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New materials from the archive of A.I. Schrenk: towards the history of the creation of the Karkaraly fortification

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Abstract. In 1824, Karkaralinsk was founded as the location of one of the first district orders of the Russian Empire, created to manage the outer districts on the territory of the Kazakh steppes, which was a direct consequence of the administrative reform of 1822. The article analyzes the written sources that scientists used to describe the development of Karkaralinsk as the administrative center and military fortification of the Omsk region's outer district in the late 1830s and early 1860s. Written sources give only a rough idea of the layout and construction of the city. For the first time, a source analysis of the plan of Karkaralinsk is carried out, which is stored in the St. Petersburg branch of the Archive of the Russian Academy of Sciences in the documents of collection № 317, containing notes by the scientist, botanist of the Russian Imperial Botanical Garden, privat – dozent of geology and mineralogy of the University of Dorpat, traveler A.I. Schrenk (1816–1876). In 1840- 1843, he traveled through the «Kyrgyz and Zyungorsky» steppes and visited Karkaralinsk and its surroundings several times, collecting herbariums, recording interesting ethnographic and historical information, and noting ancient monuments, including ancient burial mounds. Using the information potential of cartographic materials, some of which are still inaccessible to a wide range of researchers, such as maps and plans in the archive of A.I. Shrenk, the author presents to the scientific community the first cartographic image of Karkaralinsk. For the first time, a source study of such a plan was conducted. The study uses both cartographic and comparative historical methods, while compiling a model of the studied territory using written sources to identify differences in the properties of objects and temporal inconsistencies. The article reveals the information value of the source, explains the dating, and hypothesizes on the development of brulen by military topographer A.M. Yanovsky. The plan uses a system of symbolic signs illustrating the construction process of the Karkaraly fortification. For this purpose, special symbols and numbers are used, showing the location of important government buildings and military, economic, and social infrastructure. Comparing the image with the data from written sources reveals a significant, albeit incomplete, connection, which opens up opportunities for additional study of the identified objects.
Keywords: A.I. Shrenk; traveler; archive; Karkaralinsk; district order; brulyen; military topographers; written sources

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Новые материалы из архива А.И. Шренка: к истории создания Каркаралинского укрепления

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Аннотация. В 1824 году был основан Каркаралинск как место расположения одного из первых окружных приказов Российской империи, созданного для управления внешними округами на территории казахских степей, что стало прямым следствием административной реформы 1822 года. В статье анализируются письменные источники, на основе которых ученые описывали развитие Каркаралинска как административного центра и военного укрепления внешнего округа Омской области в конце 1830-х – начале 1860-х годов. Письменные источники дают лишь приблизительное представление о планировке и застройке города. Впервые проводится источниковедческий анализ плана Каркаралинска, который хранится в Санкт–Петербургском филиале архива Российской академии наук в документах фонда № 317, содержащего заметки учёного, ботаника Российского императорского ботанического сада, приват–доцента геологии и минералогии Дерптского университета, путешественника А.И. Шренка (1816–1876). В 1840–1843 годах он путешествовал по «Киргизским и Зюнгорским» степям и несколько раз посещал Каркаралинск и его окрестности, собирая гербарий, записывая интересные этнографические и исторические сведения, отмечая памятники старины, в том числе древние курганы. Используя информационный потенциал картографических материалов, некоторые из которых до сих пор недоступны широкому кругу исследователей, таких, как карты и планы из архива А.И. Шренка, автор представляет научному сообществу первое картографическое изображение Каркаралинска. Впервые было проведено источниковедческое исследование этого плана, где использована система символов и знаков, иллюстрирующих процесс строительства Каркаралинского укрепления. Использованы специальные обозначения и цифры, показывающие расположение важных правительственных зданий и военной, экономической и социальной инфраструктуры. При составлении модели изучаемой территории в исследовании применяются как картографический, так и сравнительно-исторический методы, анализируются письменные источники для выявления различий и хронологических несоответствий в свойствах объектов. В статье раскрывается информационная ценность источника, обоснована датировка и выдвигается гипотеза о разработке брульена военным топографом А.М. Яновским. Сравнение изображения с данными письменных источников выявляет существенную, хотя и неполную связь, которая открывает возможности для дополнительного изучения выявленных объектов.

Ключевые слова: А.И. Шренк; путешественник; архив; Каркаралинск; окружной приказ; брульен; военные топографы; письменные источники

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Финансирование. Исследование проводилось в рамках проекта «Реконструкция культурно–исторических ландшафтов древней Бетпакдалы» программы грантового финансирования Комитета науки Министерства науки и высшего образования Республики Казахстан (ИРН проекта: AP19679947).

А.И. Шренк мұрағатынан алынған жаңа материалдар: Қарқаралы бекінісінің құрылу тарихына

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Андатпа. 1824 ж. Қарқаралы қазақ даласының аумағында сыртқы округтарды басқару үшін құрылған Ресей империясының алғашқы округтік билеушіліктерінің бірі орналасқан орын ретінде құрылды, бұл 1822 ж. әкімшілік реформаның тікелей салдары болды. Мақалада 1830–1860 жж. басында ғалымдар Қарқаралының әкімшілік орталығы және Омбы облысының сыртқы округінің әскери нығайтылуы ретінде дамуын сипаттаған жазбаша дереккөздер талданады. Жазба дереккөздері қаланы жоспарлау мен салу туралы болжамды түсінік береді. Алғаш рет Қарқаралы жоспарына дереккөздік талдау жүргізілуде, ол Ресей ғылым академиясы мұрағатының Санкт–Петербургтегі филиалында ғалымның, Ресей императорлық ботаникалық бақшасы ботанигінің, Ресей ғылым академиясының геология және геофизика жөніндегі приват–доцентінің жазбаларынан тұратын № 317 жинақ құжаттарында сақталады. Дерпт университетінің минералогиясы, саяхатшы А.И. Шренк (1816–1876). 1840–1843 жж. ол «Қырғыз және Жоңғар» далаларын аралап, Қарқаралы мен оның төңірегінде бірнеше рет болып, гербарияларды жинап, қызықты этнографиялық және тарихи мәліметтерді жазып, ежелгі ескерткіштерді, соның ішінде ежелгі қорғандарды атап өтті. Картографиялық материалдардың ақпараттық әлеуетін пайдалана отырып, олардың кейбіреулері әлі күнге дейін А.И. Шренктің мұрағатындағы карталар мен жоспарлар сияқты зерттеушілердің кең ауқымына қол жетімді емес, автор ғылыми қоғамдастыққа Қарқаралының алғашқы картографиялық бейнесін ұсынады. Мұндай жоспарға алғаш рет дереккөздік зерттеу жүргізілді. Зерттеуде картографиялық және салыстырмалы-тарихи әдістер қолданылады, зерттелетін аумақтың моделін жасау кезінде объектілердің қасиеттеріндегі айырмашылықтарды және уақытша сәйкессіздіктерді анықтау үшін жазбаша көздер пайдаланылады. Мақалада дереккөздің ақпараттық құндылығы ашылады, датасы түсіндіріледі және әскери топограф А.М.Яновскийдің бруленді әзірлеу туралы гипотезалары ұсынылады. Жоспарда Қарқаралы бекінісін салу процесін бейнелейтін символдық белгілер жүйесі пайдаланылған. Бұл үшін маңызды үкіметтік ғимараттар мен

әскери, экономикалық және әлеуметтік инфрақұрылымның орналасуын көрсететін арнайы символдар мен сандар пайдаланылады. Бейнені жазбаша дереккөздердің деректерімен салыстыру анықталған объектілерді қосымша зерделеуге мүмкіндік беретін мәнді, бірақ толық емес байланысты анықтайды.
Түйін сөздер: А.И. Шренк; саяхатшы; мұрағат; Қарқаралы; округтік бұйрық; брулен; әскери топографтар; жазбаша дереккөздер

Introduction

In 2024, two centuries will have elapsed since the establishment of Karkaralinsk as one of the initial district orders of the Russian Empire, instituted to administer the peripheral regions of the Kyrgyz (Kazakh) steppe. The city of Karkaraly serves as the administrative seat of the namesake district within the Karaganda region of the Republic of Kazakhstan.

The establishment of Karkaralinsk as a military fort and district center was a direct result of the 1822 administrative reform. The «Charter of the Siberian Kirghiz» dissolved the khan's authority, placing the Kazakhs of the Middle Zhuz under the jurisdiction of the Omsk regional administration. A three-tiered administration structure was implemented, with the largest administrative divisions being the outer districts, subdivided into volosts, including villages. In delineating the boundaries of districts and volosts, consideration was given to the prevailing structure of nomadic life, specifically the tribal settlement principle and the winter nomads affiliated with clans, which possessed more defined territorial limits than the summer nomads (Makisheva 2013: 41). This specificity was considered in establishing the procedure for forming a governing body – a district order, whose head (the senior sultan) and assessors from the Kazakhs were sanctioned by the regional government and conferred a rank in public service following an election by the local tribal elite (sultans, biy, elders).

In 1824, the inaugural two exterior districts, Karkaralinsk and Kokchetav, were founded. The selection of these territories for the trial and implementation of an unfamiliar administrative system was influenced by the perceptions of officials from the West Siberian and Omsk regional administrations regarding the local tribal elite's greater allegiance to the new order. Simultaneously, to guarantee manageability and security in response to potential resistance against the authorities' directives, a fundamental component of the newly established system of administrative centers was the deployment of military units, the construction of fortifications, and the establishment of Cossack settlements through the relocation of populations from internal districts. This algorithm indicates the formation of five additional districts following the initial ones: Ayagoz (1831), Akmolinsk (1832), Bayan–Aul (1833), Uch–Bulak (1833), and Amankaragai (1834). The culmination of the organization of the new district administrative division and management system was the creation of the Kokpektinsky, Kushmurunsky, and Alatau districts during the 1840s and 1850s (Makisheva 2013: 42).

The history of the Karakol External District, which was dissolved in 1868 with the establishment of the Karakol District, along with the colonization process and the empire's advancement in a geopolitically significant and economically viable region, is reconstructed using documents from local administrative authorities and the Cossacks, preserved in the collections of the Central State Archive of the Republic of Kazakhstan. A substantial collection

of these documentary sources has been released (History of Karkaraly... 2008; 2009). To date, no researchers have utilized the XIXth-century cartographic resources acquired during the expeditionary endeavors of scholar and traveler A.I. Shrenk for the reconstruction of Karkaralinsk's history. The documents are stored in the St. Petersburg Branch of the Archive of the Russian Academy of Sciences (further SPbA RAS)[1].

It cannot be asserted that the existence of cartographic representations of certain cities in Kazakhstan (Petropavlovsk, Semipalatinsk) and Siberia (Omsk) within the documented heritage of A.I. Shrenk was unfamiliar to researchers. In 1949, A. Margulan, the founder of the Kazakh archaeological school, examined the documents from A.I. Shrenk's archive and esteemed the quality of his archives (Margulan et al, 1966). Prominent Kazakhstani scholars E.I. Ageeva and I.V. Erofeeva collaborated with Foundation 317, with I.V. Erofeeva producing a Russian translation of the researcher's diary, initially published in German in 1845 (Schrenk 2006: 137–174). Nonetheless, the cartographic materials archived inside the archives of A.I. Schrenk were neither utilized nor referenced by any of the previously listed researchers in their publications. No descriptions of these resources exist in the comprehensive literature on the history of cartography in Kazakhstan (Ksenzhik 2020).

The author meticulously examined the expeditionary endeavors of A.I. Schrenk in Kazakhstan, becoming well–acquainted with the initial cartographic representation of Karkaraly (the Karkaralinsk order plan). He analyzed its origins, the document's chronological attribution, the historical context, and the likely authorship based on related archival documents and additional sources.

This study aims to perform a source analysis of the identified cartographic image, to reveal its content to extract spatial and attributive information, and to correlate this information with data from documentary textual sources to facilitate a comprehensive reconstruction of the development and historical appearance of Karkaraly as the center of the Karkaraly external district during the late 1830s to early 1840s.

Materials and methods

The famous traveler, scientist, and privatdozent of geology and mineralogy A.I. Schrenk (Alexander Gustav von Schrenk, years of life 1816–1876) in his youth studied at the University of Dorpat (1834–1837), from which he graduated with a PhD. Then he joined the service of the Imperial Botanical Garden (St. Petersburg), on whose instructions in 1840–1843 he carried out expeditionary research activities in the territories of the Kyrgyz (Kazakh) and Zyungorsky (Dzungarian) steppes developed by the Russian Empire. The scientific interests of A.I. Schrenk's research were primarily related to the study of plants and minerals in these territories, but at the same time, the scientist was focused on the geographical and cultural-historical landscapes of the regions along which the expedition routes ran, including collecting ethnographic information, topographical research, and even conducting archaeological excavations.

The materials of A.I. Shrenk's archive are mostly diary entries describing expedition routes, geographical and natural objects, plants, and rocks. The records also contain descriptions of the following points (pickets, villages, cities), including statistical information about the population, lifestyle, mentions, and characteristics of individual personalities from among the representatives of the administration, members of the expedition, and personal acquaintances

of the scientist. During his lifetime, A.I. Schrenk published descriptions of botanical collections and collections, as well as diary entries from 1840–1841 in German (Schrenk 1842). Some of A.I. Shrenk's expedition diaries are written in XIXth–century Gothic cursive script, which makes them extremely difficult to read. This circumstance further prevented the introduction of the documentary heritage of the scientist into scientific circulation, and to date, the diaries have not been published in full.

The reason why the scientist, who became widely known for publishing the results of his first expedition to the European North of Russia, did not prepare the materials of a long-term expedition to the steppes of Kazakhstan for publication remains unclear. In the second half of the nineteenth century, the Russian Geographical Society officially addressed A.I. Shrenk: «... taking into account the curiosity of the research conducted by D.–Ch. as a (full member) of our A.I. Schrenk in the Siberian Kyrgyz steppes from 1839 to 1842, as well as the impossibility for a learned traveler to produce a final report on his various discoveries soon, he asked Mr. Schrenk not to deprive science for a long time of at least a brief overview of the main geographical results of his work and to inform the Society from the outside» (Kraevsky 1851: 32). However, A. I. Schrenk left this request unanswered.

Among the archive documents that appeared as a result of topographic research, travel logs and cartographic materials of military topographers who were part of the expeditions of A.I. Shrenk, A.M. Yanovsky, T.F. Nifantiev, N.L. Boyarsky and Sobolev, at various times, are of particular importance. In the first overview description of the archive of A. I. Shrenk, made by the chief botanist of the Imperial St. Petersburg Botanical Garden, V.I. Lipskiy, it was noted that among the documents there were travel journals of the 2nd class topographer Sobolev and a number of maps (Lipskiy 1902: 558). We should add that the archive also contains the travelogue of A.M. Yanovsky, and, presumably, some cartographic materials entitled «Notes on topography and ethnography» belong to his authorship. The case file contains a plan of Karkaralinsk (Fig.1), which is the main object of this study.

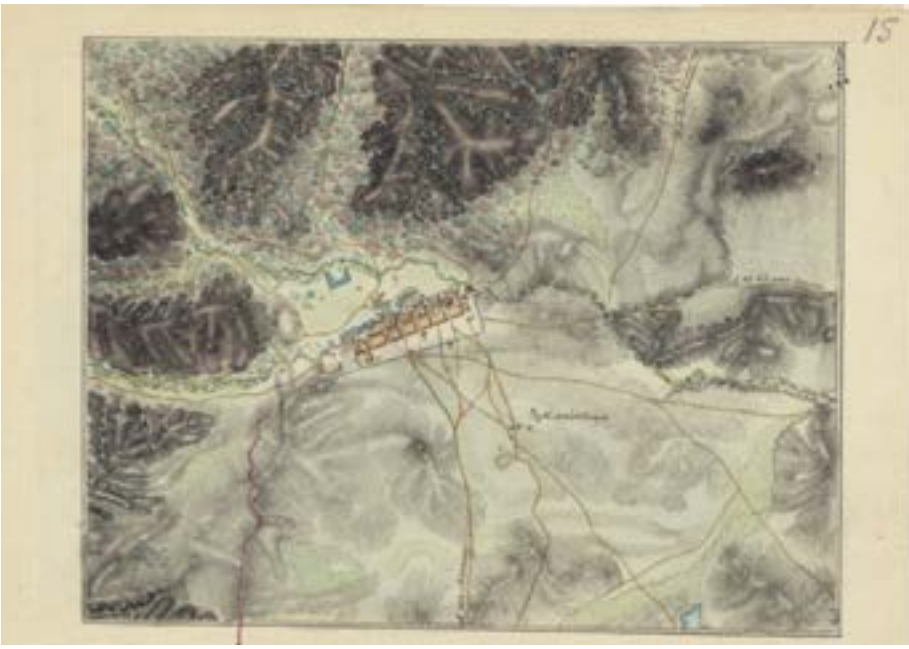


Figure 1. Plan of Karkaralinsk. Brulien. Script[1]

We are introducing the published materials into scientific circulation for the first time. Among the various tools of this method, visual analysis is used for visual comparison and visual evaluation of depicted objects and the method of describing these objects to obtain their qualitative and quantitative characteristics in the form of texts (Berlyant 1988). The spatial information gathered this way, which created a complete model of the area studied, was compared with details from written sources to find and explain differences in the characteristics of objects and timing issues.

The documents in the funds of the Central State Archive of the Republic of Kazakhstan are analyzed, revealing the dynamics of construction and settlement in Karkaraly in the first half of the XIX century. We used systematic, comparative-historical, and chronological research methods when working with written sources and general scientific methods of analysis and synthesis. A combination of various methods has made it possible to obtain a historically reliable reconstruction of the development of Karkaralinsk, considering the chronological sequence and cause-and-effect relationships of events from different historical periods. A comparison of the contents of written and cartographic sources makes it possible to present (including visually) and specify the features of the general layout of the administrative center, the location of facilities for various purposes, the specifics of defensive structures and the use of terrain features, natural resources of the area for the organization of economic activities, transport communications, and security.

Discussion

To ensure the organizational advancement of the Russian state in the strategically important region of the southern steppes inhabited by nomads, it was necessary to introduce a uniform administrative division and create a network of administrative centers. This task was solved by uniting the tribal nomads of the Kazakhs («linear Kyrgyz»), who agreed to accept Russian citizenship, within the borders of the outer districts. Preparations for the opening of the outer districts began immediately after the creation of the Omsk region, when copies of those paragraphs of the Charter of 1822 in Kazakh, which defined the rights and benefits of the indigenous population, were sent to the nomads of the large sultans and biys located near the Siberian Line. The sultan of the Karakiseti volosts, Bukeev, who was wandering near the Karkaraly tract, hoping to strengthen his position with the help of the Siberian administration and Cossack detachments, showed interest in organizing a new management order in his possessions. For the purpose of a detailed acquaintance with the Charter of 1822, he stayed in Omsk for about 40 days after personal meetings with imperial officials (Bezvikonnaya 2001:57–60). However, subsequently, G. Bukeev did not participate in the administrative procedures related to the opening of the district and the order, which indicated the lack of unanimous support for the new system and conflicts on this issue among the sultans.

The Karkaraly outer district was officially opened on April 7, 1824. On this day, in the Karkaraly tract, in the presence of Russian officials and the military, led by the Omsk regional chief, Colonel S.V. Bronevsky, a meeting of the tribal elite (23 sultans, beys, and elders) and more than 500 representatives of the people took place. The members of the district order from the Kazakhs were elected – the elder S.T. Chingizov and his deputies bii U. Urtavov and Zh. Nurtalin

(Bezvikonnaya 2001:59). The members of the order and the electors took the oath of allegiance to serve the Emperor. Also, according to the Charter of 1822, the order included assessors from the Russian administration. The boundaries of the district itself were not clearly delineated, since the territory of the volosts included in it was determined by tribal nomads and, therefore, was not static. The significant scale of the district's territory can be imagined from the notes of Dr. S.A. Meyer, who visited these places in 1826, who noted: «The Kar–Karaly district belongs to the Omsk region and stretches south from the Irtysh to Semiyarsk and Barnaul for 600 versts in length and almost as much in width» (Eyries 1989: 183). In the southern direction, the district extended to Lake Balkhash (Krasovsky 1868: 104).

Together with the creation of the district order as a governing body, a military detachment of 250–line Cossacks led by centurion I.S. Karbyshev was deployed in Karkaralinsk. The first temporary wooden residential building was built for the work of officials of the district order and the accommodation of the military detachment, as well as auxiliary outbuildings: «a) a wooden dwelling in one connection, in which the military detachment with the Order and its officials are located; b) barns for provisions, ammunition and government supplies; c) yards for horses and others business establishments» (History of Karkaraly… 2008: 85). The opening of the house, where the district order was located, completed the official events on the formation of the district. This event was the starting point for the foundation and further development of Karkaralinsk as the administrative center of the first outer district in the Kyrgyz steppe. Subsequently, this development is characterized by two directions: 1) construction of permanent government buildings and structures, not temporary ones, to ensure the functioning of the district order and its economic support; 2) construction of buildings and structures to ensure the vital activity of the military detachment and the creation of defensive fortifications. Also, residential buildings were built for both officials and persons «invited to settle» (Tatars, Tashkent residents, peasants, Cossacks), including the construction of a Cossack village.

The materials of the Central State Administration of the Republic of Kazakhstan contain documents that reflect estimates and instructions to begin construction of pine forests on stone foundations of government buildings such as in the summer of 1825: «a) a house in one building with a decent facade and an internal arrangement of rooms for the presence of the District Order, its office and the staff of the required members, office officials, translators and interpreters, and with it an annex for servants and kitchens; b) a hospital house in one building for the accommodation of 50 patients, its pharmacy, two doctors, servants and kitchens; the wards for the sick are divided into two halves: one for 35 and the other for 15 people with special entrances, so that one accommodates Kyrgyz, and the other the other is Russian; c) barracks in one building for the accommodation of 150 Cossacks and one officer with a kitchen» (History of Karkaraly… 2008: 83-86).

Cossacks and soldiers were employed as labor during the construction of government buildings, and the regional architect Danilov was responsible for planning the construction and disbursing money. The detailed building plan, which was supposedly drawn up by him, has not been preserved. The layout of the settlement is presented in the documents in the most general form, with an indication of the construction of buildings «in a quarterly position among themselves».

The regional authorities were dissatisfied with the pace and progress of construction and followed the instructions of Colonel S.V. Bronevsky, dated July-August 1826, regarding the

improper use of the construction amount «for the construction of government buildings in this District» and the elimination of deficiencies in the arrangement of the Karkaralinsky outer district (History of Karkaraly… 2008: 116-122). As a result of the audit of 1826-1827, titular adviser Bubennov was dismissed from the office for financial abuse (Bezvikonnaya 2001: 58). Architect Danilov was probably also convicted of abuse. His name is not mentioned further in the documents, but on October 30, 1830, there was a request to the regional authorities to send «a real architect or an officer who knows the construction part» (History of Karkaraly… 2009: 7).

Despite the above-mentioned problems, the construction of government buildings in Karkaralinsk continued quite intensively. As early as 1828, the presence of a hospital house, a blacksmith shop, a kitchen, a bathhouse, a food store, an artillery park, two watermills and a windmill, and a temporary barracks were documented in Karkaraly (History of Karkaraly… 2008: 131-132). In the list of government buildings attached to the Karkaralinsky fortification, compiled in April 1844, two wooden barracks for lower military ranks per 100 people were noted in addition to the above buildings (History of Karkaraly… 2008: 346).

Among the social infrastructure facilities, special attention was paid to spiritual and religious life. In the early 1940s, the first chapel named after the Apostles Peter and Paul was built, which until 1854 was the only church building in the settlement (Popov et al, 2012: 36). At the same time, the administration refused the request of residents to build a mosque: the construction of a prayer house for Kyrgyz was «considered unnecessary» because «worship is not performed in houses» (History of Karkaraly… 2008: 84).

The military infrastructure of Karkaralinsk included not only living quarters for officers and lower military ranks, an artillery park, but also defensive structures. Information about them in the 20–30s of the XIX century is fragmentary, but it contains, for example, references to such elements of the fortification system as slingshots (History of Karkaraly… 2008: 135). A more detailed description of the construction of fortifications is given in the documents of 1842, where it is noted that «the fortification has the shape of a 4–gon with prominent bastions connected by curtains, built of turf with hammers with earth embankments» (History of Karkaraly… 2008: 347). It is surrounded by a fortified moat (5 feet deep, 11 feet wide) and has parapets lined with turf – 5 feet high, 4 feet thick, 65 fathoms long on the east side (History of Karkaraly… 2009: 40, 51). The design of the fortification did not include stone walls, loopholes, embrasures, or any hidden places for firing at the crossing.

The historian of the Siberian Cossack army, G.E. Katanaev, who spent his childhood in Karkaralinsk, recalled how the military fortifications looked in the late 1950s: «In Karkaraly, I clearly remember a small fortress in the form of a low square earthen rampart with a moat around it. Behind the moat, «slingshots» painted in the state colors – white, yellow and black – were placed along its glass. There was a gate or a boom with a lowering and rising beam for leaving and entering the fortress. There is an infantry guard at the gate» (Popov et al, 2012: 32).

Despite the fact that written sources give us quite detailed information about the development of Karkaralinsk, we can only present the appearance of the administrative center and its layout with reference to the terrain features by drawing additional information from cartographic materials compiled by military topographers.

Results

In 1822, the Corps of Topographers (later the Corps of Military Topographers) and the Military Topographical Bureau were set up in Saint Petersburg. This marked a qualitatively new stage in the history of cartography in the Russian Empire. The Military Topographic Bureau was in charge of all the military topographers. Their main job was to survey areas where there was no information. In the 1820s and 1840s, topographic surveys and reconnaissance of the Kirghiz Steppe lands covered huge areas. However, after 1832, they were mostly done at the discretion of the West Siberian administration, mostly based on what was needed in the area (Historical… 1872: 401). From 1832 to 1843, topographers surveyed the parts of the Kirghiz Steppe that were close to Siberia. They covered around 1.9 million square kilometers in all.

The West Siberian topographers had an average of 36 officers, which is ¾ of a company (Smagin 2015: 69). But during the time in question, most of the topographic surveys in the Kirghiz Steppe were done not by officers of the Corps of Topographers, but by military topographers, who related to the Separate Siberian Corps and had the right rank or non–commissioned officer title. They usually started out in cantonal battalions, where they learned, and subsequently, they became topographers in the army. After their service, some of them were moved to the Corps of Topographers, where they were given officer levels. The most successful people went to the Academy of the General Staff in St. Petersburg and the Omsk School of the Siberian Cossack Line Troops for professional training. It is also known that topographers were part of the district orders to mark the borders of the districts. Some of them stayed in Karkaralinsk, such as T.F. Nifantiev, who became the first head of the Karkaralinsk district in 1869 (Historical… 1872: 50).

We think that military topographers were part of A.I. Shrenk's expedition, mostly to make it easier for everyone to travel together through the Kirghiz Steppe, where each person had their own ambitions. At that time, it was typical to combine the work of people dispatched to the area by different groups for official and scientific reasons into a single expedition. This was necessary since Cossack battalions had to provide armed escorts to ensure safe passage through the steppe. In the 1830s and 1840s, these joint trips meant that more Cossacks could go along. This was happening at the same time as Kenesary Kasymov's independence campaign on the steppe, which made the expedition members' safety even more of a concern. A.I. Shrenk's expeditionary force had a military escort of several dozen people (more than 40 in 1840 and more than 70 in 1843).

Based on a review of A.I. Shrenk's journal entries, it can be said that he went to Karkaraly and the area around it twice during his four long trips into the Kirghiz and Dzhungarian steppes between 1840 and 1843. A.I. Shrenk returned to Omsk at the end of September 1842 after a difficult trip in Ulytau. He traversed Betpakdala (the Hungry Steppe) from Aktau and arrived in Karkaraly. After that, he went on excursions around Mount Altyn–Tube by the Altyn–Su River and visited Bayanaul. After spending the winter in Omsk, A.I. Schrenk planned his path through the Karakol district again, this time traveling toward the western side of Lake Balkhash in the Zhetysu region. He got to Karkaraly on April 17, 1843, and left the city on April 30. He traveled around Karkaraly and the area around it for most of May 1843, where he collected plants for his herbarium, looked for minerals, ancient mines, and dug up one of the «Chud» burial mounds located one verst southeast of Karkaraly. The last leg of his years-long journey went around Lake Balkhash and included areas that had never been studied before. On the way back to Omsk, he

no longer walked through the Karakol district but instead through Ayagoz and Semipalatinsk. He stayed in the Urals for the summer of 1844 and then went back to Saint Petersburg.

So, the cartographic resources we're looking at may have been made between 1842 and 1843.

The plan of the Karkaralinsk Order is a well-preserved cartographic image of Karkaralinsk and the surrounding natural landscape. It is made of thick paper measuring 15x12 cm, using colored and black ink, enclosed in a painted frame. In the upper right corner, a vertical arrow and the letter N indicate the direction to the north. The inscriptions on the map indicate the Karkaralinka River – written sources mention that «groundwater flows along the Karkaralinka River at a depth of 21\2 in places and less than a foot» (History of Karkaraly… 2008: 347), on which two bridges are marked, judging by the topographic sign – wooden, located in the places where the postal routes pass. Three main roads are indicated – the village from Aktau, the Village to Akmola, the village to Bayan–auli: «communications are convenient and available at any time of the year through Bayan–Aul district and the Koryakovsky outpost with the Irtysh line and other cities of the Tobolsk and Tomsk provinces» (History of Karkaraly… 2008: 347). There is a Cemetery to the south of the settlement.

The document with the name «Plan of the Karkaralinsky order», including the «Scale» and «Explanation», is placed on a separate sheet (paper of the same quality and size). The information is written in a clear, large handwriting with the decimal letter "i", "ъ"(er) characteristic of the letter of the XIX century. The name indicates «Scale in English inches 400 fathoms» (there is also a linear scale under the named scale). It should be noted that in the cartography of the Russian Empire, such measures of length as an inch (2.54 cm), a fathom (2.134 m), and a mile (1,067 km or 500 fathoms) were used.

The Explanation does not provide a list of symbols, as is customary in legends on maps, apparently because the relevant information is contained in the document «Sample for signs and signatures used on topographical surveys» with the signature of A.M. Yanovsky, stored with the plan. It includes more than 50 conventional signs: designations of various roads, stone and wooden buildings, bridges, rivers and lakes, borders, and buildings for various purposes. We emphasize that all the symbols on the Plan are made in accordance with this pattern, including the color rendering of certain symbols. The landscape features of the mountain ranges surrounding Karkaralinsk from the north, west, and east, covered with pine and, rarely, birch forests, are clearly outlined. To the south and southeast are low hills covered with shrubs. All buildings (houses) on the plan are indicated in the color prescribed for wooden houses, which allows us to conclude that there are no stone buildings in the settlement at the time of drawing up the plan. There are indications of the presence of vegetable gardens. The three roads are designated as postal routes, while there are still a significant number of roads on the plan that should be classified as country roads.

Instead of symbols, the Explanation contains a numbered list of the most important buildings from the point of view of the planner, namely: «1. The order. 2. The infirmary. 3. Chapel and school. 4. Barracks. 5. The howitzer. 6. The store. 7. Park. 8. Blacksmith shops. 9. Stables. 10. Kitchens». All buildings are marked with the corresponding numbers on the plan. At the same time, objects 4, 5, and 10 are marked twice and are duplicated in different parts of the settlement (Fig. 2).



Figure 2. Plan of the Karkaraly Prikaz. Script[1]

In general, the cartographic image on the plan includes a rectangular settlement located along one of the branches of the Karkaralinka River. The settlement is a military fortification with defensive structures, namely: three sides not adjacent to the river, and, partially, the fourth side, protected by the river, are surrounded by artificial barriers marked on the plan with crosses and vertical strokes. So, apparently, slingshots made of wooden beams and stakes and a palisade (stockade) or a fence located on a turf shaft are schematically indicated. This visualization confirms historical information about the development of Karkaralinsk as a fortified center, where a large military detachment is stationed. This is also evidenced by the presence of barracks, a howitzer and an artillery park building – rooms for storing artillery weapons, gunpowder and ammunition. In total, the map shows more than 30 structures, the largest of which are built in two parallel rows, which is an obvious consequence of a certain layout. Almost all houses and other structures are located in the inner contour of the defensive structures, and outside of them, there are three buildings – stables, one of the kitchens and one of the barracks. Small structures, presumably rooms for guards, are fixed along the perimeter of the fortifications. Outside the defensive contour of the settlement, vegetable gardens and pastures for livestock are marked in a separate color, located mainly between two branches of the river. Near the confluence of the arms on the border of the settlement, there is a passage to the fortification over a wooden bridge and a watermill.

The totality of the analyzed materials allows us to assert that the «Plan of the Karkaralinsky Order» is not a map, but a brulien, that is, a drawing made semi-instrumentally using simple geodetic tools. While working on brullien, the military topographer had to visually study the nature of the terrain, measuring distances in steps, with a special chain, or by eye, which does not negate the clarity and accuracy of the drawing. Factors that could not be graphically displayed in the drawing, but which should have been taken into account when conducting

military operations (the condition of roads and bridges, the depth of the river, the composition of the population, etc.) had to be placed in accompanying records and journals.

It can be assumed with a high degree of probability that the creator of the brulien is the topographer A.M. Yanovsky, since his personal signature stands under the «Sample ...» and the individual handwriting features when applying inscriptions on all three studied documents (plan, explanation, sample) are coincidental.

The life path of A.M. Yanovsky is quite typical for people from families of lower military ranks. According to his social status, he belonged to the class group of soldiers' children, who were required to perform compulsory military service in the Russian Empire. Soldiers' children from the age of 7 (from 1824 – from 10) to 15 years old were trained in military orphanages attached to army units, and they were forbidden to study in civilian schools. Upon completion of their studies, students were enrolled as soldiers in the military for a period of 20 years, and the best of them continued to study until the age of 18 and graduated with the rank of non-commissioned officer. Since 1805, students of military orphan departments have been called cantonists. In 1826, companies, semi–battalions, and battalions of military cantonists were created on the basis of the departments, which included 250, 500, and 1,000 cantonists, respectively. A battalion was stationed in Omsk, and half–battalions in Tobolsk and Irkutsk. A.M. Yanovsky, at the age of 13, was enrolled in the Tobolsk half–battalion of military cantonists of topographers in 1830. After completing his studies in 1835, he was attached to a Separate Siberian Corps as a topographer of the 3rd class and participated in surveys of the eastern part of the Barnaul district. He served until 1850 as a military topographer, and on April 23, 1850, with the rank of ensign, he was transferred to the Corps of Topographers, where in 1853 he was promoted to the rank of second lieutenant, and graduated from the service in 1861 with the rank of staff captain (Historical ... 1872: 47; 109; 239).

The long service life of the cantonists as ordinary topographers of grades 1-3 and non–commissioned officers before receiving the first officer's rank was aimed at acquiring significant professional experience, which ultimately led to high-quality topographic work. By the time he worked on the expedition of A.I. Shrenk, A.M. Yanovsky already possessed serious professional competencies, having participated in various surveys since 1830 and reconnaissance missions (Smagin 2015: 58–59, 345).

The study of the contents of the «Plan» and «Sample» allows us to conclude that A.M. Yanovsky, when compiling the brulien, followed the instructions of the normative documents of military topographers. Such documents include the «Guidelines for the service of officials of the divisional General Staff» (1811), «Rules for labeling maps and plans» (1821), and «Conventional signs for use on Topographic, Geographical and Apartment maps and Military plans» (1822). The only significant deviation from these standards allowed by the topographer is a non-standard scale of the plan. For bruliens in the Russian Empire, a scale of 250 fathoms in an English inch was prescribed, while the scales of maps were measured by the number of miles per inch and, basically, began with single–layer maps. The scale of the brulion we are investigating does not meet any of the requirements, and at the moment, the author does not have a reasonable explanation for this fact.

The analyzed cartographic image basically coincides with the above information from written sources about the development of Karkaralinsk, apart from some details. For example, stone buildings are not shown on the map, although according to written sources at that time, there

was a stone hospital building in Karkaralinsk. Also, if we proceed with the fact that not only government buildings are being actively built in Karkaralinsk, but also residential buildings, including the houses of the Cossack village, then the total number of objects on the map does not fully reflect these dynamics. It can be assumed that the Plan of the Karkaralinsky order contains only the most important objects of military, economic, and social infrastructure, ensuring the fulfillment of the role of the Karkaralinsky district center and military fortification.

Conclusion

The presented source material of various origins contains a voluminous complex of historical data, facts and statistical information, allowing the complex process of formation and development of one of the administrative centers of the Kazakh steppe. The comparison of various cartographic elements and the identification of the context of cartographic development shows a high degree of originality of this cartographic source. The study of cartography materials of the archive of A.I. Schrenk made it possible to conduct a source analysis and provide a description of the little-known and still unpublished «Plan of the Karkaralinsk Order», allegedly carried out by military topographer A.M. Yanovsky in 1842–1843 during the stay of the scientist's expedition in Karkaralinsk and its surroundings. The plan is a brullien executed in the space of an image-sign system, which contains a detailed image of the construction of the Karkaraly fortification with numbers indicating the localization of several government buildings, including its own order building as the workplace of officials of the Karkaraly outer district, key military, economic and social infrastructure facilities. The data of the Plan mainly correlate with information from written sources, but further research is required to identify and interpret possible discrepancies, and it is also necessary to determine whether regional maps based on the Brullien we studied were created in the future. In general, it should be noted that the work done by A.M. Yanovsky and other military topographers on surveying and reconnoitering vast territories formed the basis for the «General Map of Western Siberia with the Kyrgyz Steppe» published in 1848 at the Military Topographical Bureau in St. Petersburg.

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Notes

1. Archive of A.I. Shrenk (1840–1843) St. Petersburg Branch of the Archive of the Russian Academy of Sciences. SPbA RAS. F.317, in.1, c.25, 52 p.

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