Javāhernāme-ye Nezāmi*, annotated by I. Afšār, Tehran 2004.

Khayyām-E Neišāburi O.E., *Noruznāme*, annotated by A. Hosuri, Tehran 2003.

Šarif Mohammad A.M.H., Untitled Manuscript. Attributed to the period of Šāh Esmā'il Safavid (1502–1524 CE), Tehran.

Taflisi H.E.M., *Bayān al-Sanā'āt*, [in:] *Farhang-e Irān Zamin*, vol. 5, second edition, Teheran 1354 [1975].

Opracowania • Secondary sources • Литература

Ahmaādiyān B.A., *Paĵuheši Dar Bāre-ye Il-e Baxtiyāri*, Tehrān 2008.

Allan J., Gilmour B., *Persian Steel: The Tanavoli Collection*, Oxford 2000.

Chatra'i M., *Matni az Ruzegār Safaviyān dar Bāreye Honarhā va Sanāye'e Gunāgun*, "Payyām-e Bahārestān" 1390 [2011], vol. 3, no. 13, pp. 306–318.

Dwyer B., Khorasani M.M., *Jāme al-Hadāyat Fi Elm al-Romāyat* [*Complete Guide Concerning the Science of Archery*] *by Nezāmeldin Ahmad ben Mohammad ben Ahmad* Šojāeldin *Dorudbāši Beyhaqi*, "Quaderni Asiatici" 2012, no. 97, pp. 45–60.

Elgood R., *Rajput Arms & Armour: The Rathores & Their Armoury at Jodhpur Fort*, vol. 1–2, New Delhi 2017.

Emām Shushtari S.M.A., *Tārix-e Megyāsāt va Nogud dar Hokumat-e Eslami*, Tehran 1961.

Floor W., *Traditional Crafts in Qajar Iran (1800–1925)*, Costa Mesa 2003.

Khorasani M.M., *Aid to Sight: A 17th-century Persian Treatise on Sword Classification from India*, Frankfurt am Main 2022.

Khorasani M.M., *Arms and Armor from Iran: The Bronze Age to the End of the Qajar Period*, Tübingen 2006

Khorasani M.M., *Jewels and Patterned Crucible Steel: Books of Jewels, Stones, and Metals,* Frankfurt am Main 2021.

Khorasani M.M., *Lexicon of Arms and Armor from Iran: A Study of Symbols and Terminology*, Tübingen 2010.

Khorasani M.M., *Persian Fire and Steel: Historical Firearms of Iran*, Frankfurt am Main 2018.

Khorasani M.M., Arjmandi N., *Structural Analysis of Handles of Highly Curved Iranian Swords*, "Kafkas University Journal of the Institute of Social Sciences" 2020, no. 26, pp. 725–745.

Klopsteg P.E., *Turkish Archery and the Composite Bow: A Review of an Old Chapter in the Chronicles of Archery and a Modern Interpretation*, Evanston 1947.

Ma'tufi A., *Tārikhe Čāhr Hezār Sāleye Arteš Irān: Az Tamaddon Ilām Tā 1320 Khoršidi, Jange Irān Va Arāq*, vol. 1–2, Tehran 1999.

Qasemlu F., *Javāhernāmeh*, [in:] *Encyclopaedia Islamica*, 2014.

Netografia • Netography • Интернет-источники

Digital Lexicon of Dehkhodā, https://www.parsi.wiki/ (access: 25 V 2022).

Manouchehr Moshtagh Khorasani

KLEJNOTY RZEMIOSŁA: KUCIE OSTRZY, PRZYKLEJANIE LOTEK STRZAŁ, WYTWARZANIE NAFTY I CZARNEGO PROCHU – PERSKI MANUSKRYPT DOTYCZĄCY DZIAŁAŃ WOJENNYCH

Streszczenie. Niniejszy artykuł dotyczy niedatowanego perskiego manuskryptu zatytułowanego *Javāher al-Sanāye'* جواهرالصنایع [*Klejnoty rzemiosła*]. Wiele perskich rękopisów dostarcza bezcennych informacji na temat produkcji broni, kucia mieczy, technik łuczniczych, atakowania fortyfikacji, odlewania armat i wytwarzania broni palnej oraz strategii wojskowych. Większość relacji na temat wytwarzania stali tyglowej jest częścią traktatów dotyczących klejnotów i kamieni. W mojej ostatniej książce *Jewels and Patterned Crucible Steel: Books of Jewels, Stones, and Metals* przedstawiłem tłumaczenie i uwagi do traktatu *Goharnāmeh* [*Księga klejnotów*] napisanego przez Mohammada ben Mansura dla władcy Uzuna Hasana Āq Qoyonlu w XV w. n.e. (w dziewiątym wieku hidżry). *Goharnāmeh* opisuje kamienie szlachetne i półszlachetne, produkty pochodzenia zwierzęcego i metale. Zasadnicza część traktatu dotyczy ostrzy i wytwarzania stali tyglowej, jednak manuskrypt *Javāher al-Sanāye'* [*Klejnoty rzemiosła*], który jest tematem tego artykułu, dotyczy transformacji kamieni i metali. Rękopis opisuje, w jaki sposób rzemieślnicy wytwarzali stal tyglową i wyjaśnia, w jaki sposób hutnicy używali tygli do przeprowadzania innych procesów alchemicznych, między innymi do zmiany i przekształcania koloru kamieni. *Javāher al-Sanāye'* to klejnot sam w sobie, źródło informacji dla badaczy tematów związanych z wojną zawierający bezcenne informacje o tym, jak wytwarzać ostrza ze stali tyglowej, jak rozróżniać i klasyfikować miecze, jak wytwarzać klej do mocowania trzpienia ostrza do rękojeści, klej do mocowania lotek strzał, naftę (materiał zapalający) do atakowania fortyfikacji oraz czarny proch.

Słowa kluczowe: stal tyglowa, miecz, strzała, nafta, lakier do łuków, czarny proch, Persja, Iran, średniowiecze, dynastia

Давид Губены
Национальный архив, Чехия
ORCID ID: 0000-0002-6680-7152

Надежда Круглова
Национальный архив, Чехия
ORCID ID: 0000-0002-7565-6536

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 203–222
https://doi.org/10.18778/8331-461-7.12

ЧЕХОСЛОВАЦКИЕ ВОЕННЫЕ ВЕЛОСИПЕДЫ (1918–1939)

Аннотация. В последней трети XIX в. развитие велоспорта привлекло внимание передовых армий, которые вскоре осознали преимущества в скорости передвижения пехоты и возможности оставить велосипеды без присмотра, в отличии от, например кавалерии, часть рядового состава которой выделялась для ухода за лошадьми. Уход за велосипедом оказался значительно проще и дешевле, чем за дорогими животными. Чехословацкая армия использовала велосипедные отряды с момента своего создания, У каждого пограничного батальона была своя рота велосипедистов. В начале 1930-х гг. появилось несколько исследований велосипедных отрядов, а вскоре после этого были созданы велосипедные батальоны, присоединенные к кавалерийским бригадам и быстрым дивизиям. В 1938 г. велосипедные батальоны приняли участие в подавлении восстания генлейновских террористов, велосипедисты также действовали на территории Подкарпатской Руси, где подавляли деятельность польских и венгерских диверсионных групп.

Как только стало понятно, что велосипеды можно использовать в военных целях, возник вопрос о том, как должны выглядеть велосипеды, подходящие для этих целей. В статье пойдет речь о чехословацких военных велосипедах, их недостаточном качестве и небрежном подходе военной администрации к решению этого вопроса.

Исследование основано на архивных материалах, хранящихся в фондах Центрального военного архива – Военного исторического архива (Vojenský ústřední archiv – Vojenský historický archiv) и архивах некоторых производителей велосипедов, а также на литературе изучаемого периода и опубликованном опыте военнослужащих велосипедных подразделений.

Ключевые слова: велосипеды, Чехословакия, производство, корупция, общественный заказ

Введение

С момента своего возникновения чехословацкая армия в основном полагалась на продукцию отечественных компаний. Связано это было с тем, что большая часть промышленной базы бывшей Австро-Венгрии была сосредоточена в чешских землях.

Необходимость дооснащения создаваемых вооруженных сил, их общая численность а, следовательно, постоянная потребность в снабжении привели к тому, что военное управление заключило множество государственных контрактов, в которых Высшее контрольно-ревизионное управление обнаружило ряд ошибок. Ошибки были связаны в первую очередь с проведением конкурсов ограниченного доступа, о которых был информирован лишь небольшой круг компаний. Это повысило цены и дало возможность развитию коррупции, так как должностное лицо могло принять решение об исключении компании из конкурса. То, что фирмы бесцеремонно наживались на угрозе для государства, доказало Высшее контрольно-ревизионное управление в Збройовке Брно, 77% акций которой контролировало государство. Збройовка Брно однако добилась в 1935 г. прибыли в размере 85% на поставках оружия для жандармерии, винтовки модели 24 для армии принесли прибыль в размере 66%, а легкие пулеметы модели 26 – прибыль в размере 126%![1]

Пожалуй, неудивительно, что законопроект о поставках и работе на государственную оборону, легализовавший максимум 10% прибыли предприятий, не прошел этап обсуждения, на котором критики указывали например на возможное сокращение финансирования научных исследований и инноваций и ухудшение позиций компаний на международных конкурсах.[2]

Производство велосипедов в межвоенной Чехословакии

Производство велосипедов было заманчивым бизнесом: в конце двадцатых годов годовой спрос на велосипеды в Чехословацкой республике составлял 150 000 штук, а производство – всего 80 000 штук. В 1929 г.

[1] J. Pavel, *Vojenská správa a soukromý sektor v období první republiky*, „Historie a vojenství" 2006, roč. 55, č. 1, c. 26–28.

[2] *Ibidem*, c. 29; Национальный архив (далее: NA), ф. Министерство финансов I, k. 1297.

Збройовка Брно решила производить велосипеды. Сначала она рассматривала лицензионное производство австрийских велосипедов Steyer, но, поскольку переговоры не увенчались успехом, приступила к собственной разработке. Тем не менее, не обошлось без технической помощи компании германского рейха «Виктория». После предварительных работ производство было перенесено в здание текстильной фабрики Беранова, где с 1931 г. каждые восемь часов производилось 100 новых велосипедов.[3]

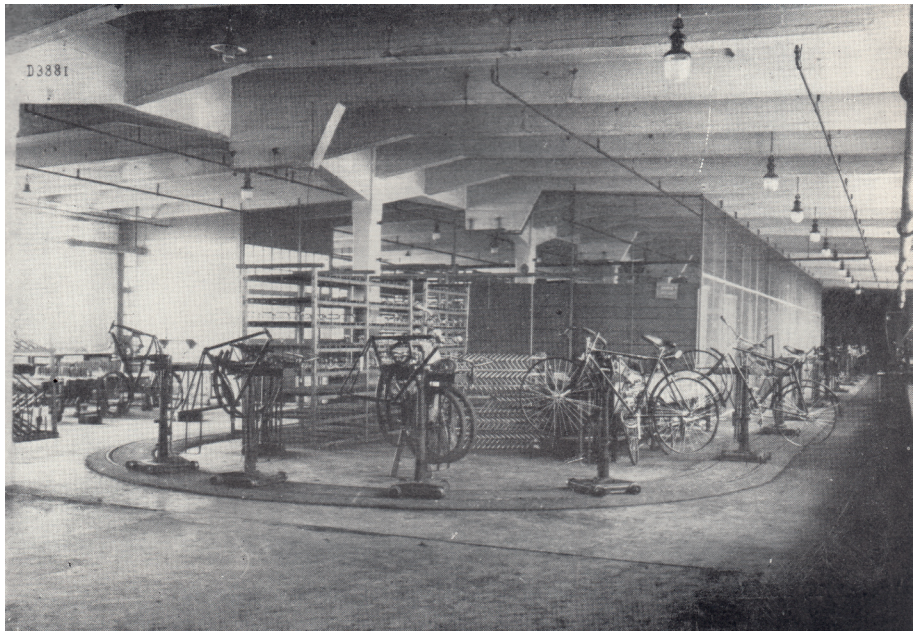


Рис. 1 Производство велосипедов в Збройовке Брно в 1932 г.
(источник: O. Franěk, *Dějiny Koncernu brněnské zbrojovky*, Díl 1, Brno 1969, иллюстрированное приложение)

Летом 1930 г. производители велосипедов Стадион Раковник и Премьер Хеб пожаловались в Министерство промышленности, торговли и предпринимательства на то, что Збройовка Брно начала собственное производство велосипедов. В связи с этим Министерство промышленности, торговли и предпринимательства обратило внимание Министерства национальной обороны „на кризис, который царит в этой

[3] O. Franěk, *Dějiny Koncernu brněnské zbrojovky*, Díl 1, Brno 1969, с. 73, описание производственной линии viz с. 213.

отрасли и который будет усугубляться новой конкуренцией“ и запросило „сообщение о том, как министерство рассматривает этот вопрос“. Негласным пожеланием было запретить производство велосипедов в Збройовках. Министерство национальной обороны, вероятно, осознавая мощь, не только армии, но и гигантского бюджета в сравнении с миниатюрным Министерством промышленности, торговли и предпринимательства, не спешило с ответом и подготовило проект ответа только в декабре 1930 г. Однако подготовка этой концепции была поручена самой Збройовке... В предложенной председателем правления концепции указывалось, что Збройовка „уже наладила производство велосипедов, поэтому не может оставить его без значительного ущерба“. В официальном ответе Министерство национальной обороны признало, что внедрение производства велосипедов произошло без предварительного согласования с Министерством промышленности, торговли и предпринимательства и Министерством финансов, но в то же время отстаивало поведение Збройовки, заявив, что согласно указаниям Военной администрации, компания должна содержать определенное минимальное количество наемных рабочих даже в то время, когда не работает на военные поставки. Поэтому, стремясь выполнить это задание, Збройовка ввела гражданское производство велосипедов, автомобилей и вообще всех товаров, позволяющих серийное производство и использование имеющегося технического оснащения и навыков рабочих, чтобы предприятие могло легко переключиться на производство вооружения и другой продукции военного назначения. Вывод из ответа, предложенного Збройовкой, был совершенно обезоруживающим: „Министерство национальной обороны убеждено, что конкуренция с Збройовкой в производстве велосипедов не повлияет на существующих производителей; Збройовка, с другой стороны, станет новым фактором в продвижении велосипедов. Её цель – вытеснить с рынка иностранных производителей и ограничить ввоз комплектующих, из которых в нашей стране собирается значительная часть велосипедов“.[4]

В официальном ответе заключение было несколько мягче: отказаться от производства без значительного ущерба, несмотря на то, что оно было внедрено без необходимого разрешения, не получится, а вот

[4] Центральный военный архив – Военный исторический архив, (далее: VÚA – VHA), ф. Министерство национальной обороны – президиум, sign. 89/7/8, k. 8667.

иностранный импорт будет, по крайней мере, ограничен.[5] С другой стороны, производство велосипедов представляло для Збройовки Брно только дополнительную продукцию двойного назначения, поэтому производство специальных армейских велосипедов нельзя найти ни в одном из списков кодовых наименований производства военного вооружения и техники, сохранившихся за 1936 и 1938 г.[6]

Рис. 2 Военный велосипед производства Збройовка Брно, 1934 г.
(источник: Моравский областной архив в Брно, ф. H 864, k. 886)

О том, что при устранении иностранных производителей и импортеров иностранных велосипедов могут пострадать даже отечественные производители, представители военной администрации видимо не подумали. В последствии это также могло повлиять на определенную снисходительность к некачественной продукции отечественных производителей. В то же время из того, что концепция ответа на жалобу на Збройовку была подготовлена самой Збройовкой, очевидна связь

[5] VÚA – VHA, ф. Министерство национальной обороны – президиум, sign. 89/7/8, k. 8667.
[6] Моравский областной архив (далее: MZA), ф. H 864, k. 65, inv. č. 2 a 3.

некоторых подразделений Министерства национальной обороны с брненской компанией. Министерство национальной обороны особо не пыталось это замаскировать, но хотя бы придало окончательному ответу Министерству промышленности, торговли и предпринимательства более солидный вид. По сути, Збройовка влияла на министерство, которое неоднократно признавало, что не может (или не хочет) управлять подведомственной компанией.

В 1932 г. Збройовка заключила картельное соглашение с другими производителями (Эска, Премьер и Ческа Збройовка Страконице), согласно которому весь картель должен был использовать торговый аппарат.[7] В 1935 г. дальнейшие боевые действия привели к новому соглашению о повышении цен на велосипеды для потребителей. В картельное соглашение вошли компании Ахиллес, Ческа Збройовка Страконице, Збройовка Брно, Эска Хеб, Премьер Хеб, Стадион Раковник и несколько других компаний, которые были сосредоточены в сбытовой организации ТУБА в Праге. Збройовка Брно укрепила свои позиции во время оккупации, когда поглотила компанию Стадион Раковники и приобрела ее долю в картеле.[8]

Производство военных велосипедов и их проблемное качество

Производством военных велосипедов в период Первой Чехословацкой республики занимались компании Збройовка Брно, Ческа Збройовка Страконице и компания Стадион Раковник. Компания Стадион Раковник поставила больше всего бракованных велосипедов, поскольку явно использовала менее качественный материал, чем тот, который был предписан. Впрочем, и другие производители не были образцом качества. Колеса, произведенные в Ческе Збройовке Страконице, „лидировали" по количеству сломанных спиц, а по количеству треснувших рулей Ческа Збройовка Страконице почти догнала компанию Стадион Раковник.[9]

[7] O. Franěk, *op. cit.*, c. 213.

[8] *Ibidem*, c. 265.

[9] I. Hrubíšek, *Kola, armády, války*, Plzeň 2003, c. 113, 120–122.

Такое серьезное положение сложилось несмотря на то, что производители должны были руководствоваться технической документацией и регламентами, разработанными Военно-техническим и авиационным институтом, в которых подробно описывались виды материалов и необходимые свойства, в том числе конкретные государственные стандарты и военные нормы. По сути, производителям давалась лишь небольшая свобода в вопросах выбора цепей и места размещения марки и серийного номера. Кроме того, было определено, что армия „имеет право подвергать материал химическим и технологическим испытаниям. Если будет обнаружено, что материал не соответствует требованиям, велосипеды могут быть возвращены в любое время". Также производители должны были использовать только те чертежи, которые прошли проверку в Военно-техническом и авиационном институте, или купить в институте новые чертежи: „Если участник конкурсов или поставщик этого не сделает, военное управление не несет ответственности за ущерб, который в связи с этим возникнет, а также не обязано принимать товары, не соответствующие действующим чертежам". Условием производства, естественно, было то, что материалы должны были быть чехословацкого производства и соответствовать ГОСТам. Перед началом производства материал должен был пройти испытания в институте. Производители обязаны были сообщить названия металлургических заводов и субпоставщиков производственного материала в Военно-технический и авиационный институт. Образцы могли быть взяты для испытаний за счет производителя. Взятие образцов вовсе не означало снижения гарантийных обязательств производителя. После утверждения образцов материала можно было приступить к изготовлению двух образцов велосипедов, предшествовавших серийному выпуску. После проверки институт оставлял себе один велосипед, а другой возвращал производителю. Если велосипеды не подходили, весь заказ мог быть аннулирован без компенсации. Если изготовитель начал производство до окончательного утверждения образцов велосипедов, а образцы бы впоследствии не прошли испытания, ему бы отказали в приеме велосипедов и в возмещении стоимости производства. Гарантийный срок тогда длился 6 месяцев с момента получения велосипеда, изготовитель должен был бесплатно заменить или отремонтировать неисправные детали, на эти детали продлевался гарантийный срок еще

на 6 месяцев. Любая транспортировка велосипедов на фабрику оплачивалась производителем. Гарантийный срок на велосипеды заканчивался через пять лет после того, как военное управление приняло поставку.[10]

Однако эти, казалось бы, твердые и ясные правила не применялись на практике, так как зачастую не хватало частого контроля. Только так можно объяснить длительную проблему с военными велосипедами, ведь уже в экспертной статье начала 1930-х гг. говорилось, что „из 150 велосипедистов от 8 до 12 человек сталкиваются с поломками при езде по нормальной местности. Это число соответственно увеличивалось во время езды по плохим дорогам, крутым серпантинам и тд.“. Одновременно с этим автор статьи смело утверждал, что чехословацкие велосипеды „подходят по весу, прочности и трансмиссии“. Больше всего проблем вызывали шины, сломанные цепи и рули, кривые колеса, а иногда даже искривленные рамы![11] Однако девять десятых всех поломок в начале 1930-х гг. были связаны с велопокрышками, которые легко пробивали камни. Такие велопокрышки хотели заменять колесами из сплошной резины.[12]

Генштаб не интересовался качеством материала, используемого при производстве велосипедов компании Стадион Раковник, до 1937 г., тогда „выборочная проверка показала, что действительное качество материала этих велосипедов не могло полностью удовлетворить потребности военных“ и далее было заявлено, что „этот случай может поставить под угрозу подготовленность подразделений“. Расследование было проведено по 30 апреля 1937 г., когда Краевое военное командование в Праге сообщило Генеральному штабу, что велосипеды компании Стадион Раковник имеют плохую конструкцию и ломаются в местах скреплений (например, вилки). Результаты расследования и его заключения были фантастическими:

> На совещании 21 июня 1938 года было установлено, что Военно-технический и авиационный институт предписал использовать материал с большей прочностью, но по требованию заводов-изготовителей прочность была

[10] Технические чертежи, описание и условия изготовления, испытаний и приёма военного велосипеда viz VÚA – VHA, ф. Военно-технический институт, k. 1, inv. č. 2.

[11] J. Ulrich, *Cyklistická rota*, „Vojenská výchova“ 1932, roč. 8, č. 7, c. 100.

[12] Jahn, *Cyklistické jednotky, použití jich v boji a jejich organisace*, „Vojenská výchova“ 1932, roč. 8, č. 10, c. 153.

снижена, однако это нельзя доказать. Изменения, касающиеся использования другого материала, были сделаны на чертежах и не представляется возможным выяснить на каком основании и когда.

Эти изменения, по-видимому, состоялись еще в Военно-техническом и авиационном институте, там расследование прошло безрезультатно, с оговоркой, что „исправления в чертежах, вероятно, были внесены при личном вмешательстве поставщиков". Велосипеды Учебного батальона были испытаны и по результатам на конец августа 1938 г. „было установлено, что материал, использованный в велосипедах, показал другие значения прочности, чем материал, полученный фирмой с завода и испытанный военным управлением". Поэтому военное управление готовилось к переговорам с фирмой о замене неисправных деталей.[13]

К сожалению, Президиум Полицейского управления в Праге, перед которым была поставлена задача проверки государственной благонадежности компаний, производящих продукцию для армии, не учел возможность коррупции военных чиновников со стороны этих компаний. Материалы Ческе Збройовки Страконице и Збройовка Брно содержат только отчеты о сотрудниках и руководстве[14], а не о заказах, их цене и качестве продукции. Кроме того, досье компании Стадион Раковник было на удивление уничтожено.[15]

Опыт войсковых частей с осени 1938 г. и поиск решения

Письменный опыт мобилизованных частей от сентября 1938 г. в отношении велосипедов был оценен Министерством национальной обороны в январе 1939 г. 1-й, 2-й и 5-й велосипедные батальоны, 3-й и 7-й телеграфные батальоны и Учебный батальон высказались об использовании велосипедов марки Стадион.

[13] VÚA – VHA, ф. Министерство национальной обороны – Генштаб – операционный отдел, sign. 6/3/2, k. 284.

[14] NA, ф. Полицейское управление Праги II. – президиум, sign. O 94/1 a 4, k. 1148, manipulační období 1931–1940.

[15] NA, ф. Полицейское управление Праги II. – президиум, sign. O 82/13, k. 1043, manipulační období 1931–1940.

Опыт Учебного батальона состоял в том, что на государственных и окружных дорогах велосипеды вполне подходили, но проблемы возникали в случае значительного набора высоты, когда начинала беспокоить мягкость материала, хотя подвижности ничего не угрожало. На полевых и лесных дорогах передвижение было значительно хуже, так как из-за рельефа местности и нагрузки на колеса на велосипедах появлялось большое количество дефектов, которые "могли при длительной эксплуатации поставить под угрозу готовность велосипедного подразделения". Интересно, что у велосипедов, изготовленных в 1934 г. и использовавшихся в мирное время, было меньше дефектов, чем у велосипедов 1937 г., когда качество отдельных велосипедов было различным. Часто происходил изгиб передней вилки, что затрудняло управление велосипедом, а изгиб задней вилки, требовал значительного времени на ремонт. Также были проблемы и с кожаными чехлами сидений.[16]

Первый Велосипедный батальон из Сланего был оснащен 141 велосипедом компании Стадион Раковник, которые „неплохо зарекомендовали себя на асфальтированных дорогах; при движении по очень плохим дорогам (плохие районные дороги, грунтовые дороги) некоторые детали ломались из-за сильных толчков и ударов, а также, возможно, из-за чрезмерной твердости материала".[17]

У 2-го велосипедного батальона, как и у батальона из Сланего, были проблемы с изгибом педалей при падении велосипеда и изгибом обеих вилок, был сделан вывод: „похоже, что материал колес марки Стадион довольно мягкий (негибкий) и что колеса не будут полностью соответствовать предъявляемым к ним требованиям". Руководство батальоном также выразило обеспокоенность состоянием здоровья гонщиков из-за проблем с тормозами.[18]

5-й Южноморавский велосипедный батальон сообщил, что у него в использовании нет велосипедов компании Стадион Раковник, велосипеды этой фирмы находились в мобилизационных запасах и в диспозиционных запасах 3 корпуса.[19]

---

[16] VÚA – VHA, ф. Министерство национальной обороны – Генштаб – операционный отдел, sign. 6/3/1.

[17] *Ibidem*, k. 378.

[18] *Ibidem*.

[19] *Ibidem*.

Рис. 3 Бойцы 1-го велосипедного батальона во время передвижения.
(источник: VÚA – VHA, ф. Штаб 1-го велосипедного батальона, k. 7)

Рис. 4 Бойцы 1-го велосипедного батальона со снаряжением
(источник: VÚA – VHA, ф. Штаб 1-го велосипедного батальона, k. 7)

3-й телеграфный батальон пользовался велосипедами в основном на дорогах, но в полевых условиях на использование велосипедов влияла погода: „В дождливую погоду нельзя пользоваться велосипедами в полевых условиях на мягком грунте". Этот батальон реже использовал велосипеды, но велосипеды все равно часто были погнуты и сломаны.[20]

Седьмой телеграфный батальон начал использовать совершенно новые велосипеды с 1937 г. во время мобилизации и на практике использовал их только на хороших дорогах.[21]

Неудивительно, что Министерство национальной обороны учитывало опыт только тех подразделений, которые использовали велосипеды в полевых условиях с полной нагрузкой.[22]

Вышеизложенное побудило Министерство национальной обороны направить 24 февраля 1939 г. компании Стадион письмо с требованием, в котором прямо подверглось критике использование некачественного материала, не соответствующего закупочной документации заказа:

> Министерство национальной обороны требует, чтобы, в соответствии с гарантийными положениями заказа, была проведена замена указанных деталей деталями, изготовленными по предписанию. Для всех велосипедов, которые поставили по данному заказу, поскольку из отчетов ведомств, из испытаний направленной комиссии, а также на основании технических испытаний, проведенных в Военно-техническом и авиационном институте, можно судить о том, что указанные недостатки имеют место у значительного числа велосипедов, если не у всех.
>
> Помимо перечисленных здесь дефектов, у поставленных велосипедов были и другие дефекты, после осмотра которых Министерство национальной обороны может также потребовать замены бракованных деталей у всех велосипедов, если это будет необходимо. Военно-технический и авиационный институт пригласит вас осмотреть некоторые из этих неисправных велосипедов, хранящихся в институте.[23]

В то же время Минобороны приказало подразделениям, использующим велосипеды из Раковника, направить 4–5 бракованных

[20] *Ibidem*.

[21] *Ibidem*.

[22] *Ibidem*.

[23] VÚA – VHA, ф. Министерство национальной обороны – Генштаб – операционный отдел, sign. 6/3/1/2, k. 378.

велосипеда в Военно-технический и авиационный институт на экспертизу в присутствии уполномоченного представителя фирмы Стадион.[24]

В начале марта 1939 г. состоялось совещание по поводу недостатков армейских велосипедов. Хотя на совещании присутствовали представители Министерства национальной обороны, Генерального штаба, Военно-технического и авиационного института и Контрольного корпуса военной администрации, не хватало самого существенного элемента – офицеров из велосипедных частей. Это собрание, состоявшееся 1 марта 1939 г., последовало за собранием 11 июня 1938 г., о котором мы, к сожалению, ничего не знаем, точнее на основании расследования мартовское совещание пришло к выводу, что части применяли колеса „вероятно, ненадлежащим образом", что, по-видимому, было связано и с тем, что пособие Военно-технического и авиационного института с изучением армейского велосипеда 1936 г. не опубликовали; поэтому комиссия рекомендовала издать пособие для военных частей с дополнением о „способе применения велосипеда, по той причине, что только пехота имеет действующие правила обучения велосипедных частей, а другие подразделения, использующее велосипеды, их не имеют". По первому пункту обсуждался максимальный вес человека (100 кг) и снаряжения (35 кг), при этом у сиденья могла быть максимальная нагрузка – 120 кг, а у велосипеда – 15 кг. Из обсуждения второго пункта, связанного с пособием, видно, что участники встречи осознавали, что имеющиеся велосипеды не подходят.[25]

Последний пункт встречи был посвящен адаптации велосипеда к „реальному использованию". Поэтому комиссия предложила практические испытания на велосипедах новейшей конструкции, т.е. 1936 г., при этом должны были быть испытаны велосипеды всех производителей и различных ведомств. Кроме того, должны были быть испытаны велосипеды с недавно заказанными новыми передними вилками. Военно-технический и авиационный институт предложил проехать на велосипедах минимум 15 000 км, при этом, бы контролировали, помимо передней

[24] *Ibidem*.

[25] VÚA – VHA, ф. Министерство национальной обороны – Генштаб – etapní oddělení, sign. 6/3/1, k. 383.

вилки и руля, „общее поведение велосипедов в новых условиях“. Участие в испытаниях должны были принять две роты, в общей сложности около 300 велосипедов. Испытания должны были длиться не менее двух лет и ежедневно велосипеды должны были проезжать по 30 км (около 500 дней). Если бы заказ дополнительных велосипедов и запчастей был отложен на два года, готовность велосипедных частей упала бы за это время примерно на треть, при этом производство велосипедов уже было по телефону приостановлено. Рассматривалась возможность продолжения производства. В любом случае заказ на 300 штук вилок и рулей должны были выполнить. Тогда комиссия предложила проводить отбор велосипедов для испытаний с участием одного члена Военно-технического и авиационного института и одного члена 1-й автомобильного оружейного завода. Однако Военно-технический и авиационный институт не хотел участвовать в отборе, ссылаясь на занятость, но обязательно хотел присутствовать на испытаниях, чтобы „иметь основание для правильной оценки результатов“.[26]

Збройовке Брно действительно отправили запрос на производство рулей и вилок, но никаких планов предоставлено не было; их новая форма, вероятно, дорабатывалась. Однако почти сразу же заказ был „приостановлен“.[27] До распада государства оставались считанные дни, и нацистская оккупация все изменила.

Главный штаб не был удовлетворен результатами совещания 1 марта 1939 г., так как не была выполнена цель совещания: выяснить виновника изменений в чертежах и материалах велосипедов из Раковника, поскольку дебаты перешли к предполагаемой перегрузке велосипедов. „Военно-технический и авиационный институт не знал и не сообщил, на какую нагрузку рассчитан велосипед, и утверждал, что первоначальная конструкция армейского велосипеда не предназначена для езды по бездорожью. Необходимо выяснить из первоначальных чертежей и расчетов, на сколько килограммов был рассчитан велосипед и превышают ли текущие требования (примерно 150 кг) первоначальную нагрузку“. Было примечательно, что, хотя велосипед был представлен в 1932 г., все еще не было предоставлено хотя бы

[26] *Ibidem*.

[27] MZA, ф. H 864, k. 229, inv. č. 8, fol. 78.

предварительное техническое описание и инструкции по использованию. Пособие, подготовленное Военно-техническим и авиационным институтом, было передано в 1936 г. для дополнения в министерство, но опубликовано не было. Не удалось ни подтвердить, ни опровергнуть утверждения поставщиков о том, что существенными изменениями руководила военная администрация. Поэтому как можно раньше должно было быть выдано дополнение к использованию велосипедов. Генштаб однако хотел увидеть это пособие до ее выхода, опасаясь, что министерство „попытается ограничить внедорожное использование армейского велосипеда, то есть радикально помешает предполагаемому тактическому использованию велосипедных частей". Велосипедные батальоны должны были тогда получить новые велосипеды с усиленными вилками и рулем. Главный штаб также пришел к выводу: „Необходимо категорически отвергнуть попытку возложить вину на ведомства как на единственных виновников". Очевидно, производители также должны были нести ответственность за дефекты; только Военно-технический и авиационный институт имел право на определенное снисхождение: „Однако, если будет установлено, что виноват Военно-технический и авиационный институт", не рекомендовались „последствия для кадров, так как это может быть научной ошибкой, достаточно предупредить Военно-технический и авиационный институт о неправильном ходе при конструкции и производственном процессе".[28]

Из позиции Главного штаба видно, что он не вполне доверял министерству в вопросе о велосипедах, а главным образом хотел проверить их практическую военную полезность.

Деньги не пахнут

Несмотря на недовольство войсковых частей велосипедами Раковника, компания не постеснялась запросить у военной администрации разрешения на продажу этого типа велосипедов заинтересованным

[28] VÚA – VHA, ф. Министерство национальной обороны – Генштаб – операционный отдел, sign. 6/3/1/2, k. 378.

гражданским лицам. Компания даже хотела, «чтобы на велосипеде, помимо обычной маркировки „Стадион“, также на нижней трубе рамы имелась надпись „Армейский велосипед“. В свою защиту компания заявила, что представители Министерства национальной обороны рекомендовали модель военного велосипеда „включить в штатную программу производства гражданских велосипедов“. Причиной послужило соображение, что „общее использование армейского образца гражданским населением повысит знания о системе этого велосипеда, что будет преимуществом для военной администрации“. Более того, военный велосипед не был интеллектуальной собственностью компании. В министерстве предполагали, что аналогичное желание возникнет и у двух других компаний, производивших велосипеды для армии. Кроме того, министерство было обеспокоено тем, что компания из Раковника может попытаться зарегистрировать обозначение „Армейский велосипед“ в качестве товарного знака. Поэтому министерство рассматривало вопрос о том, чтобы запросить у предприятий в Страконице и в Брне, не хотят ли они также маркировать производимые велосипеды как „армейские велосипеды“. Также обсуждалось, следует ли изменить название, чтобы избежать путаницы в отношении принадлежности велосипеда, были рассмотрены названия „Тип армейского велосипеда“ и „Модель армейского велосипеда“.[29]

Компания Стадион Раковник в своем рекламном материале заявляла:

> Все конструкционные материалы, учитывая чрезвычайные нагрузки, которым подвергается велосипед, являются прочными и обладают превосходным качеством. Такие компоненты, как: седло, педали, система велосипеда, ручки руля очень прочны, но выглядят эстетично. Все штифты, оси, винты изготовлены из хромоникелевой стали. (...) Велосипед также оснащен прочным багажником с грузоподъемностью 50 кг.
>
> Несмотря на свой вес, велосипед обладает легким ходом и поэтому подходит для эксплуатации в тяжелых условиях. Мы поставляем покрытые эмалью черные велосипеды украшенные позолотой и цветными линиями“. За немалую доплату в 25 крон можно было получить „покрытый эмалью велосипед цвета хаки.[30]

[29] VÚA – VHA, ф. Министерство национальной обороны – президиум, sign. 6/3/1, k. 10554.

[30] Иллюстрированный каталог 37 Velo Stadion. Praha s. d., c. 21.

Рис. 5. Рекламный буклет компании Стадион Раковник с армейским велосипедом. (источник: Иллюстрированный каталог 37 Velo Stadion. Praha s. d., c. 21)

Заключение

Поразительно, что военная администрация до второй половины 1930-х гг. не уделяла большого внимания качеству велосипедов. Хотя было много признаков мошенничества, связанного с поставляемыми велосипедами, и в начале 1930-х гг. Хотя понятно, что до 1933 г. существовали только велосипедные роты, входившие в состав пограничных батальонов, и осенью 1933 г. были сформированы первые велосипедные батальоны, что привело к увеличению количества велосипедов в армии. Но и с увеличением количества велосипедистов и началом особенно интенсивной подготовки велосипедных батальонов становится ясно, что проблемы с качеством велосипедов должны были обнаружить раньше. Тем не менее, этот вопрос начали решать только через несколько лет, когда сложившуюся ситуацию уже нельзя было не заметить.

Несмотря на некачественную продукцию, велосипеды представляли собой очень удобное и дешевое средство передвижения для армии государства, сильно пострадавшего от экономического кризиса. В начале тридцатых годов грузовик стоил 90 000 – 100 000 крон и мог перевозить около 20 человек. Такое же количество людей можно было перевезти на 20 велосипедах, которые вместе стоили 20 000 крон, а ежедневная стоимость обслуживания одного велосипеда оценивалась в 50 геллеров.[31]

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

Моравский областной архив

H 864

Национальный архив

Министерство финансов I

Полицейское управление Праги II. – президиум

[31] Jahn, *op. cit.*, c. 151.

Центральный военный архив - Военный исторический архив

Министерство национальной обороны – президиум

Министерство национальной обороны – Генштаб – операционный отдел

Министерство национальной обороны – Генштаб – etapní oddělení

Военно-технический институт

Штаб 1-го велосипедного батальона

Opracowania • Secondary sources • Литература

Franěk O., *Dějiny Koncernu brněnské zbrojovky*, Díl 1, Brno 1969.

Hrubíšek I., *Kola, armády, války*, Plzeň 2003.

Jahn, *Cyklistické jednotky, použití jich v boji a jejich organisace*, „Vojenská výchova" 1932, roč. 8, č. 10, c. 149–155.

Obrázkový katalog 37 Velo Stadion, Praha s. d.

Pavel J., *Vojenská správa a soukromý sektor v období první republiky*, „Historie a vojenství" 2006, roč. 55, č. 1, c. 21–30.

Ulrich J., *Cyklistická rota*, „Vojenská výchova" 1932, roč. 8, č. 7, c. 99–104.

David Hubený • Nadezda Kruglova

CZECHOSŁOWACKIE ROWERY WOJSKOWE (1918–1939)

Streszczenie. W ostatnich dekadach XIX w. rozwój kolarstwa przyciągnął uwagę zaawansowanych armii, które zrozumiały zalety szybkiego przemieszczania się piechoty oraz możliwości pozostawienia rowerów bez opieki. Było to niewątpliwym atutem w przeciwieństwie do, na przykład kawalerii, gdzie część składu szeregowego, musiała być wydzielona do opieki nad końmi. Opieka nad rowerem okazała się znacznie prostsza i tańsza niż nad drogimi w utrzymaniu zwierzętami. Armia czechosłowacka od chwili swego powstania korzystała z jednostek rowerowych, a każdy batalion graniczny miał własną kompanię rowerową. Na początku lat trzydziestych XX w. pojawiło się kilka opracowań dotyczących oddziałów rowerowych, zaś niedługo potem zostały utworzone bataliony rowerowe w ramach brygad kawalerii i szybkich dywizji (*rýchla divízia*). W 1938 r. bataliony rowerowe brały udział w tłumieniu powstania terrorystów genleinowskich, rowerzyści działały również na terytorium Podkarpacia, gdzie tłumili działalność polskich i węgierskich grup dywersyjnych.

Gdy tylko stało się jasne, że rowerów można używać do celów wojskowych, pojawiło się pytanie, jak powinny wyglądać rowery odpowiednie do tych celów. Artykuł podejmuje kwestię czechosłowackich rowerów wojskowych, ich niewystarczającej jakości i niedbałego podejścia administracji wojskowej do rozwiązania tego problemu.

Arykuł opiera się na materiałach archiwalnych przechowywanych w zbiorach Centralnego Archiwum Wojskowego – Archiwum Historycznego Wojska (Vojenský ústřední archiv

– Vojenský historický archiv) i archiwach niektórych producentów rowerów, a także na literaturze z badanego okresu i opublikowanych doświadczeniach wojskowych jednostek rowerowych.

Słowa kluczowe: rowery, Czechosłowacja, produkcja, korupcja, zamówienie publiczne

Anna Ambrochowicz-Gajownik
Independent Researcher, Kraków
ORCID ID: 0000-0001-7460-0859

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 223–236
https://doi.org/10.18778/8331-461-7.13

DIPLOMATIC TOOLS AND TOOLS OF WAR: ACTIVITIES OF THE POLISH OFFICE IN CASABLANCA DURING SECOND WORLD WAR – A CASE STUDY

Summary. The aim of the article is to present the functioning of the Polish Office in Casablanca as an institution caring for civilian refugees and soldiers located in North Africa. Stanisław Zabiełło was at the head of the network of Polish Offices, while the general supervision over the activities of the Offices in Algiers, Tunis, Casablanca, and Dakar was exercised by Emeryk Hutten-Czapski. The main tasks of the Office were to provide Poles with identity documents, to watch over their living conditions in Casablanca, and in the case of soldiers, monitor the conditions in labour camps or work teams. In addition, the office cooperated with the Polish Red Cross and foreign consulates that assisted in issuing transit visas for Poles in order to evacuate them from North Africa. The Im Fout labour camp was the main centre for demobilised soldiers and former volunteers during the war, who belonged to the so-called *'Groupe des Travailleurs Étrangers'*. Officers and soldiers from the Kasba Tadla labour camp were transferred to Mascara and Saida. By contrast, Missour Safi, Mogador, and Marrakesh were mostly inhabited by Jews. An important issue of the office was establishing and maintaining proper relations with local authorities. This was mainly to be used in conducting more efficient interventions in matters of placing Poles from camps or work teams. In addition, the Office cooperated with other diplomatic missions in Morocco in order to obtain transit visas for compatriots. The facility in Casablanca also oversaw the evacuation of soldiers. In December 1941, the Offices ceased to function under this name and were transformed into the Bureau of Administration for Poles, without changing the nature of the work carried out, including in Casablanca.

Keywords: Polish Offices in France, Casablanca, evacuation, Second World War, Poles in North Africa

The defeat of France in June 1940 resulted in the transfer of the Polish government-in-exile authorities to London. However, Polish consular outposts remained in the unoccupied part of France in the territory of the Vichy State,

actively operating until September 1940.[1] The situation was similar in the French colonies in North Africa.[2] On 19 September 1940, the Minister of Foreign Affairs of the Vichy Government, Paul Baudouin, in a conversation with Feliks Frankowski, who at Philippe Pétain's request had returned to France and on 18 July had taken charge of the Polish embassy as chargé d'affaires, announced that the Polish diplomatic representations had to be closed. Following this announcement, Feliks Frankowski, as chargé d'affaires, started negotiating with French diplomatic representatives to ensure formal care for Poles. The matter was urgent, as passport and visa matters had hitherto been dealt with by consulates, and it was, therefore, necessary to immediately take steps to continue this process, but on a completely different basis. At that time, the so-called Polish Offices were set up to issue identity documents and certificates, thus facilitating the settlement of personal matters before the French authorities. The Polish Offices were headed by Stanisław Zabiełło, the Government Delegate for France. The main centres of these Offices were established in Marseille, Toulouse, Lyon, Nice, Monaco, Algiers, Tunis, Casablanca, Dakar, and Tananarive. Fearing the Germans, the French side demanded that those who had once held consular posts before the break in diplomatic relations not head the Polish Offices. Subsequently, they allowed some consular and embassy staff in the south of France to remain to ensure that passports and identity cards were renewed or exit visas were issued to allow people to leave immediately.[3] General supervision of the activities of the Offices in Algiers, Tunis, Casablanca, and Dakar was exercised by Emeryk Hutten-Czapski.

The Polish Offices could be headed by Poles who had lived in France for a long time and were of irreproachable character. While they did not enjoy the privileges accorded to members of the diplomatic-consular corps, their identity cards were extended for easier movement within Vichy and North Africa. A delegate of the Polish Red Cross, working with French Red Cross units, could be

[1] A. Ambrochowicz-Gajownik, *W cieniu Lazurowego Wybrzeża. Konsulat polski w Marsylii w latach 1919–1940*, Warszawa 2019; M. Gmurczyk-Wrońska, *Polska – niepotrzebny aliant Francji? (Francja wobec Polski w latach 1938–1944)*, Warszawa 2003.

[2] A. Ambrochowicz-Gajownik, *op. cit.*; J. Knopek, *Migracje Polaków do Afryki Północnej w XX wieku*, Bydgoszcz 2001; S. Zabiełło, *Na posterunku we Francji*, Warszawa 1967; J.E. Zamojski, *Polacy w ruchu oporu we Francji 1940–1945*, Wrocław 1975.

[3] A. Pachowicz, *Towarzystwo Opieki nad Polakami we Francji 1941–1944*, Toruń 2013, pp. 34–36.

stationed at each Office.[4] For this reason, from 1 April 1941, cooperation between the Office and the Polish Red Cross delegation was established.

It is worth recalling that there was an honorary consulate operating in Casablanca before the outbreak of war. It functioned until October 1940, at which point it was headed by Paul Étienne Torre,[5] who in local circles was regarded as a serious, honest, and respectable man with broad contacts, including with the Moroccan authorities. According to the account of Tadeusz Wysocki, who arrived in Casablanca on 27 July 1940, the former consul was a wealthy and influential man in Morocco.[6] In fact, he continued to feed the post's budget with his own money and helped with the evacuation of demobilised soldiers. Though the Polish Office in Marseille wanted Torre to manage the Casablanca post again, the authorities in Rabat initially did not want to allow it, so an inquiry was sent to Vichy. While waiting for Vichy's decision, however, Rabat pressed Torre to name an alternative candidate. Torre gave his support to Kazimierz Majewski for the head of the Office, and at the same time appointed Alfred Birkenmayer as head of the Polish Red Cross. Although in December 1940 Vichy ultimately granted permission for Paul Torre to head the Office, for unexplained reasons he was passed over in favor of Kazimierz Majewski. According to Major Jan Wysoczański, Torre was eminently suitable for the post and had such extensive and wide-ranging contacts that 'no Pole could achieve this.'[7] Moreover, it is worth adding that the financial situation of the Office was not satisfactory; the lack of funding prevented its functioning, not only due to low wages but also high prices in North Africa; Torre, as a wealthy and well-known person, would have been able to subsidise the Office's budget.

Meanwhile, it should be mentioned that North Africa was a bastion of Pétain's influence. His governor in the area was Maxime Weygand, who acted as

[4] The Polish Institute and Sikorski Museum (hereinafter: PISM), Ministry of Information and Documentation (Ministerstwo Informacji i Dokumentacji) (hereinafter: MID), sign. A.10.4/30, Supreme Commander-in-Chief's Secretariat Branch II (Sztab Naczelnego Wodza Odział II) to the Ministry of Information *in situ*, London, 28 XII 1940; M. Gmurczyk-Wrońska, *op. cit.*

[5] A. Ambrochowicz-Gajownik, *W cieniu Lazurowego Wybrzeża*..., pp. 112–114.

[6] PISM, Supreme Commander-in-Chief's Secretariat and Ministry of Military Affairs/MON (Sztab Naczelnego Wodza i Ministerstwo Spraw Wojskowych/MON) 1939–1948 [hereinafter: SCS and MMA/MON], sign. A.XII.4/151, part I. Fryderyk Mally to the Supreme Commander-in-Chief's Secretariat in London, Report by Major Wysoczański, Lisbon 2 II 1941.

[7] PISM, SCS and MMA/MON, Sign. A.XII.4/151 part I., Report by Major Wysoczański for the period from 18.12.1940 to 08.02.1941, Casablanca 8 I 1941.

governor-general until November 1941, when North Africa became a battleground in the international war. Hitler, after losing the Battle of Britain, tried to persuade France to go to war against Britain in North Africa but the Vichy government objected.[8] Nevertheless, British nationals were unwelcome in North Africa and received cold treatment, because the British fleet had attacked and destroyed a French squadron commanded by Admiral Gensoul in July 1940 at Mers el Kebir near Oran as part of 'Operation Catapult.' Of course, this incident also became fuel for intensifying the conflict between the Vichy government and the Free French led by Charles de Gaulle.

In the meantime, Hitler increasingly pressed the Vichy government for greater cooperation, which mandated the surrender of supplies and ammunition to the Germans, use of the French base at Bizerte in Tunisia, and the establishment of a new base for German submarines at Dakar. Furthermore, there were the issues of restricting rations – initially only in mainland France – to safeguard the German economy, which were later extended to North Africa.[9]

The introduction of restrictions in Africa took place from September 1941, when food ration cards and all kinds of other restrictions began to take effect. Warehouses and shops gradually became empty, with no possibility of replenishing stocks. All this was linked to the shipment of food to France in the form of vegetables and fruit, mainly for use by the Germans. A black market began to flourish, and the only oil mine in Morocco was no longer able to keep up with demand. Because French North Africa lacked the raw materials needed to generate electricity and fuel to sustain agriculture, the United States began to supply it with fuel in the form of mazut, oil, and petrol, as well as with medicines and coal.[10]

In June 1941, Hitler attacked his former ally the USSR, resulting in further changes to the geopolitical scene. The Soviets started demonstrating to Great Britain their willingness to cooperate with its allies, including Poland. On 3 July, Stalin put forward a proposal to sign anti-German political treaties with the Polish, Czechoslovak, and Yugoslav governments based in London. (It is worth mentioning that Soviet diplomacy did not recognise the Polish government in

[8] A. Hall, *Naród i państwo w myśli politycznej Charles'a de Gaulle'a*, Warszawa 2005, pp. 136–137.

[9] *Ibidem*, p. 253; Ł. Janowski, *Kolonie francuskie w latach 1940–1945*, „Dialogi Polityczne" 2007, no. 8, pp. 45–59.

[10] M.Z. „Rygor" Słowikowski, *W tajnej służbie. Jak polski wywiad dał Aliantom zwycięstwo w Afryce Północnej*, Poznań 2010, pp. 180–181.

exile.) British pressure resulted in Władysław Sikorski signing a treaty with Ambassador Maisky on 30 July 1941.[11] General de Gaulle was closely watching the whole operation, wanting to win Stalin and Sikorski over to his own diplomatic game. He, therefore, began to seek to establish relations with the Polish Government in London, although in the initial phase, they were rather sporadic and only began to enter the discussion phase when Polish-Soviet negotiations took place, followed by the signing of the Sikorski-Maisky agreement. At that time, a confidential protocol was signed on 21 October 1941, which referred to the old traditions of the Polish-French alliance. Simultaneously, the French National Committee (*Comité national français* or CNF), led by de Gaulle, established contacts with the Soviets. There is no doubt that de Gaulle wanted to juggle relations with the Soviets, as an alliance with Russia was an integral part of French diplomacy. For this reason, the CNF did not really want to get involved in matters between the Polish government and the Soviet Union. On the Polish side, such contacts between the former allies did not inspire optimism. Moscow's calculations to include de Gaulle in its games were aimed at creating a counterbalance to the British and supporting the French Communists. The USSR recognised the CNF in September 1942.[12]

The defeat of France detained and immobilised in the territory of continental France and its colonies all Polish soldiers and civilian refugees who did not manage to evacuate before the French police forces subordinate to Vichy and the Germans occupied the largest ports. The lack of adequate technical personnel in England, and the continued willingness of soldiers trapped in France to fight, led to a situation where the Polish authorities decided to organise a special evacuation network headed by General Juliusz Kleeberg.[13] In France, on the initiative of several officers of Branch II of the Supreme Commander-in-Chief's Secretariat, an 'F' Branch was established, which quickly developed its activities

[11] M. Kamiński, *Zarys polityki zagranicznej rządu RP na obczyźnie 1939–1945*, [in:] *Władze RP na obczyźnie podczas II wojny światowej*, ed. Z. Błażyński, Londyn 1994, pp. 681–684; K. Kania, *Edward Bernard Raczyński 1891–1993. Dyplomata i polityk*, Warszawa 2014, pp. 210–211.

[12] A. Ambrochowicz-Gajownik, (commentary) *Dynamika relacji polsko-francuskich w XX i XXI wieku*, [in:] *Historia, Prawda, Teraźniejszość. Jak prowadzić stosunki międzynarodowe w kontekście przeszłości 3.0? Diagnozy, recepty, zapis debat*, eds. D. Bębnowski, A. Goszczyński, Warszawa 2021, pp. 45–50.

[13] J. Zamojski, *Polska morska akcja ewakuacyjna z Afryki Północnej i Francji do Gibraltaru – 1941–1942*, „Dzieje Najnowsze" 1981, no. 1–2, pp. 348–349.

by providing valuable information on the situation in the occupied zone. Thanks to the organisational efforts of this branch, further intelligence posts were established in Paris and North Africa. The 'AFR' branch was established in Algiers in the autumn of 1940 by Major Zygfryd Słowikowski,[14] who, among other things, conducted observations of the evacuation operations being carried out from the Moroccan area. Kleeberg, on the other hand, was very much counting on the support and assistance that would help in enabling the transfer of soldiers to North Africa – so much so that, hoping for extensive cooperation with Weygand, Kleeberg even sent Lt. Colonel Kamionko to Algiers. Nevertheless, meetings with the French military officer did not yield the expected results.[15]

Due to its location, the Polish Office in Casablanca carried out many tasks related to the organisation and logistical support for Polish soldiers and civilians who were being transferred to the United Kingdom via this route, and at the same time organised assistance for those who, for various reasons, remained in the French colony and worked in transit camps. For this reason, from December 1940 Polish soldiers were successively transferred to North Africa, and the French authorities responded to their influx by setting up camps.[16] The evacuation through Africa was carried out with the help of Major Jan Wysoczański and the former consul Paul Torre.[17] By March 1941, 800 officers and privates had been evacuated to North Africa.[18]

Meanwhile, on 21 March 1941, restrictions were imposed on foreigners in Morocco, mainly men aged between 18 and 55, who were unable to return to their home country and were living at the expense of the protectorate of Morocco: such individuals would be placed in labour camps, where they would provide unpaid work. This decree also included Polish men – demobilised legionaries, former volunteers of the Polish army in France, and civilian

[14] A. Pepłoński, *Zarys rozwoju organizacyjnego polskiego wywiadu wojskowego w latach 1914–1945*, „Słupskie Studia Historyczne" 2000, no. 8, pp. 179–192.

[15] M. Gmurczyk-Wrońska, *op. cit*., pp. 468–469; J. Zamojski, *Polska morska*...

[16] PISM, SCS and MMA/MON, sign. A.XII.4/140 part I, General Juliusz Kleeberg to the Commander-in-Chief in London, Marseille 7 III 1941; PISM, SCS and MMA/MON, sign. A.XII.4/170, part I, Head of Evacuation from France to the Commander-in-Chief in London, Marseille 9 II 1941.

[17] PISM, SCS and MMA/MON, sign. A.XII.4/142, General Juliusz Kleeberg to the Commander-in-Chief in London, Marseille 16 II 1941.

[18] PISM, SCS and MMA/MON, sign. A.XII.4/140, part I, Major S. Gustowski on evacuation work in France, Africa, and Spain, London 23 VI 1941.

refugees being supported by the Polish Red Cross.[19] On 31 March 1941, a new decree was issued, this time on the creation of work squads – units could recruit as 'volunteers' and those who had received unemployment benefits for 10 days. In addition, penal labour camps were established for individuals who, having committed various minor or major offences, left their place of employment without permission. In these penal labour camps, people were provided with accommodation and food, but were not paid any wages.[20] Both the work squads and the labour camps fell under the jurisdiction of the Directorate of Communications, Industrial Production, and Labour. Furthermore, people who had an unregulated residency status in Morocco were forced to leave its territory within eight days of the issuing of the decree; if they failed to do so, they were forcibly placed in work squads. Jews were also sent to work in the squads. These decrees did not apply to women and children, so they could exercise the so-called 'right of allocation' – although, in general, it was supposed to apply only to French citizens.[21] What, then, was the right of allocation?

As soon as the French authorities moved to Vichy, the management board of the Polish Red Cross requested that Polish refugees be granted benefits on the same terms as those paid to French citizens. This was the so-called allocation decree, which provided for the payment of small sums of money. While it was intended mainly for French and Belgian nationals, it also covered the Poles based on a statement issued by the Minister for Refugees. However, it was not a formal agreement that the French government was obliged to fulfil; the allocations were paid by the municipal offices and included a list of so-called 'permanent refugees' on the basis of residence and allocation of place of residence according to lists and ID cards, as well as 'temporary refugees' according to numerical (quantity) lists. The Vichy government was initially sceptical of the idea, but eventually agreed to pay the benefits. Any problems with their payment were supposed to be reported immediately to the prefecture and resolved by the

[19] The Central Archives of Modern Records (Archiwum Akt Nowych) [hereinafter: CAMR], Honorary Consulate of the Republic of Poland in Casablanca [hereinafter: HCRPC], sign. 79, Report No. 2 for the reporting period 16–31 March 1941, Casablanca 1 IV 1941.

[20] CAMR, HCRPC, sign. 186, Kazimierz Majewski to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 7 IV 1941, folio 48–49.

[21] CAMR, HCRPC, sign. 40, Kazimierz Majewski to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 6 IV 1941, folio 23.

Polish Red Cross.[22] In addition, the French authorities announced that civilian refugees would be able to receive medical care for children under one year of age with free medicines and allocated milk rations.[23]

According to the findings of the Polish Office in Casablanca, there were 486 Polish nationals in the whole of Morocco, including 56 permanent residents, 160 veterans, 160 civilian refugees, and 110 persons on the Trans-Saharan Railway. This figure was calculated in May 1941, but it was nevertheless believed that there were many more Poles in Morocco not covered by the data collected by the Office.[24] In Casablanca, there were mainly civilian refugees, while in Kasba Tadla, within the so-called *Groupe des Travailleurs Étrangers* and the Berguent-Bou Arfa-Colomb Bechar/Algeria line, there were 320 Poles enlisted in work squads. Primarily Jews were grouped in Missour Safi, Mogador, and Marrakesh, as this area was designated as their mandatory place of residence.[25] According to another estimate of Polish citizens in Morocco carried out a few months later, only 250 people remained in total, including 90 demobilised soldiers and civilian workers in the work squads in Im Fout, Settat, and Bou Arfa, about 100 Jewish Polish citizens held in various camps, and a handful of citizens under the care of the Office.[26]

Taking care of the Poles who remained in Berguent became an urgent task for the Office, as there was a shortage of food and medical supplies as well as clothing and essential toiletries. Therefore, the Office immediately entered into talks with the French authorities to have them relocated. Very important matter

[22] The Polish Library in Paris, Archive of the Polish Red Cross in France from the legacy of Józef Jakubowski, sign. 27, Report on the activities of the Polish Consulate in Toulouse to the Polish Embassy in Vichy, Toulouse 2 VIII 1940 r.; A. Ambrochowicz-Gajownik, *Ośrodki miejskie południowej Francji – miejscem schronienia dla polskich uchodźców w latach 1939–1940*, [in:] *Oblicza wojny*, vol. 3: *Miasto i wojna*, eds. W. Jarno, J. Kita, Łódź 2021, pp. 195–208. In the south of France, allocations were paid mainly in the department of Haute Garonne. On the Riviera (departments Var, Bouches-du-Rhône, and Alpes Maritimes), allocations were smaller because in this area it was easier to get a place in hostels and receive food.

[23] CAMR, HCRPC, sign. 79, Report No. 2 for the reporting period 16–31 March 1941, Casablanca 1 IV 1941.

[24] CAMR, HCRPC, sign. 79, Report No. 34 for the reporting period 1–31 May 1941, Casablanca 31 V 1941.

[25] CAMR, HCRPC, sign. 79, Report No. 3 for the reporting period 1–15 April 1941, Casablanca 15 IV 1941.

[26] CAMR, HCRPC, sign. 78, Letter from Kazimierz Majewski to Mr Delegate for Africa, Casablanca 18 X 1941.

was the relocation of the demobilised Polish officers from the Kasba Tadla camp to Mascara and ordinary soldiers to the Saida camp. Another urgent issue became regulating the status of former veterans from the Polish army in France and moving them to Mascara and Saida camps in September 1941.

Nevertheless, it was not until the beginning of December 1941 that the Polish Office was finally able to declare the permanent residence of Poles staying in camps or work squads. This was not only due to the result of the Office's intervention but also actions taken by the French authorities who were assigning the Polish nationals to work. Therefore, during the war, the main centre for demobilised soldiers and ex-volunteers became the camp at Im Fout, located on the Oued river where Poles (59 individuals) worked mainly on the dam. They were employed by the *Groupe des Travailleurs Étrangers*, as were the people (including 7 Polish citizens) working in Settat on the construction of the stone barracks. As part of the same group, 16 Polish nationals worked making charcoal in the forests near Moulay Bouazza. In Oued Zem, 3 former legionaries were staying in a transit centre, and in Oued Akreuch (in the Rabat area) a centre was set up for men unable to work in the *Groupes des Travailleurs*. They mainly performed light, even clerical work, and some were in prison or hospitalised.[27] The Polish Office sought the improvement of sanitary conditions for the Poles and their material status to be regulated at a later date so that they could return to their families or evacuate from Africa.

The Office also cared for passengers going on a further journey with a stopover in Casablanca. In such cases, the Office negotiated for them convenient conditions for temporary shelter and in addition checked identity documents and visas enabling the Poles to travel within Morocco. As part of its administrative work, the Office also tried to arrange through other consulates exit visas for Poles going to other parts of the world, which sometimes was not easy – such individuals were placed in the appropriate camps while the matter was being settled. This group also included Polish citizens of the Jewish faith who had money to emigrate to the USA. Therefore, in the autumn of 1941, the French authorities ordered a census of the Jewish population residing in North Africa.[28]

[27] CAMR, HCRPC, sign. 186, Zbigniew Błażyński to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 22 XII 1941.

[28] CAMR, HCRPC, sign. 78, General Directorate of Polish Offices in France, Kazimierz Sosnicki to Mr Emeryk Hutten-Czapski Delegate for Africa of the General Director of Polish Offices in Algiers, Vichy 22 IX 1941.

Sometimes, however, the tasks supervised by Major Jan Wysoczański associated with the evacuation of the Poles did not end with success or encountered serious obstacles. For instance, during one of such covert operations soldiers from Camp Mascara who were to be evacuated on a ship coming from Gibraltar were captured by the gendarmerie and sent back to the camp – having learnt about this Major Wysoczański suspended the action and proposed waiting two weeks in order to get an idea of the actions and reactions of the French authorities.[29] Overall, according to Major Zygmunt Strutyński, 400 servicemen were successfully evacuated to Africa, 20% of whom were sent back to France by the French authorities to the camps as deserters.[30] However, these figures do not coincide with statistics kept by Major Stanisław Gustowski, who gave a figure of around 800 soldiers at the end of March 1942.

Meanwhile, the Polish Offices operated under this name continuously in Vichy and the territories recognising its jurisdiction until 1941, when the German authorities finally realised the true nature of their activities. At that point, they were renamed the Offices for Polish Affairs at the Ministry of Foreign Affairs under the head of the *Contrôle des Étrangers*, Abbel Verdier, whose work was directed by French nationals, with Polish diplomats officially acting only as technical advisers.[31] German demands meant that the French could no longer maintain the Polish Offices, and they made efforts to change their form somewhat, renaming these outposts *Bureaux d'Administration des Polonais* (Polish Administration Offices). It is worth pointing out here that Stanisław Zabiełło's memoirs state that the Polish Offices did not change their name in North Africa – which is misleading information.[32] The situation of other countries' offices was a bit different. The Belgian Office operated under the protection of the American consulate, while the Dutch and Norwegian offices were under the protection of the Swedish consulate.[33]

[29] W. Grabowski, *Polska Misja Morska w rejonie Morza Śródziemnego w czasie II wojny światowej*, „Przegląd Historyczno-Wojskowy" 2015, no. 16/2, pp. 91–114; M.Z. „Rygor" Słowikowski, *op. cit*., pp. 192–193.

[30] PISM, SCS and MMA/MON, sign. A.XII.4/141 B part II, Major Zygmunt Strutyński to Colonel Fryderyk Mally in Lisbon, Gibraltar 19 XI 1941.

[31] CAMR, HCRPC, sign. 78, Zbigniew Błażyński to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 9 I 1942.

[32] S. Zabiełło, *op. cit.*, p. 87.

[33] CAMR, HCRPC, sign. 78, Zbigniew Błażyński to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 22 XII 1941.

In the case of the Polish outposts, the French did not want to aggravate the Germans and decided to review the Office's archives to check whether it was collecting political documentation. In response, the Office's staff declared that they did not conduct political affairs, and as soon as the reorganisation was completed, the French representatives calmly accepted this information. The French also reviewed the Office's archives but found it mainly contained Poles' personal files and administrative records.[34]

In the case of the Casablanca office, it was undoubtedly important to appoint a new head following the reorganisation. At the time, the acting head was Zbigniew Błażyński, who had replaced Kazimierz Majewski when he left the Office in November 1941. As the new head of the Polish Administration Office could not be a person who had held a diplomatic-consular post, the matter became somewhat complicated; nevertheless, on 6 January 1942 the French authorities appointed Paul Étienne Torre the new head. Zbigniew Błażyński informed the Polish authorities of this fact and submitted the inventory, cash box, and archive to Mr Torre. As Błażyński was leaving for Lisbon, it was now necessary to appoint a new acting deputy head of the Office.[35] This role was given to Edward Przesmycki, who received some instructions from Błażyński concerning the management of the Office and information regarding the most important people in the French administration, with a view to establishing friendly relations. Edward Przesmycki was also given charge of matters relating to the running of the Welfare Society for the Poles in France (*Groupement d'Assistance aux Polonais en France* GAPF) centre.[36] The Office continued to cooperate actively with the Polish Red Cross and later with the Welfare Society for the Poles in France,[37] although its activities were gradually diminished from the time of the occupation of Casablanca by Allied forces as part of 'Operation Torch,' and finally ceased when a Polish diplomatic post was established in Algiers in 1943.

[34] CAMR, HCRPC, sign. 78, Zbigniew Błażyński to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 24 XII 1941.

[35] CAMR, HCRPC, sign. 78, Zbigniew Błażyński to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 8 I 1942.

[36] CAMR, HCRPC, sign. 80, Edward Przesmycki to Mr Delegate for Africa of the General Director of the Polish Offices in Algiers, Casablanca 7 II 1942, folio 44–45.

[37] CAMR, HCRPC, sign. 40, Society for the Protection of Poles Centre in Casablanca: Record of the taking over of the PCK-TOP Casablanca Centre's inventory, Casablanca 15 XI 1941, folio 7.

The establishment of the Polish Office in Casablanca in place of the honorary consulate was extremely important for the Polish authorities to continue administrative work and care for the Poles residing in the area. The Office's staff played a key role in running its operations and held the fate of the Polish citizens in their hands. This was primarily done by maintaining good relations with the local authorities. Furthermore, by cooperating with the French authorities and other consulates, the Polish Office in Casablanca obtained a great deal of assistance with the evacuation of Polish refugees and soldiers and taking care of their living conditions in camps or work squads. Although the Polish Office in Casablanca operated on completely different principles than the former consulate, its general intention was to provide help for the Poles staying in the area. Thanks to the courtesy of the French authorities at the end of 1941, it was still possible to continue the Polish Offices' tasks in the French jurisdiction, although these activities were now carried out under French supervision.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła archiwalne • Archival sources • Архивные источники

The Central Archives of Historical Records in Warsaw

Honorary Consulate of the Republic of Poland in Casablanca

The Polish Library in Paris

Archive of the Polish Red Cross in France from the legacy of Józef Jakubowski

The Polish Institute and Sikorski Museum in London

Ministry of Information and Documentation

Supreme Commander-in-Chief's Secretariat and Ministry of Military Affairs/MON 1939–1948

Opracowania • Secondary sources • Литература

Ambrochowicz-Gajownik A. (commentary), *Dynamika relacji polsko-francuskich w XX i XXI wieku*, [in:] *Historia, Prawda, Teraźniejszość. Jak prowadzić stosunki międzynarodowe w kontekście przeszłości 3.0? Diagnozy, recepty, zapis debat*, eds. D. Bębnowski, A. Goszczyński, Warszawa 2021, pp. 45–50.

Ambrochowicz-Gajownik A., *Ośrodki miejskie południowej Francji – miejscem schronienia dla polskich uchodźców w latach 1939–1940*, [in:] *Oblicza wojny*, vol. 3: *Miasto i wojna*, eds. W. Jarno, J. Kita, Łódź 2021, pp. 195–208.

Ambrochowicz-Gajownik A., *W cieniu Lazurowego Wybrzeża. Konsulat polski w Marsylii w latach 1919–1940*, Warszawa 2019.

Gmurczyk-Wrońska M., *Polska – niepotrzebny aliant Francji? (Francja wobec Polski w latach 1938–1944)*, Warszawa 2003.

Grabowski W., *Polska Misja Morska w rejonie Morza Śródziemnego w czasie II wojny światowej*, „Przegląd Historyczno-Wojskowy" 2015, no. 16/2, pp. 91–114.

Hall A., *Naród i państwo w myśli politycznej Charles'a de Gaulle'a*, Warszawa 2005.

Janowski Ł., *Kolonie francuskie w latach 1940–1945*, „Dialogi Polityczne" 2007, no. 8, pp. 45–59.

Kamiński M., *Zarys polityki zagranicznej rządu RP na obczyźnie 1939–1945*, [in:] *Władze RP na obczyź*nie podczas II wojny światowej, ed. Z. Błażyński, Londyn 1994, pp. 681–684.

Kania K., *Edward Bernard Raczyński 1891–1993. Dyplomata i polityk*, Warszawa 2014.

Knopek J., *Migracje Polaków do Afryki Północnej w XX wieku*, Bydgoszcz 2001.

Pachowicz A., *Towarzystwo Opieki nad Polakami we Francji 1941–1944*, Toruń 2013.

Pepłoński A., *Zarys rozwoju organizacyjnego polskiego wywiadu wojskowego w latach 1914–1945*, „Słupskie Studia Historyczne" 2000, no. 8, pp. 179–192.

Słowikowski M.Z. „Rygor", *W tajnej służbie. Jak polski wywiad dał Aliantom zwycięstwo w Afryce Północnej*, Poznań 2010.

Zabiełło S., *Na posterunku we Francji*, Warszawa 1967.

Zamojski J., *Polska morska akcja ewakuacyjna z Afryki Północnej i Francji do Gibraltaru – 1941–1942*, „Dzieje Najnowsze" 1981, no. 1–2, pp. 348–368.

Zamojski J.E., *Polacy w ruchu oporu we Francji 1940–1945*, Wrocław 1975.

Anna Ambrochowicz-Gajownik

NARZĘDZIA DYPLOMATYCZNE, A NARZĘDZIA WOJNY. DZIAŁALNOŚĆ BIURA POLSKIEGO W CASABLANCE W OKRESIE II WOJNY ŚWIATOWEJ – A CASE STUDY

Streszczenie. Celem artykułu jest przedstawienie funkcjonowania Biura Polskiego w Casablance, jako placówki sprawującej opiekę nad uchodźcami cywilnymi oraz żołnierzami znajdującymi się na terenie Afryki Północnej. Na czele sieci Biur Polskich stał Stanisław Zabiełło, zaś ogólny nadzór nad działalnością Biur w Algierze, Tunisie, Casablance i Dakarze sprawował Emeryk Hutten-Czapski. Do głównych zadań biura należało dbanie o zaopatrywanie Polaków w dokumenty tożsamości, czuwanie nad ich warunkami egzystencji w Casablance, zaś w przypadku żołnierzy – w obozach czy drużynach pracy. Dodatkowo biuro współpracowało

z Polskim Czerwonym Krzyżem oraz zagranicznymi konsulatami, które pomagały w wystawianiu wiz tranzytowych dla Polaków w celu ich ewakuacji z Afryki Północnej. Głównym ośrodkiem dla zdemobilizowanych żołnierzy i byłych ochotników w okresie wojny, był obóz w Im Fout. Przynależeli do tzw. Groupement Special des Travailleurs. Oficerowie oraz żołnierze z obozu z Kasba Tadla zostali przeniesieni do miejscowości Mascara oraz do Saida. Natomiast w Missour Safi, Mogador i Marakesh głównie zamieszkiwali Żydzi. Ważną kwestią biura było nawiązanie i utrzymanie poprawnych relacji z władzami miejscowymi. Głównie miało to posłużyć w prowadzeniu sprawniejszej interwencji w sprawach umieszczania Polaków z obozach czy drużynach pracy. Ponadto biuro współpracowało z innymi placówkami dyplomatycznymi na terenie Maroka w celu pozyskiwania dla rodaków wiz tranzytowych. Placówka w Casablance przyglądała się również akcji ewakuacyjnej żołnierzy. Od grudnia 1941 r. Biura przestały funkcjonować pod tą nazwą i przekształcono je na Biura Administracji nad Polakami, nie zmieniając charakteru prowadzonych prac, w tym w Casablance.

Słowa kluczowe: Biura Polskie we Francji, Casablanca, ewakuacja, II wojna światowa, Polacy w Afryce Północnej

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7

ABOUT AUTHORS • O AUTORACH • ОБ АВТОРАХ

Anna Ambrochowicz-Gajownik
Ph.D., independent researcher, e-mail: annaambrochowicz@interia.pl

Ioannis Bellas
Ph.D., independent researcher, e-mail: bellasyannis@gmail.com

Kaveh Farrokh
Ph.D., Langara College, e-mail: manuvera@aol.com

Inga Głuszek
Professor, Nicolaus Copernicus University in Torun, Institute of Archaeology,
e-mail: ingag@umk.pl

Joseph Rafael Gudmann
Ph.D. student, University of Szeged, Doctoral School of History, e-mail: gudmannjozsef@gmail.com

Oleg Hański
Msc, University of Lodz, Faculty of Philosophy and History, Institute of History, Department of Medieval History, e-mail: oleg.hanski@edu.uni.lodz.pl

David Hubený (Давид Губены)
Ph.D., National Archives: Prague, e-mail: david.hubeny@nacr.cz

Manouchehr Moshtagh Khorasani
Ph.D., Frankfurt School of Finance and Management; International School of Management, e-mail: manouchehr@moshtaghkhorasani.com

Nadezda Kruglova (Надежда Круглова)
Msc, National Archives: Prague, e-mail: nadezda.kruglova@nacr.cz

Mariusz Mielczarek
Professor, Polish Academy of Sciences, Institute of Archaeology and Ethnology, Department of Research on Ancient Technologies, e-mail: mielczmar@o2.pl

Simone Picchianti

PhD Student, University of Trieste, Department of Humanities,
e-mail: simone.picchianti@phd.units.it

Magdalena Pogońska-Pol

Ph.D., University of Lodz, Faculty of Philosophy and History, Institute of History, Department of Polish and World History after 1945, e-mail: magdalena.pol@uni.lodz.pl

Ferenc Sebők

Professor, University of Szeged, Faculty of Arts, Department of Historical Auxiliary Sciences, e-mail: sebokf@hist.u-szeged.hu

Zoltán Szolnoki

Ph.D., Móra Ferenc Muzeum, Szeged, e-mail: szolnoki.zol@gmail.com