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**IN SEARCH OF THE SPECIFICITY OF TRANSFORMATION
IN THE CROWN ARMY DURING THE REIGN OF THE LAST JAGIELLONIANS.
INTRODUCTION TO COSSACK ARMS AND ARMOUR**

Abstract: In the classical theory of military revolution it is possible to list several distinctive features which, however, do not always correspond to the specificity of the armed forces and theatres of war other than Western-European ones. The transfigurations of Central European military science were partly dissimilar, as is shown by the research of numerous military historians (R. Frost, J. Maroń, G. Agoston, A. Kazakou). One of the differences was the appearance of the Cossack cavalry in the Polish army. They stood out mainly because of the arms and armour they used. The analysis of Cossack weapons and armour (based on examples of selected campaigns) during the reigns of the last Jagiellonian monarchs reign can be useful to verify how theory fits the circumstances of different fields of research.

Keywords: Cossack arms, armour, Cossack cavalry, Jagiellonian period, military revolution

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In the classical theory of military revolution (M. Roberts, G. Parker, C. J. Rogers, J. Black) it is possible to list several distinctive features which do not always correspond to the specificity of armed forces and theatres of war outside Western Europe. A good example is the case of the Central-European military between the Middle Ages and the Early Modern Period. Neither local military conditions (led by the so-called gunpowder revolution) nor the time of the greatest transformation correspond to the original meaning of the military revolution, which supposedly took place in Europe during the years 1560-1660.¹ However, it is worth remembering that Geoffrey Parker thought it unfortunate that the year 1560 should be chosen as the beginning of the military revolution, presenting evidence that some of its symptoms might have been observed in Italy or in the Pyrenean Peninsula as early as the 2nd half of the 15th century.²

A similar viewpoint was adopted by Gabor Agoston with reference to the Turkish Empire, demonstrating numerous transformations in its military forces already in the mid-15th century.³ It is therefore possible to assume that the military revolution, or in fact the theory of military revolution, is a set of tools which can be used to analyse the frequently already known data in a completely new way. In other words, it seems acceptable to focus on Central Europe and the late Middle Ages and Early Modern Period, which would correspond to the postulate formulated by Jerzy Maroń about going "[...] beyond the most commonly analysed examples of France, Netherlands, Italy and West Germany",⁴ as it would also fit the definition of the so-called "long" 16th century (1450-1650) presented by Fernand Braudel.⁵

One of the distinctive features of that place and time was the gradual reorientation of Polish foreign policy towards the East. The Polish army encountered a radically different soldier, fighting war totally unlike the way

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¹ Boldyrew 2019, 113-138.

² Parker 1976, 197, 206.

³ Agoston 2014, 89.

⁴ Maroń 2011, 77.

⁵ Braudel 1992, 42.

which was still present in battlefields in the 15th century. As a result of a temporary need and certainly as a consequence of a specific cultural diffusion, the Polish army underwent certain transformations.⁶ Since the armies of the Grand Duchy of Moscow, Moldavia or the Tatar military forces were based on numerous light cavalry, also the Polish army was compelled to resign its use of heavy lance cavalry. The appearance in the crown army of Cossack cavalry, who, apart from the tasks fulfilled during service, stood out first and foremost because of the equipment they used (arms and armour), may be treated firstly as a qualitative change and then a quantitative one, of principal character. Analysis of Cossack arms and armour (with selected examples from the years 1531-1567) during the reigns of the last Jagiellonian kings may be an interesting contribution to verifying the functionality of military revolution theory in a different research field in terms of chronology and subject matter. The approach presented here thus aims to discuss the military equipment, kit/kits used by Cossack troops in the period of their formation. At the same time, it must be stressed that this presentation is merely a preliminary indication of a complex issue, which deserves separate, broader study.

The choice of the cavalry enlistments of 1531, 1538, 1557 and 1567 was dictated by the significant military campaigns conducted in those years. In the case of the Obertyn campaign of 1531, the decisive factor was the two victories: in the battle of Gwoździec (19 August 1531) and Obertyn (22 August). As regards 1538, it is worth remembering that although the siege of Chocim conducted by Hetman Jan Tarnowski in that year is fairly little known, the army commanded by Tarnowski was one of the larger ones assembled during the reigns of the last Jagiellonians. The year 1557 is related to the so-called Poswole (Pasvalys) expedition of Sigismund August. So far, no detailed materials concerning the armies taken by the ruler to Livonia have been discovered⁷ but lists of soldiers who guarded the then South-Eastern frontiers of the country have been preserved.⁸ In 1567, the so-called Radoszkowice expedition took place. Additionally, Bernard Pretwicz's rota register of 1549 was used, which is traditionally regarded as the first Cossack rota.⁹ This means that the majority of Pretwicz's soldiers served with Cossack equipment. An interesting phenomenon is the appearance of Cossacks, along with their characteristic arms and armour, in Pretwicz's

rota in such large numbers at once. It is assumed by scholars that 1549 is the turning point for soldiers who served "in the Cossack way". It is not very likely that Cossacks could have been introduced into the army top-down in one year and in a single troop. It is more probable that they had been enlisted gradually in previous years. It seems that a quantitative survey conducted for the greatest campaigns fought in the years preceding the enlistment of Pretwicz's unit should reveal certain regularities in this area. It may also be interesting to trace the possible changes of the Cossack arms and armour in the years after 1549 (1557, 1567).

Analysis of the collected materials indicates that among approximately 15,600 soldiers taken into consideration, the number of those with Cossack equipment is in fact small. For the campaigns of 1531 and 1538 their proportion does not exceed 1 percent (0.53% and 0.25% respectively). It is different for the units who defended the South-Eastern frontiers of the Crown in 1557, as among 2,477 enlisted cavalry there were 269 Cossacks (10.86%). A general comparison of data indicates that Cossacks, numbering 540 soldiers per 15,636 taken into account, constituted 3.45%. However, this information is based on not entirely consistent materials, as for the campaigns of 1531, 1538 and 1557, all the known source records were taken into consideration, whereas for the campaigns of 1549 and 1567, only a single inspection register for each was considered, albeit characteristic in that it concerned units with a high percentage of Cossacks. If these data were disregarded, the average number of Cossacks in the years 1531-1557 would be slightly over 2% (2.06%). Thus, the assumption that Pretwicz's unit of 1549 was the first fully Cossack one is by all means justified, though with the reservation that it clearly did not constitute the beginning of a dynamic change. Cossacks appeared in some units, sometimes in quite a large representation, but in the general scale their number increased gradually and fairly slowly. Therefore, it is possible to consider Pretwicz's rota of 1549 to be an important moment in the history of the Cossack formation. In 1549, the forming process of this group of armed soldiers in the Polish mercenary cavalry was nearing the end as it were. An argument in favour of this is the fact that in the Pretwicz unit there were 133 soldiers with typical Cossack equipment functioning alongside 19 who were equipped only with bows and 16 with *rohatynas* (spears – see below). It is interesting that all of them had mail armour and mail hoods. It is probably a fair assumption that the so-called "rohatiners" and archers were a sort of transitional form, before Cossack equipment was consolidated to comprise mail armour, mail hood, bow and *rohatyna*.

⁶ Boldyrew 2014, 551.

⁷ With the exception of the general record of the soldiers and resources assembled for the expedition, see Gładysz 2008, 81-107.

⁸ Archiwum..., Oddział 85, sign. 61.

⁹ Głubisz 2016, 7-8.

It is a subject for separate and further research to determine the complete genesis of the formation and transformations which it was subjected to.¹⁰

Cossack equipment, arms and armour *Pancerz* (mail armour)

In hoplological terminology, the term *pancerz* refers to flexible armour. The most well-known type was mail, present in the military equipment until the 18th century. Lamellar armour occurred less frequently.¹¹ *Bechter* was also a type of flexible armour. All of them provided for relatively free movement.¹² As regards mail and its many varieties (see *bajdana*), the important thing was probably also ventilation, a minimum of which was offered by this type of defensive armour. Mail and other varieties of flexible armour were used for protection by light cavalrymen, such as Petyhorcy or Cossacks.¹³ Winged cavalry also used this type of protective armour.¹⁴ In the second half of the 16th century, mail was worn only by elder winged cavalrymen.¹⁵ Loss registers taken during the reign of Sigismund August mention mail armour.¹⁶ It also appears in enlistment letters, and so for example the document issued for Cavalry Captain (*rotmistrz*) Jan Leśniowski in 1577 mentions *cataphractos equites*.¹⁷ Armour, and particularly mail, occurs commonly throughout the century, the evidence for which includes records of many inspections of military units or royal accounts, which mention mail armour, mail mantles, vambraces and faulds.¹⁸ Appropriately-prepared mail armour could constitute an impressive gift, which was mentioned by Joachim Bielski in his continuation of Marcin Bielski's chronicle ("[...] as a gift from the Hetman they offered the Tsar a coat of mail armour shimmering with gold and gauntlets [...]").¹⁹ The 540 soldiers, regarded as Cossacks or horsemen fulfilling the duties of Cossacks, wore mail armour.²⁰ It is worth noting that

in three cases, they were unidentified jerkins, probably leather jackets.²¹ However, one of the horsemen in Jan Sienieński's regiment wore a *jazerant*, which was also a kind of flexible armour.²² The remaining 536 wore mail because this type of armour was the most popular. Besides, all the irregularities were indicated with additional descriptions, while it was never noted that it was a mail, just as if the term *pancerz* referred precisely to mail, which is a sort of terminological discrepancy in comparison with contemporary typology. *Pancerz* (mail) is therefore the first constant element of Cossack armament.

Przylbica (mail hood)

In most works related to medieval and early modern military history, *przylbica* refers to an enclosed helmet with a moveable visor designed to protect the face. However, the combination of such a helmet with light, flexible armour, a bow and a *rohatyna* (a type of spear) seems slightly awkward. A warrior who intentionally uses mail armour gains more freedom of movement and is able to operate the *rohatyna* and bow more efficiently. In this situation, it appears absurd to wear an enclosed helmet. In the case of the Cossacks, *przylbica* was more likely to mean a mail head protection – a mail coif.²³ Most likely, this function was fulfilled by the so-called *misiurka* (mail hood), which would perfectly match the armour (flexible armour, most often mail, *bajdana* or *bechter*) as it was equipped with an aventail. In the source records we have analysed concerning 540 soldiers, the *schischak* occurred only 6 times (in 1567).²⁴ The remaining 534 Cossacks had *przylbicas*.²⁵ One may assume that *przylbica*, understood as a mail head protection, constituted the second element of Cossack equipment.

Sahajdak (*sajdak*)

This term is used in Slavic languages to refer to a pouch with the bow and a quiver with arrows. They formed the kit of many soldiers. Their common use by Cossacks likely resulted from the possibility they

¹⁰ For the possible precursors of Cossack cavalry see Grabarczyk 2011, 124-127.

¹¹ Nowakowski 1991, 94-97.

¹² Krížek and Čech 1999, 36, 186.

¹³ Migrants from so-called Piatyhorje – an area located in the Caucasus between the rivers Terek and Kuban are called Petyhorcy. It was from this name that the name of light cavalry, mostly Tatar, was derived, see Grala 1998, 16.

¹⁴ Górski 1894, 19-20; Bocheński 1988, 46.

¹⁵ Kotarski 1972, 58.

¹⁶ Plewczyński 1985, 56.

¹⁷ Pawiński 1877, doc. no. CXXXVII.

¹⁸ Archiwum..., Oddział III, sign. 2, c. 541-551; see also Urban et al. 1999, no. 137; Goliński and Žerelik 1993, 115.

¹⁹ Bielski 1851, 250.

²⁰ Archiwum..., Oddział 85, sign. 19, c. 9, 16, 16v, 18, 28, 33, 57v, 68, 78v, 86v, 97, 101, 127v, 128, 132v, 158, 174v, 176; sign. 19-2, c. 3v; sign. 32, c. 33v, 128; sign. 35, c. 38v, 39, 42,

140v, 147v, 159, 166, 174v; sign. 54, c. 18-27; sign. 61, c. 5v, 9v, 12, 15, 16v, 17v-21v, 23, 24-26v, 27v, 28, 29, 30, 33, 40, 44v, 55v, 56, 60, 66v; *Arheograficheskij*..., no. 65, 214, 215, 222-224.

²¹ Archiwum..., Oddział 85, sign. 19, c. 68, 78v, 86v.

²² Archiwum..., Oddział 85, sign. 19, c. 174v.

²³ Bołdyrew 2019, 122-123.

²⁴ *Arheograficheskij*..., no. 65, 222, 223.

²⁵ Archiwum..., Oddział 85, sign. 19, c. 9, 16, 16v, 18, 28, 33, 57v, 68, 78v, 86v, 97, 101, 127v, 128, 132v, 158, 174v, 176; sign. 19-2, c. 3v; sign. 32, c. 33v, 128; sign. 35, c. 38v, 39, 42, 140v, 147v, 159, 166, 174v; sign. 57, c. 18-27; sign. 61, c. 5v, 9v, 12, 15, 16v, 17v-21v, 23, 24-26v, 27v, 28, 29, 30, 33, 40, 44v, 55v, 56, 60, 66v; *Arheograficheskij*..., no. 65, 214, 215, 222-224.

offered for taking a rapid shot at the enemy as well as from the light weight of the bow and arrows. Studies of the subject often quote the words of Stanisław Sarnicki, who wrote that the bow is a weapon that is “[...] popular and defensive and rapid [...]”.²⁶ He also added that “[...] when matchlock guns started to be used, its importance declined because the guns offered a longer range [...]”.²⁷ However, the unique conditions of the Polish South-Eastern theatre of war forced certain changes. Łukasz Działyński mentioned that near Wielkie Łuki in 1576 “[...] a company of three from Dymek’s unit [...] jumped to their bows [...]”,²⁸ because several days before they had tried to use the matchlock guns but “[...] they could not light the match for igniting the fuses [...]”.²⁹ In this situation the bow was indeed defensive and rapid.³⁰ If we assume that Cossacks were able to perform reconnaissance tasks, a thesis can be advanced that a silent weapon could render a better service in a skirmish than firearms which required additional operation and were loud.

Most of the soldiers who were taken into account in this study used bows. However, this was clearly an optional element of Cossack weaponry, because as early as 1549 (Przetwicz’s unit) 152 out of 200 soldiers were equipped with bows, for 19 of whom it was their only recorded offensive weapon.³¹ All the Cossacks had *sahajdaks* in the registers of 1557 and 1567.³²

Rohatyna

The most mysterious term is *rohatyna*. It appears quite commonly in the written sources of the 16th century. In the *Dictionary of the Polish language of the 16th century* it is explained as a “[...] pole weapon in the form of a long shaft finished with a head with a hook, used for thrusting”.³³ While the description refers to a typical kind of pole weapon, the interesting element is the hook, which is supposed to be a part of the head, as Zygmunt Gloger claims.³⁴ Thus, on the basis of this definition, one might assume that *rohatyna* is a type of spear, whose head is fitted with an unidentified hook. However, it was already Zdzisław Żygulski Jr. and Michał Gradowski in their entry on *rohatyna* who do not mention any hook, writing: “brought to Poland from Ukraine, the name of a weapon similar to spear, *dzida* or

lance, with a leaf-shaped head and shaft of ca 2 metres in length”,³⁵ although Gloger estimates the length of the shaft to about 5 Polish ells, i.e. slightly over 2.5 m.³⁶ It is similarly defined by Iwo Szlesiński, with the addition that the term comes from the Ukrainian (*rohatyna*), or Czech language (*rohatina*).³⁷ Interestingly, the Czech glossary of arms and armour defines *rohatina* as a rack assembled of sharpened stakes inserted into multiple openings in a pole.³⁸ Apart from the version from the *Dictionary of the Polish language...*, the remaining definitions do not mention any additional element of the head. At the same time, it is known that pole weapons used for hunting (including javelins) were equipped with a crosspiece below the head, to restrict the depth of the wound, and thus to help keep the larger animals (bears or boars) at a safe distance from the hunter. Perhaps *rohatynas* used for hunting indeed had this element, but it seems that in combat it might be troublesome and could even lead to tearing the shaft out of the warrior’s hands.

It may be a safe assumption then that *rohatyna* is one of the simplest designs of pole weapon, similar to a javelin or spear. This is confirmed by a note by Jan Mączyński, who wrote in his *Lexicon* of 1564 that *pilum* was “[...] a *sefelin* or *rohatina* which Roman soldiers used for throwing against the enemy”.³⁹ A juxtaposition of *rohatyna* with *sefelin* is interesting in that the latter (a variety of javelin with a large and broad head), like *rohatyna*, is known from 16th-century texts.⁴⁰ Before 1550, *rohatyna* was referred to as *spata rogaczyna*.⁴¹ The association between the blade of a sword (*Latin: spatha*) with the broad head of *rohatyna* may be intentional, especially as there is a mention a spear (sic!) in the Polish version of Pietro de Crescenzi’s work: “[...] with a strong and broad head, which is dubbed rogacina or rohatyna [...]”.⁴² Marcin Bielski in turn mentions tying *rohatynas*. As we may guess, he means tying them to saddles for the time of march of troops.⁴³ Thus, if *rohatynas* were tied and dragged behind a horse, we may assume in all likelihood that *rohatyna* is simply a spear. However, this term does not appear in inspection registers or any other treasury and military texts from that period. The *rohatyna* recorded in the hands of Cossacks from the 16th century was therefore a spear, or alternatively a spear with a broad, but always straight, head. Being certainly relatively light and handy, it might have been of excellent

²⁶ Gembarzewski 1912, 280.

²⁷ Gembarzewski 1912, 280.

²⁸ Działyński 1887, 226.

²⁹ Działyński 1887, 221.

³⁰ For more information see Boldyrew 2017, 11-17.

³¹ Archiwum..., Oddział 85, sign. 54, c. 18-27.

³² Archiwum..., Oddział 85, sign. 61, passim; *Arheograficheskij...*, no. 65, passim.

³³ *Słownik...*, 353.

³⁴ Gloger 1903, 174.

³⁵ Gradowski and Żygulski Jr. 2000, 58.

³⁶ Gloger 1903, 174.

³⁷ Szlesiński 1985, 86.

³⁸ Křížek and Čech 1999, 225.

³⁹ Mączyński 1564, c. 299v.

⁴⁰ Boldyrew 2018, 288-289.

⁴¹ Wojtkowski and Krążyńska 1992, no. 52.

⁴² Crescentyn 1549, 634.

⁴³ Bielski 1569; Bielski 1853, 200.

use for either footed or mounted soldiers. This finding corresponds with a quotation from Bielski: “[...] they had a *rohatyna* [...] which was tied to the cantle of the saddle and dragged behind the horse and because of that it was called a spear”.⁴⁴

A similar weapon (*рогати́на*), with a head of considerable size, was used by warriors from the territory of the Grand Duchy of Moscow.⁴⁵ The best-known example is the head of the *rohatyna* which belonged to the Prince of Tver, Boris Alexandrovich (1425-1461).⁴⁶ However, as A. N. Kirpichnikov claims, *rohatyna* was first and foremost one of the most common pole weapons among servants and simple warriors, the origins of which went back to pre-Mongolian times.⁴⁷ One of the earliest inventory-related mentions concerning *rohatyna* was the weaponry register of warriors assembled in 1556 (24 of them altogether).⁴⁸ In 1909, on the basis of research into a vast collection of *rohatyny*, V. A. Gorodtsov compiled an extensive typology of their heads, which is not regarded as completely reliable today.⁴⁹ Interestingly, this scholar counted as a *rohatyna* a type of lance (or, more correctly *sulica*), whose head's breadth was equal or greater than that of the socket.⁵⁰ With reference to the mention taken from the work of a Polish chronicler (M. Bielski), it is worth pointing out that early modern period texts from the territory of Rus' also equate the *rohatyna* with a *sulica* or javelin.⁵¹

A more recent and clearer typology was in turn prepared by O. V. Dvurechenskiy.⁵² He divided *rohatyna* heads into 4 types and split each of them into 3 variants (a-c), but only for the third type did he point to some representative finds for individual variants. The heads of *rohatynas* described by that researcher range from 300 to 360 mm in length, and in cross-section they are rhomboidal (type I, III, IV: a distinct ridge and broad blades) or discoidal (type II). Type III, according to Dvurechenskiy, definitely has the most original form because at the transition between the socket and the blade slim barbs were formed (by cutting the blade) bent towards the shaft (see type IIIa and IIIb finds in the collection of the National Historical Museum in Moscow). According to V. A. Volkov, the barbs were designed to prevent excessive penetration of the wound.⁵³ Additionally, it is worth

noting that heads of types IIIb, c and IVa have round through openings (between 3 and 10 in each blade).⁵⁴

In the hands of Crown and Lithuanian Cossacks, *rohatyny* occurred far less frequently than bows. This is well illustrated by the ratio of *rohatyna* carriers to archers in Pretwicz's rota (regiment) (16 to 19). In the previous analysed years, this regularity is also observed. Out of 24 Cossacks known from 1531 only 2 carried *rohatyny* but had no bows.⁵⁵ The remaining 22 were shooters.⁵⁶ In 1538 none of the soldiers regarded as Cossacks had a spear. The register of soldiers of Filon Kmita Czarnobyłski of 1567 includes some interesting information. There, 47 Cossacks were equipped with pole weapons described as *rohatynka*,⁵⁷ while 2 more had *rohatyny*.⁵⁸

Cossack saddle horses

The basis for effective functioning of a cavalryman is his saddle horse. However, so far this element has usually been marginalised in the literature on the subject. Researchers of various cavalry formations have omitted “horse-related issues”.⁵⁹ In the meantime, it may be assumed that irrespective of armaments, tactical tasks, skills and experience of the soldier, dismounted cavalry loses its principal military advantage. Even a superficial analysis of data collected for the purposes of this study reveals more than 500 saddle horses which were described in detail.

In view of the fact that Cossacks were light cavalry and the tasks they were assigned were usually restricted to reconnaissance and supervision of a certain area, it might be expected that the optimal horse type would be light. In fact, while some regularities might be noticed in the transformation of Cossack armament (particularly as regards offensive equipment), which finally resulted in the development of a certain kind of equipment around the mid-16th century, in the case of horses used by Cossacks in the analysed period, there was considerable diversity. Altogether six categories of horse have been identified. Apart from the most frequently occurring geldings, there were also stallions, *chromaks*, *bachmats*, gennets and *bedewias*. Geldings were definitely dominant, constituting in individual years not less than 90%, except for 1567, when there were 18.64% of them (stallions – 79.66%). However, it

⁴⁴ Bielski 1856, 154, 447; Szlesiński 1985, 86, 120.

⁴⁵ Viskovatov 1841, Fig. 66.

⁴⁶ Dvurechenskiy 2013, 107, 110.

⁴⁷ Kirpichnikov 1976, 21. A different opinion is presented by Volkov 2004, 12.

⁴⁸ Volkov 2004, 231.

⁴⁹ Gorodtsov 1909, *passim*.

⁵⁰ Chubinskij 2016, 310.

⁵¹ Chubinskij 2016, 315.

⁵² Dvurechenskiy 2013.

⁵³ Volkov 2004, 306.

⁵⁴ Dvurechenskiy 2013, 109-114.

⁵⁵ Archiwum..., Oddział 85, sign. 19, c. 57v, 86v.

⁵⁶ Archiwum..., Oddział 85, sign. 19, c. 9, 16, 16v, 18, 28, 33, 68, 78v, 86v, 97, 101, 127v, 128, 132v, 158, 174v, 176.

⁵⁷ *Arheograficheskij*..., no. 65, pp. 215, 222-224.

⁵⁸ *Arheograficheskij*..., no. 65, pp. 223-224.

⁵⁹ An exception are two treatises whose authors made an effort to analyse the maze of specialist information concerning saddle horses in cavalry. Cichowski and Szulczyński 1981, 109-138; Grabarczyk 2015, 117-123.

must be borne in mind that the Kmita's unit was a Lithuanian enlistment. One might argue that the headage of horses reflected the eastern tradition of using stallions in the army. Crown units mounted geldings more readily, and Western Europe used mares. The remaining categories mentioned above are quite commonly known from 16th-century sources. *Bedewia* (*badawia*) is a breed of Arabian horse,⁶⁰ whereas gennet was most often Spanish, but also sometimes Italian and in some cases Turkish. The name itself referred not only to the animal's origin but also to its proportions.⁶¹ *Bachmats* are short and stocky eastern horses (Mongolian, Tatar).⁶² *Chromaks*, on the other hand, were limping horses, possibly with "dry" conformation.⁶³

The vast majority of Cossack horses were also described in terms of their usefulness for the given type of service. Terms such as destriers and shooter horses were used, adding as needed that the horse was good, equal or small. Shooter horses (mainly geldings) were most common. In 1531, they constituted 62.5%, in 1538 – 100%, whereas in 1549 and 1557 – more than 85% (85.71% and 85.87% respectively) of Cossack horseflesh. In the register of 1567, this type of information was not included. This means that the basic Cossack horse was the shooter gelding. In the analysed group of 540 soldiers, there were altogether 410 shooter horses, of which 300 were described as good. In other words, the average Cossack mounted a good, shooter gelding. However, the percentage of other saddle horses was not at all low, which is why it is worth stressing that clearly, in the mid-16th century, the process of selecting the proper horse for military service was ongoing. Perhaps a sort of obstacle were financial issues (the price of an appropriate horse) or the availability of the right horses. While the treasury and military sources provide information on the types of horses mounted by Cossacks, they include absolutely no information concerning the tack and riding gear. This element might help in more precise identification of tasks carried out by Cossacks on the battlefield. However, research into this issue is still in progress, and it is too early to formulate any binding conclusions besides stating that, most probably, as Cossacks fought in the eastern manner, it was not only their weaponry that was of eastern origin but also their riding kits. Therefore, it could be assumed that they most often used eastern types of saddles, such as the *jarczak*, which required particular riding skills but also provided considerable freedom in mounting and combat.

Conclusion

On the basis of the material presented here, we may assume that 1549 was in fact the first year when an almost exclusively Cossack unit (*rota*) was formed. However, the beginnings of Cossack-based troops went back to earlier years. It is also not difficult to notice that Cossacks were modelled after or followed the model of light formations of eastern origin. This was reflected both in the weaponry: flexible armour and all-purpose offensive weapons, and also in the types of horses used. In most cases they were smaller than destriers. It also seems a valid opinion that the appearance of Cossacks in the Polish mercenary army was a result of intensified military contacts with enemies who fought in a different manner from western-European armies. The usefulness of this formation was spotted by Albrecht Hohenzollern in 1556 (with his attempt to recruit 400 Cossacks).⁶⁴

Another important factor, as may be suspected, was the advanced transformation of the theatre of war, which required the ability to march quickly, attack suddenly and retreat immediately. Reconnaissance action, secretive approaches and the possibility to change location dominated service on the south-eastern frontiers of the Polish-Lithuanian Commonwealth. With limited financial resources assigned to border defence, such a system of combat was the only possibility to effect relative control over the vast borderlands. To a degree, it also constituted fairly effective protection from unexpected enemy attacks. Great war campaigns and decisive battles did take place, although they were rather incidental. They were also losing the importance from the military point of view. Suffice it to recall the victory at the battle of Orsha in 1514, which was an important episode in a lost war, or the technically successful siege of Khotyn in 1538, which did not allow this fortified point of resistance to be occupied, or finally the Poswole (Pasvalys) expedition of 1557. It was in this context that Sigismund August was repeatedly accused of having used the assembled forces merely for demonstration purposes. These accusations were justified from the financial point of view, but we cannot forget that, owing to this demonstration, the ruler managed to achieve a superior goal without becoming involved in a battle or prolonged military campaign. As we can see, the face of the war was changing and this forced far-reaching changes to be introduced into the army's structure and mode of operation. The author believes that the fact that Cossack formations became widespread was one of the manifestations of these dynamic changes.

⁶⁰ Muchliński 1858, 5; Brückner 1927, 19.

⁶¹ Gloger 1901, 102.

⁶² Muchliński 1858, 5; Brückner 1927, 10.

⁶³ Brückner 1927, 184 (entry: *chromy*).

⁶⁴ Łopatecki 2017, 262-263.

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