

ОТЕЧЕСТВЕННАЯ ИСТОРИЯ

**Polish Way:
The Light Cossack Cavalry in the Era of Military Revolution***A. Bołdyrew, K. Łopatecki*

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The aim of the article is to show the way of adaptation of the military potential of the Crown to the Tatar threat, which first emerged in 1468. In connection with the particular geopolitical situation we present the dissimilarity of military reforms from those in Western Europe. In order to prevent Tatar raids, a standing frontier army (*obrona potoczna* or Permanent Defense) was formed. In the 1520s, an innovative strategy was developed which involved creating two defense lines with a very deep reconnaissance, 500 kilometers east of Lviv, already on the territory of the Grand Duchy of Lithuania. The consequence of applying the new model of defense was a new type of armed forces developed approximately two decades later, the cossack cavalry. The article presents a phenomenon of the creation a unified, in terms of weaponry, light cavalry, the process of which took place in the 1540s and 50s. Earlier the troops had consisted of soldiers differently equipped and armored and using various horses. Out of this

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chaos there emerged more unified units, which was the result of experiences of south-east borderline defense. The article emphasizes it was neither commanders-in-chief nor political and governmental factors that played a key role in the tactical innovation was mid-level commanders (*starosts, rotmistrzes*). It was their experiments with different types of arms that brought about a revolution in the rearmament and uniformity of the cavalry. The paper indicates that the main originator of the transformations was the starost of Bar and Trembowla Bernard Pretwicz. A clear influence of political decisions and strategic concepts on the final transformations in the warfare tactics should be noted.

Keywords: military revolution, modernization processes, strategic innovations of the 16th c., tactical innovations of the 16th c., old-Polish military, cossack cavalry, military camps.

Польский путь: легкая казацкая конница в период военной революции

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Цель статьи — показать адаптацию военного потенциала Польской Короны к угрозе, возникшей с 1468 г., со стороны татар. Геополитическая ситуация вынуждала применять здесь военные реформы, отличные от западноевропейских. Чтобы предотвратить татарские набеги, в 1492 г. были созданы постоянные пограничные войска (так называемая поточная оборона). В 1520-х гг. удалось выработать новую стратегию, которая заключалась в создании двух линий обороны с проведением очень глубокой военной разведки в 500 км к востоку от Львова (уже на землях Великого Княжества Литовского). Следствием использования новой модели обороны стали преобразования в отрядах конницы. Примерно через два десятилетия была создана единая с точки зрения вооружения легкая конница, называемая казацкой. Этот процесс происходил в 1540–1550-х гг. Казацкие всадники были вооружены по татарскому образцу (с некоторым влиянием литовских и московских войск): у них были панцирные кольчуги, луки с сагайдаками, рогатины и сабли. Они передвигались очень быстро, без остановки лагерем, благодаря чему могли своевременно узнать и заранее предупредить основную армию о надвигающейся опасности со стороны татар. Ранее отряды состояли из всадников, вооруженных и защищенных самым разным образом и использующих всевозможные виды верховых лошадей. Из этого хаоса со временем возникли подразделения, которые все более становились единообразными по мере увеличения опыта защиты пограничных земель на юго-востоке страны. В статье акцентируется внимание на том, что ключевая роль в тактических инновациях принадлежала командирам среднего звена (старосты, ротмистры), которые совершили революцию в перевооружении и унификации конницы, экспериментируя с разными видами оружия. В качестве главного вдохновителя изменений назван барский и тербовольский староста Барнард Претвич. Отмечено также заметное влияние политических решений и стратегических концепций на окончательные изменения в тактике военных действий.

Ключевые слова: военная революция, модернизационные процессы, стратегические инновации XVI в., тактические инновации XVI в., старопольские военные, казацкая конница.

Introduction. In Western Europe the 15th century was marked by a progressing domination of infantry over cavalry troops. This resulted from technological transformations: the development of firearms, primarily artillery, and transformations in the art of fortifica-

tion¹. Wars increasingly involved the necessity of defending or capturing strongholds and towns, while general battles were of decreasing importance². Also, the way of capturing fortifications had changed; the actions were meticulously planned, and their implementation required long siege works³. The transformations first took place on the territory of the Apennine Peninsula in the years 1450–1534⁴. Further fundamental changes occurred on the territory of the Netherlands being a theater of uprising in the 1570s. Then the Italian defensive system was transformed by engineers Adriaan Anthoniszoon and Simon Stevin, which resulted in the foundation of the old-Dutch fortification school⁵.

Geopolitically, the Crown was in a completely different situation than Western Europe. Certainly, it waged classical wars where the key role was played by fortifications and infantry troops⁶. In the first two decades of the 16th century, certain symptoms of military revolution were noted in the form of the so-called gunpowder revolution; however, for different reasons it was restricted to a technological innovation exclusively, which did not entail any changes of larger importance⁷. Still the dominant type of arms was cavalry, and it was cavalry that was treated as the basic armed force of the Polish state. However, taking into account the fact that the main and permanent threat was still Tatars' raids, it was justified.

The Tatars were organized in various political structures, the most powerful of which was the Crimean Khanate: it regularly raided the south-eastern borderlands of the Crown and the Grand Duchy of Lithuania⁸. The scale of the phenomenon was enormous. The old research of Antoni Walawender indicate that major incursions were held on average every 1.62 years, whereas Jerzy Ochmański's more recent research demonstrates its much higher intensity, on the level 1.27⁹. However, in reality, these rates say little since they

¹ DeVries K. Gunpowder Weaponry and the Rise of the Early Modern State // War in History. 1998. Vol. 5, iss. 2. P. 127–145.

² Parker G. The "Military Revolution", 1560–1660 — a Myth? // Journal of Military History. 1976. Vol. 48. P. 208.

³ Nowak T. M. Problem stosowania broni palnej przy obronie i zdobywaniu umocnień przez wojska polskie w XVI–XVII w. // Studia i Materiały do Historii Wojskowości. 1966. Vol. 12, no. 1. P. 63–69; cf. Arnold T. F. Fortifications and the Military Revolution: The Gonzaga Experience, 1530–1630 // The Military Revolution Debate. Readings on the Military Transformation of Early Modern Europe / ed. C. J. Rogers. San Francisco; Oxford, 1995. P. 205; Parrott D. The Utility of Fortifications in Early Modern Europe: Italian Princes and Their Citadeles, 1540–1640 // War in History. 2000. Vol. 7, iss. 2. P. 127–129.

⁴ Hale J. R. The Early Development of the Bastion. An Italian Chronology, c. 1450 — c. 1534 // Europe in the Late Middle Ages / eds J. Hale, J. R. Highfield, B. Smalley. London, 1965. P. 466–494.

⁵ Kingra M. S. The Trace Italienne and the Military Revolution During the Eighty Years' War, 1567–1648 // Journal of Military History. 1993. Vol. 57, no. 3. P. 434–437, 439.

⁶ Among these types of conflicts, we can refer to long-lasting wars with the Teutonic Order in the years 1454–1466 i 1519–1521. Biskup M. Wojna pruska czyli walka Polski z Zakonem krzyżackim z lat 1519–1521. U źródeł sekularyzacji Prus Krzyżackich. Olsztyn, 1991; Biskup M. Trzynastoletnia wojna z Zakonem Krzyżackim 1454–1466. Oświęcim, 2014.

⁷ Boldyrew A. Przemiany uzbrojenia wojska polskiego na przełomie średniowiecza i nowożytności (1454–1572) jako przejaw (r)ewolucji militarnej // Roczniki Dziejów Społecznych i Gospodarczych. 2019. T. 80. P. 113–138.

⁸ Plewczyński M. Wojny i wojskowość polska w XVI wieku: 1-3 t. T. 2: Lata 1500–1548. Zabrze, 2011, P. 101–148, 309–348.

⁹ Walawender A. Kronika klęsk elementarnych w Polsce i w krajach sąsiednich w latach 1450–1586. Cz. 2: Zniszczenia wojenne i pożary. Lwów, 1935. — The author calculated that in the years 1450–1586 84 Tatar raids occurred. Ochmański's studies show that in the years 1474–1569 75 Tatar raids took place (Ochmański J. Organizacja obrony w Wielkim Księstwie Litewskim przed napadami Tatarów krymskich w XV–XVI wieku // Studia i Materiały do Historii Wojskowości. 1960. T. 5. P. 349–398).

refer to big raids noted in the sources. The number of lesser incursions is basically not considered, and specific studies based on town registers enable us to give a considerably higher number of destructive attacks¹⁰. It is also important to add small Tatar expeditions of 10–300 people (so-called “besh-besh”)¹¹.

The objective of the article is to show the way of adapting the military potential of the Crown to those circumstances, directly unknown in Western Europe. Strategy innovation was originated then, and as a result of its application a new type of armed forces was established: the cossack cavalry¹². We present the phenomenon of forming light cavalry, uniform in terms of weaponry the process of which took place in the 1540s and 1550s. Earlier the troops had consisted of soldiers differently equipped and armored, and using various horses. Out of this chaos there emerged more unified units, which was a result of experiences of south-east borderline defense. It should be emphasized it was neither commanders-in-chief nor political and governmental factors that played a key role in the tactical innovation was mid-level commanders (*starosts*, *rotmistrzes*). It was their experiments with different types of arms that brought about a revolution in the rearmament and uniformity of the cavalry. We indicate that the main originator of the transformations was the starost of Bar and Trembowla Bernard Pretwicz (c. 1500–1563)¹³. We also perceive an influence of the theoretical assumptions in political decisions and strategic concepts on the practical transformations in the warfare tactics. In previous papers, the Cossack cavalry remained in the shadow of the heavy cavalry, the Polish winged Hussars, reformed in the days of Stefan Batory¹⁴. Only one monograph dedicated to the Cossack cavalry was

¹⁰ For example, in the thoroughly scrutinized years 1605–1647, we can count 76 raids (the attack fell every 0.55 years) (*Horn M.* Chronologia i zasięg najazdów tatarskich na ziemię Rzeczypospolitej w latach 1600–1647 // *Studia i Materiały do Historii Wojskowości*. 1962. T. 8, nr. 1. P. 65–69). Ryszard Majewski zwraca uwagę, że w rzeczywistości było ich dwukrotnie więcej: *Majewski R.* Z problematyki walk z Tatarami w pierwszej połowie XVII wieku // *Sobótka*. 1975. R. 30, no. 2. P. 232.

¹¹ *Tomczak A.* Memoriał Bernarda Pretwicza do króla z 1550 r. // *Studia i Materiały do Historii Wojskowości*. 1960. T. 6, nr. 2. P. 343; *Podhorodecki L.* Chanał Krymski i jego stosunki z Polską w XV–XVII w. Warszawa, 1987. P. 60.

¹² In Polish historiography there are two completely different referents of the word “cossack”. Usually, this word written in a capital letter means a multi-ethnic group of population, who, at least from the late 15th century on, inhabited the south-east borderlands of the Kingdom of Poland and the southern borderlands of the Grand Duchy of Lithuania and the Grand Duchy of Moscow. Beside this, there is a term “cossack” (in a lower-case letter), which means a soldier serving in the units of the so-called cossack cavalry or a person transporting letters. A characteristic quality of those people was their fast mobility. See: *Plewczyński M.* Kozacy w walkach z Moskwą nad Dźwiną i Ułą w latach 1567–1568 // *Od Kijowa do Rzymu. Z dziejów stosunków Rzeczypospolitej ze Stolicą Apostolską i Ukrainą* / eds M. R. Drozdowski, W. Walczak, K. Wiszowata-Walczak, Białystok, 2012. P. 57–58; *Wójcik Z.* Dzikie Pola w ogniu. O Kozaczyźnie w dawnej Rzeczypospolitej. Warszawa, 1961. P. 7–24; *Serczyk W. A.* Na dalekiej Ukrainie. Dzieje Kozaczyzny do 1648 r. Kraków, 1984. P. 6–7, 38–42; *Franz M.* Wojskowość Kozaczyzny Zaporoskiej w XVI–XVII wieku. Geneza i charakter. Toruń, 2002. P. 84–93; *Franz M.* Idea państwa kozackiego na ziemiach ukraińskich w XVI–XVII wieku. Toruń, 2006. P. 51–85.

¹³ *Tomczak A.* Pretwicz (Pretfic) Bernard h. Wczele // *Polski Słownik Biograficzny*. T. 28. Wrocław, 1984–1985. P. 433–435.

¹⁴ For example: *Hundert Z.* Husaria koronna w wojnie polsko-tureckiej 1672–1676. Oświęcim, 2012; *Szulczyński A.*, *Cichowski J.* Husaria. Warszawa, 1977; *Wasilkowska A.* Husaria. The winged horseman. Warszawa, 1998; *Meysztowicz J.* Husaria pod Kircholmem. Warszawa, 1970; *Żygulski jr. Z.* Husaria. Warszawa, 2000; *Gembarzewski B.* Husarze: ubiór, oporządzenie, uzbrojenie. Warszawa, 1999; *Bocheński Z.* Próba określenia genezy polskiej zbroi husarskiej // *Muzealnictwo Wojskowe*. 1964. T. 2. P. 141–166. — Ostatnio: *Plewczyński M.* Napierśniki husarii obrony potocznej w połowie XVI w. // *Studia w Dziejów Wojskowości*.

published — the one written by Bartosz Głubisz¹⁵ who discussed its history in the period of 1549–1696. The cavalry itself, however (from the mid-17th century called “pancerna” or armored) survived until 1776. Of key importance are the findings of Marek Plewczyński who recognizes the period 1545–1549 as the beginning of the so-called Cossack reform. In this researcher’s view, then they created the troops which were characterized by high mobility and speed of action. They were basically armed with a bow, a saber, a *rohatyna* or a short spear, and also a mail armor¹⁶. The extensive context of mutual effect of the states and societies (primarily the Crimean Khanate and the Grand Duchy of Moscow) located on the Black Sea basin was presented by Brian L. Davies, whose observations were adopted in this paper¹⁷.

The formation of the units of light cavalry enabled to successfully counteract the existent defensive problems, which consequently allowed for rebuilding the economic infrastructure of the South-Eastern lands of the Crown and the Ruthenian borderlands of the Grand Duchy of Lithuania incorporated into the Crown in 1569¹⁸. We attempt to look at the phenomenon of strategic and tactical changes through the paradigm of the military revolution. Solutions adopted in the state of the Jagiellons, different from those in the states of Western Europe, seemingly regressive (resignation from firearms and return to the bow) by no means meant regress or a structural backwardness. On the contrary, we want to prove that the formation of the new type of cavalry, so-called cossacks, led to enormous progress comparable with the transformations occurring in Italy at the turn of the 16th century, or in the Netherlands in the second half of the 16th century.

Our theses are founded on the quantitative analysis based on fiscal-military documentation of the Kingdom of Poland (rejstry popisowe or accounting records, bills for the service)¹⁹. However, in order to provide the results with appropriate interpretation, we utilize normative acts, chronicles, military treaties, iconography, and even cartographic sources. Thanks to this, it is possible to verify whether the legal norms or single phenomena noted in descriptive sources are confirmed in the statistical records of soldiers serving in the units of the Permanent Defense (*obrona potoczna*).

The characteristics of Tatar troops’ actions on the territory of the Commonwealth.

The way of conducting wars by the Tatars, especially of the Crimean Khanate, was unique in Europe. The fundamental difference lay in the fact that the Tatars did not take any attempts to conquer new territories; their raids combined two strategies: plunder and terror (destruction)²⁰. The aim of the raids was to capture the highest number of prisoners as

2017. T. 6. P. 161–178. — Radosław Sikora dedicated a great deal of attention to this issue (mainly in the form of sketches popularizing knowledge).

¹⁵ Głubisz B. *Jazda kozacka w armii koronnej 1549–1696*. Poznań, 2016.

¹⁶ Plewczyński M. *Wojny i wojskowość polska w XVI wieku*. T. 1. P. 60–61.

¹⁷ Davies B. L. *Warfare, State and Society on the Black Sea Steppe 1500–1700*. New York, 2007.

¹⁸ Pelenski J. *Inkorporacja ukraińskich ziem dawnej Rusi do Korony w 1569 roku: ideologia i korzyści — próba nowego spojrzenia // Przegląd Historyczny*. 1974. R. 65, nr. 2. P. 243–262; *Frost R. The Oxford History of Poland-Lithuania. Vol. 1: The Making of the Polish-Lithuanian Union, 1385–1569*. Oxford, 2015. P. 477–494.

¹⁹ *Archiwum Główne Akt Dawnych w Warszawie, Archiwum Skarbu-Koronnego, Oddział 85 (rejstry popisowe wojska — military accounting records)*.

²⁰ *Sarnicki S. Księgi hetmańskie / ed. by M. Ferenc*. Kraków, 2015. P. 434–436; *Majewski R. Z problematyki walk... P. 236; Gliwa A. The Tatar Military Art of War in the Early Modern Period: an Example of Asymmetric Warfare // Acta Poloniae Historica*. 2016. T. 114. P. 191–229.

well as cattle and horses, and then to retreat swiftly²¹. Thus, the raids were of economic nature and were connected with the lack of economic self-sufficiency of the Crimean Khanate, in addition to the political weakness of the khan, who was not able to control the aristocracy²². Dariusz Kołodziejczyk put forward the estimated scale of destruction, claiming that from 1500 to 1700 the Crimean Tatars had taken into captivity c. two million people from Slavic countries (on average 10 thousand people from Europe a year)²³. Probably the numbers may have been even higher since it is known that over 14 months in the years 1577–1578, the Crimean Khanate had exported abroad 17,502 slaves (or 15,000 a year)²⁴. A large number of the prisoners also stayed in the Khanate, and this population is estimated to have been four times as big as that of the Tatars²⁵. It is approximated that the Tatars led away c. 7,000 people a year from the Polish-Lithuanian state, to which we should add the people who died during a raid and a journey²⁶. Certainly, we do not deal with a process of constant intensity, which resulted from different effectiveness of coping with the raids²⁷. Particularly devastating were the moments of political turmoil and military weakness, of which the Tatars took advantage perfectly²⁸. As early as the beginning of the 16th century, the range of Tatar expeditions reached 1,100 kilometers counting in a straight line from Perekop in all directions: Polish (Czersk), Lithuanian (Vilnius) and Russian (Moscow)²⁹.

²¹ Stanisław Sarnicki (1532–1597) was the first theoretician who distinguished this way of conducting military operations from the war whose aim was a territorial conquest. In his work written c. 1575 he defines this way with the name “vastatio” or purposeful destruction of mobile and immobile properties combined with depopulation (taking into captivity and murdering the inhabitants). The latter element was to be distinctive of the actions of the Ottomans and the Tatars from the Christian rulers, who also destroyed properties, burnt fields and woods in order to reduce the operational possibilities of the enemy forces (he calls this activity “pervastatio”). The author also compares operations of pirates and Zaporozhian Cossacks to vastatio (*Sarnicki S. Księgi hetmańskie...* P. 425–432).

²² *Kizilov M. The Slave Trade in the Early Modern Crimea from the Perspective of Christian, Muslim, and Jewish Sources // Journal of Early Modern History. 2007. Vol. 11, no. 1–2. P. 1–31; Davies B. L. Warfare...* P. 23–24.

²³ *Kołodziejczyk D. Slave Hunting and Slave Redemption as a Business Enterprise: the Northern Black Sea Region in the sixteenth to seventeenth centuries // Oriente Moderno Nuova serie. 2006. Vol. 25, no. 1. P. 149–159.*

²⁴ *Ivanick M. Enslavement, slave labour and the Treatment of Captives in the Crimean Khanate // Ransom Slavery Along the Ottoman Borders: (Early Fifteenth — Early Eighteenth Centuries) / eds G. Dávid, P. Fodor, Leiden, 2007. P. 194.*

²⁵ *Księga podróży Ewliji Czelebiego (Wybór) / eds Z. Abrahamowicz, A. Dubiński, S. Płaskowicka-Rymkiewicz, Warszawa, 1969. P. 354–355.*

²⁶ Such data (6,944 people a year) can be found in: *Davies B. L. Warfare...* P. 25. — In comparison, according to Ruthenian voievods from the first half of the 17th c., the Tatars took away c. 3,000–4,000 people a year, which of course was official data (considerably lowered) (*Novosel'skii A. A. Bor'ba moskovskogo gosudarstva s Tatarami v pervoi polovine XVII veka. Moscow, Leningrad, 1948. P. 435–436.*)

²⁷ For example, in the years 1605–1633, the population losses of the Commonwealth were c. 250,000 people (i.e. 8,928 a year), and in the whole first half of the 17th c. c. 300,000 people (i.e. in the years 1601–1604, 1634–1648 it would be merely 2,777 people) (*Horn M. Skutki najazdów tatarskich z lat 1605–1633 na Ruś Czerwoną. Wrocław, 1964. P. 92–94.*)

²⁸ A huge desolation was caused by the raid of 1655, during which 52,000 prisoners were taken, and over four years (1654–1657) 38 attacks had been conducted from the Khanate on the Slavic lands (*Kizilov M. The Slave Trade...* P. 6). Furthermore, from one region only (Przemyśl land), one of the four borderland provinces of the Crown, in 1648 the Tatars took away 8,794 people, and in the years 1672 and 1699 altogether 7,905 people were captured (*Gliwa A. Kraina upartych niepogód. Zniszczenia wojenne na obszarze ziemi przemyskiej w XVII wieku. Przemyśl, 2013. P. 629–653.*)

²⁹ *Ivanick M. Enslavement...* P. 195; *Plewczyński M. Wojny i wojskowość polska w XVI wieku. T. 1. P. 111.*

Consequently, from the turn of the 16th century onwards, the south-eastern lands of the Crown and the Grand Duchy of Lithuania were ravaged; there occurred settlement regress and huge depopulation, which threatened the functioning of the states³⁰.

The operation thought (maneuver concept) of Tatar troops involved avoiding battles and sieges³¹. The key role was played by good reconnaissance of the area, great speed as well as perfect synchronization of the troops. Having founded a *kosz* (the main camp), they sent *chambuls* (units) in different directions in order to captivate people. Surprise was a key factor: in extreme situations the Tatars could cover 20–30 miles a day, which is c. 150–225 kilometers³². According to Paul of Aleppo, it was a distance which troops normally covered over five or six days³³. This pace was possible to reach because, among other things, every Tatar had two to four horses³⁴. Andrzej Gliwa studying the phenomenon in detail notes that basically it was an early modern history equivalent of asymmetric war. The Tatars used dispersed forces of light cavalry in irregular mode, spreading terror with the help of non-selective attacks on so-called soft aims: either in the form of burning buildings in rural areas or conducting purposeful public executions³⁵.

The Tatars' combat tactics was based nearly exclusively on cavalry. Troops fought in a deep several-line flexible order, with the wings moving forward and the slightly withdrawn center. They were masters of maneuver actions; they tried to circumvent the opponent's wings and enter the rear of the army. They applied regrouping, willingly simulated an attempt to flee, which brought about breaking the order of the Polish troops. Before a direct attack they showered the enemy with arrows³⁶. Of course, they engaged in combat as a last resort, having murdered the prisoners³⁷.

³⁰ This area may be called “a slaving zone” — or a vast zone of hunting for people (*Fynn-Paul J. Slaving Zones. Cultural Identities, Ideologies and Institutions in the Evolutions of Global Slavery // Studies in Global Slavery. Vol. 4 / eds D. A. Pargas, J. Fynn-Paul, Leiden, 2017. P. 1–19*). This term was used for Tatar raids in Central and Eastern Europe by: *Gliwa A. Niewola brańców tatarskich z ziem południowo-wschodnich Rzeczypospolitej w XVII wieku: doświadczenie przemocy i jego konsekwencje w postaci zespołu stresu pourazowego (PTSD) // W niewoli. Doświadczenie jenieckie i jego konteksty na przestrzeni dziejów / eds M. Jarząbek, M. Stachura, P. Szlanta. Kraków, 2019. P. 132*.

³¹ *Davies B. L. Warfare... P. 21*. — Consequently, there emerged peasant strongholds, which were founded on hills, or else, surrounded by water, where walls were put up, and an important defensive element was a stone or brick church (*Kotula F. Warownie chłopskie XVII w. w ziemi przemyskiej i sanockiej // Studia i Materiały do Historii Wojskowości 1962, T. 8, nr. 1. P. 73–149*).

³² *Sarnicki S. Księgi hetmańskie... P. 431, 434–436; Tomczak A. Memoriał... P. 341; Księga podróży Ewliji Czelebiego... P. 185–186*.

³³ *Ukraina w połowie XVII wieku w relacji arabskiego podróżnika Pawła, syna Makarego z Aleppo / ed. by M. Kowalska. Warszawa, 1986. P. 31*.

³⁴ *Martini Bronovii de Biezdzfedeia bis in Tartariam nomine Stephani Primi Poloniae Regis legati Tartariae Descriptio. Cologne, 1595. P. 22–23; Davies B. L. Warfare... P. 20–21*. — Hence the overestimation of the enemy forces. For example, in 1500, the chan's son, Ahmed, attacked with alleged 14,000 riders, whereas in reality it was 5,000 soldiers and additional 9,000 horses. The extra horses allowed to take (without wagons) the food for four months (*Plewczyński M. Wojny i wojskowość polska w XVI wieku. T. 1. P. 101, 111*).

³⁵ *Majewski R. Z problematyki walk... P. 231–234; Gliwa A. The Tatar Military Art... P. 191–229*.

³⁶ *Davies B. L. Warfare... P. 21–22; Majewski R. Z problematyki walk... P. 234–235*. — In order to counteract this tactics, Jan Tarnowski (*Consilium rationis bellicae / ed. by T. M. Nowak. Warszawa, 1987. P. 89*) ordered to attack the Tatars without a strick order (dispersion), because in this way the loss resulting from archery firing was minimized.

³⁷ Thanks to this, an operational advantage was achieved, since it forced the necessity of an immediate attack without waiting for support (*Sarnicki S. Księgi hetmańskie... P. 434–435*).

The first major raid of the Crimean Khanate, the aim of which was capturing prisoners and selling them as slaves, took place in 1468³⁸. The Crown military forces were not prepared for this type of operations. The principal armed force at that time was the *pospolite ruszenie* (mass mobilization, *expeditio generalis*), which, despite being numerous, gathered too slowly to stop Tatar expeditions³⁹.

Strategy innovation: counteracting Tatar raids. The situation described above was extraordinary. The state with a lower demographic, military and economic potential (the Crimean Khanate) had been attacking a stronger neighbor for over 200 years practically with impunity. This was possible because the Crimean Khanate was a fief of the Ottoman Empire, which in 1484 also took control over other Black Sea ports, such as Kiliya and Akkerman, and three years later — over Moldavia. Thereby, an aggressive policy towards the Tatars was impossible in the face of the threat of the Ottoman retaliation. Furthermore, the Black Sea became an internal Ottoman lake, where they successfully conducted trade of slaves and animals. It is important to underscore that the Khanate became a subject of rivalry between Russia on one side and Poland and Lithuania on the other, due to which it almost always was in a favorable geopolitical situation⁴⁰.

Many defensive concepts were developed against Tatar attacks, two of which were of key importance⁴¹. One involved paying gifts to the Crimean khan, which were supposed to make him cease attacking or organize raids against hostile third states⁴². The other involved creating professional troops stationing in the south-eastern borderlands of the state at the end of the 15th century⁴³. That army was paid to from the Royal Treasury and was called *obrona potoczna* (in old Polish mobile defense)⁴⁴. Of course, the troops could not be based on a west-European model of combat. Thus, cavalry was recruited,

³⁸ Kizilov M. The Slave Trade... P.6.

³⁹ Łopatecki K. Organizacja, prawo i dyscyplina w polskim i litewskim pospolitym ruszeniu (do połowy XVII wieku). Białystok, 2013.

⁴⁰ Davies B.L. Warfare... P.6–18. — Despite the fact that Polish-Lithuanian nobility and the state authorities liked to use the slogan of „Bulwark of Christendom”, they did it for the use of external policy. In reality, the dominating political option was maintaining good or at least correct relations with the Ottoman Empire (*Urwanowicz J. Wokół ideologii przedmurza chrześcijaństwa w Rzeczypospolitej w drugiej połowie XVII w. // Odrodzenie i Reformacja w Polsce. 1984. T.29. P.185–199; Kołodziejczyk D. Stosunki dawnej Rzeczypospolitej z Turcją i Tatarami: czy naprawdę byliśmy przedmurzem Europy? // Praktyka Teoretyczna. 2017. T.26. P.16–34).*

⁴¹ S. Sarnicki (*Sarnicki S. Księgi hetmańskie... P.438–440*) names six main methods of counteracting Tatar attacks: paying tribute, purposeful desolation of the borderland, creating a permanent army, arming peasants, using the Cossacks, building castles.

⁴² Permanent gifts of 15,000 florens began to be paid from the Lithuanian Treasury in 1506. Later on the amount increased. The peak of the tribute payments was in the years 1654–1666 (*Dovnar-Zapolskii M. V. Litovskie upominki tatarskim ordam. Skarbovaia kniga Metriki Litovskoi 1502–1509 gg. Simferopol', 1898; Skorupa D. Stosunki polsko-tatarskie, 1595–1623. Warszawa, 2004; Wójcik Z. Aspekty finansowe przymierza polsko-tatarskiego w latach 1654–1666 // O naprawę Rzeczypospolitej XV–XVIII w. Prace ofiarowane Władysławowi Czaplowskiemu w 60 rocznicę urodzin / ed. by J.A. Gierowski. Warszawa, 1965. P.144–151; Kołodziejczyk D. The Crimean Khanate and Poland-Lithuania: international diplomacy on the European periphery (15th–18th century): a study of peace treaties followed by annotated documents. Leiden; Boston, 2011. P.496–513).*

⁴³ The year 1492 is accepted as the date of its foundation (*Kolankowski L. Roty koronne na Rusi i Podolu 1492–1572 r. // Ziemia Czerwieńska. 1935. T.1, nr.2. P.141–142; Niemczyk K. Wojskowa emanacja władzy królewskiej w osobie hetmana na przełomie XV i XVI w. // Władza a społeczeństwo / eds A. Bryłka, T. Kałuski, M. Korbaś. Katowice, 2016. P.154–155).*

⁴⁴ *Kromer M. Polska, czyli o położeniu, ludności, obyczajach, urządach i sprawach publicznych Królestwa Polskiego księgi dwie / eds S. Kazikowski, R. Marchwiński. Olsztyn, 1984. P.186–187; Plewczyński M.*

which, however, raised new problems. First, because of the disastrous state of the Royal Treasury, there were a small number of soldiers (c. 1000–3000), and those who were paid were recruited for six or nine months a year only. In the remaining time, the troops were dissolved, or the number of men was considerably reduced⁴⁵. Moreover, the organization of cavalry based on medieval knights or medium and heavy-armed soldiers made the operation more difficult. It is important to add to this the lack of good reconnaissance, which hindered preventive actions.

Thus, it was indispensable to adapt the methods and instruments of combat to the specificity of the enemy troops and the character of the war theater, which is strategic and tactical innovation⁴⁶. Collected experience, mainly of defeats, led to huge transformations in planning defensive operations at the beginning of the 16th century. As early as 1502 the *Ordynacja obrony Rusi* (Ordinance of the Defense of Ruthenia), which proposed involving peasants into military service. The reform failed but the document is indicative of forming defense against the Tatars⁴⁷. The field guard was separated under the command of Andrzej Michowski, who stationed in Vinnytsia, Podolia, and the *zastawa wołyńska* (Wolhynia Defence) was deployed in Włodzimierz and Łuck. Michowski was to recognize the threat, establish the direction of the attack and the strength of the enemy, and then informed about it Field Hetman Stanisław Chodecki, who was to stay in Lviv. The mobilization was to be conducted at the Wolhynia-Ruthenia borderline. The main camp was founded near Lviv. The general assumption — advanced field guard, coordination of Polish-Lithuanian operations and the withdrawn main forces, which could concentrate local *pospolite ruszenie* and volunteers — was correct. However, there was one fundamental drawback of this assumption: too immobile defense lines in contrast to the Tatars' daily mobility (150–255 kilometers; see: Fig. 1).

The second stage of transformations occurred in the 1520s. This was connected with another major attack and the defeat of the Polish-Lithuanian troops in the battle of Sokal (2 August 1519). The campaign revealed several problems. The Tatars for a long time had been looting the Crown lands reaching even the Belz and Lublin provinces; they also ravaged the Ruthenian province. This allowed the *pospolite ruszenie* to gather. It managed to block the enemy's way by the Bug River in the settlement Sokal. Instead of defending the eastern bank, the Polish troops crossed the river to the Tatar (western) side. The Tatars showered the Poles with arrows, and the field conditions (cinders, torn terrain) made it impossible for the heavy cavalry to take advantage of its potential. In the final phase of the

Żołnierz jazdy obrony potocznej za czasów Zygmunta Augusta. *Studia nad zawodem wojskowym w XVI w.* Warszawa, 1985.

⁴⁵ Kolankowski L. *Roty koronne...* P. 141–167; Plewczyński M. *Liczebność wojska polskiego za ostatnich Jagiellonów (1506–1572)* // *Studia i Materiały do Historii Wojskowości*. 1989. T. 31. P. 27–60; Spieralski Z. *Instrukcje i artykuły hetmańskie Jana Tarnowskiego* // *Studia i Materiały do Historii Wojskowości*. 1994. T. 36. P. 272–273.

⁴⁶ Until the mid-16th century, a similar defensive strategy was adopted by the Russians (so-called Bank Array). Later on, they paid definitely more attention to the system of fortification and long defense lines. See: Davies B. L. *Warfare...* P. 41–70, 81–95.

⁴⁷ *Ordinatio regis Alexandri defendendi Russiam, [Wilno koniec XI 1502]* // *Akta Aleksandra króla polskiego, wielkiego księcia litewskiego (1501–1506)* / ed. by F. Papée. Kraków, 1927. P. 200–204; Niemczyk K. *Zagrożenie mołdawsko-tatarskie Rusi na przełomie XV/XVI wieku i jej wpływ na politykę wewnętrzną Polski* // *Naukovi praci Kam'ianec' Podil'skogo nacional'nogo universitetu im. I. Ogiienka*. Štetični nayki. 2014. T. 24. P. 111.

battle, flanking by the Tatars was a decisive factor in the defeat of the Polish-Lithuanian troops⁴⁸.

The king's entourage prepared an ordinance of defending borderlands in Lviv which was announced in Torun on 28 April 1520. The Crown troops were set in two defense lines with advanced pickets of the guard. The main forces (840 of cavalry) were located on the line Olesko-Zaliztsi under the command of Crown Field Hetman Marcin Kamieniecki, who was in charge of the maintenance of the fortified camp and the artillery. The other line was situated in Podolia, at the line of Kamyanets Podilskiy and Khmilnyk. It was commanded by Jan Tworowski (600 men and 100 of infantry in Kamyanets Podilskiy). Reconnaissance at the borderline was part of the task of the so-called front guard under the command of Mikołaj Trzebiński (400 cavalry). Additional assistance was to be secured by the Wolhynia defense (*zastawa wołyńska*)⁴⁹.

The ordinance was far bolder in its assumptions than its predecessors. The main camp was to be 64–97 kilometers east of Lviv, whereas the second line was deployed from the Dniester River to the Boh River at the distance of 225–283 kilometers from Lviv (see: Fig. 1). The general conception was correct: long-range reconnaissance and arrangement of troops in the order of two lines allowed for fast recognition of the direction of the attack and ably complement the professional army with the *pospolite ruszenie*. Of key importance was the front guard and its possibilities of detecting the enemy, and then fast informing the main forces of the approach of the enemy⁵⁰. The guards, however, were placed as far as the settled territories in the Crown, whereas they should have been advanced deeply into the so-called Wild Fields (into the territory of the Grand Duchy of Lithuania). As a result, this solution was not always effective, the example of which was a defense from the Tatar-Ottoman invasion of 1524. The enemy troops reached as far as the San River near Radymno. Grand Hetman Mikołaj Firlej protected Lviv; thereby the main forces did not join the active defense, and small victorious skirmishes did not change the negative assessment of the defensive possibilities of the Polish Crown⁵¹.

The third stage of the strategic changes was connected with Jan Tarnowski's assuming the office of the Grand Crown Hetman in 1527⁵². Immediately afterwards he toured along

⁴⁸ *Tyszkiewicz J.* Sojusze nieprzyjaciół i bitwa pod Sokalem 2 sierpnia 1519 r. // *Afryka, Orient, Polska. Prace ofiarowane Profesorowi Andrzejowi Dziubińskiemu w siedemdziesiąt rocznicę urodzin* / eds. S. Kuczyński, A. Rachuba, M. Tymowski. Warszawa, 2007. P. 145–153; *Herbst S.* Potrzeba historii, czyli o polskim stylu życia: 1-2 t. T. 2. Warszawa, 1978. P. 296.

⁴⁹ *Corpus Iuris Polonici.* Vol. 3 / ed. by O. Balzer. Kraków, 1906. No. 232. P. 576–577; *Ordinatio contra Tartaros in Conventu Leopoliensi facta* // *Acta Tomiciana, Epistolarum, legationum, responsorium, actionum et rerum gestarum Serenissimi Principis Sigismundi Primi regis Poloniae Magni Ducis Lithuaniae per Stanislaum Górski canonicum Cracoviensem et Plocensem collectarum.* T. 5 / ed. by Z. Celichowski. Poznań, 1855. No. 282. P. 270–271; *Bołdyrew A.* Piechota zaciężna w Polsce w pierwszej połowie XVI wieku. Warszawa, 2011. P. 298; *Kolankowski L.:* 1) *Roty koronne...* P. 146–147; 2) *Obrona Rusi za Jagiellonów na przełomie XV i XVI wieku* // *Księga pamiątkowa ku czci Bolesława Orzechowicza.* T. 1. Lwów, 1916. P. 476; *Plewczyński M.* Wojny i wojskowość polska w XVI wieku. T. 1. P. 309–310; *Łopatecki K.* Organizacja, prawo i dyscyplina... P. 382–383.

⁵⁰ The Field Guard was supposed to detect the Tatars, and simultaneously was not supposed to be detected by the enemy. Consequently, it followed the enemy moving on a parallel road (*Sarnicki S.* *Księgi hetmańskie...* P. 434).

⁵¹ *Wapowski B.* Kroniki. Część ostatnia, czasy podługoszowe obejmująca (1480–1535) / ed. by J. Szujski. Kraków, 1874. P. 194–195; *Dworzaczek W.* Hetman Jan Tarnowski. Z dziejów możnowładztwa małopolskiego. Warszawa, 1985. P. 23–24.

⁵² *Urzednicy centralni i nadworni Polski XIV–XVIII wieku. Spisy* / eds K. Chłapowski, S. Ciara, Ł. Kądziała, T. Nowakowski, E. Opaliński, G. Rutkowska, T. Zielińska. Kórnik, 1992. Nr. 121. P. 42.

the whole borderline and all frontier, south-eastern castles. The plan formed at that time was explained by the main defender of the south-eastern borderlands of the Polish state, Bernard Pretwicz, called *terror Tartarorum*, in 1550. Hetman Tarnowski assessed the giant scale of the havoc, which spread as far as Lviv, Przemyśl and Lublin. It was also a result of too “close keeping guard”, and consequently the lack of early reconnaissance⁵³. The Hetman decided to move the guard 150–200 kilometers translocating the reconnaissance from the Crown lands to the territory of the Grand Duchy of Lithuania. A huge role was given to the new Field Guardian (from 1531 on), Mikołaj Sieniawski. The registers of the troops of 1529 already show much deeper reconnaissance, and first and foremost attentive control of the Tatar routes. This was implemented by, for example, keeping Crown troops on the territory of Lithuania, advancing them even over 320 kilometers from Kamyanets Podilskiy and 507 kilometers from Lviv (I measure the distances to Zvenyhorodka). There were five advanced outposts: in Bratslav, Kholmilnyk, Kitsman, Kopystyryn and along the Sluch River, which had from 23 to 47 soldiers (see: Fig. 1). Certainly, the troops patrolled permanently the area entrusted to their protection, which is testified by fiscal-military sources. Altogether, at the turn of 1529 and 1530 (the soldiers were recruited at the beginning of November 1529) 191 of cavalry served, 117 of whom were hussars (61,26%), whereas 70 could be classified as light cavalry (36,65%)⁵⁴.

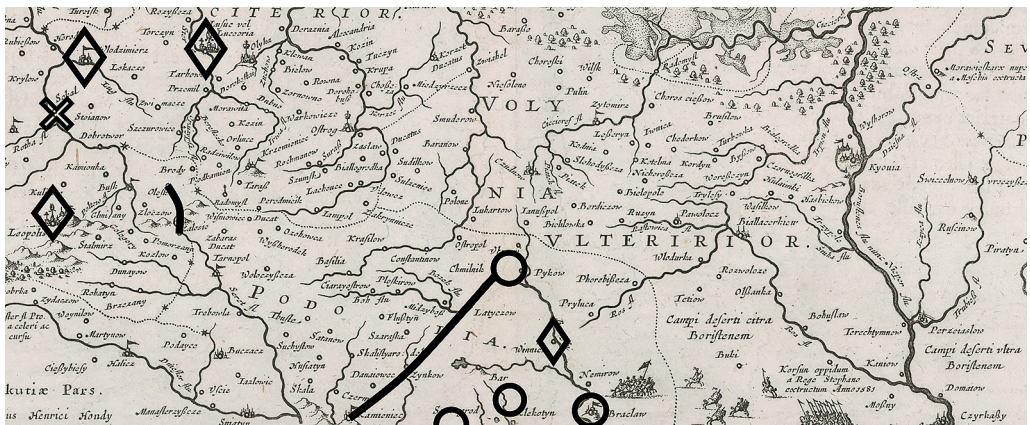


Fig. 1. Strategy of defense from Tatar raids in the early 16th c.: ♦ — dislocation of the forces in light of the Ordinance of 1502; X — battlefield of Sokal (1519);) — defense lines in light of the Ordinance 1520; ○ — units of the front guard as located in 1529.

Prepared by the author on a part of the map *Magni Ducatus Lithuaniae* (the end of the 16th c.). Drawn by T. Makowski, engraved by H. Gerrits (Amsterdam, 1635) [Biblioteka Narodowa, sygn. ZZK 1580]. URL: <https://polona.pl/item/magni-dvcatvs-lithvaniae-caeterarvmqve-regionvm-illi-adiacentivm-exacta-descriptio,MzcwnJk2Njk/0/#info>⁵⁵

⁵³ Tomczak A. Memoriał... P. 341.

⁵⁴ Lancers' horses were mentioned four times (2,09%) but no lancer armament was noted; thus, we should assume that the soldiers riding them should not be treated as heavily armed riders (Archiwum Główne Akt Dawnych w Warszawie. Archiwum Skarbu Koronnego. Oddział 85. Nr. 16, t. 2, k. 1a–9; *Górski K. Historia jazdy polskiej*. Kraków, 1894. P. 321–322).

⁵⁵ On the credibility and precision of the map prepared in the years 1593–1599: *Łuczynski J. Przestrzeń Wielkiego Księstwa Litewskiego na mapie radziwiłłowskiej Tomasza Makowskiego z 1613 roku w świetle treści kartograficznej i opisowej // Zapiski Historyczne*. 2013. T. 88, nr. 1. P. 73–98.

It is important to underscore that at the same time a similar concept of defense was proposed by the outstanding Polish cartographer, Bernard Wapowski. The map of Southern Sarmatia, printed in Cracow twice in 1526 and 1528, has the troubled areas of the south-eastern borderland highlighted (Fig. 2)⁵⁶. It contains images of Tatar riders symbolizing chambuls invading the lands of the Crown and Lithuania. A settlement desert (slaving zone) is represented as well as ruins of destroyed towns and castles. The key in the iconographic strata is a military camp, fortified and equipped with artillery, in Podolia (understood as Bratslav and Kiev lands) between the Dnieper River and the Boh River (Southern Bug)⁵⁷. This representation is appended with the information about the successes of Polish troops under the kings of Poland: Boleslaw the Brave (992–1025) and Boleslaw the Generous (1058–1079); the expeditions of Grand Duke Vytautas of Lithuania (1401–1430) who protected the frontiers from “The Scythians” founding a military camp on the bank of the Dnieper River. Thus, Bernard Wapowski proposed a joint (Polish-Lithuanian) defense from Tatar raids which was to be possibly far advanced into the borderlands between the Boh River and the Dnieper River. This concept was fully implemented after the incorporation of Volhynia, the Kiev Land and the Bratslav Land into the Crown, which took place in 1569. At that time, the main military camps were deeply moved south-eastwards. Already in the same year, the camp was located in Trembovła (134 kilometers from Lviv) and nine years later was moved to Vynnytsia (328 kilometers from Lviv)⁵⁸. The town’s cossacks began to be used more extensively; they were to protect crossings on the Boh River (from Bratslav) and the Dnieper River (from Cherkassy). The Crown Field Hetman recruited even 300 cossacks for permanent military service. All those steps again increased the shield against the Tatars⁵⁹.

The new strategic solutions soon brought about excellent effects. The Tatars ceased organizing big raids on the Crown lands, which were easily recognized at an early phase of the attack. The way the aggressors managed to cope with the new type of defense was attacking in small groups of maximum 300 men, but even they were chased and destroyed, often on the lands of the Crimean Khanate⁶⁰. Consequently, by c. 1550 the south-eastern lands of the Crown were resettled. Deserted areas around Lublin, Przemyśl, Lviv disappeared, and the settlement network moved as far as the very borderline with the Grand Duchy of Lithuania and Moldavia. There appeared new castles and fortified towns, which considerably increased the defensive potential of the borderland⁶¹.

⁵⁶ *Rastawiecki E.* Mappografia dawnej Polski. Warszawa, 1846. P.10–13; *Monumenta Poloniae Typographica XV et XVI saeculorum. Vol. I: Cracovia impressorum XV et XVI ss.* / ed. by J. Ptaśnik. Lwów, 1922. P.119–120; *Alexandrowicz S.* Kartografia Wielkiego Księstwa Litewskiego od XV do połowy XVIII wieku. Warszawa, 2012. P.37–38, przypis 76; *Olszewicz B.* Wzmianki o mapach Bernarda Wapowskiego w listach z roku 1529 // *Studia nad książką poświęcone pamięci Kazimierza Piekarskiego*, Wrocław, 1951. P.371–376.

⁵⁷ *Alexandrowicz S.* Kartografia Wielkiego Księstwa... S.40–41.

⁵⁸ *Górski K.* Historia jazdy... P.322–323.

⁵⁹ *Martini Bronovii...* P.VII–VIII; *Kovalec’ T.R.* Konstituciâ Āzlovec’kogo ge’mana z Bučača iz kozakami nizovimi zaporoz’kimi roku Bożogo 1571: nevidoma postanova peršoï kozac’koï komisii // *Ivan Ogiĕnko i cučasna nauka ta osvita. Seriâ: Istoriciĕna ta filologiĕna.* 2015. Vol. 11. P.67.

⁶⁰ Andrzej Dziubiński ascribes this aggressive strategy to Tarnowski, who could have learned it during his trip to Portugal and Morocco in 1518 (*Dziubiński A.* Polsko-litewskie napady na tureckie pogranicze czarnomorskie w epoce dwu ostatnich Jagiellonów // *Kwartalnik Historyczny.* 1996. R. 103. P.56–57).

⁶¹ *Kromer M.* Mowa na pogrzebie Zygmunta I oraz O pochodzeniu i dziejach Polaków księgi XXIX i XXX / ed. by J. Starnawski. Olsztyn, 1982. P.125; *Tomczak A.* Memoriał... P.341–434; *Plewczyński M.* Wojny i wojskowość polska w XVI wieku. T.1. P.328–334, 344–347.



Fig. 2. Part of the map of Southern Sarmatia of Bernard Wapowski of 1528.

The copy owned by the authors (the original destroyed in 1944). Reprint of the preserved part of the map: [Alexandrowicz, 2012, p. 280]

The evidence of the difference between the defensive system of Poland and Lithuania is the data collected by Marek Plewczynski. He calculated that in the period 1520–1547 the rate of successful defense from the raids reached 80% in the Crown and merely 20% in the Grand Duchy of Lithuania. At that time, 37 major expeditions occurred (one expedition fell on 9 months; every 0,75 years); the Tatars met no reaction in only 20% of cases (jointly 7 times, in the Crown itself — twice)⁶².

Development of light cavalry in the Crown. The strategy involving recognizing the direction of the march and then catching up and destroying the Tatar units required fast actions⁶³. The troops had to cover huge distances. From the surroundings of Bar, Bratslav, Cherkassy and Kaniv the chasing units reached the Black Sea coast, i. e. Ochakov or Akkerman (Bilhorod). Characteristically, they were no incidental expeditions. For example, in the 1540s, Bernard Pretwicz in front of his soldiers made such a chase every year, and in 1539 he pursued Tatars towards Crimea twice. In the spring, he set off for the Bratslav land and reached Berymboy, which is a Dniester liman, and in the fall, after desolating the surroundings of Vinnytsia, he started pursuing the Tatars most probably from Bar. He caught one of the groups in the surroundings of so-called Chapchaklay (the outlet of the river of that name to the Boh River, just by its liman). The distances of the expedition

⁶² Plewczyński M. *Wojny i wojskowość polska w XVI wieku*. T. 1. P. 344–346.

⁶³ It involved reconnaissance conducted by small units on the routes along the Boh River and the Dniester River, and then location of the march route, assessment of the enemy forces and alarming the population and the army. Then five solutions were applied: 1) pre-emptive destruction of the enemy far in the steppes during the concentration of the Tatar troops, 2) destruction of the army on the road; 3) destruction of dispersed, already plundering Tatar units; 4) attack on the withdrawing units with the slaves to the Tatar camp; 5) pursuit of the Tatar camp returning from the expedition. This list should be extended by retaliatory expeditions to the enemy settlements located by the Black Sea (Plewczyński M. *Udział jazdy obrony potocznej w walkach na południowo-wschodnim pograniczu Rzeczypospolitej w latach 1531–1573 // Studia i Materiały do Historii Wojskowości*. 1983. T. 26. P. 141–142).

and return (in a straight line) were c. 720 and 800 kilometers. This means that over a year during the chase the soldiers had covered more than one and a half thousand kilometers. It is also important to remember that their march took place in very unfavorable circumstances: in the wilderness, in areas devoid of settlements, often at night⁶⁴.

Another aspect of the issue is the question of self-sufficiency. The pursuit of the Tatars made it impossible to bring a camp with the unit. Therefore, the soldier had to have all indispensable camp utensils with him on the horse. Taking a stock of food for such a long time with the use of sacks fastened to the saddle was also impossible. The horses had to graze in the steppe, while the soldiers used all opportunities to hunt or to take animals from sheperds' herds and flocks.

Over the first decades of the 16th century, the Crown cavalry was divided into a few formations. The basic striking force was heavily armed lancers⁶⁵, who were gradually replaced by the winged hussars (discussed later). This is obvious because soldiers on heavy horses, armed in elements of plate armors and additionally equipped with, for examples, lances and burdened with any kind of moving camp would simply be inefficient in the clash with the Tatars. The specificity of the south-eastern theater of war required light, fast and flexible in action, and, what is the most important, self-sufficient units and soldiers. Lance cavalry and then winged hussars (armed with elastic head and torso protection, and using asymmetric shields of Hungarian or Turkish origins and a light lance) were complemented with mounted shooters. The latter category was heterogeneous, usually the mounted shooters were equipped with the so-called shooter armors and most probably open helmets, and used various types of offensive weapons⁶⁶. At the beginning of the 16th century they, used crossbows, which was not a good solution either taking into consideration the character of the battlefield. Thus, efforts were taken to re-arm them with long hand firearms, which was only partly successful. The discussed phenomenon is well illustrated by the example of the Moldavian campaign (summer-fall) in 1531.

On the basis of the information about 4,422 soldiers serving in 1531 in 24 units (rotas), we can assert that no unit of cavalry was uniformly armed⁶⁷. All the rotas were a combination of heavy cavalry (lancers), medium cavalry (hussars) and light cavalry (mounted shooters). Nearly everywhere the hussars dominated (56,2%), the number of whom fluctuated from 33.3 to 68.5 %. Another group were the lancers (27,5 %), who made up 15–45,8 %. The least numerous were the lancers (16,3 %), whose share fits the range 9,9–21 %. It is worth noting that the differences were not considerable, and the general characteristic of the unit may be assessed thanks to the number of particular soldiers, hence, the aspect of light cavalry dominated in the rotas of Jan Tarnowski, Jan Mielecki, Jerzy Rokitnicki and, possibly, Jan Zaborowski. Heavily armed rotas can be isolated after summing up the hussars and the lancers; then we can recognize as such the units of Jan Piłecki, Jan Herburt, Stanisław Tęczyński and Mikołaj Orłowski. In general, however, we do not observe any spectacular personnel policy of particular commanders. Such a structure is the evidence of still medieval specificity where the armament depended on the individual inclination of possibilities. It is also a remnant of the financial system in use until 1527,

⁶⁴ Tomczak A. *Memoriał...* P. 364.

⁶⁵ We can infer it from the amounts of the pay given to particular soldiers, see: *Archiwum...* No. 13. — They occurred as late as the early 30s. See: *Ibid.* No. 19, k. 6, 10.

⁶⁶ *Bołdyrew A. Piechota zaciężna...* P. 248–249.

⁶⁷ *Archiwum...* No. 19, k. 3–206; *Spierski Z. Kampania obertyńska 1531 roku.* Warszawa, 1962. P. 220–237.

in which lancers, as graves armaturae, received 10 florens a quarter (every three months) and the others — 6 florens each⁶⁸.

The only exception in this context is the reconnaissance unit (guard) of Mikołaj Sieniawski, of merely 30 men⁶⁹. 28 soldiers in it are uniformly armed; they are hussars. This is a sign of future changes. The selection of the hussars in the guard unit shows that it was they who were used for reconnaissance purposes, making up the most versatile cavalry formation. This is confirmed by the show of the soldiers stationing in 1529 at the borderline, half of whom were hussars. In this context, iconography is significant (e.g. images of riders on Bernard Wapowski's map of 1526, see: Fig. 2). It represents the soldiers of obrona potoczna setting off for the Lithuanian side in order to recognize and defeat the enemy. They were presented as hussars, with hats typical of that formation⁷⁰.

Simultaneously, the process of replacing lancers with hussars was in progress, which brought about additional elements of their protective armament, and, consequently, changes in the character of the formation towards heavy cavalry⁷¹. Only the introduction to service of the so-called cossack cavalry was a clear step towards a tactical innovation. This cavalry was necessary for reconnaissance and pursuit actions. It emerged in the mid-16th century becoming an established formation of light cavalry. In the early 1570s, it is a kind of fully formed cavalry with its own tradition. Its most precise description was given by Jan Andrzej Krasinski (1550–1612), who prepared it for the needs of the coronation of Henry de Valois (1574) king of Poland and Lithuania⁷². He characterized them for people without expertise in the reality concerning the Commonwealth. He distinguishes three types of cavalry: heavy lancers, medium armed hussars and light cossacks. The description demonstrates certain qualities of the formation:

- A. It consisted of borderland people, used to camp hardships⁷³.
- B. They were armed very similarly to the Tatars; they had bows, quivers, sabers and spears (in Polish called *rohatyna*, i.e. spear with big spearhead).
- C. Those units moved extremely fast, which they owed to fast horses, and primarily the lack of camp.

⁶⁸ The internal diversity of the units also resulted from the heterogeneous organizational structure, which contained the commander — a rotmistrz, full-fledged soldiers (usually noblemen) — towarzysze and pocztowi (*Plewczyński M. Żołnierz jazdy...* P. 28–31, 38–39).

⁶⁹ The same unit acted in 1529 as one of the front-guard units (*Górski K. Historia jazdy...* P. 321).

⁷⁰ *Zygulski jr. Z. "Bitwa pod Orszą" — struktura obrazu // Rocznik Historii Sztuki. 1981. Vol. 12. P. 88–89.* — At the beginning of the 16th century a conviction established itself that only an Eastern type of cavalry modeled on the Hungarian patterns may provide safety of the south-eastern borderlands. During the Piotrków Sejm of 1503, a decision was taken to recruit hussar units, and in January 1504 the first unit of 50 horses was sent to Ruthenia (*Plewczyński M. W służbie polskiego króla. Z zagadnień struktury narodowościowej Armii Koronnej w latach 1500–1574. Siedlce, 1995. P. 111–113*).

⁷¹ This phenomenon manifested itself primarily when first individual soldiers and larger groups of hussars added breastplates to armor, and then all hussars followed suit. This process began c. the mid-16th century (*Plewczyński M. Napierśniki...* P. 161–178).

⁷² *Krasinski J. Polska czyli opisanie topograficzno-polityczne Polski w wieku XVI oraz materyały do panowania Henryka Walezjusza / ed. by S. Bidziński. Warszawa, 1852. P. 78–79.*

⁷³ Hence we can, at least partly, differentiate between a "cossack", a type of soldier, and a "Cossack", the name of a multi-ethnic group of population, who inhabited, at least from the late 15th century on, the south-eastern borderland of the Kingdom of Poland, and the southern borderlands of the Grand Duchy of Lithuania and the Grand Duchy of Moscow. Compare: *Stepaniv J. A Turkish Document in Ukrainian from the mid-sixteenth century: on the Origin of the Ukrainian Cossacks // Harvard Ukrainian Studies. 1977. Vol. 1, no. 2. P. 222–224.*

- D. They preferred the Tatar tactics involving raining the enemy with arrows.
- E. They did not have a moving camp, and they carried all their provisions in saddlebags on the horses; they acquired food in the field, usually hunting.

The cossack cavalry became one of the distinctive characteristics of the old-Polish military. On another map of the Commonwealth, prepared in 1569 and printed in Venice a year later, instead of hussars protecting the borderlands, like in Wapowski's map (see: Fig. 2), cossack riders are depicted (Fig. 3)⁷⁴. The collation of the two maps (1526 and 1569) shows the process of complicated transformations which occurred in the Crown. They began with the innovative strategy of fighting the Tatars, and were completed with the tactic innovation, and the introduction of a new type of armed forces into the army.



Fig. 3. Part of Andrzej Pograbka's map "Partis Sarmatiae Europae" (Venice, 1570) [Deutsch Polonische Stiftung Kulturpflege und Denkmalschutz (Gorlitz). Kolekcja dra Tomasz Niewodniczańskiego, Zamek Królewski w Warszawie (depozyt), TN 2369]

The agents of creating the cossack cavalry. Interestingly, the commanders-in-chief (hetmans), often excellent strategists and commanders, did not notice the necessity of creating special units of light cavalry. For a long time, they did not even see a need for any uniformly armed rotas. An example is the figure of Grand Crown Hetman Jan Tarnowski, who even in 1528 promoted a mixed composition of the units in the instruction addressed to the treasurer and rotmistrz, where he tried to preserve the old lancers. He demanded that they should comprise 20% of the rota (partly it was an effective action). In cavalry, on the other hand, he planned to equip c. 25% of soldiers with firearms (matchlocks)⁷⁵. The pursuit of modernity, however, entailed verification in the battlefield. The experience in fighting Tatars (e.g. the lost battle of Sokal in 1519) led to spontaneous abandoning of firearms and crossbows in favor of Asian type bows. On the vast steppes of south-eastern Europe, where of key importance were speed, ambushes and skirmishes, the bow was a better offensive weapon⁷⁶.

⁷⁴ Alexandrowicz S., Luczyński J., Skrycki R. Historia kartografii ziem polskich do końca XVIII wieku. Warszawa, 2017. P.91, 94.

⁷⁵ Pouczenie hetmana podskarbiemu koronnemu dane dla ogłoszenia go rotmistrzom przy zaciągu wojska // Polskie ustawy i artykuły wojskowe od XV do XVIII wieku / ed. by S.Kutrzeba. Kraków, 1938. P.38–39; Spieralski Z. Instrukcje i artykuły... P.277.

⁷⁶ Plewczyński M. Wojny i wojskowość polska w XVI wieku. T.1. P.54; Bołdyrew A. The Bow in the Borderland in the 16th Century // Fasciculi Archaeologiae Historicae. 2017. Vol.30. P.11–17.

We believe that the agents of the transformation (or the people who were the driving force of the dynamic changes in the armament) were mid-rank commanders, especially starosts and rotmistrzes. Such persons had real opportunities for acting and implementing a certain modernization plan and were aware of the aim they wanted to achieve⁷⁷. Paradoxically, what turned out helpful was the medieval tradition in accordance with which there were different categories of soldiers in one unit. Therefore, commanders observed on an ongoing basis not only the cooperation of soldiers using various sets of arms, but also their usefulness in combats with a particular enemy. They could compare their observations with practice of other units, which had a slightly different structure of armament.

We should consider Ostafi Daszkiewicz (Kaniv, Krychaw and Cherkassy starost) to have been a pioneer of the changes under scrutiny, and simultaneously the first agent who knew how to use the experiences of fights against the Grand Duchy of Moscow, and who, on the basis thereof, transformed the Lithuanian light cavalry into the formation modeled on Moscow-Tatar pattern⁷⁸. In the 17th century historical memory, it was he who was deemed the founder of the light cossack cavalry⁷⁹. Soon, it turned out that the formation was not only useful in combatting Tatars, but also made a valuable component in the war waged against an enemy applying the West-European strategy and tactics. It was successfully used in the fall fights of 1520, during the war between Poland and the Teutonic Knights⁸⁰. One of its participants was Przeclaw Lancokoroński, who organized an expedition to Akkerman in 1516 together with Daszkiewicz⁸¹. The evidence of its usefulness is the fact that a special group of 12 light riders (Tatars) were located in the former capital of the Teutonic Order, Malbork, where they dealt with reconnaissance service⁸².

The successes of the soldiers of light cavalry, not very numerous being estimated at a few hundreds, must have resonated throughout Central Europe since in November 1527 Jan Zapolya planned to recruit 1000–2000 cossacks of Daszkiewicz⁸³.

From the Polish perspective, the Bar starost, Bernard Pretwicz (c. 1500–1563) was of key importance⁸⁴. This polonized German from Silesia started his service at the court of Sigmund I the Old, and from 1527 onwards, he served as a *towarzysz* in Mikołaj Sieniawski's rota. This unit dealt with reconnaissance, and Sieniawski himself became the Crown Field Guard as early as 1531. Four years later, Pretwicz became a rotmistrz of cavalry in "obrona potoczna" (Permanent Defense), where he served incessantly as a commander of a rota until 1560. He made his name with defensive and offensive actions: he regularly and successfully fought Tatar chambuls; in his pursuits he many times reached the Crimea, Ochakiv and Akkerman. Moreover, in the memorial addressed to the king

⁷⁷ Łotman J. *Klio na rozdrożu* // J. Łotman, *Kultura, historia, literatura* / ed. by B. Żyłko. Gdańsk, 2017. P. 177, 178, 180; Żyłko B. *Kultura i znaki. Semiotyka stosowana w szkole tartusko-moskiewskiej*. Gdańsk, 2011. P. 85.

⁷⁸ Plewczyński M. *Kozacy w obronie ziem polsko-litewskich w I połowie XVI w.* // *Od Żółkiewskiego i Kosińskiego do Piłsudskiego i Petlury. Z dziejów stosunków polsko-ukraińskich od XVI do XX wieku* / ed. by J. Wojtasik. Warszawa, 2000. P. 9–10.

⁷⁹ Starowolski S. *Wojownicy sarmaccy* / ed. by J. Starnawski. Warszawa, 1978. P. 205.

⁸⁰ Biskup M. *Wojna pruska...* P. 333, 335.

⁸¹ Pułaski K. *Ostafi Daszkiewicz* // Pułaski K. *Szkice i poszukiwania historyczne: 1-5 t.* T. 1. Kraków, 1887. P. 248.

⁸² *Ordinatio castris Marienburgensis (Kraków 3 X 1521)* // *Corpus Iuris Polonici...* P. 640–641.

⁸³ Plewczyński M. *Kozacy w obronie...* P. 12.

⁸⁴ Biographical data: Tomczak A. *Pretwicz (Pretfic) Bernard...* P. 433–435; Dziubiński A. *Polsko-litewskie napady...* P. 53–85.

and the public opinion, prepared in 1550, he clearly emphasized the purpose of military transformations. He underscored the necessity for early recognition of raids, for marching without a moving camp, for speed as the highest combat value⁸⁵. Even when he was still alive, he was considered an outstanding *zagończyk* (commander of borderland mobile units) and expert on borderland⁸⁶. Among those who wanted to recruit him to their service were Elector Henry the Pious of Saxony (1540), Duke Albert Hohenzollern of Prussia (1546, 1554–1556), King Ferdinand I Habsburg of Germany (1552) and others. Not only did rulers of other countries try to attract Pretwicz himself but they primarily noticed the military potential of the reformed cavalry. In 1556, Pretwicz was to recruit 400 hussars and 400 cossacks for Ducal Prussia, which shows the high combat value of the already formed light cavalry⁸⁷. Also, after his death (1563), he was assessed as the best expert of anti-Tatar actions⁸⁸.

Thus, we can recognize that many years of practice and observations of the usefulness of various military formations in fighting the Tatars gave Pretwicz an opportunity to organize a military unit which was best adopted to the conditions of the specific battlefield. We are able to follow this fascinating way of modeling the unit through military registers (*rejestrzy popisowe*)⁸⁹. Fig. 4 demonstrates the personal composition of Pretwicz's rota in the years 1535–1557 (no data for 1536 and 1554–1556) including types of troops serving there. If we have more data from one year, we note them all. Initially (the late 1530s) among his soldiers he had many hussars who outnumbered the other categories of troops. This is an obvious transposition of models adopted by Sieniawski. The hussars achieved their dominating position in 1539, and then their share, despite a few seasonal fluctuations, has a clear falling tendency (see: Figs 4 and 5). The landmarks are the years 1542–1543, when the light cavalry gains the dominating position. At that time Pretwicz participated in three raids on Ochakiv Castle, and he himself had already been the Bar starost since 1540. At the same time, there also occurred the uniformity of the armament of the light cavalry, and since 1542 the cossacks had basically been the only type of this formation⁹⁰. Eventually, in the years 1549–1550 the unit may be considered uniformly cossack (the rates are 85,5 and 91 %). The specificity of Pretwicz's unit in comparison with the other rotas of *obrona potoczna* (Permanent Defense) was also perceived by the enemies, who noted him commanding the cossacks⁹¹.

⁸⁵ Tomczak A. Memoriał... P. 340–357.

⁸⁶ Kromer M. Mowa na pogrzebie... P. 118; Poselstwo Izabelli Jagiellonki królowej węgierskiej do Bony królowej polskiej, matki i Zygmunta Augusta króla polskiego // *Starożytności historyczne polskie*. T. 1. Kraków, 1840. P. 31–32; *Chorążyczewski W. Sprawy wojskowe w kancelarii królewskiej Zygmunta Augusta // Miscellanea Historico-Archivistica*. 2001. Vol. 13. P. 79.

⁸⁷ Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Ms. boruss. Fol. 1254. S. 153–154; *Łopatecki K. Military Works of Albert of Hohenzollern. Comments on the Three Manuscripts Attributed to Albert of Hohenzollern in the Years 2009–2014 // Odrodzenie i Reformacja w Polsce*. 2017. T. 61. P. 262–263.

⁸⁸ *Sarnicki S. Księgi hetmańskie...* P. 433, 439; *Starowski S. Wojownicy sarmaccy...* P. 210–211.

⁸⁹ Archiwum... No. 26, k. 13–14v; No. 28, k. 31v.–37; No. 35, k. 138–1411; No. 39, k. 18–24v; No. 40, k. 30–34v; No. 41, k. 20–22; No. 42, k. 225–227v; No. 44, k. 20v.–28v; No. 48, k. 27–31; No. 49, k. 38–46v; No. 50, k. 19–24; No. 51, k. 11–18v; No. 52, k. 42–45v; No. 54, k. 18–27; No. 55, k. 18–27; No. 56, k. 13–21; No. 57, k. 20–27; No. 59, k. LXXVIIv.–LXXXIIIv; No. 58, k. LXXXII–LXXXVIII; No. 60, k. 35v.–39; No. 61, k. 18–21v.

⁹⁰ In the years 1542, 1548, 1559, 1550, 1551, 1552, 1553 and 1557 they were cossack riders exclusively.

⁹¹ *Stepaniv J. A Turkish...* P. 217.

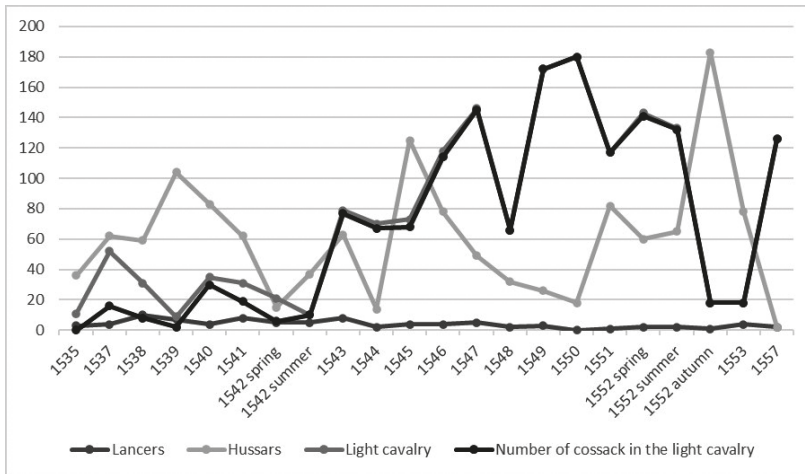


Fig. 4. Number of soldiers in the rota of Bernarda Pretwicz in the years 1535–1557, by types of armament.

Prepared by the authors on the basis of: [Archiwum... No. 26, k. 13–14v; No. 28, k. 31v.–37; No. 35, k. 138–141; No. 39, k. 18–24v; No. 40, k. 30–34v; No. 41, k. 20–22; No. 42, k. 225–227v; No. 44, k. 20v.–28v; No. 48, k. 27–31; No. 49, k. 38–46v; No. 50, k. 19–24; No. 51, k. 11–18v; No. 52, k. 42–45v; No. 54, k. 18–27; No. 55, k. 18–27; No. 56, k. 13–21; No. 57, k. 20–27; No. 59, k. LXXVIIv.–LXXXIIIv; No. 58, k. LXXXII–LXXXVIII; No. 60, k. 35v.–39; No. 61, k. 18–21v]

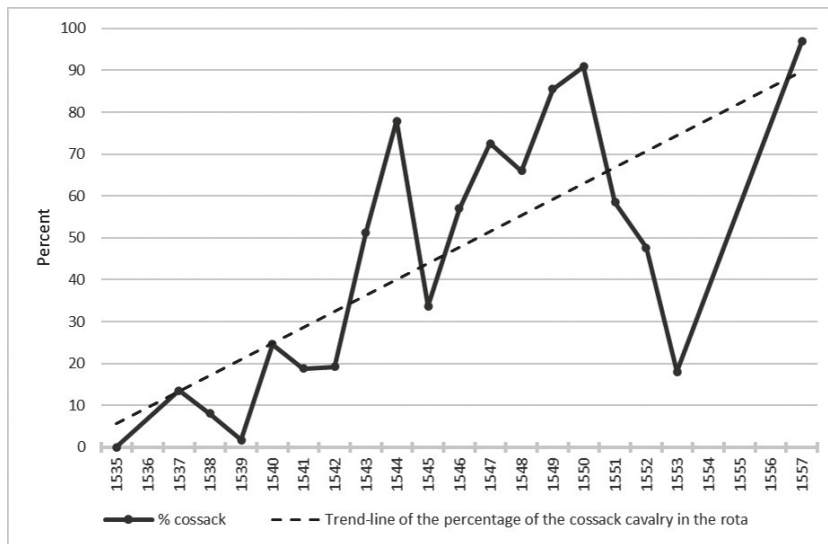


Fig. 5. Percentage of cossacks in Bernard Pretwicz's rota in the years 1535–1557, with the trend-line.

Prepared by the authors on the basis of: [Archiwum... No. 26, k. 13–14v; No. 28, k. 31v.–37; No. 35, k. 138–141; No. 39, k. 18–24v; No. 40, k. 30–34v; No. 41, k. 20–22; No. 42, k. 225–227v; No. 44, k. 20v.–28v; No. 48, k. 27–31; No. 49, k. 38–46v; No. 50, k. 19–24; No. 51, k. 11–18v; No. 52, k. 42–45v; No. 54, k. 18–27; No. 55, k. 18–27; No. 56, k. 13–21; No. 57, k. 20–27; No. 59, k. LXXVIIv.–LXXXIIIv; No. 58, k. LXXXII–LXXXVIII; No. 60, k. 35v.–39; No. 61, k. 18–21v]

Pretwicz's awareness of personal and armament policies resulted from the fact that he was not dependent on soldiers available on the market. Exercising the office of starost, and primarily organizing plundering expeditions on Tatar and Ottoman lands, he was able to keep a big supernumerary unit. We know that in 1542, being the starost of Bar, he kept 150 soldiers at the castle, of which merely 30 were maintained by the starost office, whereas the others were paid by himself⁹².

In 1544, the cossack cavalry already made up 80% of the personal composition, which is connected with the reduction of the unit from 150 to 82 people. Pretwicz kept nearly cossacks only. However, the subsequent fall (1545) is connected with a 2,3-time increase in the unit composition (up to 2020). In absolute numbers there were even more cossacks. Thus, the changes are related to recruiting extra soldiers, the dominating number of whom had hussar armaments. The subsequent years, until the mid-16th century, show a systematic re-armament of the unit. Both figures (see: Figs 4 and 5) demonstrate a clear change in the trend in 1551; in the spring and the summer of 1552; and a complete break in the fall of 1552 and in the year 1553. The mysterious transformations had very spectacular reasons noted in the sources, and they are broadly commented on in the literature of the subject. In 1550, the Ottoman ruler Suleiman demanded that Pretwicz, who still applied the tactics of chasing the Tatars beyond the borders of the state and increasingly and intensively raided deeply in the Ottoman and Tatar lands in order to loot them, should be punished. The conclusion of the peace treaty with the Ottoman Empire (which eventually happened in Constantinople on August 1, 1553) depended to a considerable degree on the solution of the problem of the starost of Bar. In 1551 and at the beginning of 1552, Pretwicz had to restrain himself from radical actions against the Ottoman Empire, and on July 2, 1552, he was deprived of the office of starost, and granted the office of starost of Trembowla district located in the interior of the country. Pretwicz's successor in borderland Bar became Jan Herburt of Fulsztyn⁹³. Also, among his troops cossacks were numerously represented, which shows the adaptation of the concept of the unit⁹⁴.

The change of the place of residence and stationing of the unit meant that it ceased to play a role of reconnaissance of the Tatars. Trembowla was located far deeper westwards, at the borderline with Moldavia. Thus, Pretwicz re-organized the unit abandoning the quality of high mobility in favor of increasing combat values⁹⁵. This is confirmed by the analysis of his rota's members. Besides the natural process of recruiting new soldiers, most of cossack *poczets* were re-armed in the fall of 1552⁹⁶. This example shows clearly that the armament structure of the unit was not incidental and dependent on the soldiers' will, but it was a conscious policy of the *rotmistrz*. The year 1557, when the unit was comprised of

⁹² Bona Sforza to S. Bagieński, Wilno 5 I 1542 // Pułaski K. Szkice... P. 146.

⁹³ *Matricularum Regni Poloniae Summaria excussis codicibus, qui in Chartophylacio Maximo Varsoviensi asservatur. Vol. V* / ed. by T. Wierzbowski. Warszawa, 1919. No. 1283, 1284; *Tomczak A. Memoriał...* P. 338; *Maleczyński K. Urzędnicy grodzcy trembowelscy // Ziemia Czerwieńska. 1936. R. II, nr. 2. P. 307; Urzędnicy województwa ruskiego XIV–XVIII wieku (ziemia halicka, lwowska, przemyska, sanocka). Spisy / ed. by K. Przyboś, Wrocław, 1987. P. 98.*

⁹⁴ In 1552 r. 36,27% of the cossacks (spring), 18,97% (summer) and 46% (fall). See: *Ibid.* No. 60, k. 39v.–44.

⁹⁵ *Tomczak A. Pretwicz (Pretfic) Bernard...* P. 433–435; *Maleczyński K. Urzędnicy grodzcy...* P. 307; *Dziubiński A. Polsko-litewskie napady...* P. 53–85.

⁹⁶ In 26 cossack *poczets* (out of the total 35), even 16 rearmed in the years 1552–1553 into hussar *poczets* (*Archiwum...* No. 57, k. 20–27; No. 58, k. LXXXII–LXXXVIII; No. 59, k. LXXVIIv–LXXXIIIv; No. 30, k. 35v.–39).

97% of cossacks, also shows what possibilities for quick and spectacular changes Pretwicz had. Probably, thus, as early as 1554 the unit was reformed into light cavalry.

The exceptionality of Pretwicz's actions can be better understood if we collate the parallel transformations in other units within the Permanent Defense (*obrona potoczna*). Generally, the point of departure of all units was similar. The rotas of the 1530s were a mixture of three types of riders, usually with the dominating position of the hussars, which was also visible in Pretwicz's troops (see: Fig. 4). In order to illustrate it, we have prepared the personal composition of the hetman rota of Mikołaj Sieniawski of 1538–1557. The rota of the Crown Field Hetman is transformed towards heavy cavalry. In 1538 it is still of the nature of light cavalry, then the hussars begin to dominate, but until 1547 the composition was very diverse. We can talk about a uniformed hussar unit only in 1548 (86%) and then, consistently, from 1550 onwards. In the years 1552–1557 it reaches 90%. It is a phenomenon characteristic of most of the remaining rotas in the analogous period, and the transformations usually concern hussars⁹⁷. This additionally confirms the innovative nature of the actions of Pretwicz, who did not pursue a popular trend but organized the units under his command in his own way, which can be recognized as tactical innovation. Moreover, Pretwicz's unit was a school of new commanders. As many as nine *towarzyszes* became *rotmistrzes* in later years; only two *rotmistrzes* had a better result: Hetman Mikołaj Sieniawski (23) and Pretwicz's successor as *starosta* of Bar, Jan Herburt (11). It was an effect of, among other things, giving the inferiors a considerable independence (and, perhaps, good financial conditions resulting from plundering) and, at least in the years 1541, 1543–1544, 1548 — isolation from the rota groups of a few dozen men commanded by *towarzyszes*, which alone conducted reconnaissance, pursued and destroyed the enemy troops⁹⁸.

Conclusion. To understand the initial period of the rapid transformations in the early modern military of the Crown in the context of the military revolution occurring in Western Europe, it is important to look at the geopolitical circumstances. Here the key factor was incessant and intense Tatar raids, which applied unconventional strategy and tactics. First and foremost, the aim of nearly yearly raids was not the conquest of lands but plundering, primarily capturing people, who were subsequently sold as slaves. In the 16th–17th century, the Crimean Khanate itself acquired in this way two million prisoners. Consequently, from the first attack in 1468 on, in the south-eastern borderlands a settlement desert expanded, while the kingdom was helpless in the face of a new threat.

We have attempted to explain the transformations in progress from *ad hoc* actions to systematic ones, which resulted in changes in the strategy of defensive operations, and then entailed transformations in the tactics of conducting warfare. It took almost a quarter of a century from the emergence of the perpetual and systematically increasing threat till the landmark political decision. Among many ideas of coping with the situation, the one which was chosen was creating a permanent army protecting the borderlands (1492). This solution was certainly better than the *pospolite ruszenie* (Mass Mobilization), but it did not effectively secure the borderlands. First strategic plans emerged after 10 subsequent

⁹⁷ For example, in 1548, in Maciej Włodek's unit hussars made 84% of the personal composition (see: *Archiwum...* No. 52, k. 3–6v.), in Hieronim Lanckoroński's in 1549. hussars made 74,79% (see: *Ibid.* No. 54, k. 43–48).

⁹⁸ *Plewczyński M.* Skład chorągwi jazdy koronnej w latach 1501–1572 // *Studia i Materiały do Historii Wojskowości.* 1993. Vol. 35. P. 39; *Plewczyński P.* *Żołnierz jazdy...* P. 256–257.

years but the problem was properly diagnosed in 1520, and the plan was perfected in the years 1527–1529. Furthermore, the application of appropriate tactical solution was a domain of mid-rank commanders who in the course of the conducted war operations developed effective tactical solutions: creating the light cavalry (cossacks) and standardization in terms of armament and the troops' way of combat (c. 1550). Each of those stages required more or less one generation, which was approximately: 24, 28 and 22 years.

Can we place those transformations in the context of fast and deep ones, the model of which would be a counterpart of the military revolution? From today's perspective the periods given are not impressive; they can even seem slow. The point of reference, however, was the Middle Ages and here the comparison shows clearly the considerable dynamics of the transformations. The scope of the changes can be understood if we refer to medieval weapon studies. The Polish establishments indicate that the re-armament of the knights took place on average every 70 years (1290, 1360, 1430 and the turn of the 16th century)⁹⁹. This was an effect of the experience acquired in military campaigns, and the period of 22 years to create a new type of cavalry is a very dynamic process, three times as fast as the medieval pattern.

The military transformation in Crown consisted of four stages:

- 1) a new geopolitical situation: a new period of incessant Tatar raids begins (from 1468 onwards);
- 2) a political decision: introduction of a permanent army protecting borderlands (*obrona potoczna* from 1492 onwards);
- 3) actions of the high command: forming a new defensive strategy 1520–1529;
- 4) development of a tactical innovation consisting in creating a new type of light cavalry (cossacks) and standardization of the armament of the troops (1550).

The article concentrates on stages 3 and 4 of the transformations, i. e. the strategy and the tactical innovation. The former are visible as early as the beginning of the 16th century, but they become increasingly clearer at the end of the 1520s. Finally, a system was developed which was comprised of three defensive lines (see: Fig. 1). The first consisted of more than a dozen or several dozen people vedettes. They could be over 500 kilometers east of Lviv, deeply in the lands of the Grand Duchy of Lithuania. They were moved by c. 150–200 kilometers away from the previous solutions. They were supposed to detect an imminent raid, estimate the forces and report to the military authorities. At the borderline of the Crown operated a several-hundred-people group of the field guardians, which could destroy small raids and was the first to take real defensive actions. Only in the interior of the country, near Lviv, the main camp was established, which was to be a concentrated point gathering of the *pospolite ruszenie* (mass mobilization) and volunteers who had heard about the threat. A great role therein was played by Jan Tarnowski and Mikolaj Sieniawski, and then — by Bernard Pretwicz. They moved both the second and the third line far towards the borderline. It is worth emphasizing that whereas in 1502 the camp was to be near Lviv, in 1520 it was set up at the distance of 64–97 kilometers, and in 1569, it was as far as 134 kilometers east of Lviv. The second line was situated c. 225–283 kilometers away from Lviv.

Along with the new strategic solutions, tactical innovation began to develop. For a very long period in the Crown by the 1530s the mixed composition of units had prevailed:

⁹⁹ Szymczak J. *Produkcja i koszty uzbrojenia rycerskiego w Polsce XIII–XV w.* Łódź, 1989. P. 239–240.

heavy cavalry or lancers, medium heavy cavalry or hussars and light cavalry or mounted shooters. An extremely important element was the process of standardization of the units, so that they could fully use their potential and, simultaneously, could be adapted to different tactical needs. Hussar units were formed as early as 1548–1550, and at the same time (1549–1550) it occurred in cossack cavalry.

The aforementioned transformations were preceded by the creation of the most effective type of light cavalry. It turned out to be the cossack cavalry, which consisted of borderland people armed very similarly to the Tatars, with Lithuanian and Muscovite influences: they possessed bows (firearms and crossbows had been abandoned), sabers and spears called *rohatyna*, and were protected with mail armour. In other words, the most effective was to fight the enemy with his own weapon. The principal asset of those units was their mobility and speed of operation, which they owed to fast horses; therefore they preferred the Tatar tactics, involving raining the opponents with arrows. In our opinion, this model had been developed by Bernard Pretwicz by 1542, and in other rotas it was adopted by the late 1540s.

Bernard Pretwicz was an agent leading to creating standardized cossack units. Those troops first emerged under his command only in 1537, but in five years they superseded all soldiers armed differently. A standardized cossack rota came into existence as early as 1544 (80%), and then — in the period 1549–1550 (90%). The whole process was definitely concluded in 1557 when actually all his soldiers were armed in the cossack way. It is important to note that both the standardization of the hussars and the cossack units was not a top-down state action or orders of the army's commanders-in-chief. It was due to the battlefield experience of mid-rank commanders (*rotmistrz*es and *starost*s). The cossacks in no time gained importance. As early as 1573, it was decided to recruit 2,000 men of cavalry, including 1,000 cossacks, and four years later 2,859 of the quarter cavalry (*jazda kwarciana*) there were 2009 riders armed in the cossack way. In general, by 1648, it had been the most numerous formation after the hussars, and from that year onwards it became the most important¹⁰⁰.

The successes of Daszkiewicz and his successor Pretwicz, as well as those of several other commanders in his generation, allowed, in a longer time perspective, to move the settlement zone first by a few dozen, and then by a few hundred kilometers south-eastwards, deeply into the so-called Wild Fields (*Dzikie Pola*). This facilitated obtaining victuals and enabled to move military camps further, which additionally strengthened the defensive element. The cossacks were considered indispensable not only in the south-eastern borderline. Their effectiveness in reconnaissance-diversionary-pursuit operations was recognized by the contemporaries since in the 1550s Duke Albert Hohenzollern decided to recruit several hundreds of cossacks for his army. Before that (at the end of the 1520) John Zapolya had been toying with this intention. We can even make a statement that the borderland soldiers-cossacks were prototype of the *Lisowczycy* known in the 16th century throughout Central Europe, not only from Rembrandt Harmenszoon van Rijn's painting (*The Polish Rider*, 1655 in the Frick Collection, New York). Their successes in the battlefields at Humienne and Zawada (1619), Vienna and White Mountain (1620) or Khotyn (1621) were matched by the really "Tatar" horror which they inflicted successfully paralyzing the enemy.

¹⁰⁰ *Głubisz B.* *Jazda kozacka...* P. 35–40, 342–343; *Kupisz D.* *Wojska powiatowe samorządów Małopolski i Rusi Czerwonej w latach 1572–1717.* Lublin, 2008. P. 224, 246.

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