

Tactical mobility of the military forces of the Crimean Khanate (16th–17th centuries)

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Abstract.

The purpose of the article is to analyze the tactical mobility of the Crimean Tatar army and establish the reasons for the Crimeans' rapid movement. It also examines the different stages of raids and military campaigns, as the speed of troop movement varied at each stage. **The research methodology**, in addition to adhering to the principles of objectivity and historicism, relies on the comparative-historical method and systems analysis. Through the comparative-historical method, the tactical mobility and warfare of the Khanate's troops are compared with those of the state's main adversaries: the Kingdom of Poland, the Grand Duchy of Lithuania, and Muscovy. Systems analysis reveals that the Crimean Khanate's tactical mobility was influenced by factors such as total troop numbers, the presence of artillery, seasonal variations, landscape features, and terrain characteristics. A critical examination of contemporary sources (primarily narrative) demonstrates that many myths and stereotypes surrounding the "suddenness" of Tatar raids or the rapid "escape" of Khanate troops from the battlefield were unfounded. **The scientific novelty** of the work lies in its comprehensive consideration of various components of the Crimean Tatar army's mobility (horses, baggage train, and food supplies) and the impact of diverse factors on their speed of movement. The speed at which the Khanate's horsemen moved during military campaigns and how they overcome various obstacles during individual operations are thoroughly analyzed. **Conclusions.** The strengths and weaknesses of the Crimean Tatar army, warrior ration logistics, and campaign organization are evaluated. It has been established that the high speed of the Crimean troops was not exceptional per se; it was achieved not only through a large horse-to-rider ratio and resilient warriors, but also through well-considered tactics. The Khanate's military leaders understood precisely when to move at a measured pace and when to increase speed. Despite the fact that the vast majority of Crimean Tatar horses were small-stature and physically inferior to European breeds, they were exceptionally hardy and capable of enduring long-distance marches. The vast majority of Crimean warriors did not possess protective armor or firearms, but they were skilled archers who were unpretentious regarding provisions and capable of enduring long campaigns. Various artificial obstacles and major rivers did not present major problems for the Crimeans because the Khanate's warriors maintained effective intelligence networks, well-developed advance routes, and extensive experience. A critical analysis of contemporary narrative sources (chronicles and travelers' notes) provides strong grounds for revising established myths and stereotypes related to Crimean military art. The main routes of advance during military campaigns and raids were traced, establishing the speed of cavalry movement and the structural features of tactical logistics.

Keywords: Crimean Khanate, military art, military history, tactics, Crimeans, horsemen, raids, horses, mobility, marches, logistics.

Тактична мобільність війська Кримського ханства (16-17 ст.)

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Анотація.

Мета статті – аналіз тактичної мобільності війська кримських татар, встановлення причин швидкого пересування кримців, розгляд різних етапів набігів/походів, оскільки на кожному з них швидкість пересування військ була різною. **Методологія дослідження**, крім дотримання принципів об'єктивності та історизму, полягала у застосуванні порівняльно-історичного методу та методу системного аналізу. Завдяки порівняльно-історичному методу тактична мобільність військ ханства та військова справа кримців порівнюються із аналогами головних опонентів держави – Польського королівства, ВКЛ та Московії. Системний аналіз дозволив встановити, що на тактичну мобільність Кримського ханства впливали такі фактори як загальна кількість військ, наявність артилерії, сезонності року, ландшафт та особливості рельєфу тощо. Критичне опрацювання тогочасних джерел (у першу чергу наративних) дозволило усунути ряд міфів та стереотипів, пов'язаних з «раптовістю» татарських набігів військ ханства чи їх швидкою «втечею» з поля бою. **Наукова новизна** міститься у тому, що розглядаються різні складові мобільності війська кримських татар (коні, обоз, запаси харчування), вплив різних факторів на швидкість пересування кримців. Аналізується швидкість пересування вершників ханства у військових походах та додання ними різноманітних перешкод в ході окремих кампаній. **Висновки.** Проаналізовано сильні та слабкі сторони війська кримських татар, раціон воїнів які вирушали у набіг, питання пов'язані з логістикою. Встановлено, що висока швидкість військ кримців не була феноменальною, досягалась не лише завдяки великій кількості коней та витривалих воїнів, а й продуманій тактиці – воєначальники ханства розуміли, коли варто пересуватись невеликими темпами, а коли перейти на максимальну швидкість. Незважаючи на те, що переважна більшість коней кримських татар були низькорослими, поступались за фізичними характеристиками європейським породам, тварини були дуже витривалі й здатними долати багатокілометрові марші. Воїни-кримці у переважній більшості не мали захисних обладунків, вогнепальної зброї, однак були вправними лучниками, невибагливими у їжі, здатними витримувати тривалі походи. Доведено, що різноманітні штучні перешкоди, великі ріки не створювали для кримців великих проблем, адже у воїнів ханства була хороша розвідка, відпрацьовані маршрути просування, великий досвід. Здійснено критичний аналіз тогочасних наративних джерел (літописів, хронік, записок мандрівників), що дали підстави для перегляду усталених міфів та стереотипів пов'язаних з військовим мистецтвом кримців. Простежено основні маршрути просування військ ханства під час військових кампаній та набігів; встановлено швидкість пересування кінноти та особливості побудови тактичної логістики.

Ключові слова: Кримське ханство, військове мистецтво, військова історія, тактика, кримці, вершники, набіги, коні, мобільність, марш, логістика.

Problem statement. The army of the Crimean Khanate represents a prime example of nomadic military art adapted to the realities of the early modern gunpowder era, during which neighboring empires (the Ottoman Empire, Muscovy, and the Safavid State) were actively integrating firearms into their armed forces. Horsemen armed primarily with bows inflicted severe losses on significantly more powerful states, including the Polish–Lithuanian Commonwealth and Muscovy. The key to Crimean success lay in their highly effective tactics, which relied on rapid troop movement and flexible maneuvering. This approach allowed them to bypass entire enemy defense networks, avoid direct engagements with major hostile forces, and secure substantial spoils of war. Even the Ottoman sultans acknowledged the efficacy of the Crimean cavalry, frequently deploying Tatar forces in military campaigns across Central Europe and the Caucasus. Consequently, studying the Crimean army—its tactics, weaponry, and operational characteristics—provides a valuable framework for a comprehensive analysis of Crimean military art, the foreign policy of the Khans, and the factors that enabled the Khanate to sustain itself over a prolonged period of confrontation with formidable rivals.

Review of Recent Research. There is significant interest in the history of the Crimean Tatar people and their way of life, and many historical works have been written on the subject. However, the

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 military art of the Crimeans has not been studied enough, particularly with regard to artillery, tactics, siege warfare and mobility. In the chapter of the collective monograph 'History of the Ukrainian Army', Ukrainian researcher A. Halushka briefly mentions the speed at which the Crimean Tatar troops advanced during campaigns and raids (Halushka, 2016). The high mobility of the Crimean Tatar army was also mentioned by Polish researchers L. Podhorodetsky (Podhorodecki, 1987) and A. Gliwa (Gliwa, 2019), pointing to the large number of horses in the Crimean army and the ability of soldiers to withstand multi-kilometer marches. The study of the Crimean Khanate and its foreign policy and military art is carried out by the Ukrainian historian S. Gromenko (Gromenko, 2023a), who believes that the successful actions of the Crimean Tatars were due to a whole complex of factors. I. Storozhenko, one of the few researchers who pays attention to the military doctrine of the Crimean Tatars, proves that it was the rapid advance of the troops that was one of the main components of their success. In the works of D. Vyrsky (Vyrsky, 2016), T. Barker (Barker, 1967), S. Herbst (Herbst, 1978), P. Jusiak (Jusiak, 2008–2010), B. Kosowski (Kocowski, 1978) and others, the speed of movement of the Khanate's troops in individual campaigns/raids is indirectly mentioned.

Analysing the mobility of the Khanate's troops not only expands our knowledge of the Crimeans' military art, but also helps us to understand why the Tatars were so successful in confrontations with other states. Studying the mobility of Crimean Tatar troops enables us to dispel the myth that they were unique superhuman warriors. In reality, their success was due to competent tactics, intelligence, and often the mistakes of their opponents.

The study is based on the work of European and Ottoman chroniclers, including G. de Beauplan (Beauplan, 1990), M. Lytvyn (Antonovych 2005), O. Guagnini (Guagnini, 2007), M. Naima (Naima, 2016) and E. Çelebi (Çelebi, 2008), among others. While these works contain valuable information about Crimean life, the structure of the Khanate and Tatar military art, as well as detailed event descriptions, they also contain exaggerations and subjective information that requires verification and critical analysis.

Presentation of the main material. In the 16th–17th centuries, the Crimean Khanate was a significant political player in Eastern Europe. Despite having limited human resources—the population of the Khanate was estimated to be between 250,000 and 300,000 in the 16th century—the Khanate's rulers managed to engage in long-term confrontations with much more powerful neighbouring states, such as Poland, Muscovy and the Grand Duchy of Lithuania (Kozłowski, 2025b, p. 85). According to calculations by the Polish researcher L. Podhorodecki, the Polish-Lithuanian Commonwealth paid tribute to the Khanate of 400 thousand zlotys during the reigns of kings Sigismund the Old (1506–1548) and Sigismund Augustus (1548–1572), an average of 6 thousand zlotys per year (Podhorodecki, 1987, p. 101). These sums suggest that even the most powerful European states were affected by the Crimean raids and were willing to pay to protect their lands. Another Polish researcher, A. Gliwa, claims that from the end of the 15th to the end of the 17th century, the Crimeans kidnapped up to two million people from the Polish-Lithuanian Commonwealth, Muscovy, Hungary and other states (Gliwa, 2019, p. 128).

The state's mobilisation capabilities were affected by limited human resources – by conducting large-scale recruitment into the army involving Nogais, Circassians, Tats and other allies, the khans could gather 40–50 thousand soldiers (Podhorodecki, 1987, p. 42). Thanks to effective military doctrine, strategy, and tactics, the Khanate could confront much more powerful rivals. The Crimeans destroyed the economic and demographic potential of other states through constant predatory attacks, while simultaneously refraining from setting the goal of capturing foreign territories (Storozhenko, 2004, p. 102). The Crimeans' tactics relied on the rapid movement of troops and various manoeuvres and tricks, such as distant, massive bow-based shelling, luring into ambushes and the 'deceptive retreat' (Kozlovsky, 2025c, pp. 53–57). As the Crimeans relied on surprise and speed, their army's main striking force was light cavalry. Consequently, they had to sacrifice artillery, transporting only a few light guns in large-scale campaigns (Kozlovsky, 2025a, p. 129). The Ottoman chronicler and astrologer Mustafa Naima (1655–1716) emphasised that heavy cannons limited the mobility of the Crimean Tatar army when describing their fighting in Central Europe in 1598: *“At first, the troops set out to destroy the country, so they did not take cannons with them—as they say, so as not to get confused underfoot”* (Naima, 2016, p. 32).

The speed of the Crimean army's advance depended on several factors: the army's condition, the large number of horses available, the terrain being flat, the riders' skill, favourable weather conditions, and so on. All late medieval European chroniclers agree that the Crimeans were raised in Spartan conditions from an early age – they learnt to shoot with bows, endure the cold and ride horses, among other things. The Polish-Lithuanian Commonwealth military figure and diplomat Alexander Guagnini (1534/1538–1614) wrote about this: *“They are very hardy when it comes to hunger and wakefulness because sometimes they stay in the wild for three or four days waiting for someone and then they eat whatever they can find, gorging themselves on dead mare meat, vodka and milk. Then they sleep for three or four days to make up for what they lost”* (Guagnini, 2007, p. 699) Unlike

the horse breeds used by European armies, Crimean horses were small but hardy, and could survive on little food. In winter, they would eat frozen grass and lichen (Podhorodecki, 1987, p. 55). A description of Tatar horses can be found in A. Guagnini: *"Tatar horses, which they call foals, are small and unsightly with ugly necks and thin, elongated bodies. But they are hardy and strong, and together with their masters they can endure great hardship and hunger because they can survive on a diet of forest branches and roots, which they dig out of the ground with their hooves"* (Guagnini, 2007, p. 699). The Tatar nobility, the murzas and military leaders, used Turkish, Arab and other breeds of horse, as documented by Sigismund Herberstein (1486-1566) – a diplomat of the Holy Roman Empire who travelled to Muscovy, Poland and other states: *"The Khan, many sultans and noble Tatars use horses of Turkish, Arab, Karaman and other Asian breeds, or excellent foreign ones, for war.' Fast horses are extremely expensive among them. Horses that are unsuitable for riding and of poor breed are used for carriages, but even then they are rarely used because camels and oxen perform this kind of work"* (Herberstein, 1851–1852).

The authors also unanimously state that the Crimean Tatar army had a large number of horses. The Polish chronicler and diplomat Michalon Lytvyn (1490-1560) mentions their large numbers: *"They always have plenty of horses in reserve for war. A large part of their army takes five horses with them and, what's more, they ride bareback. Therefore, they can make raids very quickly, overcoming any terrain thanks to the quick change of horses, and quite easily escaping the enemy who catches up with them. Also, the number of their tracks is frightening, and their army is not afraid of fatigue or hunger. They are also quite hardy on campaign, easily enduring hunger, thirst, fatigue, sleepless nights, heat, cold and all kinds of bad weather. After all, they always make military raids without carts or baggage, except for the many horses I mentioned"* (Antonovych, 2005, p. 22).

The large number of horses among the Crimeans is also evidenced by the fact that, in failed raids, their enemies captured many animals. For example, in 1512, Polish troops intercepted the Tatars returning from a raid. They freed many prisoners and captured 10,000 horses, among other things (Herbst, 1978, p. 270). Researcher A. Halushka notes that, during the unsuccessful campaign against Muscovy in 1555, the Muscovite army captured the entire khan's kish', comprising 60,000 horses; however, only 200 of these were valuable argamaks (Halushka, 2016, p. 169).

The average warrior-rider would take three or four horses with him, feeding them barley and good hay for a few weeks before the campaign. Thanks to the large number of horses, the Crimeans could cover 100 kilometres or more in a day—the riders changed horses during the journey, allowing the others to rest. This is aptly described by the French engineer Guillaume de Beauplan (1595-1673): *"However, they are so skilled at riding horses and so agile that, at full gallop, they can jump from one panting horse to another that they lead by the bridle in order to escape more quickly during a chase. The horse, no longer feeling its master, immediately runs to its right, staying close by at all times so that it is in the right place when the rider wants to jump on, with the agility that is characteristic of them when jumping over obstacles"* (Beauplan, 1990, p. 155).

A similar description can be found in the records of the French officer Jacques Margeret, who visited Muscovy and neighbouring states (Margeret, 1860, p. 58). The large number of horses meant that opponents and contemporary chroniclers significantly overestimated the size of the Crimean army, which seemed huge to them (Herberstein, 1851–1852).

Each warrior took a flint, an awl, thread and a belt for mending torn clothes and leather ropes; a bag containing barley flour, roasted millet, dried or boiled beef or horse meat cut into small portions, dried cheese, and a leather skin containing sour milk. Wealthy Tatars could also carry biscuits baked in butter or olive oil. The Polish chronicler M. Broniewski described the Kirimla diet as follows: *"In addition, they consume cheese and various kinds of beef, including smoked or dried horse meat, dried and cut into small pieces and cleaned of bones. In this form, they fill their bags with it. They also eat mare's cheese, milk, and a kind of sour milk which they prepare in a special way and consider a delicacy"* (Broniewski, 2011, p. 62).

The Frenchman I. Massa, who had the opportunity to experience the life of the Crimean Tatars, claimed that they put pieces of horse meat under their saddles and rode with them there for some time, until the meat became soft and tender. They would then eat it (Massa, 1936, p. 39). The English diplomat J. Fletcher (1548-1611) claimed that the Crimeans drank horse blood to quench their thirst by cutting small veins on the animals' bodies (Fletcher, 1966). Heavy loads and artillery could be transported by camel, but these animals were not used during predatory raids since they could not sustain a fast pace for long periods of time. The Tatars generally had a food supply for three to four months, but if the military campaign dragged on, they killed and consumed exhausted or wounded horses (Podhorodecki, 1987, p. 56). However, there were cases when the Crimeans suffered from hunger. Generally, the Khanate's soldiers tried to take food with them on campaigns that did not require long-term heat treatment, as they rarely lit fires in order to avoid revealing their location.

The Crimeans' tactics during the first raids were primitive: quick penetration of enemy territory, robbery (stealing horses, livestock, prisoners, and jewellery), and a quick escape. Over time, these

raids evolved into real military operations involving careful reconnaissance, enemy deception, and the Crimeans' advance and retreat in different directions. There were six main routes along which the Tatars carried out raids: 1) Volos (through Moldova); 2) Kuchman (through Podolia); 3) Chorny (through Bratslav to Volhynia); 4) Muravsky (through the Dnieper to Kursk and Moscow); 5) Kalmyk (from the Sea of Azov to Ryazan); and 6) Izyum (from Azov, along the banks of the Donets to Bryansk) (Svyashchenko & Skrypnik, 2020, p. 6).

It should also be remembered that the speed at which the Crimean Khanate's troops advanced was uneven (with stops and halts) at different stages of the raid/campaign. When advancing to the borders of the enemy state, the Crimeans moved at a speed of 20–30 kilometres per day so as not to exhaust their forces. The French engineer G. de Beauplan wrote the following about this: *“Advancing forward, they make small daily transitions, usually six French leagues, and so move day after day, calculating their time and actions in such a way as to be able to return home before the ice breaks and ensure a safe return. This is how they approach the borders of Poland, choosing their route through gullies that seem to merge into one another. This is done in order to hide in the steppe and not be discovered by the Cossacks, who keep watch in different places and, having learned about the appearance of the Tatars and the direction of their movement, raise the alarm in their land. This is why the Tatars use the trick I mentioned: they only travel on beams and, when they set up camp in the evening, they do not light fires for the same reason”* (Beauplan, 1990, p. 157).

The chronicler Remal Khoja noted the slowness of the Crimean marches, stating that in 1538, Sahib I Giray's army travelled over 100 kilometres from Yalyniz-Agach to the Dnieper in 3–4 days (Tarih-i Sahib Giray Han, 1973, p. 129). Analysing the Khanate troops' raid on the Grand Duchy of Lithuania in 1506, researcher S. Herbst claims that the Tatars covered 900 kilometres in 50 days, moving at a speed of 25–30 kilometres per day (Herbst, 1934, p. 24). In 1579, Mehmed II Geray's army travelled from Bakhchisarai to Derbent in 76 days (26 July to 10 October) (Efendiev, 1981, pp. 167–168). During the 1594 military campaign, Gaza II Geray's army covered the 60-kilometre distance from Slonsk to the Torun Pass in a day (Kocowski, 1948, pp. 38, 50–52). In contrast, to travel from Crimea to Hungary via the Carpathians (1,500 kilometres) or along the Danube (2,000 kilometres), the Crimeans required up to 2.5 months. During the Khotyn campaign of 1621, the Tatar army covered over 150 kilometres in three and a half days, crossing the Dniester River in the process (Gliwa, 2012, pp. 9–10). According to researcher I. Storozhenko's calculations, the Crimeans moved at an average speed of more than 40 kilometres per day during the spring-summer campaign of 1648 (Storozhenko, 1996, p. 164). In June 1649, the Crimean army travelled 1,000 kilometres from Bakhchisarai to Zbarazh in 32 days. In June 1656, while the Polish-Lithuanian Commonwealth was at war with Sweden and the Crimeans were their allies, they covered 500 kilometres in 14 days (Augusiewicz, 2001, p. 37). In 1672, while fighting the Poles, Selim I Gerai's troops covered 200 kilometres from Husyatyn to Lviv in ten days (Gorski, 1890, p. 15). According to the historian M. Krykun, the Tatar army covered the 300-kilometre route from Ladyzhyn to Chyhyryn in seven to eight days in 1675, covering up to 40 kilometres per day (Krykun, 2006, pp. 376–377). G. de Beauplan states that, when approaching enemy territory, the Tatars would rest for two or three days in hiding places before dividing the army into a main body and two flanks for invasion and plunder (Beauplan, 1990, p. 159). Therefore, it can be argued that during their advance into enemy territory, the Khanate troops moved slowly, at an average speed of 20–40 kilometres per day, in order to conserve their strength for the invasion, avoid ambushes, and conceal their movements. Thanks to intelligence, they knew that the enemy would not attack the detachments during the march.

After approaching enemy territory, the Crimeans made a quick march to invade and conduct hostilities and plunder. During the invasion, the Khanate's horsemen carried out distracting manoeuvres and invaded from several directions simultaneously. The English diplomat J. Fletcher wrote of this tactic: *“Their usual way of waging war (since they are very numerous) is to divide into several detachments and, trying to lure the Ruthenians to one or two places on the border, attack a third place that has been left unprotected”* (Fletcher, 1966). Similar theories can be found in the writings of the French officer J. Margeret: *“The Tatar is such a light and agile enemy that, having learned of it, he distracts the army with twenty or thirty thousand horses while directing another part to ravage the country by another road. This will be done with such speed that the blow will be struck before the Russian troops receive warning”* (Margeret, 1860, p. 69). In 1615, Janibek I Geray's army covered 100 kilometres from Bar to Felshtyn in one day. In 1617, the Crimeans covered more than 400 kilometres from Busha to Zhydachiv in four days (Horn, 1962, pp. 20, 25). In 1618, during a raid on the territory of modern-day Azerbaijan, the Crimeans made a rapid march, according to M. Naima, which amounted to eight crossings: *“Not only without orienting their movement, but also without stopping anywhere to rest, they reached the Seravsky field in two and a half days, which is eight crossings”* (Naima, 2016, p. 51).

In 1689, when the Muscovite army threatened to invade Crimea, the Crimeans covered 500 kilometres in six days, travelling from Kiliya to Kalanchak (Şen, 2012, p. 512). The chronicler

Evliya Çelebi noted that the Crimean Tatars could complete ten day-long journeys in one day (Çelebi, 2008, p. 102). During the march, the Khanate's troops sped up to prevent the enemy from carrying out mobilisation measures or evacuating the population.

Researcher I. Storozhenko claims that the horsemen of the Crimean Khanate could cover up to 90 kilometres per day, whereas Western European warriors could cover no more than 45 kilometres (Storozhenko, 2004, p. 100). However, we believe that such comparisons are not meaningful, as everything depended on the specific circumstances, terrain and many other factors. Horsemen in European armies could also cover long distances and undertake long marches if necessary. For example, according to historian R. Majewski's calculations, the Polish army advanced over 160 kilometres in six days while retreating on foot from Moldova with a convoy in 1620, covering 15–30 kilometres per day (Majewski, 1970, p. 211). During Jan Sobieski's military campaign against Hetman P. Doroshenko's troops in 1671, the Poles covered 55 kilometres in one night, from 24 to 25 July, and advanced 200 kilometres in five days (Jaworski, 1965, p. 99). According to researcher M. Plewczynski's calculations, the Polish army covered an average of up to 30 kilometres per day in campaigns against the Turks and Tatars during the 16th century (Plewczynski, 2002, p. 169). In the 16th century, European troops could cover the 1,100-kilometre distance from Milan to Brussels in five to seven weeks (Parker, 1996, p. 76). However, it should be noted that the Crimeans had an advantage over European troops in that they could significantly increase their pace at the right moment and maintain it for a fairly long time. European chroniclers often exaggerated the size of the Crimean Khanate's army and their combat skills to hide the mistakes of European leaders when confronting the Crimeans, as if the latter moved very quickly and could not be intercepted or overtaken. A vivid example of this can be seen in the testimony of A. Guagnini, a diplomat of the Holy Roman Empire, regarding the large-scale raid of the Crimeans in 1575: *"The Tatars left Moldavian territory, crossed the Dniester, and advanced along the riverbank. Contrary to our expectations, they halted near Sinyava and dispersed into smaller groups, capturing people and livestock, pillaging towns and burning villages. Then, in the Russian lands, the Tatars caused great and immeasurable damage because, in addition to slaughtering old people and small children, they took more than fifty-five thousand people and one hundred and fifty thousand horses into captivity, not to mention an innumerable number of cattle and sheep, as well as other booty such as clothes, gold and silver. They fled with all this so quickly that no one could catch up with them"* (Guagnini, 2007, p. 221).

For example, in the Polish-Lithuanian Commonwealth, the nobility and magnates only gathered an army slowly and reluctantly, as they had no desire to defend the border territories. According to researcher P. Jusiak, the Crimean Tatars bypassed powerful defensive centres, captured the booty, and often fled with it before the enemy could organise a defence (Jusiak, 2008–2010, p. 71). According to D. Vyrsky, soldiers from other countries were in no hurry to arrive at army assembly points as they feared leaving their homes unprotected (Vyrsky, 2016, p. 16).

After invading enemy territory, the Crimean Tatars set up camp in a city and began to plunder and ravage the surrounding area. The Crimean army was divided into small detachments which dispersed in different directions, seizing livestock and prisoners and burning buildings. The Crimeans could move up to 100–150 kilometres away from the base (Gliwa, 2009, p. 35). During raids, the Tatars moved quickly too, covering 40–50 kilometres per day to take the civilian population by surprise and avoid encountering the enemy army (Plewczyński, 2012, p. 278). S. Herbst (1978, p. 220, 222) noted that during the 1512 raid, the Crimeans covered more than 180 kilometres in three days. Raids could last several days since the Tatars did not want to engage in clashes with enemy military units or storm fortresses and cities where civilians could be hiding. G. de Beauplan also noted that the Tatars aimed to complete a raid within a short timeframe: *"The Tatars cross the border in this way: they travel constantly between two large rivers, always choosing higher ground and looking for the sources of small rivers that flow into larger ones. Thanks to this, they encounter no obstacles in their raids; they plunder and ravage like their predecessors, but do not venture deeper into the region than 6–10 leagues and return as quickly as possible, staying no longer than two days..."* (Beauplan, 1990, p. 161).

If a plundering raid or military campaign by the Khanate's troops was successful, they slowed down again on the way back, covering an average of 20–30 kilometres per day, as when marching into enemy territory. After a successful raid in 1575, for example, the Crimeans covered over 1,000 kilometres in 33 days. Despite the Ottoman army being defeated at the Battle of Vienna in 1683, the Crimean Tatars, who had participated in the campaign as Turkish allies, plundered many Austrian lands and kidnapped up to 80,000 prisoners (Cacavelas, 1925, p. 161). Progress was slowed by the considerable booty and large number of prisoners—during large-scale raids, the Tatars could capture tens of thousands of people. The Crimeans always returned from raids via different routes to those used for the invasion, to avoid ambushes. It was during their return to their homeland, burdened with booty, that the Crimeans were at their most vulnerable. Prince Kostiantyn Ostrozky knew about this

weakness of the Crimean Tatars and attacked them whenever possible when they set up camps on their way back (Kulakovsky, 2011, pp. 80–81).

If the campaign or raid ended in failure, with significant troop losses and the enemy in pursuit, the Crimeans would abandon the wounded and their artillery to advance more quickly, covering up to 70 kilometres in a day (PSRL, 1904, p. 258). The chronicler E. Çelebi described the Tatars' rapid retreat: *"This people of Tatars, wind-like hunters of the enemy, fly so fast that not even a bird can follow them. But God forbid if someone falls from his horse in this rush! If he or his horse does not get up, they will be trampled by those galloping after them and both man and horse will be crushed"* (Çelebi, 2008, pp. 40–41). In order to escape enemy pursuit, the Crimeans could even kill some prisoners, as the Polish chronicler M. Strykowski mentions (Strykowski, 2011, p. 909).

The Khanate's troops were usually affected in their mobility by weather conditions, particularly snowfall. On the one hand, deep snow swept away the army's tracks; on the other, it was disastrous for the horses. As M. Lytvyn noted in his: *"Without any effort, they overcome the wide steppe expanses in winter, the impassability created by deep snow and slush, although hardened snow and ice tear their legs"* (Antonovych, 2005, p. 22). The diplomat O. Guagnini recalled that, during the Tatar raid on Podolia in 1504, it was the deep snow, which reached up to the horses' bellies, that enabled the Polish troops to overtake the Crimeans and inflict significant losses on the nomads (Guagnini, 2007, p. 355).

Thanks to intelligence and guides, the Khanate's troops were able to bypass various obstacles in enemy territory (ditches, obstacles and barriers) relatively quickly. For instance, in July 1594, as they approached the Bieszczady Mountains, the Tatars effortlessly overcame barbed wire barriers and various road traps, evaded the enemy army and advanced deep into Hungary (Podhorodecki, 1987, p. 101). However, it is worth remembering that these obstacles were primitive in most cases.

The Crimean Tatar army was relatively effective at crossing the various rivers it encountered. G. de Beauplan claimed that the Crimeans crossed rivers with their horses using special rafts: *"They choose a place where the banks are accessible from both sides. Each of them then collects rushes or reeds, depending on what they find, and makes two small bundles of them, each three feet long and between 10 and 12 inches thick. The distance between the bundles is one foot, and three sticks are tied tightly across the top and from corner to corner at the bottom, the latter being attached to the horse's tail. The Tatar then undresses and puts his horse's saddle on the raft, along with his clothes, bow, arrows and saber, all tied and attached securely. Then, completely naked with a whip in his hand, he enters the water and urges his horse on with the bridle that remains on its neck, holding it alternately by the mane with one hand. He forces the horse to swim by urging it on, and he also swims with one hand, as he must hold the mane and bridle with the other at all times without letting go"* (Beauplan, 1990, pp. 163–164).

M. Lytvyn claimed that Crimeans crossed rivers without boats, on horses, tying bags to horse tails, placed on wooden beams or bundles of reeds (Antonovych, 2005, p. 22). According to J. Fletcher, Tatars tied long wooden logs to the tails of horses, sat on these logs and thus crossed rivers (Fletcher, 1966). I. Massa noted that Tatars tied two horses, stood on top of them and crossed rivers (Massa, 1936, p. 39). L. Podhorodecky wrote that Crimeans used bundles of reeds and long poles to cross rivers, on which they placed weapons, clothing and food (Podhorodecki, 1987, p. 57). Researcher Z. Spieralski noted that during the 1497 campaign in Bukovina, the Tatars and Turks built a reed bridge across the Dniester and crossed the river on it (Spieralski, 1963, pp. 51, 54). Researcher T. Barker claimed that in the Austrian lands the Tatars quickly crossed the rivers in fords (Barker, 1967, p. 247). This indicates that the army already had extensive experience and guides who knew the area. The Bykhovets Chronicle indicates that during the 1502 campaign, the Crimeans forded the Prypyat River in one day, passed by Slutsk, and covered a total of 200 kilometers in one day (Chronicle of Bykhovets, 1975). Of course, the thesis that the Tatars crossed the river in 200 kilometres is clearly an exaggeration, but we can agree that they were able to cross it quickly. During military campaigns against Muscovy, the Crimean Tatars repeatedly crossed the Oka River (Hromenko, 2023a). The Ottoman chronicler Remmal Khoja noted that, during the 1541 campaign, the Tatars crossed the Oka on rafts. However, as researcher S. Hromenko rightly points out, the Crimeans could also cross the river by swimming or by using a ford if there was no enemy artillery on the opposite bank (Hromenko, 2023b). The Khanate's troops could easily overcome various water obstacles, including swamps, in winter when the ice formed (Cherkas, 2008, p. 55).

Conclusions. The Crimean Tatars had limited manpower and minimal artillery support. The core of their armed forces comprised fast, lightly armed archers who relied primarily on the mobility of their units. During predatory raids, Crimean detachments attempted to penetrate enemy territory unnoticed, execute a swift invasion, capture as many spoils of war and captives as possible within a short period, cause widespread devastation (by burning settlements and destroying agricultural infrastructure), and rapidly withdraw from hostile lands to avoid pitched battles with pursuing forces.

En route to enemy territory, the Khan's army advanced at a measured pace, averaging 20–30 kilometers per day to conceal its movement. Upon reaching the target zone, the Crimeans executed a rapid pivot to initiate the invasion, during which their units could cover 50–70, or even up to 100 kilometers per day. The Tatars then conducted high-speed raids across enemy territory (averaging 40–50 kilometers per day), engaging in destruction and plundering. On the return journey, the Crimeans either moved slowly, covering 20–30 kilometers per day due to being encumbered by heavy booty and captives, or pushed forward at maximum speeds of up to 70–100 kilometers per day to evade active pursuit—often abandoning exhausted horses and executing captives to maintain momentum. The Crimean army was capable of achieving such remarkable speeds owing to its minimal heavy weaponry, lightweight baggage train, and substantial ratio of horses per warrior.

For a prolonged period, the Crimean Tatars conducted highly effective raids into neighboring territories, primarily due to their tactical mobility over rivals who struggled to develop effective countermeasures. The Crimeans carried out thorough reconnaissance, possessed vast herds of horses, and were capable of executing long-distance marches. This enabled them to easily bypass enemy traps, negotiate major river crossings, and avoid direct confrontations with heavily armed hostile forces. However, the Crimeans were most vulnerable when establishing encampments or returning to their homeland encumbered by extensive spoils. Certain commanders from states hostile to the Khanate exploited this vulnerability, launching timely counterattacks that inflicted substantial losses on the returning forces.

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