

## Aufsatz

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# The Russian Edition of Johann Jacobi von Wallhausen's »Kriegskunst zu Fuß« (1649): The History of A Failure?

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**Abstract:** The article deals with the history of the »Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei« – the first Russian book on military art issued in print in Moscow in 1649. Being a full and exact translation of the »Kriegskunst zu Fuß« by Johann Jacobi von Wallhausen (1615), the »Uchenie« has for a long time been recognized by historians as the first Russian effective drill manual which played an important role in the modernization of infantry tactics and military training. However, the use of the book for and during drill sessions could not be inferred by existing sources. Wallhausen's text was too voluminous and comprehensive in comparison with contemporary drill manuals and could scarcely be understood by uneducated Russian readers. Tactical formations prescribed by Wallhausen were outdated and not suitable for the conditions prevailing in the Eastern European warfare of the mid-17<sup>th</sup> century. As a result, the book considered as being quite important for Russian culture had no value for military developments of the time.

**Keywords:** Early Modern warfare, military treatises, drill manual, Russian military history, Johann Jacobi von Wallhausen

## I. Introduction

In 1649, an unusual book was issued from the Moscow Printing House, the main and only publishing house of the Russian tsardom, situated only a few hundred meters away from the Tsar's residence in the Kremlin. It was entitled »Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei«, literally »Training and Skill of Military Order for Infantrymen«, and was, in fact, an almost complete and exact Russian translation of the »Kriegskunst zu Fuß« by German author Johann Jacobi

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von Wallhausen (1615) drawn from its Dutch edition of 1617.<sup>1</sup> The 446 pages-long treatise, illustrated with 35 engraved plates, deals with the drill of foot in exercises with arms, as well as with infantry tactics. It was the only translation of any Western text issued in print in Russia prior to the Westernizing reforms of Tsar Peter I in the early 18<sup>th</sup> century. At the same time, it was the first book on secular matters printed in Russia, not counting some textbooks on grammar and elementary arithmetic.<sup>2</sup> It was also the first printed treatise informing Russian readers about the military culture of their Western neighbors and adversaries – a subject which could attract vivid attention in mid-17<sup>th</sup> century Moscow.

At the time, the Russian military experienced a speedy and dramatic transformation.<sup>3</sup> Traditional mounted bands of gentry archers had proved to be effective against nomadic and semi-nomadic formations, threatening the Muscovy frontier in the south and south-east, but they were not adequate to more sophisticated warfare against the two most dangerous rivals of the tsardom on its western and north-western borders, the Poland-Lithuanian Commonwealth and Sweden. The formation of small corps of *streltsy* – infantry soldiers equipped with firearms – in the mid-16<sup>th</sup> century and the extensive adoption of Western gun and fortification technologies could not solve the problem. Along with a complex social and economic crisis of the second half of the 16<sup>th</sup> century, this led to a military defeat in the Livonian wars 1558 to 1583, and to the political collapse in the early 17<sup>th</sup> century, labeled in the later historiography as the Time of Troubles. Between 1598 and 1618, Russia experienced a series of internal civil wars and coups d'état

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1 *Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei* (Moscow, 1649). Further references and quotes according to the modern edition *Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei. 1647 god.* Ed. by A.Z. Myshlaevskii and I.V. Pariiskii (Saint Petersburg, 1904). The German original was written by Johann Jacobi von Wallhausen, *Kriegskunst zu Fuß* (Oppenheim, 1615). The Dutch edition *Krychs-konst te voet* (Arnhem, 1617) was first identified as the actual source for the »Uchenie« by Christian Sch. Stang, *La langue du livre »Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei«*. *Une monographie linguistique* (Oslo, 1952). Spelling of Russian names – if there is no standard form in English (Moscow, Alexei etc.) – is presented in the text and transliteration in notes in accordance with Library of Congress transliteration rules.

2 For the Moscow Printing House and its production in the 17<sup>th</sup> century, see in general Gary Marker, *Publishing, Printing, and the Origins of the Intellectual Life in Russia, 1700–1800* (Princeton, NJ, 1985), 19–20; Irina V. Pozdeeva, »The Activity of the Moscow Printing House in the First Half of the Seventeenth Century«, *Solanus. New Series*, 6 (1992), 27–55.

3 For warfare in Eastern Europe, particularly in the Russian tsardom of the 16<sup>th</sup> and 17<sup>th</sup> century, see in general Carol B. Stevens, *Russia's Wars of Emergence, 1460–1730* (Harlow, 2007); Brian L. Davis, *Warfare, State and Society on the Black Sea Steppe, 1500–1700* (London & New York, 2007); Robert I. Frost, *The Northern Wars: War, State and Society in Northeastern Europe, 1558–1721* (London, 2000); Chester S.L. Dunning, *Russia's First Civil War: The Time of Troubles and the Founding of the Romanov Dynasty* (University Park, PA, 2001).

and interventions of foreign powers. At the end of these disastrous wars, the country was devastated and depopulated and the tsardom lost some territories on the Baltic shore to Sweden and, even more remarkably, the strategically important region of Smolensk to Poland-Lithuania.

In the late 1620s, the government of Mikhail Romanov, the first Tsar of the new dynasty elected to the Moscow throne in 1613, started with the mass recruiting of large infantry and cavalry formations in Central Europe and in the British Isles for the expected war with Poland-Lithuania to regain Smolensk. This move was not without precedence. Some European officers and technical specialists had served the Moscow sovereigns since the late 15<sup>th</sup> century. The mass recruiting of foreign mercenary troops had been practiced already in the Time of Troubles. The Smolensk War from 1632 to 1634, in which these troops for the first time represented the key element of the Russian military organization, ended up with a failure. The Tsar army was surrounded during the siege of Smolensk and compelled to surrender, its commanders-in-chief were executed on the Red Square and the mercenary regiments which were claimed to be treacherous, ineffective and disproportionately expensive were deported from the country.

After this defeat, the Moscow government gave up its recruiting of entire units of soldiers from abroad. Instead, a lesser number of foreign officers, most of them originating from Germany, the Netherlands, the British Isles, and the Baltic Provinces of Sweden, were hired to instruct native troops in European infantry and cavalry tactics, as well as in the use of pikes and different types of firearms. This practice had its precedents. In 1609/10, some units of Russian-born infantry had been trained by Dutch drillmasters from the Swedish mercenary corps. These experiments had been resumed in the early 1630s. It was, however, only in the 1640s, when the so-called »new-style« regiments, led by foreign mercenary officers but consisting mostly of native common soldiers and subalterns, became a part of the army of Mikhail's son, Tsar Alexei. Furthermore, Russian noblemen trained by European officers according to Western standards received and took their chances for promotion to higher appointments and gradually substituted foreigners in command positions. The »new-style« infantry, Reiter and dragoon regiments formed the most effective part of the Tsar's army in the wars against Poland-Lithuania from 1654 to 1667, which ended up with the reconquest of Smolensk and the annexation of major parts of Ukraine, and against Sweden between 1656 and 1661.<sup>4</sup>

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<sup>4</sup> For an overview of military reforms of the 17<sup>th</sup>-century Russia, see Richard Hellie, *Enserfment and Military Change in Muscovy* (Chicago, IL, 1971); Paul Bushkovitch, »The Romanov Transformation, 1613–1725«, in Frederick W. Kagan & Robert Higham (eds.), *The Military History of Tsarist Russia* (New York, NY, 2002), 31–46; Marshall Poe, »The Consequences of the Military Revolution in

It looks almost self-evident that the publication of a Western book, dedicated to infantry tactics, training methods and skills in the use of European weapons should be contextualized within these complex and finally successful Westernizing reforms. Not surprisingly, many scholars who have dealt with Russian military history of that period since the 19<sup>th</sup> century and up to now, have considered the »Uchenie« as an authoritative drill manual, or even a law code used in the everyday practice of the Russian army, since it was issued from 1649 until the end of the 17<sup>th</sup> century.<sup>5</sup> For scholars interested in the worldwide diffusion of Western innovations in warfare in the 17<sup>th</sup> century, most notably for Geoffrey Parker and Jeremy Black, the »Uchenie«, along with some contemporary Chinese and Japanese treatises on the use of firearms,<sup>6</sup> has been an important evidence of the role

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Muscovy. A Comparative Perspective«, *Comparative Studies in Society and History*, 38 (1996), 603–618; Stevens, *Russia's Wars* (see note 3), 147–167; Davis, *Warfare* (see note 3), 132–142; William M. Reger, *Baptizing Mars: The Conversion to Russian Orthodoxy of European Mercenaries during the Mid-Seventeenth Century*, in Eric Lohr & Marshall Poe (eds.), *The Military and Society in Russia, 1450–1917* (Leiden, Boston, MS & Cologne, 2002), 389–412; Frost, *The Northern Wars* (see note 3), 164–165. The most recent works, in Russian, on the history of infantry in the mid-17<sup>th</sup> century are Aleksandr V. Malov, *Moskovskie vybornye polki soldatskogo stroia v nachal'nyi period svoei istorii* (Moscow, 2006); Oleg A. Kurbatov, »Organizatsiia i boevye kachestva russkoï pekhoty »novogo stroia« nakanune i v khode russko-shvedskoi voïny 1656–1658 gg'«, *Arkhiv russkoï istorii: Sbornik Rossiiskogo Gosudarstvennogo Arkhiva Drevnikh Aktov*, 8 (2007), 157–197.

5 See of primary importance the general works of the 19<sup>th</sup> and 20<sup>th</sup> century Nikolaï N. Obruchev, *Obzor rukopisnykh i pechatnykh pamiatnikov, otnosiashchikhsia do istorii voennogo iskusstva v Rossii po 1725 god* (Saint Petersburg, 1853), 28–45; Pavel O. Bobrovskii, *Istoriia leib-gvardii Preobrazhenskogo polka* (Saint Petersburg, 1900), vol. 1, 13–14; Anatolii V. Chernov, *Vooruzhennnye sily russkogo gosudarstva v XV-XVII vv.: S obrazovaniia centralizovannogo gosudarstva do reform pri Petre I* (Moscow, 1954), 151–152; Fedor I. Kalinychev, *Pravovye voprosy voennoi organizatsii russkogo gosudarstva, vtoroi poloviny XVII veka* (Moscow, 1954), 133–136; Petr P. Epifanov, »Uchenie i khitrost' ratnogo stroeniia pekhotnykh liudei: Iz istorii russkoï armii XVII v.«, *Uchenye zapiski kafedry istorii SSSR*, 167 (1954), 77–98; Liubomir G. Beskrovnyi, *Ocherki po istochnikovedeniiu voennoi istorii Rossii* (Moscow, 1957), 65–70. Recently, see Malov, *Moskovskie vybornye polki* (see note 4), 11, 40; Kurbatov, »Organizatsiia« (see note 4), 163; Oleg A. Kurbatov, »Zapadno-evropeiskie voenno-teoreticheskie modeli XVII veka i ikh mesto v reformirovanii russkoï armii«, in Mikhail M. Krom & Liudmila A. Pimenova (eds.), *Fenomen reform na zapade i vostoke Evropy v nachale Novogo vremeni, XVI-XVIII vv.* (Saint Petersburg, 2013), 231–249, here 240. In addition to the Russian literature see also the English titles: Vladimir E. Grabar & William E. Butler, *The History of International Law in Russia, 1647–1917* (Oxford, 1990), 15–18; Hellie, *Enserfment* (see note 4), 167–168; Poe, »The Consequences« (see note 4), 614; Davis, *Warfare* (see note 3), 136.

6 On Chinese and Japanese infantry manuals and treatises on firearms, see Kaushik Roy, *Military Transition in Early Modern Asia, 1400–1750: Cavalry, Guns, Government and Ships* (London & New York, NY, 2014), 76; Geoffrey Parker, »From the House of Orange to the House of Bush: 400 Years of »Revolutions in Military Affairs«, *Militaire Spectator*, 172 (2003), 177–193, here 177–180; Itakura Kiyonobu & Itakura Reiko, »Studies of Trajectory in Japan before the Days of Dutch Learning«,

European military manuals could play abroad.<sup>7</sup> The central proposition of the present paper points to the opposite: There are many reasons to doubt whether Wallhausen's text could have been of any practical value for Russian troops of the mid-17<sup>th</sup> century. In essence: The publication of the »Uchenie« has to be labeled as a failure of the Russian government despite the general success of its reform approaches. To understand the reasons for this failure, one should turn to both the history of military tactics and weapon use, as well as the intellectual culture in the 17<sup>th</sup>-century Central, Western and Eastern Europe.

## II. »Uchenie« and the »Kriegskunst zu Fuß«

Johann Jacobi von Wallhausen (1580 to 1627), claiming the reputation of being the most important and, undoubtedly, the most prolific German military theorist of his time, spent most of his life serving as a mercenary officer for the Emperor, some German princes and Imperial cities.<sup>8</sup> Most notably, he was employed for some years by Johann VII of Nassau-Siegen, cousin of Maurits of Nassau, the so-called stadtholder of the Dutch Republic and the leading figure of Dutch military reforms of the late 16<sup>th</sup> and early 17<sup>th</sup> century. Johann VII enjoyed the active intellectual exchange with Maurits and another of their cousins, Willem Lodewijk, and was highly interested in both military practice and theory. He focused on the reorganization of the county's militia based on the Dutch example, encouraged editions of ancient military authors and elaborated some papers of his own on military organization.<sup>9</sup> In 1617, the count founded the Military Academy in Siegen, one of the first European institutions of that kind, and appointed Wall-

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*Japanese Studies in the History of Science*, 1 (1962), 83–93, here 83–85; Tonio Andrade, *The Gunpowder Age: China, Military Innovation and the Rise of the West in World History* (Princeton, PA & Oxford, 2016), 173–175.

<sup>7</sup> Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500–1800* (2<sup>nd</sup> edition, Cambridge, 1996), 38–39; Parker, »From the House of Orange to the House of Bush« (see note 6), 189; Jeremy Black, *Beyond the Military Revolution: War in the Seventeenth Century World* (Basingstoke, 2011), 193.

<sup>8</sup> For Wallhausen's life and writings, see Therese Schwager, *Militärtheorie im Späthumanismus: Kulturtransfer taktischer und strategischer Theorien in den Niederlanden und Frankreich, 1590–1660* (Berlin, 2012), 262–280; Max Jähns, *Geschichte der Kriegswissenschaften, vornehmlich in Deutschland* (Munich & Leipzig 1889), vol. 2, 930–932, 1035–1042; David A. Parrott, *Richelieu's Army: War, Government and Society in France, 1624–1642* (Cambridge, 2001), 27–28.

<sup>9</sup> For Johann VII and his writings see Werner Hahlweg (ed.), *Die Heeresreform der Oranier: Das Kriegsbuch des Grafen Johann von Nassau-Siegen* (Wiesbaden, 1973); Schwager, *Militärtheorie* (see note 8), 203–208.

hausen as director. During the tenure, Wallhausen offered an elaborate program for the complex education of young protestant nobles in military science and applied disciplines. He had to leave the count's service only some months later because of a personal conflict with Johann VII. The academy was closed soon after that.

The »Kriegskunst zu Fuß« was the first work by Wallhausen, appearing in print in 1615 and opening a series of at least twelve books on military art by the same author. In only five years, Wallhausen managed to publish analytical treatises on contemporary cavalry and siege warfare, gunnery, militia organization, ancient military theory etc. His initial approach was even more comprehensive, including publications of manuals on naval warfare and fortification. Wallhausen's works were intended to be textbooks for students of the Siegen Military Academy. Furthermore, some of these books were immediately issued in French and the »Kriegskunst zu Fuß« in Dutch, which was later used to create the Russian edition. Wallhausen's books were widely known in England, though no contemporary complete translation into English existed.<sup>10</sup> Some later reeditions of Wallhausen's writings in the first and even in the second half of the 17<sup>th</sup> century, including that of the »Kriegskunst zu Fuß« of 1630, indicate that the editorial project was commercially successful even though Wallhausen failed to transform his reputation, gained by writing, into an outstanding military career.

Unlike various military treatises that were issued in print or circulated in manuscripts in German, French, Dutch, or English in the 16<sup>th</sup> and 17<sup>th</sup> centuries,<sup>11</sup> no comparable printed work on related topics existed in Russian prior to the publication of the »Uchenie«. In 1607, the »Kriegsbuch« (1573), written by German author Leonhard von Fronsperger, was partially translated into Russian. The second version of the same translation appeared in 1620. Both versions were created in manuscripts for the personal use of Tsar Vasilii Shuiskii and Tsar Mikhail Romanov and then distributed within the aristocratic and intellectual elites in a small number of handwritten copies.<sup>12</sup> In his compendium, Fronsperger

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**10** David R. Lawrence, *The Complete Soldier. Military Books and Military Culture in Early Stuart England, 1603–1645* (Leiden, Boston, MS & Cologne, 2009), 163–164.

**11** For a bibliographical survey on Early Modern military literature, issued in these four languages, during the first half of the 17<sup>th</sup> century, see Jähns, *Geschichte der Kriegswissenschaften* (see note 8), vol. 1–2; Schwager, *Militärtheorie* (see note 8); Louis Ph. Sloos (ed.), *Warfare and the Age of Printing. Catalogue of Early Printed Books from before 1801 in Dutch Military Collections* (Leiden, Boston, MS & Cologne, 2008), vol. 1–4; Lawrence, *The Complete Soldier* (see note 10).

**12** The German original was Leonhard von Fronsperger, *Kriegßbuch*, vol. 2 (Frankfurt a.M., 1573). The Russian translation survived in a number of handwritten copies, the version of 1620 is also available in an edition of the late 18<sup>th</sup> century: Vasilii Ruban (ed.), *Ustav ratnykh, pushechnykh i drugikh del, kasaiushchikhsia do voinskoï nauki* (Saint Petersburg, 1777–1781), vol. 1–2.

used to discuss almost all subjects belonging to military art and the technology of his time but he did not provide any special overview on drill methods, infantry tactics or the use of portable firearms. The Russian translation included some extracts from the second volume of the »Kriegsbuch« dedicated mainly to gunnery, as well as to siege warfare and the defense of fortresses. For native infantry regiments, newly organized according to Western standards, it was of no practical value.

One cannot identify the exact date when the »Kriegskunst zu Fuß« was brought into the tsardom and translated into the Russian language. We only know that, by 1639, a Dutch or German copy of »The book in which is written how to train soldiers for battle with muskets, and pikes, and different weapons, and how they should form a camp to be strong« – the title very painstakingly describing the contents of Wallhausen's work – was in the library of Alexei, at the time the 11-year-old heir to his father, Tsar Mikhail.<sup>13</sup> Alexei also had a number of foreign books on gunnery and fortification in his possession. Later in the 1650s, he used to purchase some foreign military books in Europe with the assistance of his political agent, Englishman John Hebdon, but probably failed to receive them.<sup>14</sup> It is not surprising that Alexei, who was fascinated by warfare, hunting, and Western novelties, ordered the publication of the book soon after he succeeded the Tsar after Mikhail's death in July 1645. Thus, one can assume that it happened by chance that namely the »Kriegskunst zu Fuß« and, in particular, its Dutch edition became the first and only of many European treatises and manuals on infantry tactics to be translated into Russian in the 17<sup>th</sup> century. The Russian authorities most probably did not have access to the other German or Dutch texts on the subject which would have allowed them to choose.

Also, the names of the translators of the »Uchenie« remain unknown. It seems obvious, however, that the »Kriegskunst zu Fuß« was translated in the Ambassadorial Chancery (Posol'skiĭ Prikaz) – the primary institution responsible for foreign affairs of the state and, in particular, for translation of all writings in European and Oriental languages, being of political value or of private interest for the Tsar from diplomatic correspondence up to newsletters, broadsheets and foreign books.<sup>15</sup> Fronsperger's »Kriegsbuch« was translated there, along with a

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13 Sergei K. Bogoiavlenskii, »O Pushkarskom prikaze«, in *Sbornik statei v chest' M.K. Liubavskogo* (Petrograd, 1917), 361–385, here 384.

14 Il'ia Ia. Gurliand, *Ivan Gebdon, komissarius i rezident* (Iaroslavl', 1903), 48.

15 A handwritten copy, to allow typesetting for the book, was sent to the Printing House from the Ambassadorial Chancery, according to the Russian State Archive of Ancient Acts in Moscow (Rossiiskii Gosudarstvennyi Arkiv Drevnikh Aktov; further RGADA), fond 1182, opis' 1, delo 44, 46r. On the translation process in the Ambassadorial Chancery and the translation of Western



number of other Western books on military science and related topics in the last quarter of the 17<sup>th</sup> century. Translators of the Chancery usually came from abroad or were born from foreign families settled in Moscow and were fluent in Russian and in at least one European language as their mother's tongue. The quality of their work on Wallhausen's text was quite high: The translators managed to translate the complete treatise, without noticeable gaps or mistakes, with some minor exceptions concerning misinterpretation of names and historical references in the introductory chapter. The text was, however, pleonastic and sometimes hardly understandable which could be crucial for its later implementation into practice.

1,200 copies of the »Uchenie« were printed, the standard print run for editions of the Moscow Printing House, on 26 August 1647.<sup>16</sup> One important element of the edition was missing: the Moscow printers and woodcutters did not have the technical skills and capabilities to replicate the illustrations in Wallhausen's work, specifically depicting drill methods, use of weapons by individual soldiers, and tactical movements of entire military units. To complete the edition, 42,000 broadsheets – 1,200 copies of each of the 35 engravings cited in the »Kriegskunst zu Fuß« – were made in the Netherlands on behalf of the Russian government by an agency of Dutch merchants trading in Russia. On top of that the title page of the book designed according to the draft of the Russian masters had to be printed, adding another 1,200 copies.<sup>17</sup> In February 1649, a total of 1,187 copies of the »Uchenie« were bound (another 13 copies had not been completed because of a spoilage). In the same year, the book was issued officially.

Due to the surviving financial documentation of the Moscow Printing House, we know that several copies were sold by the bookstore of the institution. Within about a year, between July 1650 and June 1651, 95 copies of the »Uchenie« were purchased by Russian readers. Another 26 copies were sold within the next six years up to October 1657.<sup>18</sup> The absolute majority of the buyers belonged to the Moscow aristocracy and the higher bureaucracy of the tsardom. Only a few copies were sold outside the capital to provincial gentry. Officers of infantry, Reiter and

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newsletters in particular, see most recently Daniel C. Waugh & Ingrid Maier, »Muscovy and European Information Revolution: Creating the Mechanisms for Obtaining Foreign News« in: Simon Franklin & Katherine Bowers (eds.), *Information and Empire: Mechanisms of Communication in Russia, 1600–1850* (Cambridge, Open Book Publishers, 2017), 77–132.

<sup>16</sup> *Uchenie* (see note 1), 287.

<sup>17</sup> For engravings of the »Uchenie«, see Alekseĭ A. Sidorov, *Drevnerusskaia knizhnaia graviura* (Moscow, 1955), 252–255.

<sup>18</sup> The financial documentation of the Moscow Printing House, concerning sales of the »Uchenie« in 1650 to 1651, was published in Sergeĭ P. Luppov, *Chitateli izdaniĭ Moskovskoi Tipografii v seredine XVII veka* (Leningrad, 1983), 126–131; data for later years could be found in RGADA, fond 1182, opis' 2, books 56–57.



dragoon regiments, who many historians believed to be the intended addressees of the book, purchased only five copies. That was only in 1657 when the rest of the print run (1,066 copies) was brought from the Moscow Printing House to the Kremlin<sup>19</sup> but there is no evidence that the »Uchenie« was massively distributed among the regiments. The only credible evidence concerning this distribution is a later account of the ceremony of solemn oath of colonel Matvei Krovkov, as new commander-in-chief of the elite infantry regiment (the so-called »Second chosen regiment«) in December 1661. In the presence of the entire military unit under his command, and the Tsar himself, the copy of the »Uchenie« was given to Krovkov along with the regiment's banner.<sup>20</sup> On this occasion, the presenting of the book seemed to serve a symbolic rather than a utilitarian purpose: The whole ceremony looks similar to regimental oaths practiced by German mercenary troops of the 16<sup>th</sup> and 17<sup>th</sup> century, when a copy of the »Artikelbrief« had been presented to the new commander of the unit, in the face of all his future subordinates.<sup>21</sup> This isolated mentioning of the »Uchenie«, twelve years after it was published, stands in contrast to another important book issued in Moscow in the same year – the Russian Law Code (»Ulozhenie«) of 1649.<sup>22</sup> Unlike the »Uchenie«, it was actively purchased by different social groups, both in the capital and in the provinces, as well as distributed by the government, being sent to local institutions, among them to the »new-style regiments« and other military units, as early as in the first half of the 1650s.<sup>23</sup>

19 RGADA, fond 1182, opis' 2, book 57, 615; see also *Uchenie* (see note 1), i.

20 Sergei A. Belokurov (ed.), *Dneval'nye zapiski Prikaza Taĭnykh del* (Moscow, 1908), 120. The episode has been actively discussed by Soviet and Russian historians as the most important, if not the only, evidence to demonstrate the use of the »Uchenie« in Russian troops. See Chernov, *Vooruzhennye sily* (see note 5), 151–152; Beskrovnyi, *Ocherki* (see note 5), 70; Kalinychev, *Pravovye voprosy* (see note 5), 134–135; Malov, *Moskovskie vybornye polki* (see note 4), 113. Andrew P. Janco, »Training in the Amusements of Mars: Peter the Great, War Games and the Science of War, 1673–1679«, *Russian History*, 30 (2003), 35–112, here 66, argued that Krovkov was of Dutch origin and therefore he probably was granted with a Dutch or German edition. However, this assumption is probably wrong as Krovkov's ancestors served as province nobles already as early as in the late 1630s, according to Malov, *Moskovskie vybornye polki* (see note 4), 114.

21 See e.g. Hans-Michael Möller, *Das Regiment der Landsknechte. Untersuchungen zu Verfassung, Recht und Selbstverständnis in deutschen Söldnerheeren des 16. Jahrhunderts* (Wiesbaden, 1976), 42.

22 *Ulozhenie*, Moscow 1649. The Law Code is now available in a modern edition Mikhail N. Tikhomirov & Petr P. Epifanov (eds.), *Sobornoe ulozhenie 1649 goda* (Moscow, 1961) as well as in an English translation Richard Hellie (ed.), *The Muscovite Law Code (Ulozhenie) of 1649* (Irvine, CA, 1988).

23 Luppov, *Chitateli* (see note 18), 14; Irina V. Pozdeeva, Anton V. Dadykin & Viktor P. Pushkov (eds.), *Moskovskii pechatnyi dvor-fakt i faktor russkoĭ kultury, 1618–1652 gg.: Ot vosstanovleniia posle gibeli v Smutnoe vremia do patriarkha Nikona. Issledovaniia i publikatsii* (Moscow, 2001), 409–410.

### III. The Problem with Genre

But did Russian infantry units, being trained by foreign officers according to foreign standards, really need any written manual they should follow to be effective in training and later in combat? Unfortunately, information about the process of drill in Russian troops of the mid-17<sup>th</sup> century is very scarce. It is known, for sure, that the term »nemetskoe ratnoe uchenie« (foreign military training)<sup>24</sup> was in use as early as in the mid-1630s depicting collective infantry exercises, commanded by foreign officers.<sup>25</sup> There is no evidence that these officers performed their job in accordance with a drill manual in Russian or any other language. Their colleagues throughout Europe relied on their own experience and the assistance of veterans and did not need any written instructions for many decades after the organized training of infantry units was first implemented for exercises with the pike in the late 15<sup>th</sup> century, and with firearms in the 1560s,<sup>26</sup> while the first drill manuals, issued in Western and Central Europe, appeared only in the first half of the 17<sup>th</sup> century. Moreover, during the entire 17<sup>th</sup> century, the merits of training soldiers »by book« had been disputed by military professionals and those officers issuing commands straight from the manual were often heavily criticized by their colleagues.<sup>27</sup>

The most precise accounts we have of the conduct of infantry drill in mid-17<sup>th</sup>-century Russia, are almost entirely focused on one person, Dutchman Isaac van Bockhoven, who was hired in the Hague by Russian envoy Il'ia Danilovich Miloslavskii in 1647, along with some other officers and experienced common soldiers able to train Russian recruits.<sup>28</sup> While they were still in the Dutch Republic, van Bockhoven became Miloslavskii's advisor, assisting the Russian envoy in the

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**24** The adjective »nemetskii« means today »German«; in the 17<sup>th</sup> century, it also meant people and things from different non-slavic European regions, esp. from Central Europe, but also from the British Isles and Scandinavia.

**25** The earliest mentioning of the term I could find was in a supplication by Scottish officer James Wartle dating back to 1636, published in *Rossiiskaia Istoricheskaia Biblioteka*, vol. 8 (Saint Petersburg, 1884), col. 273–274.

**26** On the history of organized military drill in Europe, see Harald Kleinschmidt, *Tyrociniū militare. Militärische Körperhaltungen und -bewegungen im Wandel zwischen dem 14. und dem 18. Jahrhundert* (Stuttgart, 1989).

**27** For some examples, see Olaf van Nimwegen, *The Dutch Army and the Military Revolutions, 1588–1688* (Woodbridge, 2010), 104–105; Parrott, *Richelieu's Army* (see note 8), 37.

**28** A detailed account of van Bockhoven's hiring into Russian service can be found in RGADA, fond 50, kniga 3, 301v–334v. For van Bockhoven and his role in military reforms of the mid-17<sup>th</sup> century, see Malov, *Moskovskie vybornye polki* (see note 4), 49; Kurbatov, »Organizatsiia« (see note 4), 167–169.

selection of foreign officers wishing to enter Russian service. The candidates had to carry out some elementary exercises with musket, including firing, as well as with pike and sword, to prove that they were not only able to command a military unit but also to drill inexperienced soldiers. Remarkably, two out of the six officers tested failed to prove their abilities and Scottish Captain James Stuart accidentally wounded three men during firing.<sup>29</sup> Van Bockhoven's methods of selection clearly impressed the Russian envoy and were adopted into Russian practice after the Tsar married Miloslavskii's daughter Maria in January 1648 and ordered his now father-in-law to lead the Foreign Chancery responsible for recruiting foreign military specialists.<sup>30</sup> In 1651, Johannes de Rodes, the Swedish envoy in Moscow, reported that European officers should conduct exercises with arms, to prove whether they were able to perform their tasks, in front of van Bockhoven and General Alexander Leslie, a Scotsman, who had been in Russian service since the beginning of the Smolensk War.<sup>31</sup> Leslie's compatriot, Patrick Gordon, had to pass the same test, with musket and pike, on his arrival in Moscow ten years later. As van Bockhoven had died by that time, it was Miloslavskii himself who tested Gordon.<sup>32</sup>

Furthermore, Miloslavskii and van Bockhoven organized intensive training of two newly recruited mounted regiments in 1649. According to de Rodes and his colleague, the Swedish resident in Moscow, Karl Pommerening, the primary mission of these units was to prepare young Russians to be promoted into officers' ranks. Though both regiments were formally units of Reiters, their soldiers also exercised with pike and musket so they could, if needed, later also become officers and instructors for infantry units.<sup>33</sup> Therefore, van Bockhoven's regiments

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29 RGADA, fond 50, kniga 3, 329r–334v. The account was also cited in Arkadii V. Borodin, *Inozemtsy-ratnye liudi na sluzhbe v Moskovskom gosudarstve* (Petrograd, 1916), 13.

30 On Miloslavskii's rise to power, see Robert O. Crummey, *Aristocrats and Servitors: The Boyar Elite in Russia, 1613–1689* (Princeton, PA, 1983), 87. For his later bad reputation as a badly educated, ineffective and corrupt official, see Peter B. Brown, »Peering into a Muscovite Turf War (How Do We Even Know It's There?): Boyar Miloslavskii and the Auditing Chancellery«, *Russian History*, 25 (1998), 141–153, esp. 147–148.

31 De Rodes' reports had been published in a Russian translation only in Boris G. Kurts (ed.), *Sostoianie Rossii v 1650–1655 gg. po doneseniiam Rodesa* (Moscow, 1914), here 53. For Leslie, see Paul Dukes, »New Perspectives: Alexander Leslie and the Smolensk War, 1632–4«, in Steve Murdoch (ed.), *Scotland and the Thirty Years' War, 1618–1648* (Leiden, Boston, MS & Cologne, 2001), 173–190.

32 Dmitry Fedosov (ed.), *Diary of General Patrick Gordon of Auchleuchries, 1635–1699*, vol. 2: 1659–1667 (Aberdeen, 2010), 116. The passage was also cited by Reger, *Baptizing Mars* (see note 4), 389 and discussed thereafter.

33 Available in the Russian translation in Konstantin I. Iakubov (ed.), *Rossii i Shvetsii v pervoi polovine XVII v.* (Moscow, 1897), 458–459. Pommerening's report was discussed by Parker, »From

looked somewhat similar to the elite companies of Spanish troops in the Netherlands, in the late 16<sup>th</sup> century, or bands of English gentlemen in Dutch service at the same time, as well as to some guard units of European monarchs, in which young nobles could experience service in the army from the lowest rank, prior to become officers themselves.<sup>34</sup> There was, however, no evidence that the »Uchenie« or any other printed manual or handwritten instruction was used during the training of these Reiter regiments or the selection of newcomers. Neither Miloslavskii nor van Bockhoven took part in the decision to publish the book as they were both back from the Dutch Republic in August, 1647, when its printing was in its final stage and Miloslavskii only became an influential person in Russian politics after the Tsar's marriage to his daughter half a year later.

Even more disturbing for those who endeavour to assess the practical value of the »Uchenie«, though often ignored by specialists in Russian military history, is the fact that the »Kriegskunst zu Fuß« could hardly be categorised as a simple military manual, but rather as a more ambitious analytical treatise.<sup>35</sup> Wallhausen's aim was much more complex than to just compile a set of concrete instructions, which an officer should follow, to drill and organize a military unit. The German theorist would describe drill methods and tactical maneuvers as precisely as possible, explain the reasons for their implementation and provide his reader with ample material to understand contemporary warfare and the methods which he should apply in practice. This knowledge existed in a framework of ideas on the social nature of military service and the ability of human beings to discipline themselves, explained in the introduction with many references to historical, legal, and theological writings of ancient and contemporary authors. An ideal reader of the »Kriegskunst zu Fuß« would be either a military professional searching for general principles of his profession, or a civilian intellectual interested in military affairs. In Russia, both potential addresses were missing.

Despite its popularity in European countries, there is no evidence that the »Kriegskunst zu Fuß« had ever been used as an effective drill manual. In fact, it

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the House of Orange« (see note 6), 189, in connection with the »Uchenie« as an effective drill manual.

**34** Fernando González de León, *The Road to Rocroi: Class, Culture and Command in the Spanish Army of Flanders, 1567–1659* (Leiden, Boston, MS & Cologne, 2009), 53–65, 149–152; Roger B. Manning, *Swordsmen: The Martial Ethos in the Three Kingdoms* (Oxford, 2004), 129–132; Parrott, *Richelieu's Army* (see note 8), 38–40.

**35** On the difference between drill manuals and »analytical treatises« on infantry, see Lawrence, *The Complete Soldier* (see note 10), 195–196. On the rhetoric and aesthetic value of such texts, see Parrott, *Richelieu's Army* (see note 8), 33.

was too comprehensive for this purpose.<sup>36</sup> The most obvious reason being that it was just too bulky. The chapters on infantry drill and weapon use comprised 46 pages in the German edition, 34 in the Dutch and 76 in the Russian one, as well as engraved plates with illustrations. Comparable manuals for the exercise of arms were usually much shorter. The first English printed manual of that kind, which was approved by crown officials, the »Instructions for Musters and Armes«, issued in 1623 by the Privy Council for the training of local militia and re-edited twice before the beginning of the English Civil Wars, contained only eleven pages.<sup>37</sup> Many English editions on the topic, being concurrently issued and distributed by private booksellers or local military companies were even shorter, often on a single broadsheet. In the Netherlands, short instructions authorized by the stadtholders and the states were circulated mostly in handwritten form.<sup>38</sup> In France, the first exercise book for infantry, approved by the King, was not published until 1683, although analytical treatises on infantry drills comparable with Wallhausen's work or even inspired by it were already available in French in the first half of the 17<sup>th</sup> century.<sup>39</sup> The earliest original Russian texts, discussing military exercises, originated from the late 17<sup>th</sup> century and were much more compact than the »Uchenie«. The exercise book of 1698 composed by Adam Weyde, a Russian officer of German origin, who had become a close confidant of Tsar Peter I, included 115 handwritten pages of small format without counting illustrations.<sup>40</sup> The printed drill manual »Kratkoe obyknovennoe uchenie« (1699), whose title possibly echoed that of the translation of the »Kriegskunst«, only comprised fifteen pages.<sup>41</sup>

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**36** The point was claimed by Chernov, *Vooruzhennyye sily* (see note 5), 151, and Kalinychev, *Pravovyye voprosy* (see note 5), 136, even if both scholars did not dispute the merits of the »Uchenie« for Russian military practice in general.

**37** *Instructions for Musters and Armes and the Vse thereof* (London, 1623). On the »Instructions«, see Lawrence, *The Complete Soldier* (see note 10), 135–137.

**38** Van Nimwegen, *The Dutch Army* (see note 27), 91. See also a bibliographical survey in Sloos (ed.), *Warfare and the Age of Printing* (see note 11), vol. 2, 386–429.

**39** John A. Lynn, *Giant of the Grand Siècle: The French Army, 1610–1715* (Cambridge & New York, NY, 1997), 480–481; Parrott, *Richelieu's Army* (see note 8), 38.

**40** The manuscript is held now in the Library of the Russian Academy of Science in Saint Petersburg (Biblioteka Akademii Nauk, further BAN), Otdel rukopisei, P I B 5; published as *Voinskiĭ ustav, sostavlennoy i posviashchennoy Petru Velikomu generalom Veide v 1698 godu* (Saint Petersburg, 1841). Janco, »Training in the Amusements« (see note 20), 67, considers Weyde's work to be a simplified and shortened version of the »Uchenie«. However, this assumption is more than dubious, as Weyde discussed military exercises with flintlock with bayonet in a technique completely different to that recommended by Wallhausen to drill soldiers with matchlock musket and pike.

**41** *Kratkoe obyknovennoe uchenie* (Moscow, 1699).

The method Wallhausen chose to describe exercises with arms was not his own invention. It was Dutch painter and engraver Jacob de Gheyn who first used to document the drill process in a series of detailed illustrations, depicting the distinctive postures a soldier should assume during training. »De Wapenhandelinge«, de Gheyn's drill manual, authorized by Johann VII of Nassau-Siegen and dedicated to Prince Maurits, included 41 pictures for postures with musket and 33 for those with pike.<sup>42</sup> A major part of the illustrative material used in the »Kriegskunst zu Fuß« originated from the »De Wapenhandelinge«. Wallhausen extended de Gheyn's drill instructions for the musket to 51 pictures and placed depictions of single pictures not on diverse pages as de Gheyn did, but one after another on some large plates so that his reader could see motions in their development, in a way almost comparable to effects of modern cinematography or animation.<sup>43</sup> Furthermore, Wallhausen provided illustrations with highly detailed descriptions of motions, needed to change from one posture to another, including actions of single limbs, fingers and muscles in an almost mechanical way.<sup>44</sup> As a result, an officer intending to drill his soldiers in strict accordance to the »Kriegskunst zu Fuß« should train them in as many as 143 positions of loading, firing and handling a musket and 21 of exercising with a pike.

This unusual particularity is perhaps the main reason why Wallhausen's work has been favored by later historians, reconstructing the ways 17<sup>th</sup> century soldiers performed their arms in detail.<sup>45</sup> It is, however, questionable whether contemporary drill masters and military commanders needed such verbose explanations and elaborate pictures. In some effective drill manuals, such as the above-mentioned English »Instructions« of 1623, there were no illustrations at all. Otherwise, the London Honorable Artillery Company, which illustrated its drill manuals with plates from the Dutch edition of the »Kriegskunst zu Fuß«, econo-

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<sup>42</sup> Jacob de Gheyn, *Wapenhandelinge van roers, musquetten ende spiessen* (The Hague, 1607), available also in an English translation John B. Kist (ed.), *Exercise of Armes: A Commentary* (Lochem, 1971). On de Gheyn's approach to depict postures and motions, see Suzanne J. Walker, »Arms and the Man: Constructing the Soldier in Jacques de Gheyn's ›Wapenhandelinge‹«, *Nederlands Kunsthistorisch Jaarboek*, 58 (2007), 138–161; Sidney Anglo, *The Martial Arts of Renaissance Europe* (New Haven, CT & London, 2000), 42; Schwager, *Militärtheorie* (see note 8), 252.

<sup>43</sup> On notation of motions in Early Modern fencing and drill manuals, see Anglo, *The Martial Arts* (see note 42), 40–90, to Wallhausen's approaches, see 60.

<sup>44</sup> On mechanical approaches to describe human motions in early modern drill manuals and military treatises, see i.a. Harald Kleinschmidt, »Mechanismus und Biologismus im Militärwesen des 17. und 18. Jahrhunderts: Bewegungen – Ordnungen – Wahrnehmungen«, *Aufklärung*, 11 (1999), 51–73.

<sup>45</sup> On the importance of Wallhausen to modern scholars, see Anglo, *The Martial Arts* (see note 42), 287–289.

mized much on explanatory notes,<sup>46</sup> whereas the general trend was to reduce the number of described postures.<sup>47</sup> Weyde's exercise book and the »Kratkoe obyknovennoe uchenie« of the late 17<sup>th</sup> century followed the same path towards less detailed and, therefore, more practicable drill manuals. Weyde needed only 56 illustrations to instruct his readers in a more comprehensive drill program than that of Wallhausen. It included exercises with flintlock with and without bayonet – an invention of the late 17<sup>th</sup> century which finally replaced the pike – as well as with sword and hand grenade. The authors of the »Kratkoe obyknovennoe uchenie« needed a brief description of only 32 postures and no engravings for the same task.

Collective firing techniques, advocated in the »Kriegskunst zu Fuß«, also looked too comprehensive, if not fully unrealistic. In order to intensify the effects of musketeer fire, Wallhausen recommended to drill soldiers to produce coordinated maneuvers more or less similar to the countermarch described by Dutch and Spanish military theorists of the late 16<sup>th</sup> century.<sup>48</sup> It required continuous coherent motions of soldiers during the battle, as the front rank of the unit retreated after firing, and was reloading their weapons while the other ranks were firing. Such complex evolutions had to be executed nearly blindly because of constant powder smoke and in a strictly limited space. It is not surprising that countermarch had been, presumably, never used in real warfare in all its complexity.<sup>49</sup> Instead, a much more simple and practically applicable method of volley-fire had been introduced to European armies. According to that, the front ranks of soldiers kneeled and the second rank started firing simultaneously; sometimes, another rank could be added between these two, stooping when firing. In Russia, such a technique of volley-fire, involving three ranks, was first observed in the mid-1660s,<sup>50</sup> although similar techniques could be known to Russians already in the early 17<sup>th</sup> century.<sup>51</sup> Wallhausen discussed stooping and

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46 Lawrence, *The Complete Soldier* (see note 10), 163–164.

47 Ibid., 136–144, 156–167.

48 Wallhausen, *Kriegskunst zu Fuß* (see note 1), 48–54; *Uchenie* (see note 1), 97–107. On Dutch and Spanish descriptions of countermarch, see Parker, *The Military Revolution* (see note 6), 19–20; González de León, *The Road to Rocroi* (see note 34), 129.

49 See discussion on the invention of countermarch and its practical applicability in Early Modern warfare in van Nimwegen, *The Dutch Army* (see note 27), 105–106; Schwager, *Militärtheorie* (see note 8), 208–209.

50 See Janco, »Training in the Amusements« (see note 20), 64. Davis, *Warfare* (see note 3), 136 suggested for unclear reasons that volley-fire on Swedish examples was first introduced on Patrick Gordon's behalf in the 1690s.

51 On a possible use of volley-fire by Russian troops in 1605, see Dunning, *Russia's First Civil War* (see note 3), 164–168; Davis, *Warfare* (see note 3), 52.



kneeling while firing, when the musketeers were protected by pikemen,<sup>52</sup> but rejected to describe or to depict the motions necessary to instruct soldiers in these methods as precisely as he did in the case of the countermarch.

The reason why contemporary military professionals did not follow Wallhausen's way of explaining the drill process looks obvious. The number of motions and postures required to understand his methods, by text and picture, or to memorize and to reproduce it was way too much for the majority of officers and soldiers, most of whom were poorly educated, if not completely illiterate, and had limited time for drill. The situation in Russia with its lack of any institutionalized secular education, other than elementary instruction in reading, writing and counting,<sup>53</sup> was even worse. As mentioned above, there were almost no printed textbooks with the exception of children's primers and elementary books of arithmetic in the Russian language at the time the translation of the »Kriegskunst zu Fuß« was published.

Handwritten textbooks on geometry, geography and mathematics were limited to the very elite of society, often to the Tsar's family only.<sup>54</sup> It means that, if a Russian officer purchased the »Uchenie«, or was granted it from the government, it was apparently the first book designed to provide a piece of secular and practical knowledge that he saw in his life. And Wallhausen's text was, by far, not the best book to start one's reading experience with that sort of literature with it.

While Russian authors of the 17<sup>th</sup> century did not discuss the practical value of the »Uchenie«, a reproach concerning the difficulties of its language and explanation methods could be found in a later text. In his popular historiographical work, »The deeds of Peter the Great«, first published in 1790, Ivan Golikov, with a reference to a handwritten account by Petr Krekshin, historian of the mid-18<sup>th</sup> century, described military training organized by young Peter, Alexei's youngest son, in the presence of Moscow boyars, in the 1680s. According to Golikov, the Tsar, having a copy of the »Uchenie« in his hands, had ordered a streletsy unit to

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52 Wallhausen, *Kriegskunst zu Fuß* (see note 1), 107; *Uchenie* (see note 1), 202.

53 On education in the prepetrine Russia, see in general Gary Marker, »Literacy and Literacy Texts in Muscovy: A Reconsideration«, *Slavic Review*, 49 (1990), 74–89, and recently a general assessment by Paul Bushkovitch, »Change and Culture in Early Modern Russia«, *Kritika: Explorations in Russian and Eurasian History*, 16 (2015), 291–316, here 304. On literacy rate among Russian military officers of the 17<sup>th</sup> century, see Carol B. Stevens, »Belgorod: Notes on Literacy and Language in the Seventeenth-Century Russian Army«, *Russian History*, 7 (1980), 113–124.

54 On the first of these textbooks in arithmetic and geometry translated from English in 1629 and probably known to Tsar Alexei in his youth, see Margarete Woltner, »Wer ist der Übersetzer der ersten theoretischen Geometrie in Russland?«, in Dietrich Gerhardt, Wiktor Weintraub & Hans-Jürgen Zum Winkler (eds.), *Orbis Scriptus: Dmitrij Tschizewskij zum 70. Geburtstag* (Munich, 1966), 947–951.

exercise its marching and firing drills strictly according to its text, and had commented that military commands, prescribed in the book, had often been redundant and not applicable to conduct an effective drill. As the boyars had objected to him that the book had been written by competent specialists and its prescriptions could not be changed, Peter asked:

»Why is it printed there: ›Raise your right hand, move it by curve line and put on the musket? Is it not better to say just: ›Put your hand on the musket; and by turning [is printed] ›turn right‹, would it not be better to say just ›right‹? and by firing ›raise the musket to your mouth, take the powder cartridge, face the musket down, shake powder on the pan, knock on the musket, close the pan, shake, put the bullet into the musket, put the wadding onto the bullet, take the ramrod, push the bullet and the wadding to the powder, take aim, fire etc.‹ Are not all these words redundant? Could one not just say: ›raise the musket, load, take aim, fire‹?«

To convince his opponents, Tsar Peter had started to instruct soldiers with shorter and simpler commands with great success and finally had managed to correct the »Uchenie« in this way in many places.<sup>55</sup>

The cited account is unique. There is no comparable contemporary description of military exercises by book in the 17<sup>th</sup> century Russia. Unfortunately, Golikov and Krekshin acquired extremely bad reputations among later historians, as they both used their sources very uncritically, or even falsified them by reproducing old legends and mistakes and creating new fallacies.<sup>56</sup> However, this particular case deserves attention, even if the episode was not witnessed by other sources. The commands, cited by Golikov, are textually very near to those in the text of the »Uchenie«. <sup>57</sup> Furthermore, Golikov's account exactly pointed out one of

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<sup>55</sup> Ivan I. Golikov, *Deianiia Petra Velikogo, mudrogo preobrazovatel'ia Rossii* (2<sup>nd</sup> ed., Moscow, 1837), vol. 1, 30–31. Golikov's account was briefly mentioned by Beskrovnyi, Ocherki (see note 5), 70 as an important evidence that the »Uchenie« had been used in everyday practice of the Russian army.

<sup>56</sup> On Golikov, see Nicholas V. Riasanovsky, *The Image of Peter the Great in Russian History and Thought* (New York, NY & Oxford, 1985), 43–44; for criticism on Golikov's and Krekshin's sources and methods, see Mariia B. Pliukhanova, »Istoriia iunosti Petra u P.N. Krekshina«, *Acta et commentationes Universitatis Tartuensis*, 513 (1981), 17–39.

<sup>57</sup> As an example, the instruction about musket loading from the German original of Wallhausen, *Kriegskunst zu Fuß* (see note 1), 43–44, could be cited: »20. Hebe deine rechte Hand auff, bringe sie bogenweiß zur lincken Schultern. 21. Fange an zu schreiten mit dem lincken Fus. 22. Lasse die Furquet in der Hand sincken recht längs deinem Leibe. 23. Lasse die Musquet ein wenig herunter ritschen. 24. Drähe sie ein wenig nach der rechten Hand zu [...] 51. Lasse die Musquet von oben herunter sincken. 52. Stelle die Furquet mit der Musquet nider. 53. Setze den lincken Fuß gleich mit der Furquet nider. 54. Lege dich recht in die Postur. 55. Setze die Musquet recht auff die Brust mit gebogendem lincken Knye und Fuß vor, mit dem rechten Fuß zwerch, recht hinten hinauß

principal shortcomings of Wallhausen's text – its prolixity even enhanced in translation. In Wallhausen's defense, it should be stated that he did not design these quotes as commands but rather as extended explanations for an officer to understand the course of a soldier's motions more precisely. If they had been spoken out loudly during drill sessions of Russian troops it was obviously a misinterpretation.

## IV. Outdated Tactics?

The »Kriegskunst zu Fuß« was issued first in Oppenheim on the Upper Rhine in 1615 and the »Uchenie« was published about 35 years later at the Eastern edge of Europe. Did this time and distance gap make any difference for its potential readers? It seems that those who ordered translations of European books on military subjects in 17<sup>th</sup>-century Russia did not care about such differences. The »Kriegsbuch« by Fronsperger was translated 34 years after the publication of its German original. The handwritten translation of the »Modelles artifices de feu«, by Frenchman Joseph Boillot, the first gunnery manual for the adolescent Tsar Peter I, appeared in Russian in 1685, and had been delayed for more than 80 years compared to its original.<sup>58</sup> In fact, recommendations of both these books, as well as of the »Uchenie«, could be anachronistic or not suitable for conditions of Eastern European warfare.

At least firearms, the use of which was precisely discussed by Wallhausen, were not anachronistic for the Russia of the mid-17<sup>th</sup> century. Though some primitive flintlocks, produced by native artisans, and being closely related to contemporary hunting arms, were still in use by Russian troops in the 1650s,<sup>59</sup> the main body of Russian infantry had been equipped and drilled with matchlock muskets, generally similar to those Wallhausen recommended for use in training and action.<sup>60</sup>

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gestreckt zur Strebe, nicht gebogen. 56. Lege an. 57. Gib Fewer.« The Russian text is *Uchenie* (see note 1), 92–93.

**58** The manuscript of the Russian translation is held in BAN, Otdel rukopisei, P I B 10. The French original was Joseph Boillot, *Modelles artifices de feu et divers instruments de guerre avec les moyens de s'en prévaloir* (Chaumont, 1598); the translation was drawn from the German edition of Joseph Boillot, *Artifices de feu et divers instruments de guerre* (Strasbourg, 1603).

**59** On the use of flintlock firearms in mid-17<sup>th</sup> century Russia, see Kurbatov, »Zapadno-evropeiskie voenno-teoreticheskie modeli« (see note 5), 233; Malov, *Moskovskie vybornye polki* (see note 4), 301; Igor' B. Babulin, *Smolenskii pokhod i bitva pri Shepelevichakh 1654 goda* (Moscow, 2017), 24–25.

**60** Malov, *Moskovskie vybornye polki* (see note 4), 288 passim; Babulin, *Smolenskii pokhod* (see note 59), 24.

The situation in regard to the pole weapon was somewhat different. Wallhausen mentioned some types of these arms, such as halberds and half-pikes, but concentrated on drill methods using only the one believed to be the optimal defensive weapon against the enemy's cavalry – the so-called »long pike«, measuring 4 to 6 meters in length. In Eastern Europe, long pikes were not part of traditional domestic warfare. There had been some attempts to introduce them into native militia troops, instructed by foreign drill masters, during the Time of Troubles and the Smolensk War from 1632 to 1634.<sup>61</sup> At the time the »Uchenie« was published and later, during the War from 1654 to 1667, long pikes became the ordinary weapon of Russian infantry regiments, but were not supplied in adequate numbers to the army's needs, so they were often replaced with half pikes, 1.5 to 2.5 meters long, or with traditional pole weapons, such as the berdyshes, a form of halberd without a spear on the top, which Russian warriors were more accustomed to. As an example, the elite (»chosen«) infantry regiments were recruited in 1657 and subsequently supplied with long pikes in 1658. They also used both half pikes and long pikes as well as other pole weapons.<sup>62</sup>

These developments were more or less similar to those in Western and Central Europe, where long pikes had been replaced by half pikes over the course of the 17<sup>th</sup> century, though some military theorists, admiring old traditions, wished to reintroduce the long pike, even in the mid-18<sup>th</sup> century, when bayonets dominated European battlefields.<sup>63</sup> For Wallhausen's ideas, the long pike was a crucial element, as it was the only weapon with which pikemen could protect musketeers against advancing hostile cavalry. One should assume that many of the tactic tools prescribed in the »Kriegskunst zu Fuß« would have had to be rejected, if the means were not available.

It was Wallhausen's conception about battlefield tactics and unit formations, which formed a clearly anachronistic element of the »Kriegskunst zu Fuß«.<sup>64</sup> The main infantry formation Wallhausen discussed in his work in greater detail was a full regiment, organized according to the »Hungarian order« (»ungarische Bestallung«), i.e. structured like a German regiment in the Imperial service during the

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<sup>61</sup> Kurbatov, »Zapadno-evropeiskie voenno-teoreticheskie modeli« (see note 5), 232–236.

<sup>62</sup> Malov, *Moskovskie vybornye polki* (see note 4), 289–290, 295, 336, 476.

<sup>63</sup> See e.g. Gordon R. Mork, »Flint and Steel: A Study in Military Technology and Tactics in 17<sup>th</sup>-century Europe«, *Smithsonian Journal of History*, 2 (1967), 25–52, here 41–42.

<sup>64</sup> The suggestion that Wallhausen's tactical ideas were anachronistic in the context of mid-17<sup>th</sup> century European warfare had been discussed by Davis, *Warfare* (see note 3), 136–137, in detail; the idea was first mentioned by Bobrovskii, *Istoriia leib-gvardii Preobrazhenskogo polka* (see note 5), vol. 1, 14. However, both Davis and Bobrovskii believed Russian infantry was in reality organized according to Wallhausen's proposals.

Habsburg-Ottoman war in Hungary from 1593 to 1606.<sup>65</sup> It was 3,000 men strong and divided into ten companies, each comprising 300 men. In the face of the difficulties to recruit and supply soldiers, Wallhausen accepted a slight decrease in a company's size to 280 men. A company should be composed of soldiers equipped with diverse weapons, usually of the ratio of about two musketeers to one pikeman. Some twenty foot soldiers would have halberds, they could, however, be replaced by additional numbers of musketeers.

Wallhausen discussed more than twenty sophisticated modes of battlefield formations for such a regiment, as a whole formation or as single companies, as well as the maneuvers soldiers should learn during drill sessions to create such formations. The tactics he proposed were based on the interaction between pikemen, forming a rectangular, usually square core, or some cores in the center of the unit, and musketeers situated in blocks or lines on its flanks or sides. The success in battle would be ensured by the fire power of the musketeers and the defensive power of the pikemen against attacks of the enemy's mounted or infantry troops. In essence, Wallhausen's tactical ideal was similar to Spanish *tercios* and German *Landsknecht* regiments of the 16<sup>th</sup> century, with a greater emphasis on musketeer fire power and the capability to execute complex and coherent maneuvers, whereas some of these maneuvers, such as the counter-march, were hardly possible in practice.<sup>66</sup>

At his time, Wallhausen's way to organize an infantry unit had been challenged by developments in Western Europe. In France, small agile battalions comprising 400 men or less, had become standard by the last decade of the Religious Wars.<sup>67</sup> Prince Maurits of Orange-Nassau, searching to counter the preponderant *tercios* during the war in the Netherlands, and admiring ancient military theory, opted for small regiments of 1,000 men, divided into companies of 100 to 200 men each, as early as in the 1590s. In combat, three to five companies could be combined into a battalion up to 600 men strong.<sup>68</sup> These units were clearly smaller than traditional Spanish or German rectangular formations but featured advantages, with regard to firepower, due to the increased ratio of musketeers to

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<sup>65</sup> The term »ungarische Bestallung« was first explained in Wallhausen, *Kriegskunst zu Fuß* (see note 1), »Summarischer Inhalt« (without pagination); *Uchenie* (see note 1), 11–12.

<sup>66</sup> On *tercio* organization and tactics, see González de León, *The Road to Rocroi* (see note 34), 9; on different types of rectangular infantry formations discussed by contemporary military theorists, see David A. Parrott, »Strategy and Tactics in the Thirty Years' War: The »Military Revolution««, *Militär-geschichtliche Mitteilungen*, 38 (1985), 7–25, here 12.

<sup>67</sup> John A. Lynn, »Tactical Evolution in the French Army, 1560–1660«, *French Historical Studies*, 14 (1985), 179.

<sup>68</sup> On unit size and Dutch infantry tactics, see recently van Nimwegen, *The Dutch Army* (see note 27), 85–115; Schwager, *Militärtheorie* (see note 8), 242–251.

pikemen, as well as with regard to tactical flexibility, because of larger numbers of officers and subalterns, and the extensive training of foot soldiers – a set of developments Geoffrey Parker described as one of the key elements in the course of a »military revolution«.<sup>69</sup> Square formations would be useless for Prince Maurits' purposes. He used to introduce a new linear formation, deploying his units in two or three lines, with a broad front, towards the enemy, and with relatively little depth.

Wallhausen was aware of Prince Maurits' military reforms, as he was in the service of his cousin Johann VII of Nassau-Siegen and had earlier fought in the Netherlands, but was not a committed proponent of the Dutch tactics. He accepted the drill methods, proposed by the Dutch stadtholder and praised Prince Maurits for his victories over the Spaniards and his experiments concerning the size and composition of the regiment, but claimed that he would stay with the old system as the most secure and approved one.<sup>70</sup> In fact, the Dutch model was quite risky, if not based on the long-term drill or previous experience of veteran soldiers. It was proved by German Protestant armies, adopting linear tactics and Prince Maurits' methods, yet it still lost all decisive battles during the first decade of the Thirty Years' War to Imperial, Bavarian and Spanish troops adhering to more traditional methods.<sup>71</sup>

Further developments did not, however, favor large-size formations for both tactical and organizational reasons. In the 1620s, Swedish King Gustav II Adolf adopted and improved Prince Maurits' linear tactics, increasing the approximate size of a regiment to 1,200 men and a company to 200 men. Furthermore, he substituted a new type of tactical non-administrative formation – a brigade of about 1,500 men strong – for Maurits' battalions and encouraged the active interaction between infantry and cavalry, as well as the use of small-caliber artillery on the battlefield.<sup>72</sup> Due to these improvements, Gustav Adolf's army gained some victories over Imperial and Bavarian forces, most notably at Breitenfeld (1631), and secured Sweden's position as the dominant European power, even after the king's death in 1632. Though large formations could still be competitive, as the Spanish and Imperial victory over the Swedes and their allies at Nördlingen (1634) demonstrated, they ultimately lost their popularity. In the last decade of the Thirty Years' War, it was hardly possible for all European armies to recruit large

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<sup>69</sup> Parker, *The Military Revolution* (see note 7), 18–23.

<sup>70</sup> Wallhausen, *Kriegskunst zu Fuß* (see note 1), 97; *Uchenie* (see note 1), 180–181.

<sup>71</sup> Parrott, »Strategy and Tactics« (see note 66), 9.

<sup>72</sup> On Swedish military reforms, see in general Jan Glete, *War and the State in Early Modern Europe: Spain, the Dutch Republic and Sweden as Fiscal Military States, 1500–1660* (London, 2002), 204–205.

units and to control them effectively in the face of logistical difficulties, desertion of common soldiers, and the ambitions of mercenary officers. As a result, the nominal size of a company decreased to approximately 100 men. A regiment would usually number less than 1,000 soldiers, whereas their actual strength could be even less.<sup>73</sup> As the small-size companies did not have sufficient firepower to operate as a single tactical formation, they often remained administrative units only. In combat, larger units could be formed, such as the above-mentioned Swedish brigade, or the French battalion, being 800 to 900 men strong.<sup>74</sup>

As large infantry formations had never belonged to traditional warfare in Eastern Europe, the Dutch, Swedish, and French innovations had been adopted there quite easily. Already during the Smolensk War, the approximate size of foreign mercenary regiments in Russian service did not exceed eight companies of 200 men each, with a clear predominance of musketeers.<sup>75</sup> Since the mid-1630s, the infantry regiments forming the so-called Abatis line at the southern and serving at the north-western borders of the country and being drilled and commanded by European officers, were usually of the same size.<sup>76</sup> Both Reiter regiments, instructed by van Bockhoven in infantry maneuvers and the use of fire-arms, counted 1,000 soldiers, divided into ten companies.<sup>77</sup> In the 1654 campaign against Poland-Lithuania, which ended with the siege and seizure of Smolensk, eleven infantry regiments of the Tsar's army nominally comprised 1,600 men, being usually divided into ten companies, numbering 160 to 200 soldiers each. Only the regiment under the command of the above-mentioned Alexander Leslie had 2,400 soldiers.<sup>78</sup> The two elite or »chosen« regiments of the Moscow infantry, organized in 1657, initially numbered more than 1,600 common soldiers and had been gradually enlarged to 2,000, in 1658, and subsequently to 3,500 men in the

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**73** Bernhard Kroener, »Die Entwicklung der Truppenstärken in den französischen Armeen zwischen 1635 und 1661«, in Konrad Repgen (ed.), *Forschungen und Quellen zur Geschichte des Dreißigjährigen Krieges* (Münster, 1981), 149–220; Parrott, *Richelieu's Army* (see note 8), 48–50; González de León, *The Road to Rocroi* (see note 34), 9, 44; Lawrence, *The Complete Soldier* (see note 10), 191–194.

**74** Parrott, »Strategy and Tactics« (see note 66), 9–10.

**75** Dmitrii N. Men'shikov, »Boevaia sila armii M.B. Sheina v Smolenskom pokhode 1632–1634 godov«, *Vestnik Sankt-Peterburgskogo Universiteta: Seria 2*, (2008), 4, 10–16; 14; Malov, *Moskovskie vybornye polki* (see note 4), 161–162; Kurbatov, »Zapadno-evropeiskie voenno-teoreticheskie modeli« (see note 5), 236–237.

**76** Kurbatov, »Organizatsiia« (see note 4), 161–162.

**77** The data are taken from de Rodes' report in Boris G. Kurts (ed.), *Sostoianie Rossii* (see note 31), 134–135.

**78** Babulin, *Smolenskii pokhod* (see note 59), 43–47; see also Kurbatov, »Organizatsiia« (see note 4), 171.



early 1660s.<sup>79</sup> Lesser prestigious infantry regiments did not exceed 1,000 men and ten companies.<sup>80</sup>

We are scarcely informed about the tactics the Russian infantry employed during the wars with the Polish-Lithuanian Commonwealth and Sweden, then about its administrative structure. Most probably, Russian troops predominantly relied on the Swedish system, using linear tactics with a strong emphasis on increasing firepower, combining small infantry, Reiter and dragoon companies into mixed squadrons of up to 500 men, and furnishing infantry units with battle-field artillery of small calibers.<sup>81</sup> For an officer who would wish to learn about almost all these matters the »Kriegskunst zu Fuß« was nearly worthless. Only once, Wallhausen discussed the defensive formation of a unit, composed of musketeers only, against an enemy's attack.<sup>82</sup> As the companies he proposed were, in most cases, large enough to operate as independent tactical units, Wallhausen very briefly mentioned squadron-like formations of more than company-size, but less than a regiment.<sup>83</sup> The interaction between cavalry and infantry was discussed in his later book, »Kriegskunst zu Pferd« (1616), which remained unknown in Russia.<sup>84</sup> Battlefield cannons, extensively used by the Tsar's army in the 1650s, did not exist in sufficient quality and number at the time the »Kriegskunst zu Fuß« was first issued, so the book did not give any instructions concerning how the artillery should be used when combined with infantry formations.

The fact that the »Uchenie« did not provide its potential readers with the most up-to-date information with regard to military organization and tactics could be proved when comparing it with a short note, written in Dutch by Isaac van Bockhoven on behalf of the Russian military authorities and translated in the Ambassadorial Chancery in 1654.<sup>85</sup> As indicated in the document, it was the second of two of van Bockhoven's notes, concerning military organization, translated into Russian. The first one had probably been lost. In the surviving note, van Bockhoven answered some questions regarding mostly tactical formations of a small infantry unit, perhaps an elite one, in battle and on the march. The questions concerned matters which were discussed in the »Kriegskunst zu Fuß«, and

<sup>79</sup> The evolution of organization and size of the »chosen regiments« is closely discussed in Malov, *Moskovskie vybornye polki* (see note 4).

<sup>80</sup> Malov, *Moskovskie vybornye polki*, (see note 4), 165.

<sup>81</sup> Ibid., 165–167.

<sup>82</sup> Wallhausen, *Kriegskunst zu Fuß* (see note 1), 94–95; Uchenie (see note 1), 177–179.

<sup>83</sup> Wallhausen, *Kriegskunst zu Fuß* (see note 1), 91–92; Uchenie (see note 1), 167–170.

<sup>84</sup> Johann Jacobi von Wallhausen, *Kriegskunst zu Pferd* (Frankfurt a.M., 1616).

<sup>85</sup> Published in Aleksandr V. Malov, »Perevod s galanskova pis'ma... chto vsiakomu uriadniku v ratnom stroe podobaet vedat'. I protiv tekh voprosov-otvet«, *Rossiiskii Arkhiv: Istoriia Otechestva v svidetel'stvakh i dokumentakh XVIII-XX vv.*, 6 (1995), 7–9.

van Bockhoven's answers contradicted Wallhausen's opinion in almost all essential cases. The Dutchman advocated small companies, 80 to 150 men strong, and emphasized large numbers of officers and subalterns to control the unit more effectively – one captain, one lieutenant, one ensign and two sergeants, whereas Wallhausen pointed out, a captain, a lieutenant and three sergeants would be enough for a large company of 300 soldiers. Many differences between the two texts occurred during the discussion of marching orders, especially those of the positions officers and subalterns should take when marching. In essence, an army could hardly follow both the »Kriegskunst zu Fuß« and van Bockhoven's note, as the two texts described completely different models of military organization and tactics. All we know about Russian military practice of the mid-17<sup>th</sup> century corroborates that the choice was given to the more recent one. The era for Wallhausen's ideas was over, long before the Moscow printers started their work on the »Uchenie«'s edition.

## V. Conclusion

Surviving inventories of private book collections indicate that the »Uchenie« had been important for Russian intellectual culture in many ways, being read by intellectuals both in Moscow and in the provinces during the second half of the 17<sup>th</sup> century.<sup>86</sup> Foreigners coming to or living in Russia also purchased copies of the book.<sup>87</sup> At least one manuscript containing a fragmentary excerpt from its introduction is known from the late 17<sup>th</sup> century.<sup>88</sup> Even the visual figuration of the »Uchenie« was influential as its title page, a joint work of Russian and Dutch masters, inspired the layout used in many editions of the Moscow Printing House throughout the rest of the 17<sup>th</sup> century.<sup>89</sup> One may suggest that the book, in particular its detailed and impressive illustrations, helped to create a positive image of the new-style regiments among Russian gentry, at least the Moscow one, which had not been willing to serve in infantry regiments up to that time. For the first time, it presented to the Russian readers some examples of Western theories on

**86** See some examples in Sergeĭ P. Luppov, *Kniga v Rossii v XVII veke* (Leningrad, 1970), 98; Vasilĭ M. Veriuzhskĭĭ, Afanasĭĭ, *arkhiepiskop Kholmogorskĭĭ: Ego zhizn' i trudy v sviazi s istoriei Kholmogorskoi eparkhii za pervye 20 let ee sushchestvovaniia* (Saint Petersburg, 1908), 588.

**87** See e.g. handwritten notes on the book, copy available in the library of the Russian State Archive of Ancient Acts in RGADA, *Sobranie pechatnoi knigi*, 759.

**88** The Russian State Library in Moscow (Rossiiskaia Gosudarstvennaia Biblioteka), fond 256, no. 376, 71v–79v.

**89** Sidorov, *Drevnerusskaia knizhnaia graviura* (see note 17), 255.

the just war and a justification of military service. During the second half of the 17<sup>th</sup> century, these theories were firmly established in Russia, due to political and cultural contacts with Poland-Lithuania and Ukrainian territories.<sup>90</sup> Finally, the emphasis on military discipline, as proclaimed by Wallhausen, fitted perfectly to the efforts of the Russian government to control the behavior of its subjects and, thus, corresponded to the Law Code of 1649 and other legislative acts of the time.<sup>91</sup>

However, the »Uchenie« did not fulfill the main task attributed to it by later historians, and probably intended by its editors, despite the general success of the military reforms undertaken by Tsar Alexei, or, even because these reforms were so effective following the contemporary European tactical and organizational trends. Wallhausen's text, being too comprehensive and obviously anachronistic, was a bad choice when elaborating the first Russian drill manual and could scarcely be understood in the right way by the absolute majority of its potential readers. Wallhausen's work was undoubtedly suitable to provide the Tsar with information about some developments in military affairs in Europe, even if many of the tactical tools, described in book, were outdated. Therefore, both of the 17<sup>th</sup>-century mentions of the »Uchenie« as a manual proper-referring to Krovkov's promotion in 1661 and considering Tsar Peter's exercises with the *streltsy* in the 1680s – came from a courtly context. However, it had never become an actual drill manual for the Russian army due to its inadequacy for the purpose. There is no compelling evidence that the Tsar, or any of his advisors, had ever regarded it as a failure, but the fact that no other Western military book had been published in Russia, over the next 50 years may speak volumes. The experiment was not successful.

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<sup>90</sup> See some examples in Andrei P. Bogdanov, *Moskovskaia publitsistika poslednei chetverti XVII v.* (Moscow, 2001); Lev N. Pushkarev, *Obshchestvenno-politicheskaia mysl' Rossii: Vtoraiia polovina XVII veka. Ocherki istorii* (Moscow, 1981).

<sup>91</sup> See e.g. Christoph Schmidt, *Sozialkontrolle in Moskau: Justiz, Kriminalität und Leibeigenschaft, 1649–1785* (Stuttgart, 1996), 29.