

# 62 • Russian Cartography to ca. 1700

L. A. GOLDENBERG

The perception of a “foreign beginning” to Russian cartography is deeply rooted.<sup>1</sup> It has been fostered by the irretrievable loss of indigenous Russian maps of pre-seventeenth-century date, along with the unfamiliarity with other sources. Thus the traditional cartographic image of Russia was that provided by the Western European mapmakers. The name “Russia” first appeared in this foreign cartographic record in the twelfth century. For example, on the Henry of Mainz *mappamundi* (ca. 1110), it is placed north of the mouth of the Danube; on the map of the cartographer al-Idrīsī (1154), interesting geographical information is provided on Rus at the time of Yuriy Dolgorukiy.<sup>3</sup> On the Ebstorf world map (ca. 1235) there are fourteen geographical names on Russian territory, where it is noted that an “indomitable wind blows over the tilled fields of the Russians.” Martin Behaim’s globe (1492) shows the unification of Great Novgorod with the Principality of Muscovy, and it is emphasized that the “only country in Europe covered with forests is Muscovy.” Indeed, between the Hereford map (ca. 1290) and the relevant maps of Gerardus Mercator (1554, 1569, and 1572)<sup>4</sup> there are literally hundreds of known maps depicting the most significant geographical features of Russia.<sup>5</sup> These depictions increased during the fifteenth and sixteenth centuries as the geographical and cartographic knowledge of Russian lands gradually improved in Western Europe, having earlier been bound by

---

L. A. Goldenberg completed this chapter on Russian cartography, as well as extensive revisions to it, in 1987. We thank Dr. A.V. (Alexey) Postnikov, who read the chapter, advised us, and provided references to works published after Dr. Goldenberg’s death in 1989.

Abbreviations used in this chapter include: RGB for Rossiyskaya Gosudarstvennaya Biblioteka (Russian State Library), Moscow; RNB for Rossiyskaya Natsional’naya Biblioteka (Russian National Library), St. Petersburg; and RGADA for Rossiyskiy Gosudarstvennyy Arkhiv Drevnikh Aktov (Russian State Archives of Ancient Acts), Moscow.

1. F. Adelung, “O drevnikh inostrannykh kartakh Rossii do 1700 g.,” *Zhurnal Ministerstva Narodnogo Prosveshcheniya* 26 (1840), pt. 2, 1–26 and 73–98; K. Svenske, *Materialy dlya istorii sostavleniya Atlasa Rossiyskoy imperii, izdannago imp. Akademiei nauk v 1745 g.* (St. Petersburg: Imperial Academy of Sciences, 1866), 1; O. V. Struve, “Ob uslugakh, okazannykh Petrom Velikim matematicheskoy geografii Rossii,” *Zapiski Akademii Nauk* 21, bk. 1 (1872): 5; H. Michow, “Die ältesten Karten von Russland,” *Mittheilungen der Geographischen Gesellschaft in Hamburg* (1882–83): 100–187; and Leo Bagrow, “At

the Sources of the Cartography of Russia,” *Imago Mundi* 16 (1962): 33–48.

2. In al-Idrīsī’s large world map, Eastern Europe is placed on eight sheets (nos. 54–57, 64–67), which show the Caspian lands, Bashkiria, Volga Bulgaria, the upper reaches of the Severny (Severskiy) Donets, the Black Sea area, the lower Dniester area, the upper Dnieper area, the Carpathians, the Danube area, and the Baltic area, whereas the northern Caucasus and the lower Volga area are more distorted. In al-Idrīsī’s map, sources for the ancient centers of ninth-century Rus are combined with more precise data on the well-traveled trade routes of the twelfth century. For al-Idrīsī and the map of 1154, see S. Maqbul Ahmad, “Cartography of al-Sharif al-Idrīsī,” in *HC 2.1:156–74*; Konrad Miller, *Mappae arabicae: Arabische Welt- und Länderkarten des 9.–13. Jahrhunderts*, 6 vols. (Stuttgart, 1926–31), 1:35–63 and pl. 5 and 2:150–56; al-Idrīsī, *Géographie d’Edrisi*, 2 vols., trans. Pierre-Amédée Jaubert (Paris: Imprimerie Royale, 1836–40), vol. 1; Tadeusz Lewicki, “La voie Kiev—Vladimir (Włodzimierz Wolyński), d’après le géographe arabe du XIIème siècle, al-Idrīsī,” *Rocznik Orientalistyczny* 13 (1937): 91–105; and B. A. Rybakov, “Russkiye zemli po karte Idrīsī 1154 goda,” *Kratkiye Soobshcheniya Instituta Istorii Material’noy Kul’tury* 43 (1952): 3–44.

3. The Slavic tribe of the Ros or Rus was first mentioned in the late fourth century A.D. The form Rus’ predominates in the chronicles, but in other sources the form Ros’ was also used simultaneously. In the sixth and seventh centuries, a powerful alliance of Slavic tribes arose in the middle Dnieper region. Foreigners called it Ros or Rus. The terms Rus’ and Russian Land became the first names of the political entity of the eastern Slavs on the middle Dnieper in the ninth and tenth centuries. The borders of the Russian Land, according to data from the chronicles, coincide generally with the sum of all tribal lands of the east Slavic tribes. For the period from the ninth century to the beginning of the twelfth century, when Kiev was the center of a huge state, the term Kievan Rus became established in historiography. Later, the term Rus began to be used for various Slavic lands paying tribute to Rus, with new names, such as Belaya Rus’ (White Rus), Malaya Rus’ (Little Rus), and Chërnyaya Rus’ (Black Rus), each having its own territory. Yuriy Dolgorukiy, prince of Suzdal and Kiev, ruled the Rostov-Suzdal principality. It was in the chronicles of Yuriy’s reign, in 1147, that the first mention is made of Moscow, fortified by him in 1156. Hence he is considered the founder of Moscow.

4. Mercator’s *Europa* (Duisburg, 1554), and *Nova et aucta orbis terrae descriptio ad usum navigantium emendate accomodate* (Duisburg, 1569), figure 10.12 in this volume. See Gerardus Mercator, *Drei Karten von Gerard Mercator* (Berlin: W. H. Kuhl, 1891), facsimiles of the map of Europe 1554, map of the British Isles 1564, and the world map of 1569. The map of Europe (without author’s title), 1572, is reproduced in H. Michow, “Weitere Beiträge zur älteren Kartographie Russlands,” *Mitteilungen der Geographischen Gesellschaft in Hamburg* 22 (1907–8), map 5.

5. The world map by Henry of Mainz, the Ebstorf world map, and the Hereford map are all reproduced in David Woodward, “Medieval *Mappaemundi*,” in *HC 1:286–370*, figs. 18.59, 18.19, and 18.20.

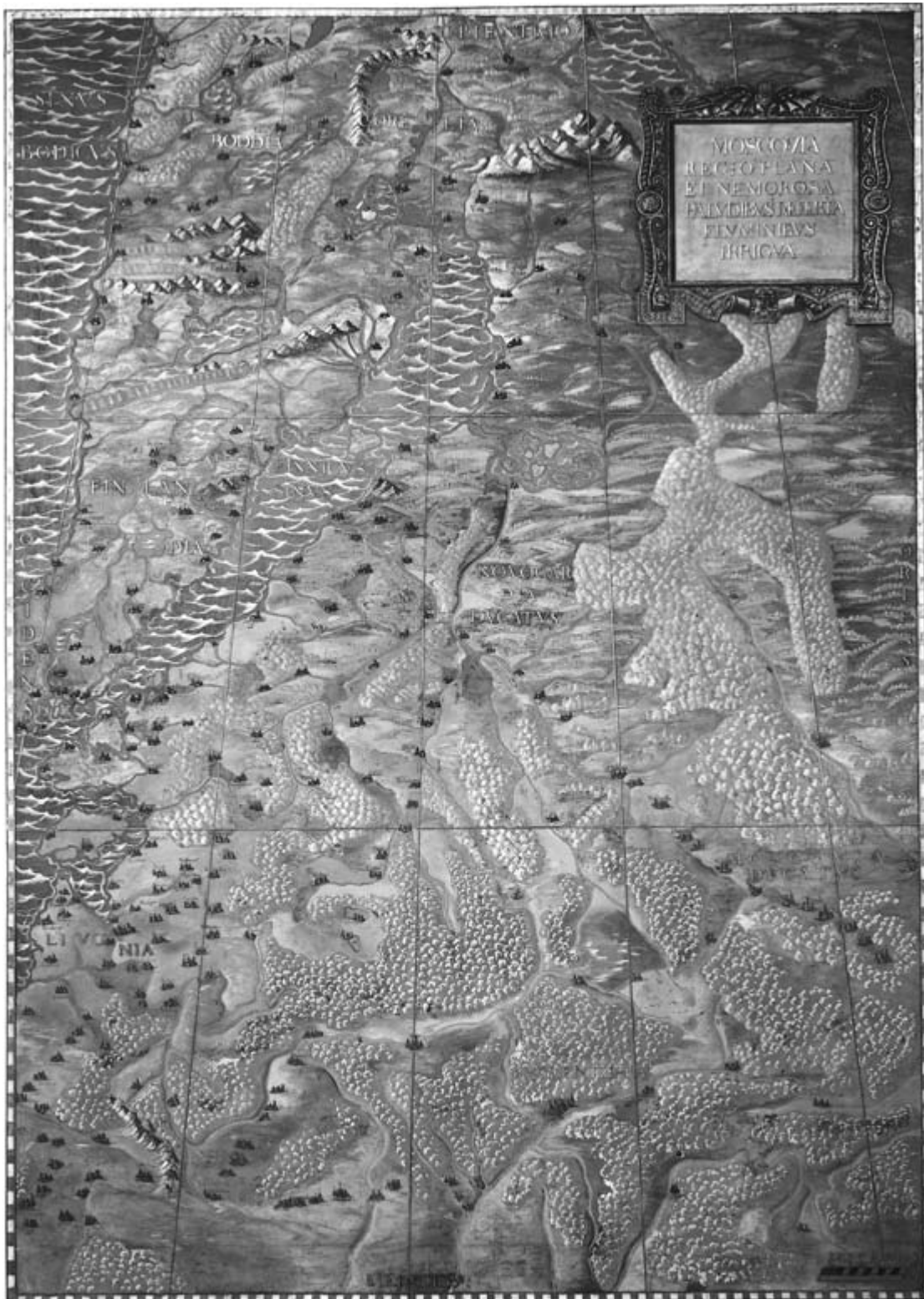


FIG. 62.1. EGNAZIO DANTI'S MAP OF MUSCOVY. Western European maps depicting Rus circulated widely and were even used as decorations, as, for example, the maps of Muscovy by Egnazio Danti in the Palazzo Vecchio (Florence) and

the Bella Loggia (Vatican). This example dates from the second half of the sixteenth century. Photograph courtesy of the Vatican Museums, Vatican City (II.33.1).



the conceptions of medieval cosmography or of Claudius Ptolemy (see fig. 62.1).<sup>6</sup>

Foreign maps, however, cannot be considered as sufficient sources for the history of Russian cartography. They provide instead historical information on foreign geographical and cartographic perceptions of the Russian territory, and they are primarily an indicator of cartographic development in countries outside Russia.<sup>7</sup> Such world and smaller-scale maps were, however, based primarily on information obtained from questioning local populations and travelers, written Russian sources, and, in a number of cases, early maps of Russian origin. We know this because foreign cartographers using Russian materials did not keep their sources secret. The Italian cartographer Battista Agnese pointed out in 1525 that his map of Muscovy was compiled with the help of the Russian envoy in Rome, Dmitriy Gerasimov.<sup>8</sup> On his map of 1542, with names in both Latin and Russian, the Lithuanian artist Anthonius Wied wrote that he drew his map with the collaboration of a Russian emigrant, Ivan V. Lyatskiy, whom Sigismund von Herberstein, Austrian diplomat and ambassador to Moscow, had earlier turned to for help in Moscow. The Dutch cartographer Hessel Gerritsz. reported that his map of 1613, except for the north of Russia, was compiled under the “autograph” of Fyodor Borisovich Godunov, son of Czar Boris Godunov.<sup>9</sup> Only the representations of border states and outlying areas under Russian control in the west and north-west (the Ukraine, White Russia, and the Baltic States) and northern Europe were not indebted to such Russian materials (for a reference map, see fig. 62.2).<sup>10</sup>

The contributions of such Western European map-makers to the geographical knowledge of Russia are thus not only significant in their own right, but also because they highlight the achievements of the Russian people of the fifteenth and sixteenth centuries with regard to the mapping of their own territory. Bagrow placed the beginnings of an indigenous Russian cartography in the seventeenth century, but Soviet scholars have now pushed this date back to the late fifteenth and early sixteenth century.<sup>11</sup> It should be made clear, however, that in contrast to other European countries, most of the corpus of Rus-

other study by Bagrow is divided both chronologically and by content: Leo Bagrow, *A History of the Cartography of Russia up to 1600*, and *A History of Russian Cartography up to 1800*, both ed. Henry W. Castner (Wolfe Island, Ont.: Walker Press, 1975).

8. Battista Agnese's map, “Moscoviae tabula relatione *Dimetrii legati* descripta sicuti, ipse a pluribus accepit, cum totam provinciam minime peragrasset, anno MDXXV, Octobris,” was studied in detail by the German scholar Michow, “Die ältesten Karten von Russland,” 116–31. In 1525 the Vatican magnificently received the Russian envoy Dmitriy Gerasimov. The humanist Paolo Giovio in Rome wrote down the stories of the Russian writer and diplomat; see Pavel Ioviy Novokomskiy, *Kniga o moskovitskom posol'stve*, in Sigismund von Herberstein, *Zapiski o moskovitskikh delakh* (St. Petersburg, 1908), 252–75, and at this time Agnese drew his map of Muscovy. Bagrow advances a series of arguments against Gerasimov's participation in the compilation of Agnese's map: Bagrow, “Sources,” 40–43. Arguing to the contrary, Rybakov solves the riddle of the 1525 map differently: the envoy of Vasily III brought to the court of Pope Clement VII the latest map of the Russian state, prepared in 1523. On this map were reflected all the Russian military successes consolidated by the peace with Sigismund I in 1523. The appearance of this map in Rome is confirmed by the presence of thirty supplementary (in relation to the text of the entries) objects on Agnese's map. These details explain the placement of Gerasimov's name in the title of the 1525 map; see B. A. Rybakov, *Russkiye karty Moskovii XV–nachala XVI veka* (Moscow, 1974), 8, 70–71.

9. It is interesting to trace in world historiography how, as a result of years of discussion about the maps of 1525, 1542, and 1613, their presumed authorship has changed, depending upon the position and temperament of the researcher: from traditional-conservative (the maps of Agnese, Wied, and Gerritsz.); more contemporary, but cautious (the maps of Agnese-Gerasimov, Wied-Lyatskiy, and Gerritsz.-Godunov); to decisive (the maps of Gerasimov, Lyatskiy, and Godunov). See, for example, N. D. Chechulin, “O tak nazyvayemoy karte tsarevicha Fëdora Borisovicha Godunova,” *Zhurnal Ministerstva Narodnogo Prosveshcheniya* 346 (1903): 335–44; J. Petrusis, “Antanas Vydas and His Cartographic Works,” in *Collected Papers for the XIX International Geographical Congress*, ed. Vytautas Gudelis (Vilnius, 1960), 39–52 (in English and Russian); Bagrow, “Sources,” 39–45; and B. A. Rybakov, “Russkiye karty Moskovii XV–XVI vv. i ikh otrazheniye v zapadnoevropeyskoy kartografii,” in *Kul'turnyye svyazi narodov Vostochnoy Yevropy v XVI v. Problemy vzaimootnosheniy Pol'shi, Rossii, Ukrainy, Belorussii i Litvy v epokhu Vozrozhdeniya*, ed. B. A. Rybakov (Moscow: Nauka, 1976), 59–60.

10. K. N. Val'dman, “Kol'skiy poluostrov na kartakh XVI veka,” *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* 94, no. 2 (1962): 139–49; Karol Buczek, *The History of Polish Cartography from the 15th to the 18th Century*, trans. Andrzej Potocki, reprinted with new intro., notes, and bibliography (Amsterdam: Meridian, 1982); Stanisław Alexandrowicz, *Rozwój kartografii Wielkiego księstwa litewskiego od XV do połowy XVIII wieku*, 2d ed. (Poznań: Wydawnictwo Naukowe Uniwersytetu Im. Adama Mickiewicza w Poznaniu, 1989); Ya. R. Dashkevich, “Teritoriya Ukraini na kartakh XIII–XVIII st,” *Istorični Doslidzhennya: Vitchiznyana Istoriya* 7 (1981): 88–93; L. R. Kozlov, “Karty XVI–XVII vv. kak istochnik po istorii Belorussii,” *Problemy Istoricheskoy Geografii Rossii* 3 (1983): 141–62; Ye. A. Savel'yeva, “‘Morskaya karta’ Olaus Magnusa i yeye znachenie dlya yevropeyskoy kartografii,” and K. N. Val'dman, “Ob izobrazhenii Belogo morya na kartakh XV–XVII vv.,” both in *Istoriya geograficheskikh znaniy i otkrytiy na severe Yevropy* (Leningrad, 1973), 59–87 and 88–107; and Ye. A. Savel'yeva, “Novgorod i Novgorodskaya zemlya v zapadnoevropeyskoy kartografii XV–XVI vv.,” in *Geografiya Rossii XV–XVIII vv. (po svedeniyam inostrantsev)*, ed. I. P. Shaskol'skiy (Leningrad, 1984), 4–16.

11. Bagrow, *Russian Cartography*, 1–17, and K. A. Salishchev and L. A. Goldenberg, “Studies of Soviet Scientists on the History of Car-

6. More detailed depictions of Rus and adjoining lands appear on many Western European maps, including those of Nicolaus Cusanus (1491); Hieronymus Münzer (1493); Bernhard Wapowski (1526); Olaus Magnus (1539); Sigismund von Herberstein (1546); Giacomo Gastaldi (1548, 1562, 1566, and 1568); Matthias Strubicz (1589); Gerardus Mercator (1594 and 1595); Willem Barents (1598); Nicholas Christopher Radziwill (1613); Andreas Bureus (1626); Isaac Massa (1633); Nicolas I Sanson d'Abbeville (1654); Eric Palmquist (1674); and Nicolaas Witsen (1687).

7. Leo Bagrow, *History of Cartography*, 2d ed., rev. and enl. R. A. Skelton, trans. D. L. Paisey (Chicago: Precedent, 1985); Stanisław Alexandrowicz, “Ziemie ruskie w kartografii polskiej XVI–XVII wieku,” *Studia Źródloznawcze* 23 (1978): 107–16. It is not surprising that an-

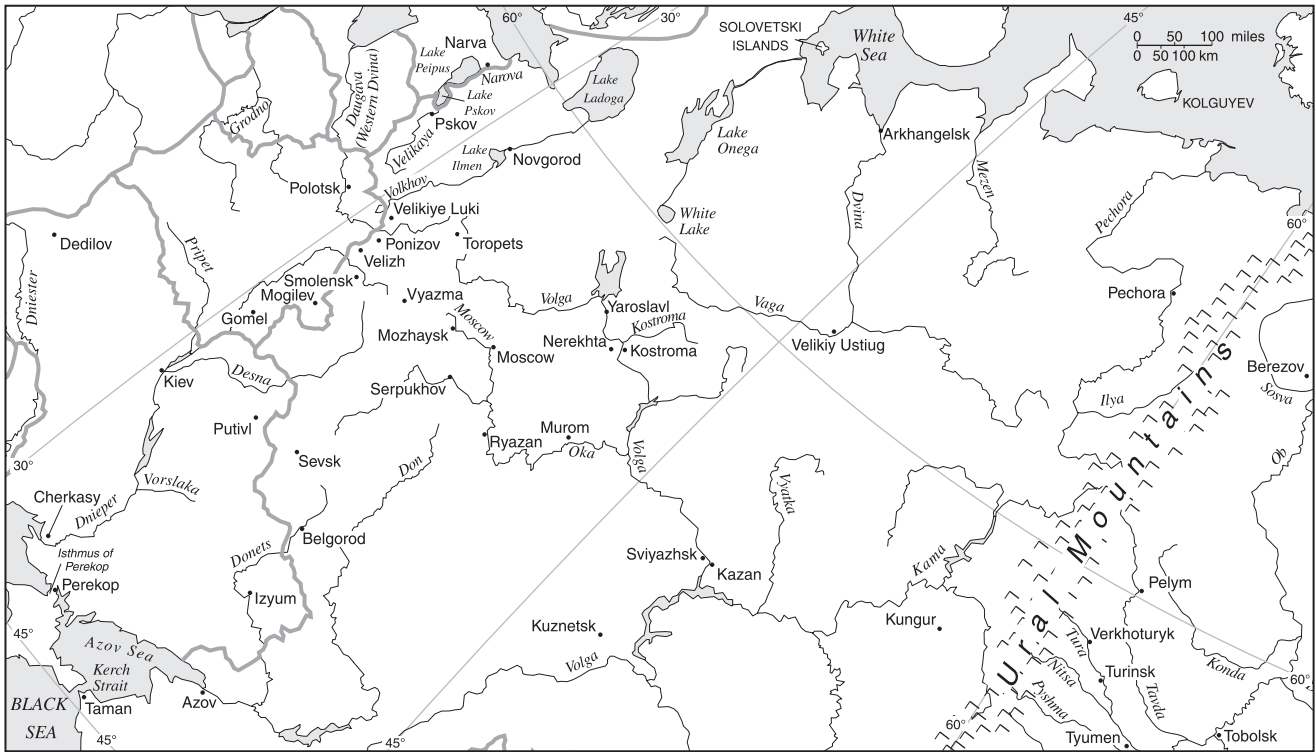
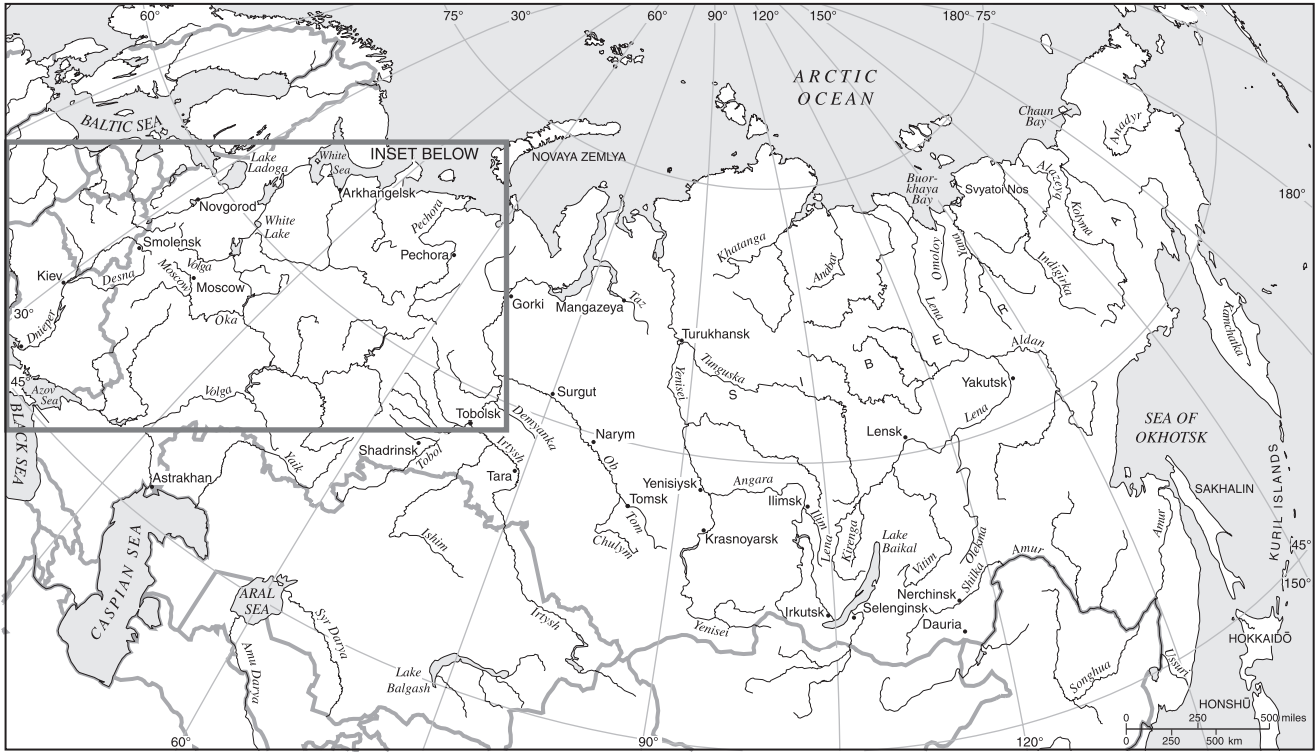


FIG. 62.2. REFERENCE MAP OF THE RUSSIAN AREA.

sian cartography was to remain in manuscript. The printing press was not introduced into Russia until 1563, and the first map was not printed in Russian until 1638.<sup>12</sup>

These facts should not, however, be allowed to divert our attention from the reality of an independent beginning for Russian cartography. This thesis had already been proposed in the eighteenth century by the outstanding scholar Tatishchev, and it has stood the test of time.<sup>13</sup> It was later elaborated by several generations of specialists from different disciplines. Significant contributions have been made by historians, geographers, cartographers, and geodesists.<sup>14</sup> Recent studies of the beginnings of Russian cartography have, moreover, met with particular success. Important developments include the discovery and analysis of what is now regarded as the oldest surviving Russian map (1536–37) and of a collection of previously unknown Russian manuscript maps of the seventeenth century; the pioneering of new research in icon maps and in historical cartographic reconstruction; and a fresh interpretation of Siberian cartography based on a comparison of the first three Russian atlases, which were compiled by Semyon Ulianovich Remezov and his sons.

#### RECONSTRUCTIONS OF GENERAL MAPS OF RUSSIA FROM WESTERN EUROPEAN MAPS

Of major importance in recent years has been the attempt to reconstruct the general maps of Russia from the period of Ivan III (r. 1462–1505) and Vasily III (r. 1505–33), hitherto concealed in Western European maps from the sixteenth to the eighteenth century.<sup>15</sup> The most important foreign maps for this analysis have been those with content that, on the one hand, unmistakably demonstrates the use of these native Russian materials, and, on the other hand, served as the basis for subsequent compilations or copies (for example, fig. 62.3).<sup>16</sup> The main diagnostic criterion pointing to the indebtedness of these Western European cartographers to Russian authorities is the presence of significant anachronisms—at the date of their publication—in the depiction of the internal regional boundaries and international borders of Russia.<sup>17</sup> This feature has led to the conclusion that, as a rule, foreign mapmakers did not have access to up-to-date maps of Muscovite lands and had to rely on obsolete maps that no longer reflected the status quo. It has been established that Anthony Jenkinson's map of 1562 goes back to a Russian source map of 1497, and that the 1613 map used by Gerritsz. can be traced to a Russian map dated 1523.<sup>18</sup>

tography," Eighth International Cartographic Conference (Moscow, 1976), 5. For a late fourteenth or early fifteenth century beginning, see note 39.

12. Colin Clair, *A Chronology of Printing* (London: Cassell, 1969), 58. See also below, note 81.

13. V. N. Tatishchev, *Istoriya Rossiyskaya*, 7 vols. (Moscow-Leningrad, 1962–68), 1:345–51.

14. Ye. [Egor] Zamyslovskiy, *Gerbershteyn i yego istoriko-geograficheskiye izvestiya o Rossii* (St. Petersburg, 1884), 538; K. N. Serbina, "Istochniki 'Knigi Bol'shogo chertezha,'" *Istoricheskiye Zapiski* 23 (1947): 290–324; B. A. Rybakov, "Drevneyshaya russkaya karta nachala XVI v. i yeyë vliyaniye na yevropeyskuyu kartografiyu XVI–XVIII vv.," *Trudy Vtorogo Vsesoyuznogo Geograficheskogo S'yezda* 3 (1949): 281–82; K. A. Salishchev, *Osnovy kartovedeniya: Chast' istoricheskaya i kartograficheskiye materialy* (Moscow, 1948), 124; D. M. Lebedev, *Ocherki po istorii geografii v Rossii XV i XVI vekov* (Moscow: Izdatel'stvo Akademii nauk SSSR, 1956), 199–231; S. Ye. Fel', *Kartografiya Rossii XVIII veka* (Moscow, 1960); F. A. Shibanov, *Ocherki po istorii otechestvennoy kartografii* (Leningrad, 1971), in English as *Studies in the History of Russian Cartography*, ed. James R. Gibson, trans. L. H. Morgan, Monograph 14–15, *Cartographica* 12 (1975); see also L. A. Goldenberg, *Russian Maps and Atlases as Historical Sources*, trans. James R. Gibson, Monograph 3, *Cartographica* (1971).

15. Rybakov, *Russkiye karty*, reviewed by L. A. Goldenberg in *Voprosy Istorii* 7 (1975): 143–49; Stanislaw Alexandrowicz, "O najdawniejszych mapach państwa moskiewskiego," *Studia Źródtoznawcze/Commentationes* 21 (1976): 145–53; and L. A. Goldenberg, "U istokov russkoy kartografii," *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya* 1975, no. 3, 130–40. The primary sources and literature used for the reconstructions cover a broad and diverse range. Along with foreign maps of Muscovy from the sixteenth to seventeenth centuries, ancient inventories of old Russian maps were used; numerous studies by prerevolutionary, Soviet, and foreign scholars on the history, geography, and cartography of Russia; cadastral descriptions; *dorozhniks* (textual descriptions with an indication of the distances between settlements); navigational directions; geographical information and generalizations from Russian chronicles; state documents and acts; and the notes of foreigners on Russia (Adam Olearius, Paolo Giovio, and others). Also taken into account were archival materials and the latest specialized works by Kazakova on Gerasimov and by Lesure on the sources for Russian history in French archives; see N. A. Kazakova, *Dmitriy Gerasimov i russko-evropeyskiye kul'turnyye svyazi v pervoy treti* 16 v. (Leningrad: Nauka, 1972), and Michel Lesure, *Les sources de l'histoire de Russie aux archives nationales* (Paris: Mouton, 1970).

16. The maps include those of Anthonius Wied (1524), Battista Agnese (1525), Sigismund von Herberstein (1546), Anthony Jenkinson (1562), Gerardus Mercator (1594), Hessel Gerritsz. (1613), Guillaume Sanson (1674), and Guillaume Delisle (1706).

17. For more detailed information on the forms of the cartographic method of research and its application, see K. A. Salishchev, "O kartograficheskoy metode poznaniya (analiz nekotorykh predstavleniy o kartografii)," in *Puti razvitiya kartografii* (Moscow: Izdatel'stvo Moskovskogo Universiteta, 1975), 36–45; B. G. Galkovich, "O znachenii i meste kartograficheskogo metoda v istoricheskoy geografii," *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, 1974, no. 5, 55–60; idem, "K voprosu o primenenii kartograficheskogo metoda v istoricheskikh issledovaniyakh," *Istoriya SSSR* 3 (1974): 132–41; and A. M. Berlyant, *Kartograficheskii metod issledovaniya* (Moscow: Izdatel'stvo Moskovskogo Universiteta, 1978).

18. Rybakov, *Russkiye karty*. Recent historians of cartography have contested Rybakov's claim of Russian sources being the basis of Jenkinson's map. The sensational recovery of the original Jenkinson map of Russia especially renewed discussion on this issue; see Krystyna Szykula, "The Newly Found Jenkinson's Map of 1562," Paper presented at the Thirteenth International Conference on the History of Cartography, Amsterdam and The Hague, 1989; published in *13th International Conference on the History of Cartography . . . Abstracts* (Amsterdam, 1989), 38–39 and 109–11. In particular, based on a thorough study of the genesis and transformation of the Jenkinson map, Samuel H. Baron





FIG. 62.3. ANTHONY JENKINSON'S MAP OF MUSCOVY, 1562 [1570]. Title of the original is *Nova absolutaque Russiae, Moscoviae & Tartariae* (see fig. 57.6). This map was published in Abraham Ortelius's 1570 *Theatrum orbis terrarum*. Scale,

1:12,000,000. Size of the original: ca. 35.3 × 42.9 cm. Photograph courtesy of the BL (Maps C.2.c.1, map 162).

Moreover, Guillaume Delisle's map of 1706 was compiled 180 years after his major Russian source of 1526.

From these researches, general maps of Russia of 1497 and 1523 have been identified. They were the cartographic embodiment of the idea of statehood and they ignored the feudal divisions of Rus.<sup>19</sup> The basic concept be-

1497. Baron was naturally perplexed by Rybakov's apparent failure to notice the most distinct inaccuracy of the Jenkinson map: a large, nonexistent "Lake Volok" as the source of the Northern Dvina, Dnieper, and Volga rivers. Baron believes Jenkinson could not have made such a mistake had he used a Russian source. However, although such a single expansive body of water does not exist in this area, there are many portages (*voloki*) as well as fairly large lakes, such as Seliger. These portages and lakes were used by Russians as routes linking the northern and southern regions of the country. Unfortunately, these remarks do not change the fact that none of the native all-Russian maps have survived from the period prior to the seventeenth century; see A. V. Postnikov, "Outline of the History of Russian Cartography," in *Regions: A Prism to View the Slavic-Eurasian World: Towards a Discipline of "Regionalology"*, ed. Kimitaka Matsuzato (Sapporo: Slavic Research Center, Hokkaido University, 2000), 1–49, esp. 6–7.

refuted several points of Rybakov's argument; see his "William Borough and the Jenkinson Map of Russia, 1562," *Cartographica* 26, no. 2 (1989): 72–85; idem, "The Lost Jenkinson Map of Russia (1562) Recovered, Redated and Retitled," *Terrae Incognitae* 25 (1993): 53–65; and idem, *Explorations in Muscovite History* (Hampshire: Variorum, 1991), esp. 72–87. Nevertheless, Rybakov's main argument in favor of Russian sources remains persuasive: the state frontiers depicted were outdated and strongly reflected the situation in and around Moscow in

19. For the history of the feudal divisions and the rise of the centralized Muscovite state, see A. P. Novosel'tsev, V. T. Pashuto, and L. V.

hind the map of 1497 was the synthesis of a multitude of small feudal states so as to represent a single Muscovite state with its subdivisions into large administrative units of a military-fiscal nature (*oblasts*). The map of 1523, a composite map derived from maps in the Foreign Office, was used to shape and consolidate cartographically all the new Russian territorial acquisitions of Vasily III's growing state.<sup>20</sup>

The 1526 Russian map of the principalities, however, as reconstructed from the foreign maps of Mercator, Guillaume Sanson, and Delisle, serves to express a very different conception. This controversial map was compiled for Sigismund von Herberstein in Moscow in a period of sharp political struggle.<sup>21</sup> It was produced in the face of opposition from the grand princes and apparently at the behest of the fallen prince Ivan Mikhailovich Vorotynskiy. The borders of the Russian principalities are shown in detail, albeit deliberately distorted. Of particular note are the size of the archaic and underestimated Muscovite principality and the exaggerated depiction of the principalities of Vorotynskiy, Bel'skiy, and Ryazan'skiy. The ideological leitmotiv of the propaganda map of 1526 was decentralization. It promoted a return to the former period of great independent principalities and a lowering of the status of the Muscovite principality. A careful analysis of Herberstein's sources in compiling this map was undertaken in the nineteenth century, and it retains its value to this day.<sup>22</sup> There can be little doubt that he quarried information from Russian manuscript maps that are no longer extant. This was convincingly demonstrated in 1884 by Zamyslovskiy, who directed attention to the pattern of Russian rivers on the map of 1546,<sup>23</sup> and more recently by Rybakov using reconstructions of the 1523 and 1526 maps of Russia.<sup>24</sup>

Nor are these the sole results of this reinterpretation of the European printed maps from the sixteenth to the eighteenth century. The reconstructions also enable us to identify the original existence of a number of local maps dating from the late fifteenth and sixteenth centuries. These relate to areas including Moscow and Novgorod, Pskov, the Seversk towns, Vologda-Daugavpils, the Volga area, Caspia and Central Asia, roads leading to Kazan, the Astrakhan area, and the Ukrainian lands. Also exhumed by these researches are the "Skhema oblastnogo deleniya Moskovskogo gosudarstva po chertëzhu 1497 g.," the "Predpolagayemyy chertëzh Russkogo Severa" as revealed in Battista Agnese's map, and the "Skhema russkikh knyazhestv" according to maps of Sanson and Delisle.

The importance of all these researches cannot be overemphasized. But in particular, they have established with reasonable certainty that the 1497 map was the first Russian map of the Muscovite state. This finding moves back the origins of Russian cartography an entire century

before the "Bol'shoy chertëzh," the map previously thought to have been the earliest example of Russian cartography.<sup>25</sup>

## THE BEGINNINGS OF RUSSIAN CARTOGRAPHY AND GEOGRAPHY

Very little concerning the history of Russian cartography has survived from ancient times. The silver vase, found during archeological excavations near Maikop and bear-

---

Cherepnin, *Puti razvitiya feodalizma (Zakavkaz'e Srednyy Aziya, Rus', Pribaltika)* (Moscow: "Nauka," 1972); A. M. Sakharov, *Obrazovanie i razvitie Rossiyskogo gosudarstva v XIV-XVII vv.* (Moscow, 1969); and V. A. Kobrin, *Vlast' i sobstvennost' v srednevekovoy Rossii (XV-XVI vv.)* (Moscow, 1985). See also L. V. Cherepnin, *Obrazovaniye Russkogo tsentralizovannogo gosudarstva v XIV-XV vv.* (Moscow: Izdatel'stvo Sotsial'no-Ekonomicheskoy Literatury, 1960); M. N. Tikhomirov, *Rossiya v XVI stoletii* (Moscow: Izdatel'stvo Akademii nauk SSSR, 1962); V. I. Buganov, A. A. Preobrazhenskii, and Yu. A. Tikhonov, *Evolutsiya feodalizma v Rossii: Sotsial'no-ekonomicheskiye problemy* (Moscow: Mysl', 1980); and B. A. Rybakov, *Kievskaya Rus' i russkiye knyazhestva XII-XIII vv.* (Moscow: Nauka, 1982).

20. Because the 1497 and 1523 maps are not extant, scholars have questioned their existence and their makers (for example, Samuel H. Baron, "B. A. Rybakov on the Jenkinson Map of 1562," in *New Perspectives on Muscovite History*, ed. Lindsey Hughes [New York: St. Martin's, 1992], 3-13).

21. Herberstein—ambassador of Emperor Sigismund I—visited Russia twice, in 1517 and in 1526. Geographical information gathered during his travels from diverse sources served as the basis for the compilation of the chorography (land description) of Muscovy and the map of Muscovy, "Muscovia Sigismundi liberi baronis in Herberstein Neiperget Getenhag MDXLVI."

22. Zamyslovskiy, *Gerbershteyn*. Herberstein's Russian sources included a *dorozhnik* (road guide) describing the road from Novgorod to Copenhagen via Velikiy Ustiug, the White Sea, and the Arctic Ocean; stories about the sea voyages of Dmitriy Gerasimov and his translator Grigoriy Istoma in 1496-97; a *dorozhnik* to Pechora, Yugra, and the Ob River; and stories of the leader of Prince Semyon F. Kurbskiy's journeys to Siberia and the north of Russia in 1499-1500 (I. D. Belyayev, "O geographicheskikh svedeniyakh v drevney Rossii," *Zapiski Russkogo Geograficheskogo Obschestva* 6 [1852]: 1-264, esp. 246-50). Herberstein's map, however, is relatively inaccurate, lacks detail, and exhibits discrepancies (compared with the text) in the numerical figures of the map and text. Evidently, Herberstein possessed neither the knowledge nor the skills of a cartographer; see Rybakov, *Russkiye karty*, 80. The major versions of Herberstein's map were published by Kordt and described by Bagrow; see V. Kordt, *Materialy po istorii russkoy kartografii*, 3 vols. (Kiev: Komissiya dlya razbora drevnikh aktov, 1899, 1906, and 1910), 6-8 and pls. XI-XIV, and Bagrow, "Sources," 46-48.

23. Zamyslovskiy, *Gerbershteyn*, 537-39, and Lebedev, *Istorii geografii v Rossii*, 203-4.

24. The names and relationship of the general maps reconstructed by B. A. Rybakov are: an outline of the oblast divisions of the Muscovite State according to the 1497 draft; a map of the Russian state, 1523 (its component was the "presumed map of the Russian north," 1523); and an outline of Russian principalities, 1526.

25. Postnikov, "Outline"; A. V. Postnikov, "Russian Cartographic Treasures of the Newberry Library," *Mapline* 61-62 (1991): 6-8; Baron, "William Borough"; idem, "Lost Jenkinson Map"; and idem, *Muscovite History*.



ing the oldest maplike depiction discovered on Soviet territory, is well known.<sup>26</sup> No less famous is the ancient relic of a land measurement, the Tmutarakan Stone, found on the Taman Peninsula and bearing the results of the measurements of the Kerch Strait in 1068.<sup>27</sup> The first Russian geographical work, a survey of countries and peoples that prefaces the “*Povest’ vremennykh let*,” also dates from the eleventh century.<sup>28</sup> Similarly, in early chronicles, such as the “*Slovo o pogibeli russkoy zemli*,”<sup>29</sup> accounts appear of Russian historical geography, and a late-fourteenth-century list of some 350 towns was probably accompanied by a map that later served as the basis of the “*Kniga Bol’shomu chertëzhu*” (see below).<sup>30</sup> This provenance is indicated by the arrangement of the list in enumerating groups of Bulgarian and Voloshskian, Kievan and Chernigovian towns along the Pripet and middle Dnieper rivers. The author of the description evidently used a map on which towns were shown, enabling their listing by groups arranged along the rivers.<sup>31</sup> That the list begins with towns in the south rather than the north may be linked to the southern orientation of early Russian maps.<sup>32</sup>

26. In Russia, the description and the estimation of the significance of the vase have been cited in well-known university textbooks on cartography for students by K. A. Salishchev, *Osnovy kartovedeniya: Istoriya kartografii i kartograficheskoye istochniki* (Moscow: Izdatel’stvo Geodezicheskoy Literatury, 1962), 6, and idem, *Osnovy kartovedeniya: Chast’ istoricheskaya*, 118. See also the brief discussion by Catherine Delano-Smith, “Cartography in the Prehistoric Period in the Old World: Europe, the Middle East, and North Africa,” in *HC* 1:54–101, esp. 72–73 and fig. 4.18.

27. The Tmutarakansk stone, a marble tile from 1068 with a Russian inscription carved into it, was found in 1792 on the Taman Peninsula. Although this artifact is not evidence of mapmaking, it nevertheless provides precocious evidence of distance measurement. The inscription reads: “In the year 6576 indicta 6 Gleb the prince measured the sea on the ice from Tmutorokan to Korchev 14,000 *sagenes*.” According to military-topographic maps of the nineteenth century, the distance between Taman and Kerch equals 10,950 *sagenes*, or 23,395.5 m (see table 62.1 for distance equivalents). Olenin, based on maps from the late eighteenth to early nineteenth century, took the distance to be 10,700 *sagenes*, or 22,861.6 m; see Aleksey N. Olenin, *Pis’mo k grafu Alekseyu Ivanovichu Musinu-Pushkinu o kamne Tmutarakanskom, naydenom na ostrove Tamane v 1792, s opisaniyem kartin k pis’mu prilozhennykh* (St. Petersburg, 1806). The inscription was published for the first time by A. I. Musin-Pushkin in 1794; see his *Istoricheskoye issledovaniye o mestopolozhenii drevnego Rossiyskogo Tmutarakanskogo knyazheniya* (St. Petersburg, 1794). The uniqueness of the inscription led to doubts about its authenticity. The weightiest evidence for the authenticity of the Tmutarakansk stone is that remnants of the ancient city of the chronicles, Tmutarakan, were discovered by archaeologists at the site where the stone was found, near the *stanitsa* (large Cossack village) of Taman. Since 1851 the Tmutarakansk stone has been exhibited in the Gosudarstvennyy Ermitazh (State Hermitage), St. Petersburg. Additional literature on the stone includes: A. Spitsyn, “Tmutarakanskiy kamen’,” *Zapiski Otdeleniya Russkoy i Slavyanskoy Arkheologii Russkogo Arkheologicheskogo Obshchestva* 11 (1915): 103–32; B. A. Rybakov, *Russkiye datirovannyye nadpisi XI–XIV vekov* (Moscow: Nauka, 1964); and A. L. Mongayt, *Nadpisi na kamne* (Moscow: Znaniye, 1969).

28. The chronicle *Povest’ vremennykh let* was the first historiographical work in Rus in which the history of the Old Russian state was shown on the broad background of the events of world history. If all the information on the East Slavic tribes, non-Russian peoples, neighbors, and tributaries of the Russian land are placed on a map, it will indicate the western, northern, and eastern borders of the territory of Rus. See D. S. Likhachev, *Povest’ vremennykh let*, 2 vols. (Moscow-Leningrad: Izdatel’stvo Akademii nauk SSSR, 1950).

29. Originating from the period of feudal disunity in Rus, marked by prolonged, bloody internecine wars of the princes for the extension of land ownership—which a contemporary bitterly called “the ruin of the Russian land”—this work contains fairly precise geographical data on the territory of the Russian people. The boundaries of the Russian land are defined by the neighboring peoples, beginning with Hungary and proceeding clockwise to the Polovtsy in the south; see Rybakov, *Kievskaya Rus’*, 58.

30. The “*Kniga Bol’shomu chertëzhu*” (1627) was a textual topographic description of an old strategic map of the Russian state that was lost but restored in 1627 (“*Bol’shoy chertëzh*”). Thirty-nine manuscript copies of the book have been found, the latest in 1961; see A. A. Timoshenko, “Eshchë odin rukopisnyy spisok ‘*Knigi Bol’shomu chertëzhu*,’” *Vestnik Moskovskogo universiteta* 5 (1961): 35–40. The original of the book, like the “*Bol’shoy chertëzh*” itself, has not been preserved. Twenty-eight copies were prepared in the seventeenth century, eight in the eighteenth century, and three in the nineteenth century. The first publications came out in the eighteenth century: one by Nikolay I. Novikov, *Drevnerossiyskaya idrografiya* (St. Petersburg, 1773), contains a description of the Muscovite state, rivers, channels, lakes, and wells, and what *urochishcha* were on them and at what distances they were; and another by the Mining Academy, *Kniga Bol’shomu chertëzhu ili drevnyaya karta Rossiyskogo gosudarstva, podnovlennaya v Razryade i opisannaya v knigu 1627 goda* (St. Petersburg: Tipografiya Gornogo Uchilishcha, 1792).

31. M. N. Tikhomirov, “Spisok russkikh gorodov dal’nikh i bliznikh,” *Istoricheskoye Zapiski* 40 (1952): 214–59, esp. 219.

32. The southern orientation of Russian general maps was well established for one and a half centuries, beginning with Anthonius Wied and Ivan Lyatskiy’s map of 1542–55 and continuing up to the Siberian maps of the late seventeenth century. In Herberstein’s description of Muscovy, however, there are suggestions that the southern orientation of Russian maps goes back even further. When describing large cities, such as Kiev and Nizhny Novgorod, Herberstein twice errs in determining the positions of river mouths: the mouth of the Desna, which lies north of Kiev on the Dnieper, was placed south of Kiev by Herberstein; the Oka enters the Volga north of Gorki, but Herberstein places the mouth of the Oka south of the city; see Herberstein, *Zapiski o moskovitskikh delakh*. These errors, unlikely to have been made by the Russian informants of the Austrian diplomat, could only be explained if a foreigner accustomed to maps oriented to the north used a map with a southern orientation. Maps of Muscovy prepared in the West, which Herberstein was able to bring along to Moscow, were oriented to the north, as was, for example, Martin Waldseemüller’s *Carta marina* of 1516. It is interesting that on this map one of the road routes from Moscow appears to be reversed (see Bagrow, “Sources,” 36), a mistake also easily explained by the use of maps with southern orientations. It can thus be presumed that Russians were familiar with maps oriented to the south by the beginning of the sixteenth century. A clue to this tendency is found, according to a supposition of Rybakov, in the influence of Italian cartography; see his *Russkiye karty*, 16–19. Southern orientation, adopted by Italians from Arabic cartography, was long preserved in Italian city plans. Thus, Fra Mauro’s famous Venetian map of 1459 was oriented to the south. In the last quarter of the fifteenth century, after Sophia Paleologus (married to Ivan III in 1472) moved from Florence to Moscow, the number of Italians in Moscow significantly



A great deal of circumstantial evidence from the period of the dissolution of feudal Rus during the fourteenth and fifteenth centuries supports the idea that the conditions gradually arose that led to increased cartographical activity. First, there was a growing accumulation of geographical sources. These began with various kinds of descriptions of land and water routes between towns and later included lists of settlements and materials of a cadastral and fiscal nature, with detailed descriptions of the land and local geographical features (for example, census books and survey charters). It is possible that schematic maps of localities along rivers and roads were already being added by the fifteenth century to the *dorozhniks* (guidebooks containing textual descriptions of routes by land and water, with an indication of distances between settlements and other reference information). Second, basic techniques of measuring were being developed. These methods were worked out in the practical context of a variety of field surveys and included simple mathematical methods of measuring land and calculating areas, ways of determining boundaries between landowners, and ways of demarcating the borders of the principalities. Finally, by the last third of the fifteenth century, the applications for cartography in Russia were increasing rapidly; they had extended to land description, defense, city-building, and diplomatic uses.

### LOCAL, REGIONAL, AND GENERAL MAPS IN RUSSIA

#### ICON MAPS

A particular example of Russian cartographic innovation in the sixteenth and seventeenth centuries is provided by the icon maps drawn or painted on wood. Old Russian icons have long been studied by historians of painting and art. However, as relics containing cartographic elements (or entire maps), they only received attention from 1861 on, when art critic Stasov published sample icons, including a map of Pskov dating to the mid-seventeenth century from the Vladychnyy Krest Chapel (209 × 386 cm).<sup>33</sup> This map is oriented to the east, and the buildings of the Pskov kremlin, city streets, and Pskov Lake and the Velikaya River are depicted in perspective. Two earlier icons from the sixteenth century similarly contain map details. First, there is the late sixteenth-century Pskov-Pechorskaya Virgin Mary (fig. 62.4).<sup>34</sup> Second, an icon from the Pokrovskiy Cathedral in Moscow, “Videniye ponomarya Tarasiya” (162 × 150 cm), quite clearly shows the topography of Novgorod with a map of the city, the monasteries in the area, the Volkhov River, and part of Lake Ilmen. Maps of Novgorod and its districts are also found on other icons (Mikhailovskaya, Znamenskaya), which are known in a number of versions. More than

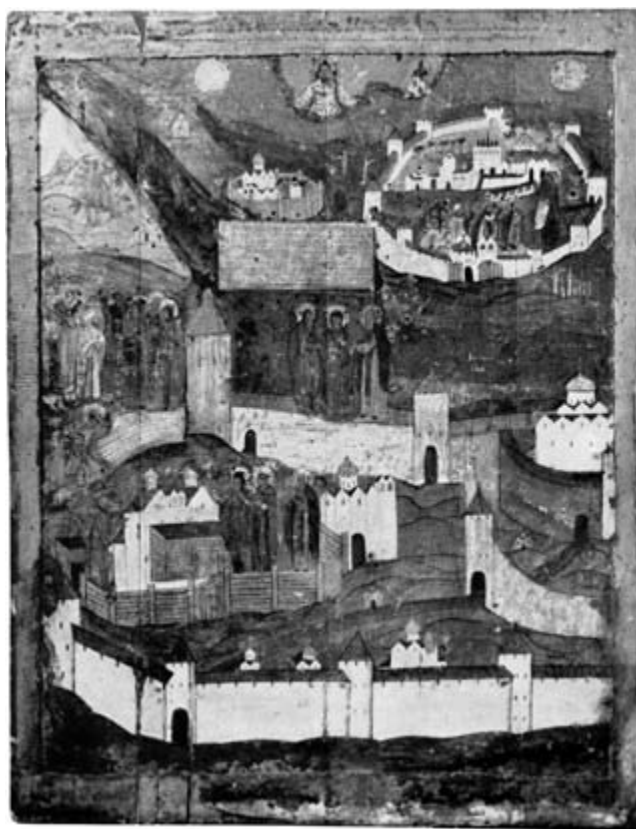


FIG. 62.4. PSKOV-PECHORSKAYA VIRGIN MARY ICON, END OF THE SIXTEENTH CENTURY. Part of the wall of the Pskov Kremlin and the Velikaya River are shown in the foreground, behind which is placed the Mirozhskiy Monastery. Size of the original: 109 × 84.5 cm. Held in private collection (FRG). Permission courtesy of Haus der Kunst, Munich.

twenty variants of sixteenth- and seventeenth-century icons have been preserved with maps of the Solovetski Islands and the monastery of the same name.<sup>35</sup> The most famous of these is that shown in figure 62.5.

increased. In this era, noted for its geographical discoveries and interest in maps, Muscovites were introduced to maps oriented to the south. This practice, however, must have been acquired before the last quarter of the fifteenth century, when maps, such as those of Ptolemy of 1478, with the now typical northern orientation were already beginning to appear.

33. V. V. Stasov, “Plan Pskova na obraze Sreteniya Bogoroditsy, sokhranyayushchemsya v chasovne Vladychnogo Kresta bliz Pskova,” *Zapiski Slavyano-russkogo Otdeleniya Arkheologicheskogo Obshchestva*, vol. 2 appendix (1861): 11–20.

34. *Ikonen 13. bis 19. Jahrhundert*, exhibition catalog (Munich: Haus der Kunst, 1969), pl. 234.

35. V. S. Kusov, “O russkikh kartograficheskikh izobrazheniyakh XVI v. (predvaritel'noye soobshcheniye),” in *Ispol'zovaniye starykh kart v geograficheskikh i istoricheskikh issledovaniyakh* (Moscow: Moskovskiy Filial Geograficheskogo Obshchestva SSSR, 1980), 113–21. See also *Arkhitekturno-khudozhestvennyye pamyatniki Solovetskikh ostrovov* (Moscow, 1980).

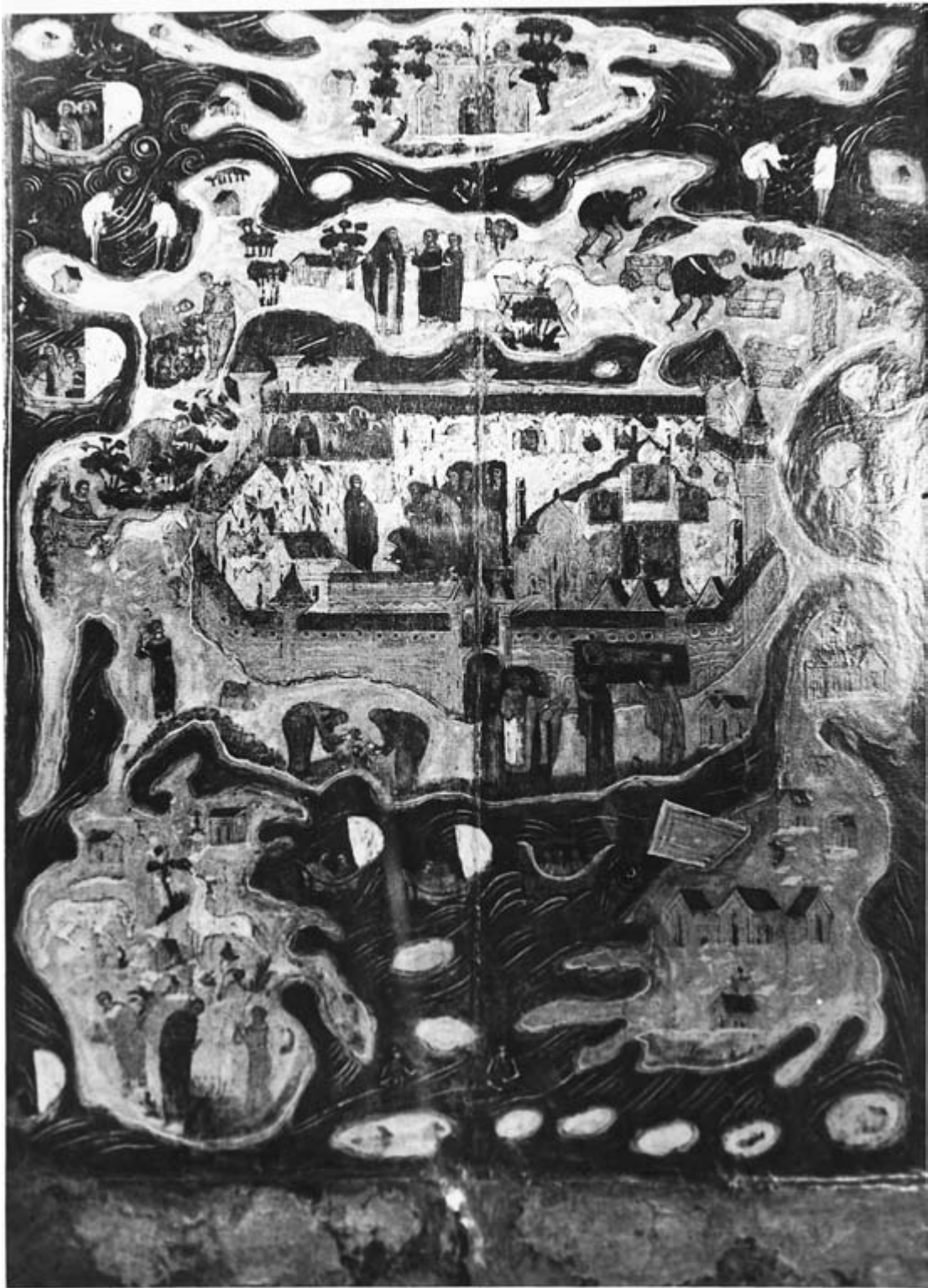


FIG. 62.5. MAP OF THE SOLOVETSKI ISLANDS ON THE ICON "BOGOMATER' BOGOLYUBSKAYA S PREDSTOYASHCHIMI ZOSIMOY I SAVVATEYEM SOLOVETSKIMI I STSENAMI IKH ZHITIYA." Among the cartographic features of this representation from the second half of the seventeenth century are the eastward orientation of the map, the

jaggedness of the coastline, the existence of interior bodies of water, and large and small islands.

Size of the original: 82 × 66 cm. Photograph courtesy of the Gosudarstvennyy Muzej-Zapovednik "Kolomenskoe," Moscow (no. Zh-1042).



The Russian icon maps always depict a local place, reflecting the perceived features of its geography. Typically they display a combination of a perspective (or semi-perspective) sketch with a planar depiction. On the group of icons relating to “local saints,” a perspective view of the monastery founded by the saint or of a hermitage was depicted next to the representation of the saint. Pictorial representation of walls and towers was often combined with a depiction in plan of the locality around the monastery. The figure or figures on the icon relating to historical events were sharply reduced in size, becoming commensurate with the remaining elements of the landscape.<sup>36</sup> For example, this technique was used in the Pskov-Pechorsk icon dedicated to the heroic defense of Pskov during the siege by the soldiers of Stefan Batori in 1581.<sup>37</sup>

Similar map icons have not yet been fully researched, and their investigation continues. It is, therefore, premature to draw any conclusions about the diffusion of icon cartography.

#### THE FORMATION OF THE CENTRALIZED RUSSIAN STATE: LOCAL MAPS AND REGIONAL BOUNDARY MAPS

A powerful stimulus to the accelerated development of mapping was the completion of the unification of the lands around the Grand Principality of Muscovy. The sixteenth was the first century in which a unified centralized Russian state emerged, although its territory continued to take shape during the wars with Lithuania, Poland, and the Crimea for the reunification of Russian, White Russian, and Ukrainian lands.<sup>38</sup> Evidence from this period has now been found to support the theories of scholars about the origins of Russian cartography. In 1956, what has remained the oldest extant Russian manuscript map—a schematic map from 1536–37—was found. It is the only map to have survived from the sixteenth century, and it relates to a plot of land adjacent to the Solonitsa River northwest of the village of Marinsk in the administrative district (*uyezd*) of Kostroma. It was preserved among the old copy books of the Troitse-Sergiev monastery (fig. 62.6).<sup>39</sup> The plan is a geometric figure. A study of the textual documents accompanying the plan enable us to determine its origin and purpose. The plan reflects the formation of a land transaction involving the purchase, by Elder Grigoriy for the Troitse-Sergiev monastery, of a plot of land beyond the Solonitsa River in the Kostromsk *uyezd* near the village of Marinskoye (twenty-five *versts* from the town of Nerekhta). The plot was fifteen *dessiatinas* (about sixteen and one half hectares) in size, ten of arable land and five of meadow (table 6.1). Although one can hardly speak of a strict scale on this plan, it is possible to come up with an approximation

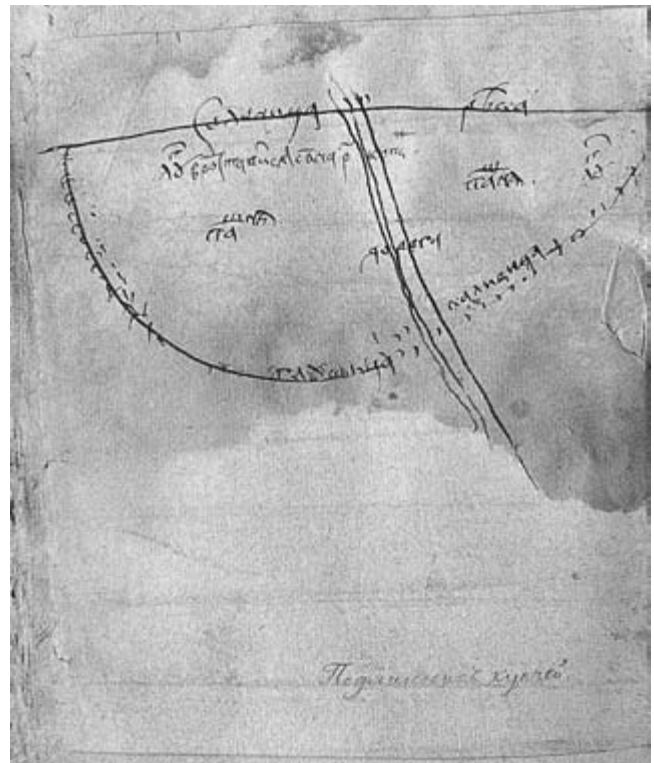


FIG. 62.6. OLD RUSSIAN MAP OF A PLOT OF LAND, 1536–37. The plan consists of two intersecting curves, in which the upper line resembles a chord and the lower line an arc. From approximately the middle of the “chord,” three lines are drawn toward and intersecting the arc. On the “chord” it reads “Solonitsa river,” on the arc, “wilderness Kalivitsa” (probably the name of an old river bed or ravine with water), on the three crossing lines, “road,” in the left and right parts it reads “meadow” and “arable land,” and “into the *rod* [harvest] go 100 bales of hay,” meaning that in a good harvest they would cut up to 100 bales. Size of the original: ca. 11.7 × 9 cm. Photograph courtesy of RGB (Manuscript Division, stock 303, book 518, sheet 417v).

36. Kusov, “O russkikh kartograficheskikh izobrazheniyakh,” 114.

37. A. V. Postnikov, *Razvitie krupnomasshtabnoy kartografii v Rossii* (Moscow: “Nauka,” 1989).

38. Tikhomirov, *Rossiya v XVI stoletii*; V. A. Kuchkin, *Formirovaniye gosudarstvennoy territorii Severo-Vostochnoy Rusi v X–XIV vv.* (Moscow, 1984). See also V. S. Kusov, *Kartograficheskoe iskusstvo Russkogo gosudarstva* (Moscow: “Nedra,” 1989), and idem, *Chertezhi zemli Russkoy, XVI–XVII vv.: Katalog-spravochnik* (Moscow: “Russkiy Mir,” 1993).

39. S. M. Kashtanov, “Chertëzh zemel'nogo uchastka XVI v.,” *Trudy Moskovskogo Gosudarstvennogo Istoriko-arkhiynogo Instituta* 17 (1963): 429–36, esp. 430. The discovery of the 1536–37 plan remained unnoted in the scholarly literature. Kashtanov's publication was a small and not widely distributed printing. See A. V. Postnikov, *Russia in Maps: A History of the Geographical Study and Cartography of the Country* (Moscow: Nash Dom–L'Age d'Homme, 1996), 10–12 (figs. 1 and 2) for a discussion and reproduction of this map.

Prokhorov makes a case for dating a newly discovered sketch map of a monastery to the late fourteenth century or the early fifteenth, which



TABLE 62.1 Measures in Sixteenth and Seventeenth Century Russia<sup>a</sup>

Linear		
4 <i>vershoks</i> = 1 <i>chetvert</i>	=	17.78 cm
4 <i>chetverts</i> = 1 <i>arshin</i>	=	71.12 cm
3 <i>arshins</i> = 1 <i>sagene</i> <sup>b</sup>	=	2.1336 m
500 <i>sagene</i> s = 1 <i>putevaua verst</i>	=	1.0668 km
1000 <i>sagene</i> s = 1 <i>mezhevaya verst</i>	=	2.1336 km
Areal		
<i>chetverts (chets)</i>	}	= 1 <i>dessiatina</i> = 1.0925 hectares
3 <i>dretniks</i>		
2000 square <i>sagene</i> s		

<sup>a</sup>The feudal period was characterized by nonstandard measures of distance and area and by widespread variation in the sizes of units of measurement in various regions. During the era of the centralized Muscovite state of the sixteenth and seventeenth centuries, a policy was implemented of introducing uniformity into metrology. The system for measuring distance in this period is given in this table.

<sup>b</sup>The oldest established measurement of distance between two points, Taman and Kerch—14,000 *sagene*s on the Tmutarakansk stone—unfortunately still cannot be conclusively deciphered, due to our lack of knowledge of the absolute size of a *sagene* in the eleventh century. In antiquity, and up to the sixteenth century, various types of *sagene*s were used, including: small (simple) = 1.4224 m; straight = 1.527 m; measuring = 1.764 m; sea = 1.863 m; oblique = 2.16 m; and great = 2.494 m. From the sixteenth century until about 1926, a *sagene* equal to 2.1336 m was used.

of 1:5700.<sup>40</sup> The upper line, representing the Solonitsa River, is less than one kilometer in length (about 741 m).

A number of other documentary allusions also point to the extent of mapmaking under the auspices of secular and clerical feudal lords as well as the central government. Thus, in a document of 18 September 1541, Ivan IV (the Terrible) ordered the Aleksinsk governor to issue a map of disputed lands along with the results of an investigation into the claims of the various landowners.<sup>41</sup> In documents of 1594–95, Czar Fedor Ivanovich similarly ordered the governors of Nizhniy Novgorod and Yadrinsk to demarcate boundaries “by investigation and by map” but also “to trace on the map how it was earlier, by the old boundaries.”<sup>42</sup> It is probable that such local maps were also being produced in the fifteenth century. They were usually connected with *prava obshchin* (right of peasants on lands of common use), which regulated the description of boundaries determined between landowners.<sup>43</sup>

Estate maps, made in association with the written results of investigations and books on boundary marking, also appear as a form of legal document supporting the right to own land. In this context, the oldest recorded critical observation by a contemporary with regard to the accuracy of a sixteenth-century map is of particular interest.

“This map is drawn falsely,” it was noted, “for the river Migina is named the Borets, but the Borets flows into the Vatrass River and not the Uronga.”<sup>44</sup>

Lists and inventories also confirm the erstwhile existence of a large number of sixteenth-century maps. Apart from large-scale maps relating to domestic areas, boundary maps were also compiled to demarcate foreign lands. In some cases, these were later compiled into composite regional maps that encompassed larger areas. Both types were increasingly recorded in inventories and lists. From the 1570s, they were listed among the imperial archives of Ivan IV and, from 1614, in the archives of the Foreign Office. Such maps were dated with reasonable accuracy during the reconstruction of the sixteenth-century State Archives of Russia.<sup>45</sup> Examples of maps mentioned in these inventories include a poorly preserved map stuck on canvas of the Swedish and Livonian border areas with Lithuania and Pskov (after 1510). A map in similar condition is recorded of “the border between Lithuanian lands and the Velizh oblasts,” and others include a poorly preserved map of the Seversk towns (after 1551), a map of the border between Toropets and Lithuania (after 1503), a 1522 map of Smolensk and the border of the Smolensk *volosts* (small rural districts), a map of Sebezh and Gomel (1543–44),<sup>46</sup> and a map from the first half of

would change substantially the date of the earliest surviving Russian map. See Gelian Mikhailovich Prokhorov, *Entsiklopediia russkogo igumena XIV–XV vv.* (St. Petersburg: Idz-vo “Olega Abyshoko,” 2003), 19.

40. One *dessiatina* is about 3.55 square cm on the map, so that one square cm equals 0.3 *dessiatinas* (taking a *dessiatina* in the late fifteenth to early sixteenth century to be 2500 square *sagene*s or about 1.1 hectares).

41. Ye. G. Volkonskaya, *Rod knyazey Volkonskikh* (St. Petersburg, 1900), 19. On the deed concerning the 1555 land map (Gramota o zemel’nom Chertezhe 1555 g.), see *Dopolneniia k aktam istoricheskim*, 12 vols. (St. Petersburg, 1846–72), 1:72.

42. *Akty feodal’nogo zemlevladieniia i khozyaystva*, 3 vols. (Moscow, 1951–61), 3:53–62. On the compilation of maps according to Fedor Ivanovich’s deed of 21 March 1594, and false Dmitrii I’s (Lzhedmitrii I) of 13 November, 1605, see *Akty feodal’nogo zemlevladieniia i khozyaystva*, 2:448–49, 367.

43. Such documents and lists pertaining to explorations and boundaries contain minor place-names and valuable information for students of historical geography; see the division of lands according to the disputes of 1479–1496, 1499, 1533, 1540–1551, 1555–1556, 1558, 1584, 1589, 1595–1598 into Ruzskii, Staritskii, Moskovskii, Kozel’skii, and other *uyezds* in *Akty feodal’nogo zemlevladieniia i khozyaystva*, 2:14, 26–27, 125, 152–54, 221, 232, 264–65, 277, 448; 3:12, 38, 42, 64, 225, 231; and 1:232. See also Valerie Kivelson, *Cartographies of Tsardom: The Land and Its Meanings in Seventeenth-Century Russia* (Ithaca: Cornell University Press, 2006), 29–98.

44. *Akty feodal’nogo zemlevladieniia i khozyaystva*, 3:54.

45. S. O. Shmidt, ed., *Opisi Tsarskogo Arkhiva XVI veka i Arkhiva Posol’skogo Prikaza 1614 goda* (Moscow, 1960), 338–40, and *Gosudarstvennyi arkhiv Rossii XVI stoletiya: Opyt rekonstruktsii*, 3 vols. (Moscow, 1978), 135, 136, 224, 337, 374, 507, 509.

46. Appears erroneously as “Gumenskoy” in the text of the document.

the sixteenth century of Velikiye Luki, the towns subject to Pskov and Polotsk. To the second half of the sixteenth century belong the maps and lists of Ukrainian towns (1551–52), a map of the city at the mouth of the Narova River (1557), maps of the Livonian towns and the “Kolyvanskaya prislyaga,” and a map of Polotsk and Ozerishche (mid-1560s). Although none of these manuscript maps have come down to us, they were all originally preserved in separate cases along with comparable materials dealing with Russian-Polish-Lithuanian relations (late 1400s–1520s), border demarcations (1560s), the construction of south Russian fortresses (from the 1560s on), and reference materials of a geographical nature.

THE TRANSITION TO GENERAL MAPS  
OF RUSSIA: THE “BOL’SHOY CHERTĚZH”

The collection and listing of local and regional maps concentrated in state administrative institutions—the Landed Estates Office, Foreign Office, Kazan Palace, and Defense Ministry—led to the possibility of the compilation of more general maps. A growing corpus of geographical reference materials accumulated, consisting of manuscripts that could be used as sources for mapmaking. These would have included, for instance, lists and descriptions of Smolensk and the surrounding *volosts* and of roads administered by the palace after 1514. Examples include the Lithuanian roads from Pskov and Luki (1512–14) and from Luki to Polotsk, of the Swedish border (1557), and of roads between “German” towns and the borders of the Polotsk lands and its outliers (1566). There are also enumerated descriptions serving as sources for the compilation of maps, not drafts. Official journeys of the court led to the accumulation of more material. In preparation for Ivan IV’s trip to Kazan in 1552, information was gathered about Kazan roads and the road from Murom to Sviyazhsk (1549–50). Almost two hundred years later, the historian Tatishchev noted a manuscript map from the mid-sixteenth century on sixteen sheets that contained the entire area of the former Kazan empire. It was without a scale, but the number of *verst*s between settlements had been noted.<sup>47</sup>

It is clear that by the mid-sixteenth century geographical descriptions and national maps of the expanding Russian state were either contemplated or had been undertaken. Included in the inventory of the Czar’s archive (1575–84) was the “Spisok razvodnoy na vsyu zemlyu,” a geographical description of the territory of the entire state. In 1551, regular descriptions of the lands of the Russian state were initiated and, during the course of this activity, a standard unit of land measurement was established, the *sokha*—which varied in size with land productivity.<sup>48</sup> Tatishchev also records Ivan IV’s order of 1552 not only to survey the land but to “make a map of the state.”<sup>49</sup>

That official maps and geographical descriptions become more numerous after 1550 indicates that the imperial order was carried out. Yet it is difficult to date exactly the completion of this ambitious task. The general manuscript map of the Muscovite state, commonly known as the “Bol’shoi chertĕzh,” presumably dates from sometime between the 1570s and the first few years of the seventeenth century; 1598 or 1600–1601 are most often cited. The map itself has been lost and its size, scale, and graphic design are not known for certain. The initial attempts, undertaken in 1856 and 1947, to reconstruct the original from descriptions preserved in copies were not successful.<sup>50</sup>

The disastrous Moscow fire of 3 May 1626 had unexpected results for the history of Russian cartography. During the course of the reconstruction of the official archives, which included maps, the so-called “Kniga Bol’shomu chertĕzhu” was compiled. For a long time this book was the only reliable source able to shed light on the older map of the “entire Muscovite state extend-

47. Tatishchev, *Istoriya Rossiyskaya*, 1:348.

48. Geometry was used in the Muscovite state of the sixteenth and seventeenth centuries mainly in connection with the problems of measuring areas of land for the subsequent translation of the results of these measurements into *sokhas*—conditional units for the assessment of land for taxation. For clerks describing and measuring estates, a special manual was compiled, the *Kniga soshnogo pis'ma* of the year 1629. The book was published in the *Vremennik Imperatorskago Moskovskogo Obshchestva istorii i drevnostey rossiyskikh*, 25 vols. (Moscow, 1849–57), 17:33. The term “*sokha* writing” refers to a system of assessing land for taxation. It was based on the interrelationship of surface areas with variable units of assessment, the most important of which was the *sokha*. Its size (in real land units) depended both upon the social category of the land owner and the quality of the land being assessed for taxation. Thus, for example, within the borders of a church or monastery estate one *sokha* equaled six hundred *chetverts* of fertile land, seven hundred *chetverts* of medium-grade land, and eight hundred *chetverts* of land unsuitable for cultivation. Different proportions of various lands equaled a *sokha* for the nobility, for state serfs, and others. The number of *chetverts* in a *sokha* was inversely proportional to the burden of taxation. A *sokha* equaling eight hundred *chetverts* was called a “large Muscovite *sokha*.”

49. Tatishchev, *Istoriya Rossiyskaya*, 1:348. Although this statement by the learned eighteenth-century historian and geographer is not corroborated by other independent information, its reference to the land description of the state conducted in the 1550s is generally accepted as correct. Tatishchev’s historical essay often serves as a historical source, making up for numerous losses of documentary materials from the early (pre-seventeenth-century) period of Russian history.

50. In 1852–53 the Russkoe Geograficheskoe Obshchestvo (Russian Geographic Society) twice announced a competition dealing with the reconstruction and explanation of the “Bol’shoi chertĕzh.” In 1856, G. S. Kuklinskiy submitted a text and two maps, but this work was considered unsatisfactory by the Commission. F. A. Shibanov’s reconstruction in 1947 also failed to receive general recognition. See D. Prozorovskiy, “O razmerakh Bol’shogo chertĕzha,” *Izvestiya Russkogo Arkheologicheskogo Obshchestva* 2 (1882): 118–30, and F. A. Shibanov, “‘Bol’shoi chertĕzh,’ ili pervaya original’naya russkaya karta Moskovskogo gosudarstva,” *Vestnik Leningradskogo Universiteta* 5 (1947): 99–102.

ing to all the neighboring states.”<sup>51</sup> In view of the scanty information in the “*Kniga Bol’shomu chertëzhu*,” we will separate the direct, first-hand, documentary evidence from the numerous later speculations and theories of scholars.<sup>52</sup>

As a result of the order from Czar Michael (Michael Romanov) to search the Defense Ministry, an old map was discovered, miraculously spared by the fire and made “long ago, under the former czars.”<sup>53</sup> It was in poor condition. Many of the geographical landmarks (*urochishcha*) were no longer visible, and it was noted then that “it is all worn and ruined.”<sup>54</sup> At the same time, enough of the map survived to reveal its detail. Landmarks had been designated and the distances between geographical points were indicated (in *versts*). In addition to its generally poor physical condition, the map was incomplete on the southern edge of the state, and the information on Siberia was significantly outdated. At this time, Fyodor Likhachev and Mikhail Danilov, officials in the Defense Ministry, arranged the compilation of a new general map of the Muscovite state, preserving the features and scale of the older version. They also arranged for a map of the “Field” (*pole*, meaning “steppe”) from Moscow to Perekop based on old defense texts. Detailed written descriptions were to accompany both maps. The orders were carried out faithfully. A new general map of the whole state, “reflecting as much as possible the old map,”<sup>55</sup> was completed between 1626 and 1627. At the same time, a regional map “from Moscow, of the Rezan, Seversk, and Polish towns and of the Field, and the rivers, and every landmark to Perekop by three roads, and of the Crimean horde”<sup>56</sup> and a description of the national map were also produced. It is the latter, the written description, that came to be known as the “*Kniga Bol’shomu chertëzhu*.”

Both the regional and general maps were lost, apparently in the last quarter of the seventeenth century, inasmuch as they were still mentioned in the Defense Ministry’s inventory of maps in 1668.<sup>57</sup> Of great interest is the supposition, albeit debatable, that the manuscript maps found by Bagrow in Sweden, the “*Chertëzh ukrainskim i cherkaskim gorodam ot Moskvyy do Kryma*” by Leontiy Klishin (late 1670s) together with a similar map made for V. P. Golitsyn (1680s), are copies of, or supplements to, the regional map of 1627.<sup>58</sup>

Archival information has been uncovered on the author of the 1627 regional map and of the “*Kniga Bol’shomu chertëzhu*.” In his petition of 12 September 1627, Afanasiy Ivanovich Mezentsov—a draftsman-cartographer for the Defense Ministry and a native of Kursk—declares that he has already finished the “*Bol’shoy chertëzh*” and is continuing his work on the texts and on the subsequent collation of the maps and texts. However, a second petition concerning the payment of his salary suggests that in October of the same year the “*Kniga Bol’shomu chertëzhu*” had not yet been completed.<sup>59</sup>

The “*Kniga Bol’shomu chertëzhu*” gives us a written picture of the old and new general maps as well as of the regional map, all of which are no longer extant. After a short introduction, the main text opens with a description of the regional map. We learn that it covered a narrow strip between the left tributaries of the Dnieper and the right tributaries of the Don, and that in length it ran from Moscow to the Black Sea, including the Crimea. The description followed the roads to Murava, Izyum, and Kalmius—the three main strategic roads of the south. Evidently the map was designed for military defense. The description is particularly careful in locating Tatar roads, fords and other points of “crossing,” guard posts, villages, forts, abatis, ditches, and wells.

The description emphasizes the relief and hydrographic features that had been included on the old general map of the Russian state, the framework for which was the river network. This section of the “*Kniga Bol’shomu chertëzhu*” describes the rivers, indicating their length, tributaries, and sources. A description is also given of the towns and distances between them, the monasteries and cemeteries, useful mineral deposits, and the distribution of nationalities. According to Shibanov’s analysis, the “*Bol’shoy chertëzh*” covered territory from approximately 26°E to 85°E and from 36°N to 71°N. Numerous studies have established its authenticity, and hence that of the general map as well, with the exception of those regions where no Russian exploration had taken place (Central

51. *Kniga Bol’shomu chertëzhu*, ed. K. N. Serbina (Moscow-Leningrad, 1950), 50. This edition was the fifth publication and was based on the scientific analysis of thirty-eight lists. The previous publications—by N. I. Novikov (1773), A. A. Musin-Pushkin (1792), D. I. Yazykov (1832), and G. I. Spasskiy (1846)—are interesting in historiographical terms, but cannot serve as reliable sources.

52. The absence of factual material, other than the text of the “*Kniga Bol’shomu chertëzhu*,” often leads to pointless discussion concerning the dimensions of the “*Bol’shoy chertëzh*” (old and new), its true scale, and its direct influence on other seventeenth-century maps (for example, the paradoxical opinion that in olden days people somehow did not understand the differences in size and that the “*Bol’shoy chertëzh*” was small). See B. P. Polevoy, “Novoye o ‘*Bol’shom chertëzhe*,’” *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, 1967, no. 6, 121–30.

53. V. I. Lamanskiy, “Starinnaya russkaya kartografiya,” *Vestnik Russkogo Geograficheskogo Obshchestva* 27 (1859): 11–18, esp. 15.

54. *Kniga Bol’shomu chertëzhu*, 49.

55. *Kniga Bol’shomu chertëzhu*, 50.

56. RNB, Manuscript Division, no. QXXII (396), sheets 5–5v.

57. A. A. Gozdavo-Golombievskiy, “Opis’ chertëzhey, khra-nivshikhysya v Razryade vo vtoroy polovine XVII veka,” in *Opisaniye dokumentov i bumag khra-nivshikhysya v Moskovskom arkhive Ministerstva yustitsii* (Moscow, 1889), bk. 6, sec. 2, 3–28.

58. Leo Bagrow, “Chertëzh ukrainskim i cherkaskim gorodam 17 veka,” *Trudy Russkikh Uchënykh Za-Granitsey* 2 (1923): 30–43, and Bagrow, *Russian Cartography*, 8–11.

59. A. A. Uranosov, “K istorii sostavlenniya ‘*Knigi Bol’shomu chertëzhu*,’” *Voprosy Istorii Yestestvoznaniya i Tekhniki* 4 (1957): 188–90. The 1627 petition can be found in RGADA (stock 210, Sevskiy Dept., roll 80, sheet 7).



Asia, Kazakhstan, and the Caucasus).<sup>60</sup> The old general map, like the general map of 1627, must have far surpassed in its richness of geographical detail all other maps of Russia down to the mid-seventeenth century. It is not surprising, therefore, that the “Kniga Bol’shomu chertëzhu” was to exert a marked influence on the subsequent history of Russian cartography. It was disseminated in manuscript copies down to the nineteenth century, and it long served as the basis for official geographical work. Thus, almost sixty years after its creation, a copy of the work was delivered to Lavrentiy Bogdanov, a minor official in the Defense Ministry responsible for departmental maps. With the compilation of such general strategic maps of the Russian state, the initial stage in the development of pre-Petrine cartography was concluded.

#### OTHER OFFICIAL MAPS AND LOCAL MAPS

The cartographic activities of the Defense Ministry provide a further instance of this growing recognition of the importance of maps to the conduct of affairs of state. No fewer than 250 maps from the period 1625–68 have survived in the Defense Ministry.<sup>61</sup> During the seventeenth century this ministry sponsored numerous maps of widely varying content and purpose from differing areas in European Russia. On 26 December 1618, Mezentsov and Fyodor Nakvasin received five rubles each as a reward for “compiling maps of the Muscovite state in the Defense Ministry.”<sup>62</sup> Later, Mezentsov sent the Ministry a map of Vyazma (1625–26) and a map of Putivl (1634–35). Both in the main centers and in more remote posts, officials were commissioned to compile maps. The names of many such draftsmen have been preserved in the archives.<sup>63</sup>

The supply of cartographic raw materials was also increased with the development of a network of other important state institutions, under whose auspices mapping and geographical descriptions were carried out. Only a very small number of the numerous maps and plans of the sixteenth and seventeenth centuries, whose existence is known through old inventories, have been preserved. Such maps were kept in the Czar’s Archive, among documents of the Office of Secret Affairs, the Artillery Office, the Landed Estates Office, the Foreign Office, and the successor to the Kazan Office—the Siberian Office.<sup>64</sup> Not a single map has been found from the Defense Office’s 1668 inventory. None of the cartographic materials described in the recently discovered small “An old list of the maps” of 1667–71 has been preserved. This text listed maps of the steppe belt (Don, Volga, and Yaik), the southern seas, and Persia.<sup>65</sup> Still undiscovered are the maps noted in the “text to the maps of various states,” which were located in the Foreign Office by 1614.<sup>66</sup> In the archival affairs of the Siberian Office are instructions for hundreds of maps that were being compiled in Siberia and Moscow during the

seventeenth century. However, among the 2048 scrolls of the Siberian Office, the historian Ogloblin found only three maps at the end of the nineteenth century.<sup>67</sup>

Among the five known inventories of early maps and plans, of particular interest is the inventory of Czar Aleksey Mikhaylovich’s personal office—the Secret Office, or Office of Secret Affairs. In 1713 the “Inventory of the affairs of the Office of Secret Affairs” or the “Inventory of Nikita Zotov” was compiled.<sup>68</sup> The inventory reveals the contents of the cartographic materials, kept in separate sheets and in two books, which were placed in a small trunk made of black leather. Among the large folded sheets are mentioned maps of Siberian towns, the Chinese State, Azov, and of the Cherkassian towns. In the first book, with a wooden binding covered with red paper, were collected maps and plans of the Solovetskiy and Solochenskiy monasteries, towns (Smolensk, Dedilov, Mozhaysk, Serpukhov, Belgorod, Mogilev, Putivl, Sevsk, Arkhangelsk, Kostroma, and others), many villages, the river Dvina, the Caspian Sea, Lake Ladoga, Lake Ilmen, and Beloozera (White Lake).<sup>69</sup> Of the maps enumerated in the inventory (fifty-one titles), only one remains completely intact: the map of Russian and Swedish towns to the Varyazhsk Sea. According to the inventory, in the second book, with a binding of red leather, were located “various drafts of the city walls and streets of Moscow, and of the households [courts] of the bishops, monasteries, nobles, and all ranks of people, and of the sovereign’s

60. F. A. Shibanov, “‘Bol’shoy chertëzh’—pervaya original’naya karta Moskovskogo gosudarstva,” *Trudy Vtorogo Vsesoyuznogo Geograficheskogo S’yezda* 3 (1949): 272–80.

61. Gozdavo-Golombievskiy, “Opis’ chertëzhey.”

62. A. A. Uranosov, “K istorii kartograficheskikh rabot v Russkom gosudarstve v nachale XVII v.,” *Trudy Instituta Istorii Yestestvoznaniya i Tekhniki Akademii Nauk SSSR*, 42, no. 3 (1962): 272–75.

63. The most well-trained and qualified among them, known for their expertise, were professional draftsmen-cartographers like Mezentsov and Nakvasin, and later Klishin, Semyon Ulianovich Remezov, and M. F. Strelkovskiy. Others included Ivan Kuzmin, Fyodor Vasiliev, Ivan Fyodorov, Ivan Matveyev, Father Pafnutiy, Father Vaarlam, Vasilii Fedoseyev, Stanislav Loputskiy, Fyodor Yakimov, Matvey Afanasiev, Martin Ignatiev, Pyotr Teplovskiy, and Ivan Koslovskiy.

64. Inventories of the Czar’s Archive, boxes 21, 22, 26, 57, 64, 98, 144, 163, 164, 188, 197, 220, 221, 227.

65. V. S. Kusov, “Naydena novaya rospis’ russkim chertëzham,” *Izvestiya Vysshikh Uchebnykh Zavedeniy: Geodeziya i Aerofotoc’emka* 3 (1976): 121–23.

66. S. A. Belokurov, “Rospis’ chertëzham roznykh gosudarstv,” *Chteniya v Obschestve Istorii i Drevnostey Rossiyskikh* (1894), bk. 3, sec. 4, p. 16.

67. N. N. Ogloblin, “Istochniki ‘Chertëzhnoy knigi Sibiri’ Semëna Remezova,” *Bibliograf*, 1891, no. 1, 2–11, esp. 4.

68. RGADA, stock 27, book 518, sheets 33v–39. Published by V. I. Lamanskiy, “Opis’ delam prikaza Taynykh del,” *Zapiski Otdeleniya Russkoy i Slavyanskoy Arkheologii Russkogo Arkheologicheskogo Obshchestva* 2 (1861): 1–43, esp. 25–28.

69. Lamanskiy, “Starinnaya russkaya kartografiya,” 15.

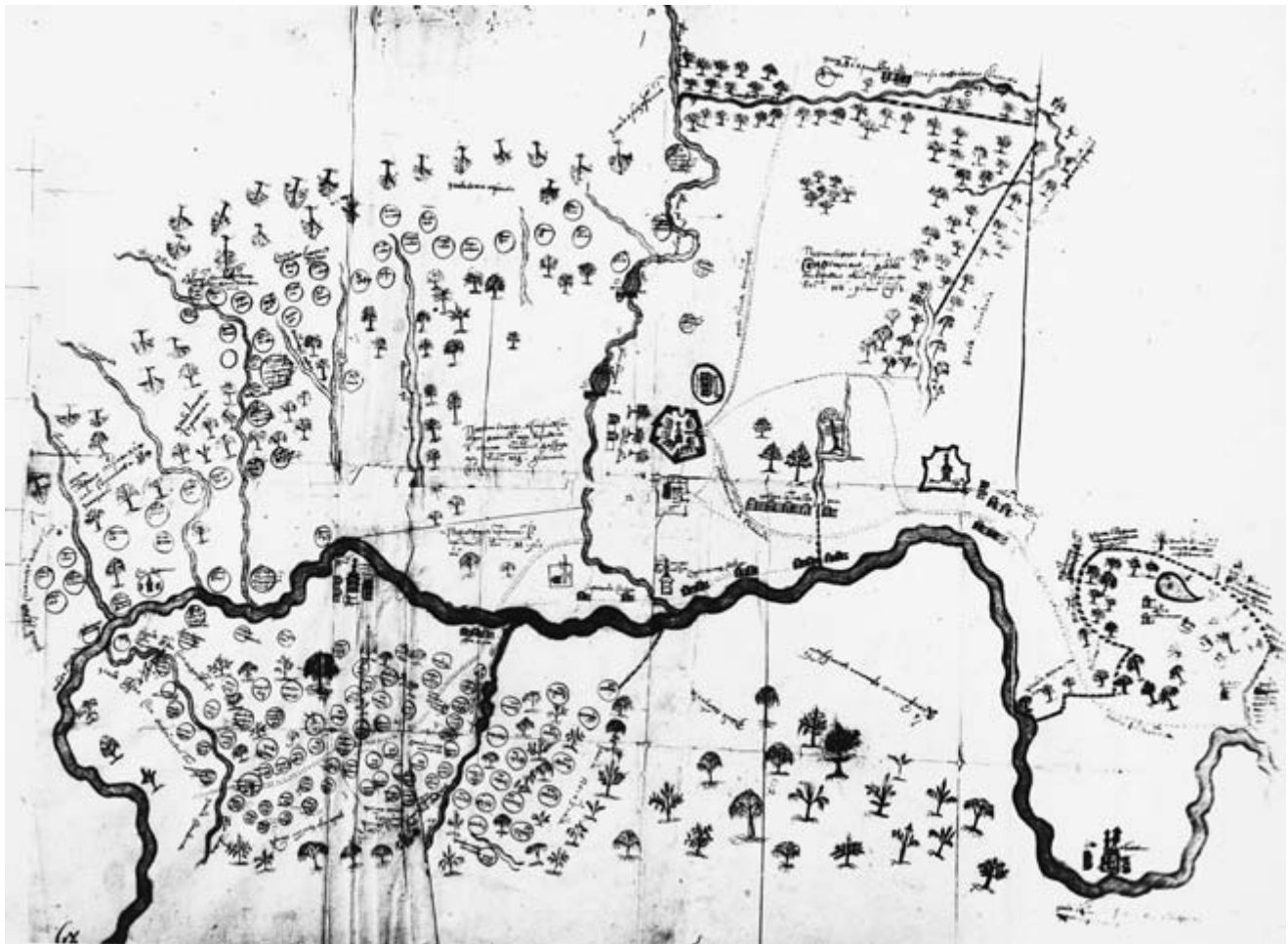


FIG. 62.7. MAP OF THE AREA AROUND THE CITY OF ZVENIGOROD AND THE SAVVINO-STOROZHEVSKIY MONASTERY, 1664. One of the maps kept in the Secret Office and reflecting the personal interests of Czar Aleksey Mikhailovich. The area depicted is a section of the basin of the Moscow River with its small tributary streams and lands belonging to various landowners—the czar, Prince Pyotr M.

Saltykov, the Prozorovskiys, the Troitskiy Monastery, and others. Numerous villages and hamlets are shown in circles with inscriptions. Ravines, boundary lines, roads (the Great Moscow, to Voskresenskoye), woods, a mill, churches, and *slobodas* are noted with special symbols.

Size of original fragment: 62 × 80 cm. Photograph courtesy of RGADA (stock 27, no. 484, part III, sheet 29).

palace villages and volosts, and of the palaces and gardens in them, and of every structure and of the villages and hamlets of various landowners, and of the lands, and various other drafts without signatures.”<sup>70</sup> These graphic materials were not only well preserved, but many of the 379 maps, plans, and architectural drafts of Moscow and the greater Moscow area of the 1660s and 1670s were published.<sup>71</sup> Of this group, 139 are land plans depicting Moscow, the surrounding towns and villages (fig. 62.7), lands of the palace, and plots of land or the holdings of various landowners (nobles, monasteries).<sup>72</sup>

Excluding maps that were not preserved or are known only from documentary references, a total of some 870 seventeenth-century Russian maps have now been located as available for research. This tally is based on years of

investigation concentrated in fourteen institutions in the former USSR, the USA, Sweden, Germany, and France.<sup>73</sup>

70. RGADA, stock 27, book 518, sheet 38v. See also Goldenberg, *Russian Maps*, 4–6.

71. S. A. Belokurov, *Plany goroda Moskvy XVII veka* (Moscow, 1898); a collection of drafts of the city of Moscow, its surroundings, and of the city of Pskov in the seventeenth century is in a supplement to Lamanskiy, “Opis’ delam prikaza Taynykh del.”

72. RGADA, stock 27, no. 484; L. A. Goldenberg, “Kartograficheskiye materialy kak istoricheskiy istochnik i ikh klassifikatsiya (XVII–XVIII vv.),” *Problemy Istochnikovovedeniya* 7 (1959): 296–347, esp. 304–5, which show two typical seventeenth-century land plans from the Secret Office.

73. The cartographic works of Remezov are not included among these. See V. S. Kusov, “Russkiy geograficheskiy chertezh XVII veka

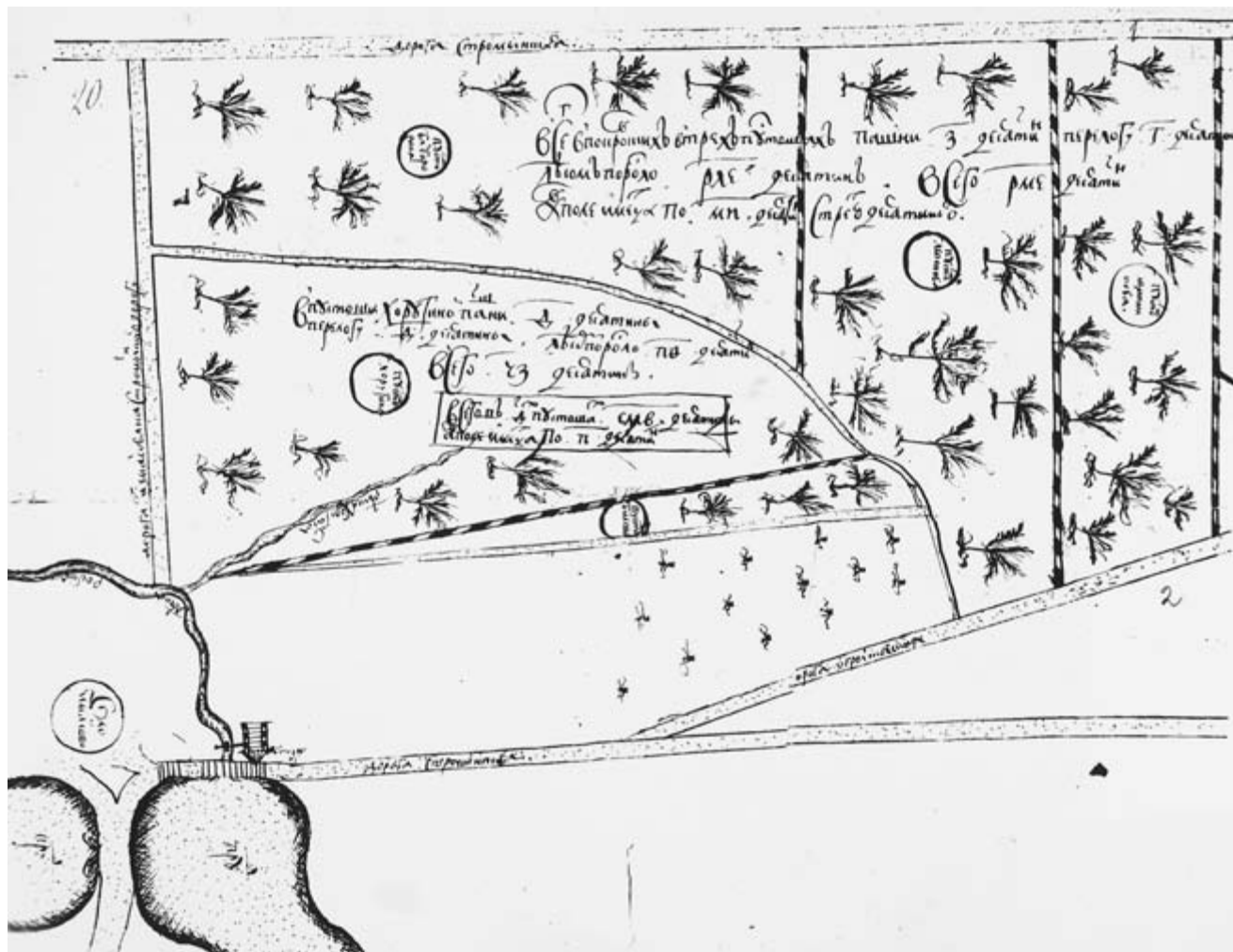


FIG. 62.8. MAP OF THE WASTE LAND OF THE VILLAGE OF IZMAILOV, 1670s. Altogether in the three Pokrovsk waste lands there are 7 *dessiatinas* (1 *dessiatina* = ca. 1.1 hectares) of tilled fields, 3 *dessiatinas* lie fallow, and 135 *dessiatinas* are wooded. There are 145 *dessiatinas* in all, and the

field comprises 48.3 *dessiatinas*. In the Khorugina waste land there are 4 *dessiatinas* of tilled fields, 4 *dessiatinas* fallow, and 89 *dessiatinas* of woods; a total of 97 *dessiatinas*. Size of the original: 30 × 39 cm. Photograph courtesy of RGADA (stock 27, no. 484, part II, sheet 23).

The mass of material relates to all of European Russia, albeit extremely unevenly, and it probably reflects the volume of original production as much as survival rates. A geographical analysis reveals that 70 percent of the maps pertain to Moscow and the trans-Moscow regions, 6 percent to the Novgorod towns, 5 percent to the Ryazan and Ponzov towns, 15 percent to Ukrainian towns, and 4 percent to the Urals. In terms of subject matter, the great majority of the maps relate to local, privately-produced representations of parcels of land, tilled fields, and waste land (fig. 62.8), together with plans of cities, walled towns, and city fortifications.

The systematic examination of this corpus allows us to make some initial generalizations. Given the absence of standardized cartographic signs, such seventeenth-century maps are characterized by the use of a group of some thirty

recurring signs arrived at through custom. The most important of these were for roads, rivers, lakes, forests, mountains, bushes, ravines, swamps, settlements (towns, villages, hamlets, forts, *slobodas*), monasteries, churches, chapels, arable land, waste ground, hay mowings, wells, bridges, granaries, abatis, ditches, mills, and boundary signs. Rivers, the road network, and borders were depicted in plan; mountains, forests, and settlements were shown in perspective or semiperspective drawings. Although in the late sixteenth century and throughout the seventeenth century a marked differentiation in maps is noticeable based on their purpose, the symbols for these groups were essentially uniform. In addition, statistical information is

(itogi vyyavleniya),” *Vestnik Moskovskogo Universiteta: Seriya 5, Geografiya* (1983), no. 1, 60–67.



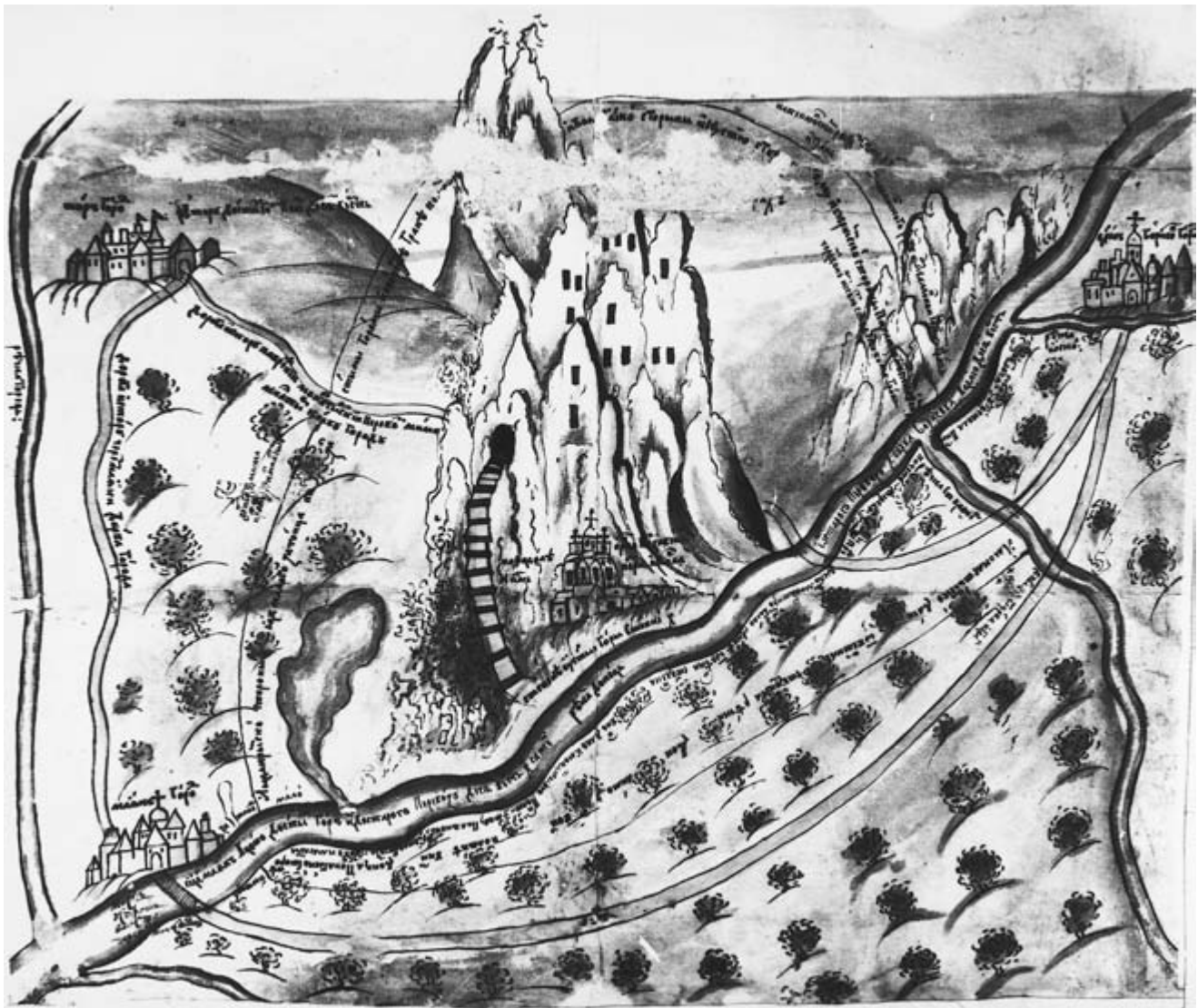


FIG. 62.9. MAP OF THE LOCALITIES ALONG THE DONETS RIVER, 1679. Size of the original: 47 × 67 cm. Photograph courtesy of

RGADA (stock 210, Belgorodskiy Dept., roll 886, sheets 87–88).

provided on some maps (such as the area of parcels of land and town squares connected with the mapping of topographic features) (fig. 62.9). Most maps are characterized by their accurate recording of water features and place-names. In general, four color conventions were used on the maps: blue for hydrographic features, green for areas of vegetation, yellowish-brown for road networks, and red for settlements (plate 78).

It is more difficult to generalize about the format of the maps. In part, the various map sizes were determined by the size of a typical seventeenth-century sheet of paper (32 × 41 cm, ± 3 cm). Among the surviving maps, 71 percent consist of one or two sheets, 11 percent are on half- or quarter-sheets, 13 percent on four sheets, and 5 percent on six or more sheets. Unique among this last group are the enormous city maps of Kiev (1695; 313.5 ×

143 cm) and Pskov (1694; 292 × 120 cm).<sup>74</sup> The map of Kiev was made during a period when, due to complicated international and military circumstances, Kiev had become the only Russian-Ukrainian outpost on the right bank of the Dniepr. The names of the compilers, Kievan artist-cartographers, remain unknown. With the increased strategic importance of the city, the Russian government devoted particular attention to the creation of city fortifications, and intensive work had been done on them during the last decades of the seventeenth century. In keeping with tradition, the map shows a huge city from a bird's-eye view. Numerous sketches with inscriptions

74. G. V. Alferova and V. A. Kharlamov, *Kiev vo vtoroy polovine XVII veka* (Kiev, 1982), 20–28; RGADA, stock 192, Pskov province, no. 3.

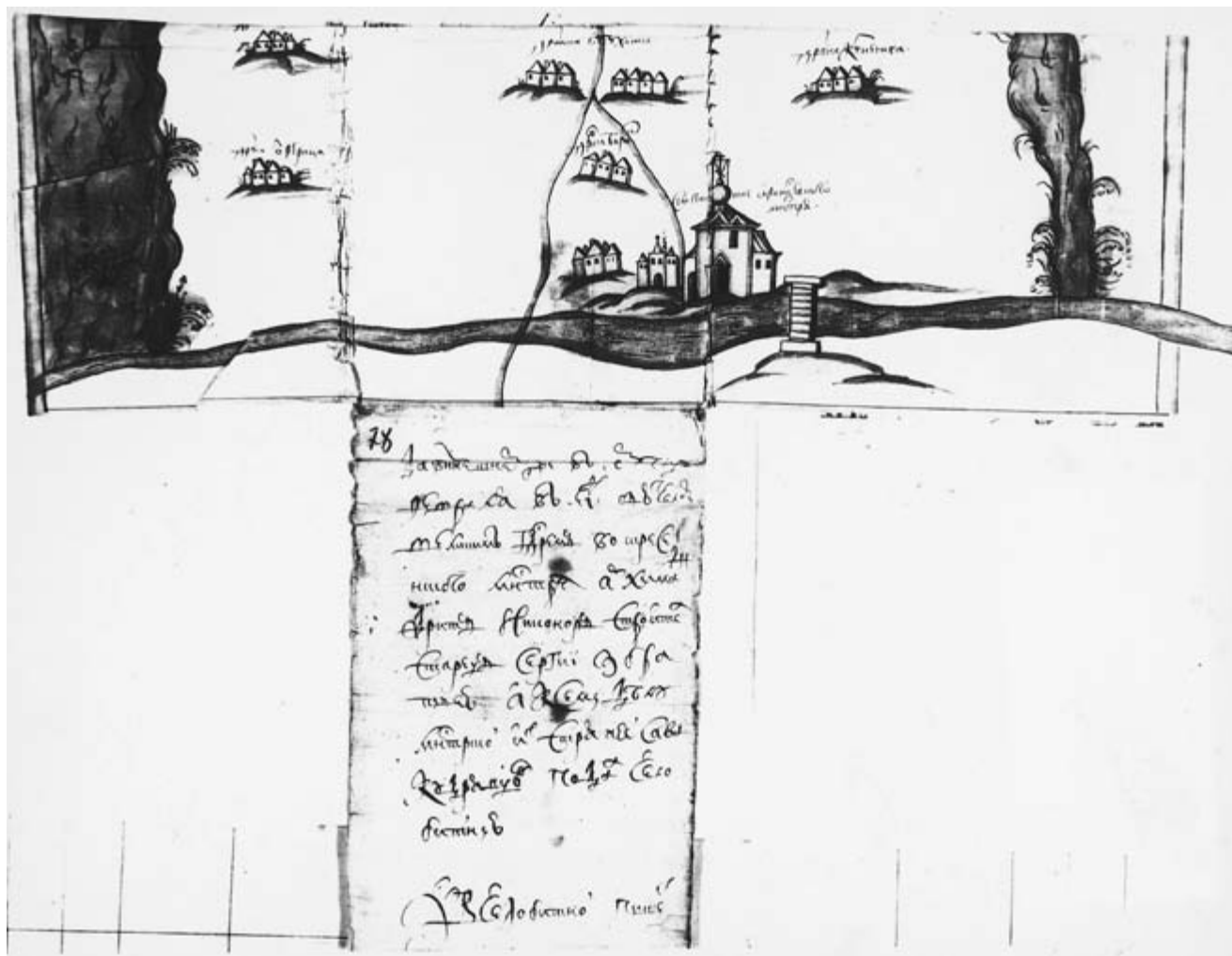


FIG. 62.10. LAND MAP, YAROSLAVL UYEZD. This 1692 map attached to a column, concerned a boundary dispute between a monastery and peasants.

Size of original fragment: 58 × 63 cm. Photograph courtesy of RGADA (stock 1209, Uglich, no. 152/35626, sheet 77v).

enable one to look over the land fortifications and various structures—government buildings, aristocratic houses, and residential structures. The drawings give the nature and purpose of the structures, and one can even distinguish the methods of construction. In this respect, the map is an important historical source in the study of architecture, city-building, and the reconstruction of Kiev in the second half of the seventeenth century.

The standard clerical procedures in the offices helped to determine the format of the maps. For instance, almost all of the maps of the Landed Estates Office, as the graphic counterparts of the written descriptions, had been placed (depending upon their size), among parchment rolls (fig. 62.10).<sup>75</sup> Particular maps and their accompanying written explanations do not always coincide in terms of geo-

graphical content and other information but tend to supplement each other. As a result, maps removed from their accompanying texts are often difficult to identify, even in terms of the locality depicted. This manner of combining graphic and textual information, involving relatively simple methods of graphic depiction, became the normal practice.

Smaller-scale regional maps (usually at scales of between 1:200,000 and 1:1,000,000) depict larger regions or features of considerable length (fig. 62.11), but very few of these have been preserved. Among the features they show are rivers, river basins, roads, forests, estates, and

75. For example, see RGADA, stock 1209.



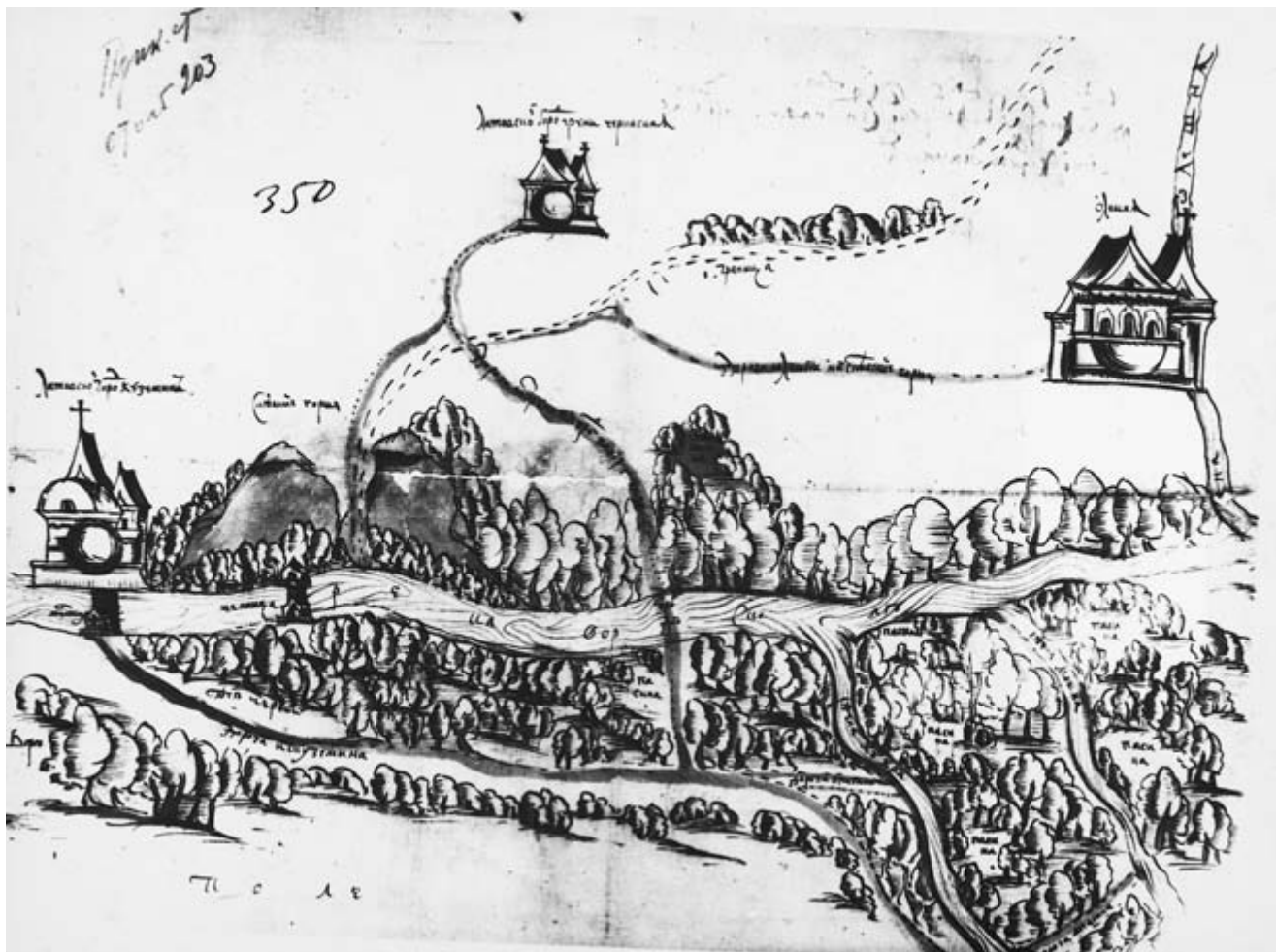


FIG. 62.11. MAP OF THE LOCALITIES ALONG THE VORSKLA AND OLESHNYA RIVERS, 1652. The region between the town of Oleshnya (on the right), Grun' Cherkasskaya (above), and Kuzemin (on the left) is shown. In the basin of the river Vorskla are depicted its tributaries—the

Oleshnya, Moshna, and Khukhra—two mills, and roads. The central area is allotted to the deciduous forests. To the right of Kuzmenin rise the "Skel'skiye mountains."

Size of the original: 31 × 39 cm. Photograph courtesy of RGADA (stock 210, Prikaznoy Dept., roll 203, sheet 350).

fortifications, such as abatis and defensive ramparts (fig. 62.12). Notable examples include the Russian maps of the Volga and Kama rivers (1633) and of the Dnieper (1650–70), which were found in the Krigsarkivet, Stockholm.<sup>76</sup> Similarly, a Russian road map of 1685, oriented to the south and having a compass rose of European design, shows in detail the roads and fortifications in the south.<sup>77</sup> And an original map, compiled in Novgorod in the mid-seventeenth century, was found in Moscow in 1656. This "Chertëzh russkim i shvedskim gorodam do Varyazhskogo morya" demonstrates the knowledge that Russian draftsmen had of contemporary Western European cartography: the outline of the Baltic Sea is taken from Andreas Bureus's map of Scandinavia (1626). At the same time, much of the content of this map of Novgorod and its vicinity, such as the details of roads, distances, and

city fortifications, was based entirely on Russian sources, including a series of local maps.<sup>78</sup>

Regional maps, like general maps of the state, were always accompanied by individual explanatory texts—the so-called *rospis' protiv chertëzhu* (inventory to the map).

76. It is here that maps of the cities of Pskov (1615), Grodno (1655), and Azov (1697) are preserved.

77. Leo Bagrow, "A Russian Communications Map, ca. 1685," *Imago Mundi* 9 (1952): 99–101, and idem, "The First Maps of the Dnieper Cataracts," *Imago Mundi* 10 (1953): 87–98.

78. I. A. Golubtsov, "Puti soobshcheniya v byvshikh zemlyakh Novgoroda Velikogo v XVI–XVII vekakh i otrazheniye ikh na russkoy karte serediny XVII veka," *Voprosy Geografii* 20 (1950): 271–302, and Harald Köhlin, "Some 17th-Century Swedish and Russian Maps of the Borderland between Russia and the Baltic Countries," *Imago Mundi* 9 (1952): 95–97.





FIG. 62.12. MAP OF THE REGION BETWEEN THE DON AND OSKOL RIVERS WITH THE POLATOVSKIY AND NOVOOSKOL'SKIY RAMPARTS, CA. 1697. Fortifications are designated in the form of two long rectangles: the Polatovskiy rampart—between the river Tikhaya Sosna and the stream Voluyets, running past the newly-built Cherkaskaya *sloboda*, and the Novooskol'skiy rampart—from the upper reaches of the Tikhaya Sosna at the settlement of Verkhosenskiy to the river Oskol near the settlement Novyy Oskol. Sketched in are eight settlements, the Polatovskiy forest, and tributaries of the rivers Don and Oskol. Size of the original: 19 × 33 cm. Photograph courtesy of RGADA (stock 210, Belgorodskiy Dept., roll 1227, sheet 42).

In these cases, too, there are discrepancies—as in hydrography and other details—between maps and explanatory texts. In general, the latter provide the fuller recension of the geographical information assembled by the compilers.

#### ORGANIZATION AND COMPILATION METHODS

It is possible to summarize some of the characteristic organizational features of early modern Russian cartography as a whole and as revealed in the general, regional, and local maps. Crucial to its development in the seventeenth century was its centralization in the various offices (*prikazy*) of the higher government institutions. The organization of surveys and the compilation of maps were entrusted to the military governors (*voyevoda*) and their bureaucrats (the *Voyevoda's* Office and later the Chancellery). The general task of mapping the country and its regions was delegated by special order of the czar to these offices and military governors, who in turn determined mapping priorities. At the regional level, the military governors selected surveyors and issued detailed orders as to the boundaries of the survey and their form. They also regulated the sequence of mapping and gave deadlines for submitting maps and descriptions.

Technical instructions were kept to a minimum. As a rule, the military governors did not have cartographic training, and the absence of qualified specialists often forced them to enlist any available civil servants with

sufficient skills in mapmaking to carry out the czar's edicts and decrees. Nevertheless, certain specifications concerning the quality and completeness of the maps accumulated over time. The compilation of general maps of the state, in particular, was to be entrusted to especially “good and skillful masters,” and maps had to be made “with the greatest craftsmanship.”<sup>79</sup> A minimum of standard elements to be depicted were listed in the instructions for compiling *uyezd* maps, including the river network, settlements, communications, and the boundaries of the *uyezds* and *yasak* (tribute-paying) administrative *volosts*. When the content of a map was specified, the following were often indicated as necessary: rivers and small streams, lakes, swamps, fords, portages, mountains, roads, Russian *selos* (villages with a church) and *derevnyas* (villages without a church), forts, *slobodas* (settlements), the distribution of the indigenous population and their lands and territories (for nomads), undeveloped lands, and the boundaries of the *yasak volosts*.

The maps resulting from these instructions could vary considerably in quality. One of the oldest and most enduring cartographic methodologies to be employed in Russia in this period was based on the principle “from the specific to the general.” This methodology involved the use of local surveys as the main factual source to create a series of regional and general maps. All were compiled without formal mathematical procedures. Scales could vary within any given sheet, and although most maps were oriented to the south, there was no grid with coordinates or unified orientation.<sup>80</sup> It would appear that the network of main rivers provided the control for compiling other details in both the regional and general maps. Within this framework, however, different subject matter and territorial scope could lead to variations in the maps, with the inclusion not only of general geographical features, but also, in some cases, thematic details, such as those of economic or ethnographic geography. All these early Russian maps remained in manuscript, so that the varying quality of their form and content can be traced to the level of training, skill, and experience of the individual mapmakers.<sup>81</sup> The use of cartographic signs and color conventions was fairly standard despite the absence of any explicit general rules of design. The maps were often accompanied by explanatory notes relating to their area,

79. RNB, Hermitage Collection, no. 237, sheet 28.

80. Compass roses appear in the second half of the seventeenth century.

81. Several printed maps from the seventeenth century are known: a map of Kiev and vicinity from 1638 (Afanasiy Kalnofoiskiy, *Teraturgima* [Kiev, 1638]); two maps (30 × 37 cm) of the near and far catacombs of the Kiev-Pechorsk monastery, engraver Ilya, from the manuscripts of the Kiev-Pechorsk monastery (1661); and a map of Moscow on the frontispiece of a 1663 copy of the Moscow Bible by Master Zosima. The question of a printed map of Siberia from 1667 is debatable.

which in due course developed into independent geographical texts or reference works.<sup>82</sup>

The study of the impressive stock of surviving maps confirms the relative accuracy, given the methods employed, of Russian cartography from this period. It also underlines its practical character. Above all, mapmakers were active in contributing to the solution of the administrative, economic, military, and political problems of the state. Russian mapmakers of this period did not create the *mappaemundi* characteristic of Islamic and medieval Western European cartography.

## RUSSIAN GEOGRAPHICAL DISCOVERIES AND MAPPING OF THE ASIATIC PART OF RUSSIA

### GENERAL BACKGROUND TO THE MAPPING OF SIBERIA

The rapid expansion of Russian peoples to the east, as part of a conscious policy of economic and political expansion by the centralized Russian state, began in the 1580s with Yermak Timofeevich's journey.<sup>83</sup> It ended in 1639 with the departure of Ivan Yur'evich Moskvitin's expedition to the Sea of Okhotsk.<sup>84</sup> In just sixty years, the huge territory from the Urals to the Pacific had been traversed.

The logistical requirements of administering these new territories were a major stimulus to cartography. In the sixteenth century, Siberia, as a new region in the Russian state, was governed by the Foreign Office and, from 1599, by the Office of the Kazan Palace (or the Kazan Office). With the further expansion of the Siberian territory, its administration became more complicated and a new central institution—the Siberian Office—was formed in Moscow in 1637.<sup>85</sup> It had a wide range of powers, some of which required the commissioning and use of maps. For instance, it handled administrative, financial, taxation, customs, military, and, to a certain extent, even diplomatic matters. Its powers were such that it appointed military governors and customs officials, managed the defense of Siberia, was the overseer of the courts for the entire Russian and aboriginal population, carried out the harvesting and storage of Siberian furs, conducted formal trade with China, and managed the sale of Siberian furs in Europe. In short, the development of Siberia as part of Russia was looked upon as a government task of great importance toward which serious and well-thought-out measures, including the mapping of the territory, were applied.

One of the consequences of an early recognition that these new Russian lands beyond the Urals were at once rich in natural resources yet sparsely settled was that already during the reign of Ivan IV, numerous government expeditions were being regularly sent into the Siberian territories. Their tasks included the exploration of topography, natural conditions, and routeways. They reported on the ethnic composition, numbers, distribution, and oc-

cupations of the indigenous population. From the moment Russians set foot in Siberia, and as they advanced across its territory, the Moscow government—through the Siberian Office and the military governors of Tobolsk and the *uyezds*—required that its civil servants compile maps and descriptions of new Siberian lands. Significant numbers of such reports reached Tobolsk and were sent back to Moscow, where they were worked on, studied, and systematized. Thus, by 1633, the government was able to produce its first general map of Siberia showing the territory explored up to that date. By 1667, an extended map of all Siberia had been completed.

### EARLY LOCAL AND REGIONAL MAPS OF SIBERIA

From the 1590s on, the Siberian capital, Tobolsk, and the Kazan (after 1637, Siberian) Office began to receive local and regional maps and geographical descriptions. They were compiled under the auspices of the local and regional administrations, with specific instructions being issued where maps were required.<sup>86</sup> These earliest maps of the Siberian territory were designed to serve regular state functions connected with problems of defense, adminis-

82. The details with which different objects were depicted in geographical *chertězhy* was directly dependent on their importance for the theme of the *chertěz*. This dependence is particularly evident on the *chertězhy* of land holdings that show in the greatest details all isolated features that served as landmarks in determining the boundaries of land holdings or themselves constituted these boundaries. By virtue of their importance they were depicted quite graphically and were characterized by very specific names (such as *vrag*, *verkh*, *otvershek*, and *boyarak* for different kinds of ravines). In general, toponymic elements for literally all types of Russian *chertězhy* were to some extent characteristics that organized the rest of their content. For example, the primary emphasis in producing frontier maps was placed on the accurate determination of the isolated features and inhabited areas along which the border ran and putting their names on the *chertěz*. In *chertězhy* of waterways, marking all the tributaries of the main rivers (with their names) and providing a very detailed depiction of even the smallest streams whose headwaters had portages were important.

83. Terence Armstrong, ed., *Yermak's Campaign in Siberia*, trans. Tatiana Minorsky and David Wileman (London: Hakluyt Society, 1975), and Kivelson, *Cartographies of Tsardom*, 117–93.

84. Benson Bobrick, *East of the Sun: The Conquest and Settlement of Siberia* (London: Heinemann, 1992).

85. The basic administrative division of Siberia was the *uyezd*, but they were much larger than in European Russia. The formation of *uyezds* in Siberia proceeded regularly as new territories were added. The city of Tobolsk acted as administrative center of Siberia, taking precedence over the other *uyezds* so that their military governors were subordinate to the military governor of Tobolsk.

86. Examples are the instructions for the preparation of maps and descriptions of the upper reaches of the Irtysh River and fortified points, the localities of the Tabars, the upper reaches of the Ob River and the Surgut region (1594), the area around Yepanchin (1600), the Tomsk fort (1604), the roads to the southeast (1620), the Yamysh Lake region (1626), the roads to the Lena (1633), the Lena, Kirenga, Ilim, Vitim, and Shilka rivers (1636–42), and the upper reaches of the Yenisei River (1658).

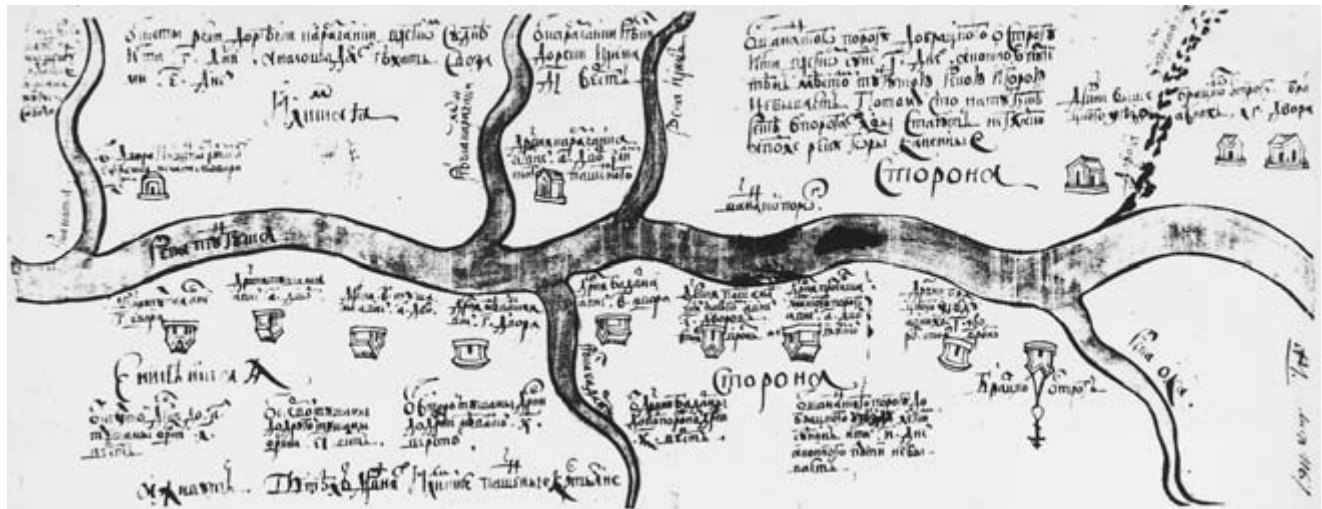


FIG. 62.13. ALEKSEY GALKIN AND FYODOR ROSPUTIN, MAP OF THE LANDS ON BOTH SIDES OF THE TUNGUSKA RIVER BETWEEN THE YENISEYSK AND ILMISK

UYEZDS, 1685. This map has east at the top. Photograph courtesy of RGADA (stock 383, plans, no. 148).

tration, land use, and other aspects of development. During the seventeenth century, the principal sources for such maps were derived from geographical exploration, which in turn led to a slow accretion of knowledge and a gradual improvement in the accuracy of the cartographic depiction of the region.

A great deal of original research has now been undertaken on this period of Siberian cartography, examining documents relating to the compilation of the local and regional maps and the accompanying texts. A map of the explorations, showing the most important journeys and routes of penetration together with the dates of the founding of military bases, provides an idea of the channels along which raw materials were collected. As a result of these journeys, literally hundreds of maps were produced from the 1640s to the 1660s. They include Kurbat Ivanov's maps of Lake Baikal and the Lena and Anadyr rivers, Yerofey Pavlovich Khabarov's "Lapkayevskiye gorodki," Semyon Ivanovich Dezhnev and Mikhail Stadukhin's map of the Anadyr, Vasiliy Danilovich Poyarkov's far eastern (Siberian) maps, Stepan Vasilyevich Polyakov's maps of Selenginsk (1670s), and many others.<sup>87</sup> If we add to the maps of these explorers others made in connection with settlement construction and fortification, mineral searches, land and river reconnaissance trips, taxation assessments, and land and settlement disputes, these would, as a whole, comprise a cartographic source relating to parts of most of the territory of seventeenth-century Siberia. Even the almost inaccessible northern and southern regions were explored and mapped. Mapmakers were present literally every step of the way during the exploration of Siberia and they produced numerous maps and written reports.

It is sad for cartographic posterity that the great majority of these maps, with very few exceptions, are no longer extant.<sup>88</sup> Even so, the surviving Siberian maps give us an idea of what the lost maps must have been like. Most were completed in the traditional manner of pre-Petrine cartography as already described: such was the map of the mouth of the Upsa (1665) by Roman Starkov, the map of part of the Yenisei (1684) by A. Korenev, the map of parts of Yeniseysk and the Ilimsk *uyezds* adjacent to the Tunguska River (1685) by Aleksey Galkin and Fyodor Rosputin (fig. 62.13), and the maps of the Lensk *volosts* (1694) and Dauria (1689) by Afanasy von Beiton

87. A. I. Andreyev, *Ocherki po istochnikovedeniyu Sibiri XVII vek*, issue 1, 2d ed. (Moscow-Leningrad, 1960), 21–65.

88. Ye. [Egor] Zamyslovskiy, "Chertézhi sibirskikh zemel' XVI–XVII veka," *Zhurnal Ministerstva Narodnogo Prosveshcheniya* 275 (1891): 334–47 (otdel nauk [scientific branch]); F. A. Shibanov, "O nekotorykh voprosakh iz istorii kartografii Sibiri XVII v.," *Uchényye Zapiski Leningradskogo gos. Universiteta, Seriya Geograficheskikh Nauk* 5 (1949): 270–306; and Mikami Masatoshi, "17-seiki no Roshia-sei Shiberia shochizu," *Rekishichirigaku Kiyō* 4 (1962): 87–110. The existence of a multitude of now lost old Russian maps is indicated by old inventories of maps and numerous instructions in the preserved acts of the state, as well as in archival documents: Lamanskiy, "Starinnaya russkaya kartografiya"; Gozdavo-Golombievskiy, "Opis' chertézhey"; Lamanskiy, "Opis' delam prikaza Taynykh del"; *Akty, sobrannyye v bibliotekakh i arkhivakh Rossiyskoy Imperii Arkheograficheskoyu komissieyu*, 4 vols. (St. Petersburg, 1836); *Akty yuridicheskiye, ili sobraniye form starinnogo deloproizvodstva*, vol. 1 (St. Petersburg, 1838); *Akty istoricheskiye*, 5 vols. (St. Petersburg, 1841–42); *Dopolneniya k Aktam istoricheskim*; and D. Ya. Samokvasov, *Arkhiymnye materialy: Novootkrytyye dokumenty pomestno-votchinnnykh uchrezhdeniy Moskovskogo gosudarstva XV–XVII stoletiy*, 2 vols. (Moscow: Universitetskaya Tipografiya, 1905–9).



and (1699) Ivan Petelin.<sup>89</sup> Only when such detailed local and regional maps had accumulated was it possible to synthesize them into general maps of all Siberia.

#### GENERAL MAPS OF SIBERIA

The first general map of the then-known territory of Siberia, along with the map's "list [or register] of Siberian towns and forts," can be traced to 1633.<sup>90</sup> The compilation of these two documents (the manuscript map has been lost) was requested by Moscow from the military governor of Tobolsk in 1626. That it was completed much behind schedule was undoubtedly connected with the work of 1626–27 on the creation of a new map of the Muscovite state as a whole (mentioned earlier).

#### The 1667 Map of Siberia (the Godunov Map)

In the 1660s and 1670s, the level of activity in Tobolsk intensified in an attempt to condense and summarize the cartographic and geographical information collected up to that period. On 3 January 1668, a map of all Siberia, along with a description of the map, was delivered to Moscow. It had been compiled in the fall of 1667 under governor Peter Ivanovich Godunov and is consequently named after him. Between the time of Nordenskiöld's discovery of Swedish copies in 1887 and the publication of the original description of the map in 1962, the 1667 map became widely known through numerous reproductions.<sup>91</sup> However, many questions concerning this rather schematic map remain unresolved. It is also necessary to abandon many of the unsubstantiated conjectures, such as those relating to the author of the map, the size of the original, the correlation of text and the map, and the mythical 1667 atlas of Siberia.<sup>92</sup> The way forward has proved to be through a comparative reexamination of the versions of the map by the Swedes Claus Johansson Prytz (1669), Fritz Croneman (1669), and Eric Palmquist (1673); the German Georg Adam Schleysing (1690); and the Russian Semyon Ulianovich Remezov (1697, 1702) (figs. 62.14, 62.15, and 62.16).<sup>93</sup>

On comparison, all of these versions (with the exception of the coarse reworking of Schleysing) display a basically uniform cartographic image of Siberia. Overall, the differences and transcription errors are insignificant.<sup>94</sup> The cartographic signs on all versions display an international character, but the names and terms on the maps reveal national peculiarities and features. For instance, on the Swedish copies curious distortions show up in the transcription of Siberian geographical names. Thus the single central inscription "Zemlya Sibir/skaya po Verkho/turskoy kamen" is transliterated as "Semla Sybÿr" and two mythical toponyms, "Skaya Powerko" and "Turskoÿ Kamen" have been added.<sup>95</sup>

Based on characteristics common to all versions, we can assume that the 1667 map of Siberia was oriented to the south. Similarly, the map must have shown major settlements, distances, and the extent and direction of the main rivers—Irtys, Ob, Yenisei, Lena, and Amur—and

89. Leo Bagrow, *Karty Aziatskoy Rossii* (Petrograd, 1914), 10; A. V. Yefimov, *Atlas geograficheskikh otkrytiy v Sibiri i v Severo-Zapadnoy Amerike XVII–XVIII vv.* (Moscow: Nauka, 1964), nos. 35–37; and [V. F.], "A. Bejton und seine Karte von Amur," *Imago Mundi* 1 (1935): 47–48.

90. A. A. Titov, *Sibir' v XVII veka* (Moscow, 1890), 7–22, and Yu. A. Limonov, "'Rospis' pervogo obshchego chertëzha Sibiri (opyt datirovki)," *Problemy Istochnikovovedeniya* 8 (1959): 343–60, esp. 360. This careful study remained unknown to Henry Castner—the editor of Bagrow's last work on the history of Russian cartography; see also Andreyev, *Ocherki*, 28–35.

91. A. E. Nordenskiöld, "Den första på verkliga iakttagelser grundade karta öfver norra Asien," *Ymer* 7 (1887): 133–44 (Russian translation in *Zapiski Voyenno-topograficheskogo otdela Glavnogo shtaba*, vol. 44, sec. 2, pt. 7 [St. Petersburg, 1889], 1–11), and L. A. Goldenberg, "Podlinnaya rospis' chertëzha Sibiri 1667 g.," *Trudy Instituta Istorii Yestestvoznaniya i Tekhniki* 42, no. 3 (1962): 252–71. This publication of the text was also unknown to Castner, who consequently duplicated unverified versions.

92. Boris P. Polevoy, "Gipoteza o 'Godunovskom' atase Sibiri 1667 g.," *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, 1966, no. 4, 123–32.

93. The Remezov maps appeared in his atlases of 1697 and 1702. Since 1914, the 1697 Russian copy has been repeatedly published (Bagrow, *Karty Aziatskoy Rossii*, 11). The 1702 copy, discovered by A. I. Andreyev, was first reproduced in A. V. Yefimov, *Iz istorii velikikh russkikh geograficheskikh otkrytiy v Severnom Ledovitom i Tikhom okeanakh* (Moscow, 1950), 75; for full color reproductions, see Postnikov, *Russia in Maps*, 27–35 (figs. 14–19). These copies were inserted, at the turn of the eighteenth century, in the atlases alongside newer general maps of Siberia. It seems that Remezov could have had but one purpose in mind: to demonstrate graphically the achievements in Siberian cartography during the previous three decades. For the same reason, Remezov also displayed (from Aleksander Gwagnin's *Kronika Sármanyey europskiyey*, 1611, based on the Latin edition, *Sarmatiae Europae descriptio*) a copy of the 1551 Polish version of Herberstein's famous 1546 engraved map of Russia, noting how little the Siberian land was known at the earlier date. This version differs from the original in minor details. The omission of the city of Grustina and small differences in the inscriptions point to the source as a version of Herberstein's 1549 map rather than the 1546 original.

94. A comparison of the copies with the texts was conducted for the first time by J. F. Baddeley with the assistance of A. A. Dostoyevskiy, secretary of the Russkoe Geograficheskoe Obschestvo, and the scientist-geographer P. A. Kropotkin. See John F. Baddeley, *Russia, Mongolia, China: Being Some Record of the Relations between Them from the Beginning of the XVIIIth Century to the Death of the Tsar Alexei Mikhailovich A.D. 1602–1676*, 2 vols. (New York: Burt Franklin Reprints, 1963), 1:cxxv–cxxxv.

95. Examples of other inscriptions on the map are: "Ilmsk country: along the river Kata the yasak-paying Chadonsk Tungusy trade in sable"; "to go from the Kata River to the stream Karamchanka takes three days in a light boat, and five days on horses with carts"; "to go from the Shamansk rapids to the Bratsk fort takes ten days in a light boat, and there is no horse path here by the Tunguska River or by the mountains, because on the Tunguska River in the rapids the ice does not stand evenly, and along the river the mountains are rocky."

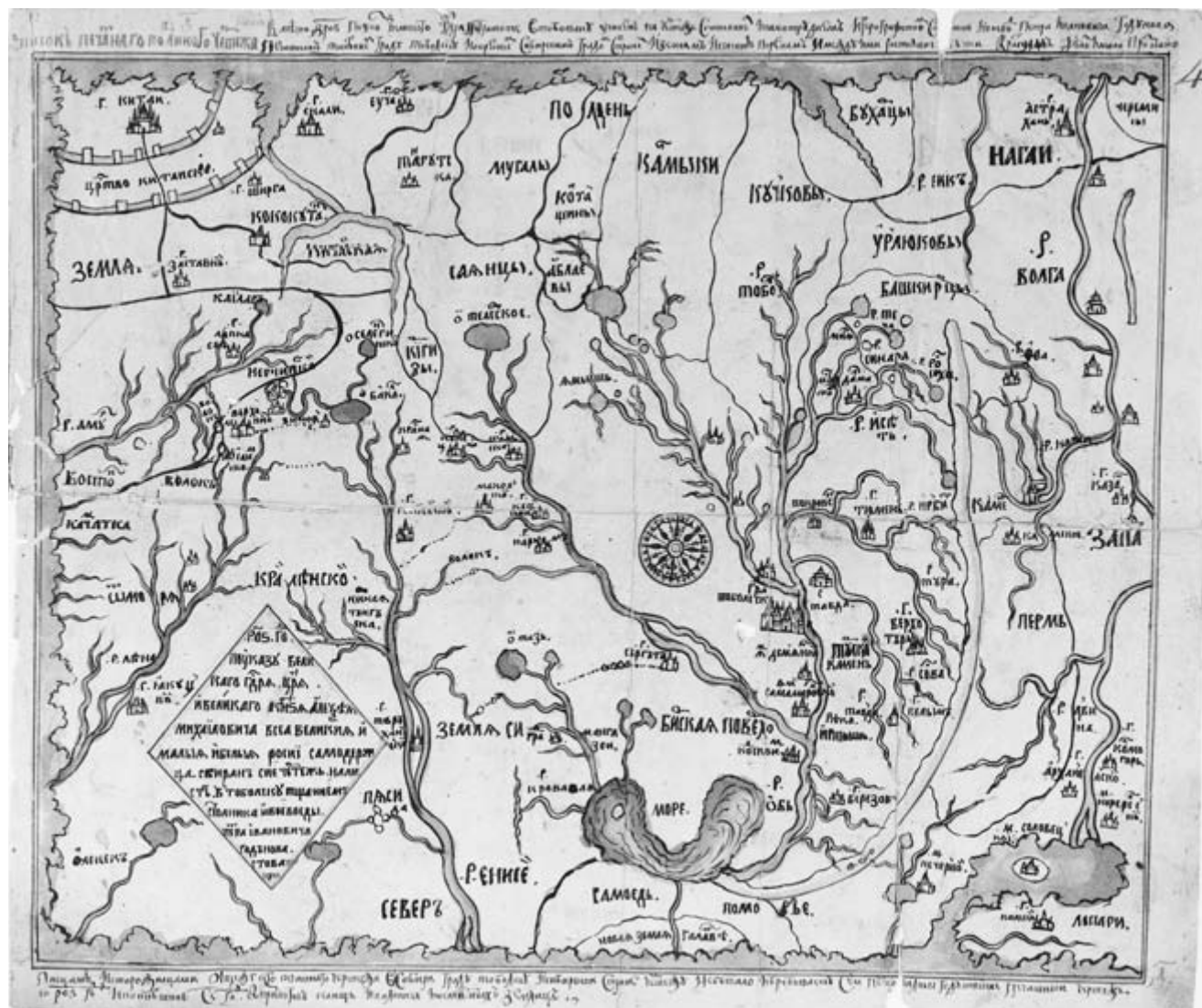


FIG. 62.14. MAP OF SIBERIA, 1667 [1697]. Copy by Semyon Ulianovich Remezov, 1697, with south at the top. In the author's table of contents: "4 sheets. The Godunov Map." Outside of the upper and lower frames is an explanatory text: "4 chapters. Copy of the printed original map. In the year 7176 [1667] by the order of the Grand Lord, according to the document, in Tobolsk was made this map by the collecting and self-labor and chorography of the *stolnik* [courtier] and *voyevoda* Peter Ivanovich Godunov with the printed stamping of the city of Tobolsk and with the surrounding Siberian towns, countries and lands and settlements along the rivers and the distance of road between them, little known by scribes

their tributaries. The Urals would have been placed with relative accuracy. Also shown were types of habitat of individual lands and the distribution of ethnic groups (the Kalmyks, Bukhars, Mongols, Sayan, Kirgiz, Bashkirs, and others). The rectangular shape of the general outline of the Asiatic continent—bounded on the north and east by oceans—was maintained. The map emphasized the

and long-time residents. And before this a printed map in Siberia of the city of Tobolsk and of the Siberian country did not exist. And this original Godunov printed map has existed from the year 176 [1667] to the present year 205 [1697] without any addition of villages or *volosts* or unsurveyed lands." This text by Remezov has caused endless debates among scholars because of the very small (we suppose) likelihood that maps could have been printed in Tobolsk in the mid-seventeenth century. Size of the original: 30.6 × 37.5 cm. From Remezov's "Khorograficheskaya chertzhnaya kniga," p. 4. By permission of Houghton Library, Harvard University.

idea that it is possible to sail through the Arctic Ocean to the Pacific, based on Dezhnev's epic voyage of 1648.<sup>96</sup> Yet the limits to seventeenth-century geographical knowledge

96. M. I. Belov, *Podvig Semëna Dezhneva* (Moscow, 1973), and Raymond Henry Fisher, *The Voyage of Semen Dezhnev in 1648: Bering's Precursor* (London: Hakluyt Society, 1981).



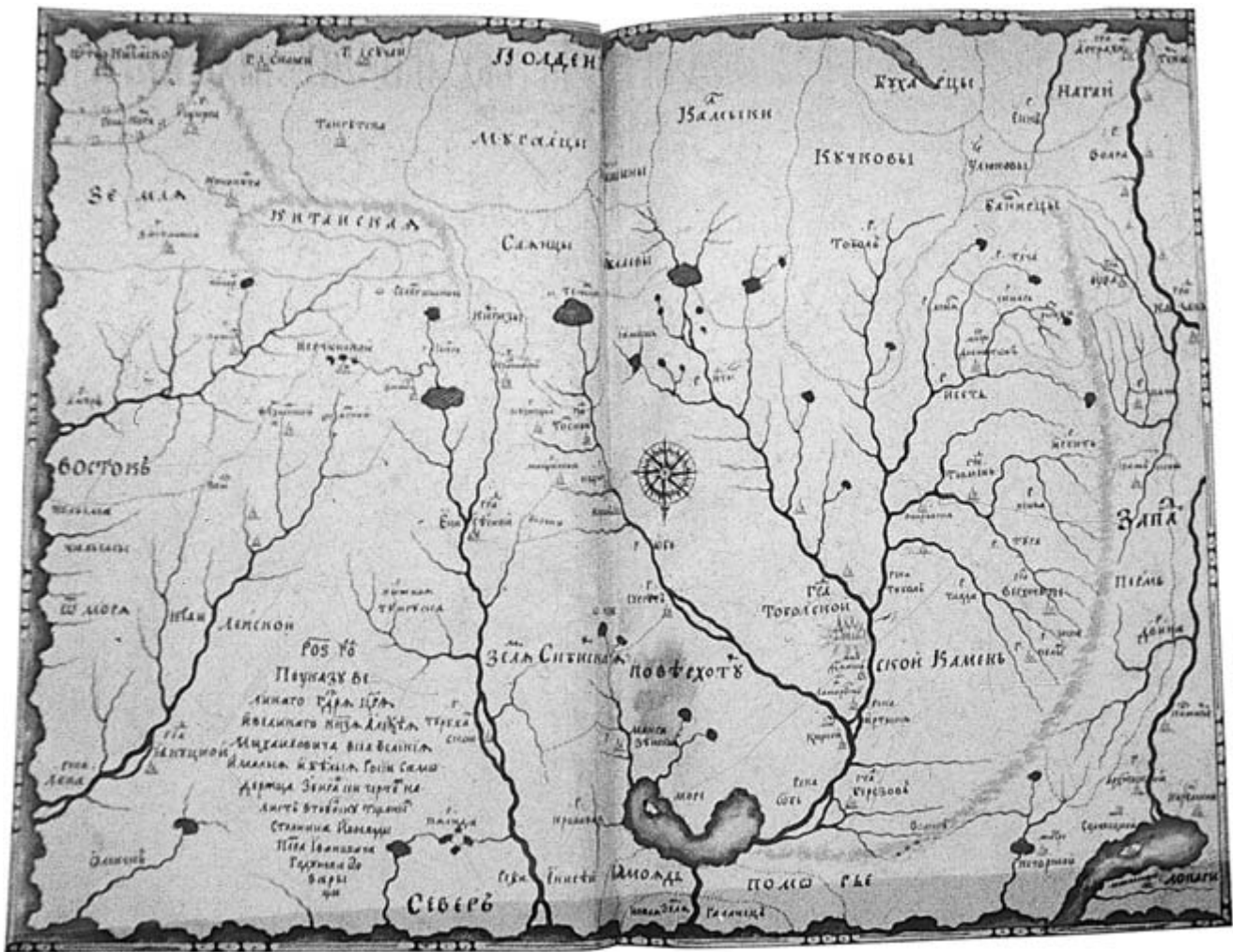


FIG. 62.15. MAP OF SIBERIA, 1667 [after 1702]. Copy by Ivan Semyonovich Remezov no earlier than 1702, with south at the top. Title: "Old Godunov map of all Siberia, sheet 27." The text, placed in a diamond-shaped cartouche, is the same as on the 1697 copy: "The year 176 [1667]. By order of the Great Lord Czar and Grand Prince Aleksey Mikhailovich, Autocrat of all Great and Little and White Russia, was compiled

this map on a sheet in Tobolsk by the effort of *stolnik* and *voyevoda* Peter Ivanovich Godunov and comrades." Size of the original: 28 × 36 cm. From Remezov's "Sluzhebnyaya chertezhnaya kniga," sheets 30v-31. Photograph courtesy of RNB (Manuscript Division, Hermitage Collection, no. 237).

emerge in the absence of the large Taimyr, Chukchi, and Kamchatka peninsulas and by mistakenly showing the Anadyr and Kolyma rivers flowing into the Pacific Ocean.

The 1667 map is of fundamental importance in the cartographic history of Siberia. For one thing, it served as a starting point for subsequent general maps, compiled for various reasons from the 1670s to the 1690s both in Moscow and Siberia, and which to a large degree built on its accuracy and detail. Second, it fashioned Russian perceptions of Siberia for the rest of the seventeenth century. Prepared in Siberia by Siberians, it was received in Moscow with the understanding that it was an important

document generalizing the geographical discoveries in Siberia together with a synthesis of local and regional maps. Displaying all the territory from the Urals to the Pacific, it convincingly testified to the incorporation of Siberia into the Muscovite state and to the acquisition of a detailed knowledge of its geographical and ethnic features.

The wider historical importance of the 1667 map is that it was the first to provide a general picture of Siberia as a whole. Its value is increased by the fact that from Abraham Ortelius's map of Tataria of 1570 until Nicolaas Witsen's map of 1690, Western European cartographers had been unable to obtain any information on Siberia. Maps dealing with Siberia in the atlases of Mercator, Ortelius, and



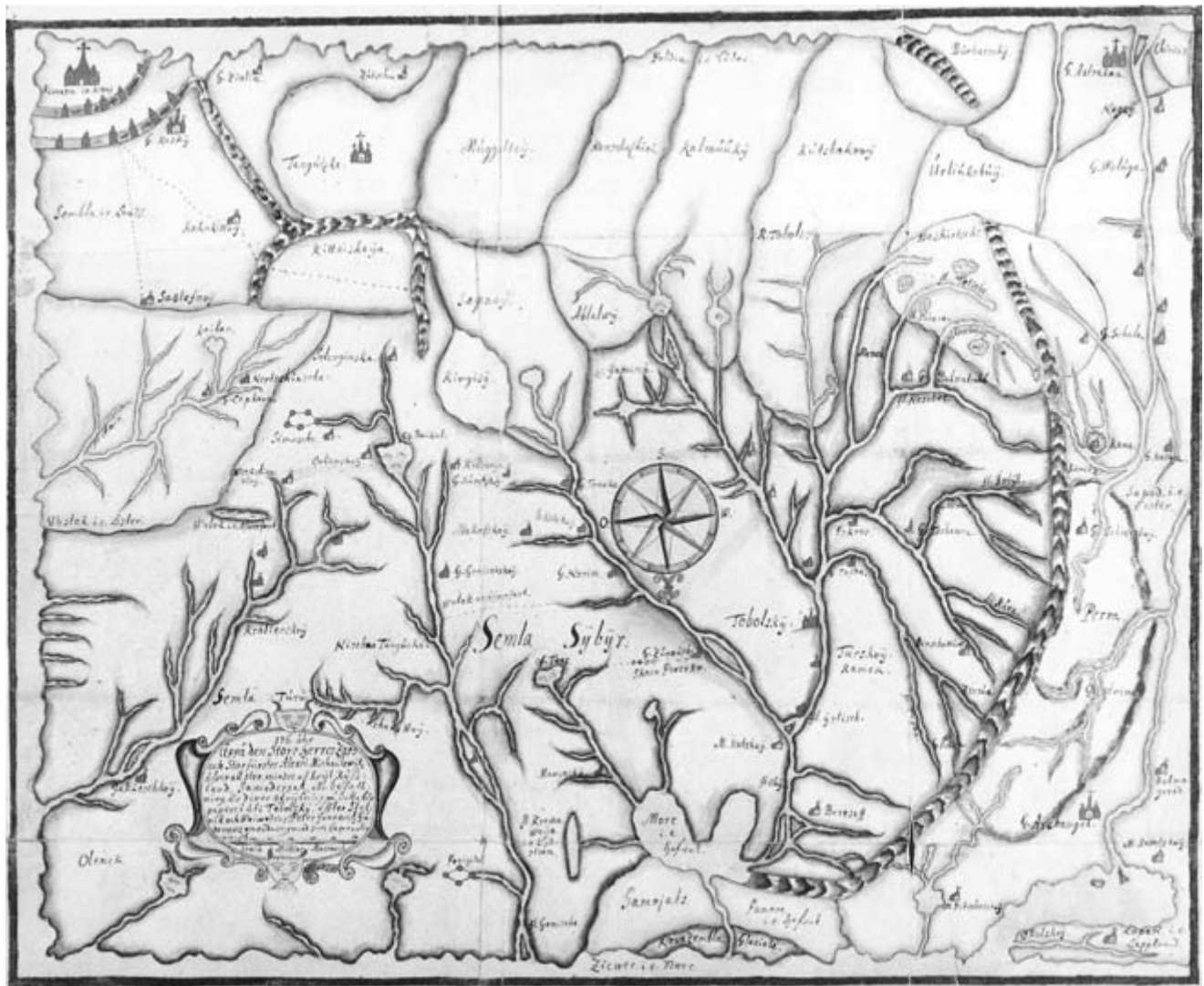


FIG. 62.16. MAP OF SIBERIA, 1667 [1669]. Swedish copy by Claus Johansson Prytz, 1669, with south at the top. The basic parameters of the map coincide with the Russian copies; there are many transcription errors in the geographical names. Unlike the Russian copies, the Swedish copies have a linear scale

expressed in “Moscow miles.”

Size of the original: 32.3 × 39 cm. Photograph courtesy of the Kungliga Biblioteket, Sveriges Nationalbibliotek, Stockholm (MS. 259).

Jodocus Hondius were largely based on partly legendary materials by Pliny, Strabo, Giovanni de Plano Carpini, Marco Polo, and the Bible.<sup>97</sup> Moreover, from an original version of the 1667 map, geographical information was extracted on the Siberian territory for the compilation of the Tobolsk edition of the “*Kniga Bol’shomu chertëzhu*” (24 June 1673). This work was undertaken in Tobolsk in the summer of 1673 by Metropolitan Korniliy.<sup>98</sup> The Tobolsk recension of the “*Kniga Bol’shomu chertëzhu*” confirms the existence of a long-term policy for the mapping and geographical study of Siberia, which started in the 1620s and 1630s and continued under the Tobolsk military governor Peter Ivanovich Godunov after 1660.

### The 1673 Map of Siberia

Evidence concerning the creation, date, and authorship of the 1673 map of Siberia is complicated and sometimes contradictory. On these questions there is no consensus

97. Leo Bagrow, “The First Russian Maps of Siberia and Their Influence on the West-European Cartography of N.E. Asia,” *Imago Mundi* 9 (1952): 83–93, esp. 88, and C. Koeman, *The History of Abraham Ortelius and His Theatrum Orbis Terrarum* (Lausanne: Sequoia, 1964).

98. He was also responsible for an ethnographic map of all Siberia, dated 8 June 1673, a copy of which (restored in 1700) was placed in Remezov’s atlas.

among historians of cartography, in part because of the absence of the original, which has caused numerous controversial assertions.

For a long time it was thought that this map was directly connected to the geographical description of Siberia of 1672–73,<sup>99</sup> that it dated from 1672, and that it was a corrected version of the 1667 map.<sup>100</sup> The loss of the original was compensated for by three copies: one Russian, with inscriptions in Russian and Latin, and two Swedish copies compiled by Palmquist (1673) and Johann Gabriel Sparwenfeld (1687). The Russian copy was made by a cartographer of the Defense and Foreign Offices, Leontiy Klishin, and is kept in the collection of the Rossiyskiy Voenno-Istoricheskiy Arkhiv (Russian Military-Historical Archive).<sup>101</sup> Among the significant features of the map in comparison with the 1667 map are the relatively complete depiction of the towns of Siberia and the clearer depiction of bodies of water from the Arctic Ocean to the Pacific. In addition, its western part (west of the Yenisei River) preserves outdated information, much of which reflects the state of knowledge of the first half of the seventeenth century. The cartographer Remezov, who at the end of the seventeenth century compiled a rather full list of general cartographic materials on Siberia, does not mention the general map of Siberia of 1672–73. It follows then, that it was created outside of Tobolsk.

The more accurate conclusions as to the dating of the map, which have been confirmed in recent years, are connected with the rediscovery by scholars of the unfortunately forgotten article by Arseniev (1882) and with the name of Polyakov.<sup>102</sup> The information cited is currently the only available, and it is not supported by other independent sources. The Dragoon captain Polyakov, from 1671 serving in eastern Siberia, was recalled to Moscow with geographical descriptions and graphic materials in connection with the preparations for Nikolay Gavrilovich Spafariy's embassy to China. In the Siberian Office he related that in 1673, on the way from Tobolsk to Moscow (in the town of Stroganov on the river Chusovaya), he independently compiled a map of Yeniseysk and Selenginsk and other forts and of the Daur and Mugal and Chinese and Nikan States ("Chertëzh Yeniseysku i Selenginskomu i inym ostrogam i Dauram i Mugalam i Kitayskomyu i Nikanskomu gosudarstvu") because he had "been to those places." From his explanations it became apparent that earlier it had been impossible to compile such a map either in Selenginsk or in Yeniseysk because of the absence of good specialist draftsmen. The original of this map has not been found, but judging by its title it was the eastern part of a general map of Siberia, known to us through the copies by Klishin, Palmquist, and Sparwenfeld. As for the western part, it is most likely that it was added to Polyakov's map at the Siberian Office or the Defense Office. From this circumstance it is clear that a general

map of Siberia could have appeared no earlier than Polyakov's arrival and no later than the time of its copying by Palmquist (that is, 1673).

Sometimes Polyakov's "Chertëzh Yeniseysku . . ." is equated with the 1673 general map of Siberia, but this is only a hypothesis. Despite differences of interpretation, all these copies reaffirm the general impression of this work as a composite map, uniting new and more complete information on eastern Siberia than had been available on the 1667 map with material drawn from an older map of western Siberia.<sup>103</sup> In the northeast, several rivers flowing into the Sea of Okhotsk are shown, as well as the rounded outline of a small cape, apparently the Kamchatka Peninsula. On this map the idea is also reaffirmed of an unobstructed northern sea passage from Europe to the Pacific Ocean.

#### Nikolay Gavrilovich Spafariy's Mission to China and the Map of 1678

Of particular importance to the mapping of Siberia was the 1675–78 diplomatic mission of Spafariy. Spafariy, a noted linguist fluent in ancient and modern Greek, Turkish, Arabic, Latin, and Italian, quickly mastered Russian as well. In 1671 he was appointed translator of foreign languages in the Foreign Office in Moscow. In 1675, he was appointed to lead the embassy mission to China with the instruction, in connection with the establishment of mutual trade, to obtain reliable information on the shortest convenient and safe routes between Russia and China. Spafariy was ordered to study the geography, ethnography, and administrative-political structures of the territories crossed along the entire route and to submit a detailed report. In addition, by a special order of 25 February 1675, he was also charged with compiling a map of Siberia from Tobolsk to the Chinese border. It was to show settlements, roads, and all features of the area.

Before his departure, the Moscow administration placed at his disposal all available geographical and car-

99. The text of this map is usually designated as the "List from the Map of Siberian Lands" (1673).

100. Bagrow, *Russian Cartography*, 30–31.

101. This map can be found under the title "Map of All Siberia to the Chinese Empire and to the Nikan" (no. 20220).

102. Yu. V. Arseniev, "Puteshestvie russkogo posla Nikolaya Spafariya iz Tobol'ska cherez Sibir' do Nerchinska i kitayskoy granitsy," *Zapiski Imperatorskogo Russkogo Geograficheskogo Obshchestva po Ot-deleniyu Etnografii* 10, no. 1 (1882): 158–64, and Andreyev, *Ocherki*, 43–47.

103. V. I. Grekov, "O chertëzhe vsey Sibiri do Kitayskogo tsarstva i do Nikaskogo," *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, 1959, no. 2, 80–88, esp. 80–83, and Mikami Masatoshi, "1673-nen no Shiberia chezu," *Jinbun Chiri* 16, no. 1 (1964): 19–39.

tographic materials. These included a “Chertëzh vsego Moskovskogo gosudarstva” in two volumes, and two maps by Polyakov, a map of the Selenginsk fort and its vicinity and the “Chertëzh Yeniseysku . . .” In addition, Spafariy was supplied with the 1667 map of Siberia together with an astrolabe and compasses. Scholarly opinion on the “Chertëzh vsego Moskovskogo gosudarstva” is divided. Some believe that it is another name for the “Bol’shoy chertëzh,” others for the “Kniga Bol’shomu chertëzhu,” and still others that it refers to an atlas of route maps. However, there is no convincing evidence for any of these suppositions.<sup>104</sup> That the Spafariy delegation was so equipped with maps and other materials at the Foreign Office was not at all unusual. It reflected the common Russian practice of using maps when organizing such legations and journeys on government business. The important role assigned to cartography in official thinking is clear.

Spafariy completed all his assignments and described his journey in an official report in two volumes, “Puteshestviye tsarstva Sibirskogo ot goroda Tobol’skogo do samogo rubezha Kitayskogo.” This he submitted along with the map upon his return to Moscow on 5 January 1678. In 1947 a further map of Siberia came to light.<sup>105</sup> Its content is closely related to the maps and geographical descriptions arising from Spafariy’s visit to China (1675–78). There is no conclusive evidence for the authorship of the map, although it is usually called Spafariy’s map of 1678. The map, composed in the style of similar Russian maps of this period, encompasses all of Siberia, part of the bordering states to the south and southeast, and the European part of Russia from the Black Sea. A dotted line indicates the route of the Spafariy delegation (fig. 62.17).

Compared with the maps of 1667 and 1673, as we know them through copies, the Spafariy map of 1678 is a significant step forward technically. Many more of the geographical features of Siberia are more accurately represented. The positioning of the Angara River basin and Lake Baikal are markedly improved. The coastline of the Arctic Ocean is more accurately represented (especially from the mouth of the Lena eastward), and for the first time the Anadyr River is shown. Central Asia, with the Caspian and Aral seas, also appears for the first time.

Analysis reveals the identity of many of the sources for Spafariy’s 1678 map. They undoubtedly include the *Novus atlas Sinensis* of 1655 by the Jesuit cartographer Martinus Martini and part of the map *Imperii Sinarum nova descriptio* for Southeast Asia. Western European maps were used for the Black Sea area, and for Central Asia the “Kniga Bol’shomu chertëzhu.” The depiction of Siberia has a more original character. Here Spafariy demonstrated his intimate familiarity with the resources of the Foreign Office, having carefully studied the descrip-

tions and routes of Fedor Isakivich Baikov, Khabarov, Polyakov, and other travelers and explorers of the second half of the seventeenth century.

Perhaps the most distinctive and unexpected peculiarity of the 1678 map is the depiction of an enormous mountain range running northeast from Lake Baikal and extending far into the ocean. Scholars differ concerning the identity of this promontory or “rocky barrier.” Some consider it to be the Chukchi Peninsula, others Kamchatka.<sup>106</sup> Spafariy himself made an entry in the log of his journey (22 September 1675) concerning the geographical notion of a mountainous cape (“rocks”) in Siberia, which supposedly extended all the way to America.

#### Semyon Ulianovich Remezov’s Map of 1687

A new general map of Siberia, compiled by Semyon Ulianovich Remezov as a supplement to the Godunov map of 1667, is dated 18 June 1687.<sup>107</sup> It was based on new and more detailed sources, including the surveys of Siberian lands made between 1683 and 1687.<sup>108</sup> Its detail, as depicted on a small surviving copy, includes the branching network of rivers in Siberia, the courses of the main rivers with their tributaries from source to mouth, a large number of settlements, and the distribution of peoples and their “lands.” In the explanatory text, Remezov noted the limits of the map in all directions from Tobolsk: “To the east along the Irtysh to the Chinese Empire, to the west along the Tobol and Tura to the rocky Urals and steppes, to the north down the Irtysh and along the Ob to the Mangazeisk, Solovetsk [White], and Lensk seas, and toward the midday [south] along the Vaga and Ishim to the Khvalynsk [Caspian] Sea and the steppes of the Kalmyks.”<sup>109</sup>

The 1687 map is outstanding in its wealth of new detail. It reflects the level of geographical knowledge of Siberia as a whole, the development of its western parts,

104. Shibanov, “O nekotorykh voprosakh,” 294–96; Boris P. Polevoy, “Geograficheskiye chertëzhi posol’stva N. G. Spafariya,” *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, 1969, no. 1, 115–24; and Mikami Masatoshi, “Supafari no Shiberia chizu,” *Shien* 99 (1968): 39–76.

105. Leo Bagrow, “Sparwenfeld’s Map of Siberia,” *Imago Mundi* 4 (1947): 66–70, esp. 69.

106. Mikami, “Supafari no Shiberia chizu,” 54–66.

107. For a general discussion of Remezov, see L. A. Goldenberg, *Izograf zemli Sibirskoy: Zhizn’i trudy Semena Remezova* (Magadan: Magadanskoe Knizhnoe, 1990).

108. The first publications of the map of 1687 are Yuriy Nikolaevich Semenov, *Die eroberung Sibiriens: Ein epos menschlicher Leidenschaften, der roman eines Landes* (Berlin, 1937), frontispiece, and Bagrow, “Sparwenfeld’s Map,” 70.

109. Semyon Ulianovich Remezov, *The Atlas of Siberia by Semyon U. Remezov*, introduction by Leo Bagrow (The Hague: Mouton, 1958), 160v.





FIG. 62.17. NIKOLAY GAVRILOVICH SPAFARIY'S MAP OF SIBERIA, 1678. Oriented with south at the top. In the rectangular cartouche is the inscription: "Route that by roads goes from Moscow by dry land to Tobolsk and from Tobolsk by water to Semipalatinsk Island and from Semipalatinsk by

dry land to the Chinese border and to the city of Pekin." Size of the original: 40.5 × 52.5 cm. By permission of Houghton Library, Harvard University (L.S. Bagrow Collection).

and the exploration of eastern Siberia (fig. 62.18). From a cartographic standpoint, improvements can be seen in the depiction of the basins of the Tobol, Iset, Ob, Irtysh, Yenisei, and Lena rivers compared with the general maps of earlier date. The most notable improvements are in northeast Asia, particularly in the section from the Lena to the Amur. The courses of many rivers (the Omoloy, Yana, Indigirka, Alazeya, Kolyma, and Anabar) are more accurately shown. Emphasized is the jaggedness of the coastlines of the Arctic Ocean and East Siberian Sea—promontories, bays, and peninsulas can easily be identified on modern maps. Eastward from the Lena, Capes Bykovski, Svyatoy (Svyatoi Nos), and Shelagski, and, apparently, Cape Dezhnev, are unmistakably depicted, along with the Buor-Khaya and Chaun bays. A ridge with

the inscription "No one knows the length of this rock" extends into the ocean exactly as on Spafariy's map, but the cape itself is clearly depicted as the southern part of the Chukchi Peninsula, as the Anadyr River and Bay, the Olyutorsk Peninsula, and the Kamchatka River are also shown. A four-day portage from the Anadyr to the Bludnaya, a tributary of the Kolyma, is also marked.<sup>110</sup>

110. The transliteration of Old Russian inscriptions from the 1687 map into contemporary language was carried out in Yefimov, *Atlas geograficheskikh otkrytiy*, 22–24 and no. 34. Unfortunately, the deciphering was executed so poorly that the reader may be inclined to lay the blame on the author of the map. In reality, it was our contemporaries who allowed all these errors to be passed along in the texts. For example, Arkhiggabskoy instead of the correct Arkhangel'skoy, Osetovskaya—

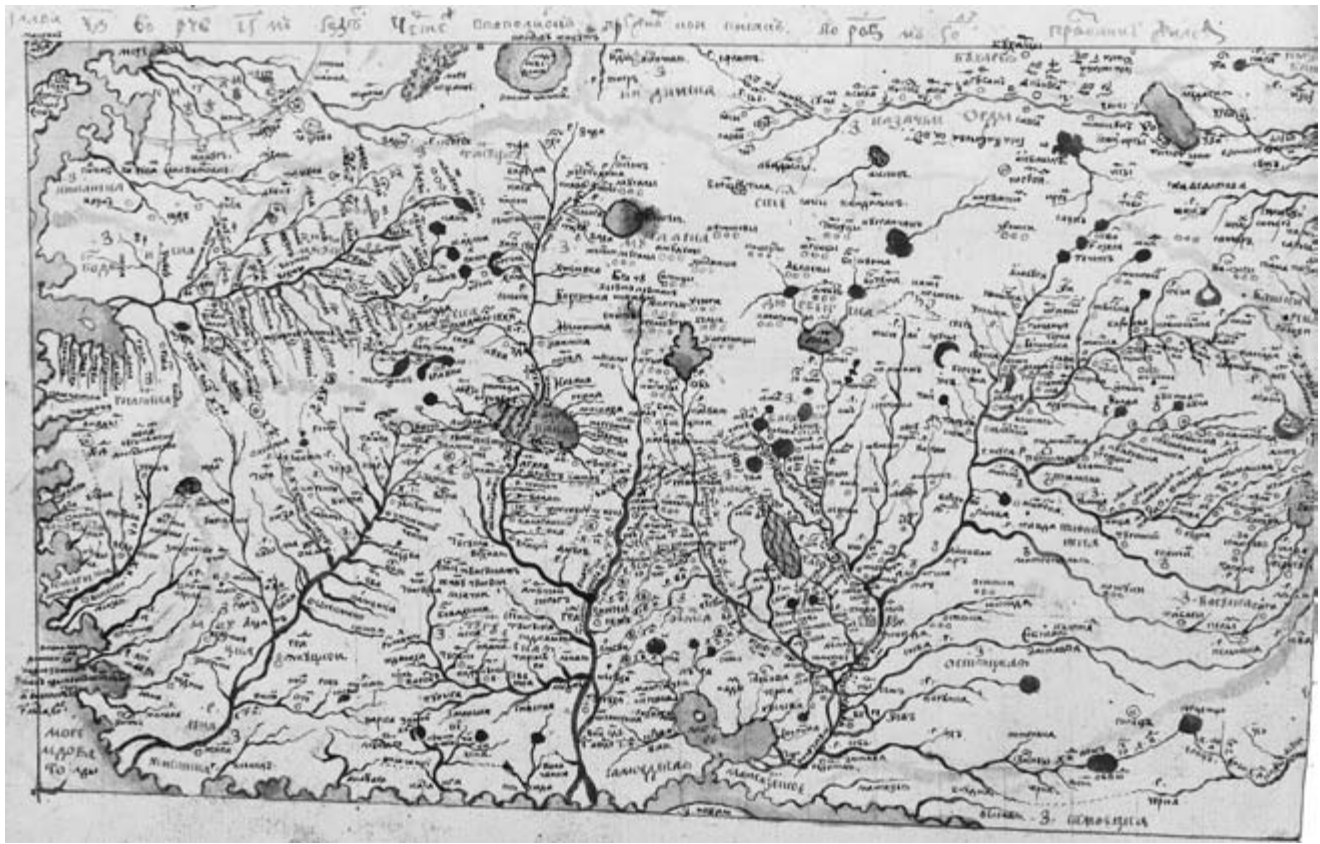


FIG. 62.18. SEMYON ULIANOVICH REMEZOV, MAP OF SIBERIA, 1687. Over the upper frame of the map is the title: "Chapter 64. In the years 192 and 193 [1683–85], a map in addition to the previous one, which was drawn in the year 176

[1667] about the knowledge of inhabited land." Size of the original: ca. 17 × 27 cm. From Remezov's "Khorograficheskaya chertëzhnaya kniga," p. 162v. By permission of Houghton Library, Harvard University.

The Kamchatka Peninsula and the Sea of Okhotsk, along with eight rivers flowing into it, are also clearly marked on the 1687 map for the first time. Their depiction is done so clearly as to preclude the possibility of mistaken interpretation, as was the case with the 1678 (Safariy) map, or with the questionable identification of features on the copy of Palmquist's 1673 map. An outline of parts of the Japanese Islands also appears for the first time. Central Asia, including the Aral Sea, is shown in some detail, and as a whole corresponds to its description in the "Kniga Bol'shomu chertëzhu."<sup>111</sup> Many of the archaic ethnographic identifications of the 1673 map had been removed from the 1687 map, and the distribution of Siberian nationalities and their "lands" is realistically portrayed.

#### Andrei Andreyevich Winus's Map

The manuscript map of Siberia and the European parts of the Muscovite state by Andrei Andreyevich Winus is more difficult to date. A highly educated man, Winus was well acquainted with the European cartographic and ge-

ographical literature. A translator of Dutch and an official in the Medical and Foreign Offices, he became from 1695 on head of the Siberian Office. This map has come down to us through a copy by Remezov in his 1702 atlas.<sup>112</sup> The original is most often cited as 1680–83 or 1689. In any case, the technical execution and hydrographic accuracy of Winus's map is superior to the other maps of this period. Moreover, it was through this map, thanks to Witsen, that Western European cartography was enriched by geographical information on Siberia.

Winus's map, in the traditional manner, had a southern orientation. For the first time in Russian cartography, a graticule appears, although apparently more for decorative than mathematical reasons. The map is extremely

Ketskoy, Knep—step'(steppe), Mik—Yaik, Muran—Murzina, Barikva—Barneva, Snetna—Snezhna, and others, 55 *dney* (days)—5 *nedel'* (weeks), 52 *dnya*—2 *nedeli*, 53 *dnya*—3 *nedeli*, 40 *dney*—4 *nedeli*.

111. The same distances, names, and sequence of settlements is given although the Amu Darya River is not shown.

112. RNB, Manuscript Division, Hermitage Collection, no. 237, sheets 32–33; published in Andreyev, *Ocherki*, 24.



long and narrow, encompassing the territory from the Azov and Black seas in the west to the mouth of the Ussuri River in the east and from the Arctic coast in the north to the Caspian Sea in the south. The coastal regions at the eastern end of Siberia are excluded. Winius compiled his map from various sources. Thus, whereas the Caspian Sea is shown according to Ptolemy, the depiction of the Syr Darya and Amu Darya rivers flowing into the Aral Sea reflects contemporary sources. Particularly evident is the influence of the geographical concepts of Spafariy and his maps of Siberia. Two large cape-peninsulas are shown jutting out into the sea, cut off by the frame of the map. The first peninsula lies between the Lena and Kolyma rivers, the second between the Kolyma and the Anabar. The long mountainous peninsula running eastward from the Kolyma, Cape Tabin, turns out to be very similar to the Arctic cape on Witsen's famous *Nieuwe Lantkaarte van het Noorder en Ooster deel van Asia en Europa* (1687).<sup>113</sup>

In summary, the circumstances of the making of these general maps of Siberia, their precise dating, their authors, and other questions relating to their reliability as historical sources, are still partly unknown. As a result, it is impossible to explain in simple terms the discrepancies between Russian and West European copies of the maps, to reconcile contradictory theories, or to work out a single, universally accepted method of interpretation. For instance, Polyakov's map is variously dated in the literature as 1672, 1672–73, 1673(?), or 1673; Remezov's map as 1683–84, 1684–85, 1683–85, 1684, or 1687; Spafariy's map as 1675, 1678, or 1682; Winius's map as 1678–83, 1680–3, or 1689, and so on. The dates cited in this essay for each of the Russian maps are based on the results of lengthy study of all historical evidence and a review of the recent literature.<sup>114</sup>

#### THE TRANSMISSION OF GENERAL MAPS OF SIBERIA TO PRINTED EUROPEAN CARTOGRAPHY

We can, however, speak more confidently of the influence of the early Russian general maps of Siberia on the development of the cartographic image of Siberia in world cartography. Siberia is represented, in the period under discussion, by the maps of Johann Gabriel Sparwenfeld (1688–89), Nicolaas Witsen (1690), and of the Jesuit missionaries in China, Ferdinand Verbiest (1673–76) and A. Thomas (1690).<sup>115</sup> The initial transmission of this knowledge was not, however, a straightforward matter. Pitted against the Russian wish to maintain confidentiality about their discoveries were the attempts by Western European nations to obtain fresh geographical intelligence. Thus it was that espionage seems to have been an important mechanism by which Russian map sources were transmitted to Western Europe in this period. Russian maps of Siberia, about which a lack of accurate information was sharply felt in the West, were par-

ticularly in demand. The keen interest of many Western European countries in Siberian maps was understandable, fueled by the notions of trade routes into central and south Asia through Siberia. Thus, for example, Isaac Massa reported that his 1612 *Tabula Septentrionalis Russiae, Samoithiae et Tingosiae* (published in 1613 in *Zehender Theil der Orientalischen Indien begreifendt eine kurtze Beschreibung der neuwen Schiffahrt gegen Noordt-Osten*) had been compiled entirely from a Russian original, which he obtained "with great difficulty, since a Russian imparting it to me would be subject to execution, if this were found out."<sup>116</sup>

Later in the century, however, a more determined search seems to have been organized by foreigners to obtain a copy of the general map of Siberia of 1667. For instance, Nordenskiöld has described (from the Swedish archives) the espionage activities of Swedish diplomats. Two copies of this map were obtained in Moscow—one by Croneman, head of the Swedish delegation in Russia in 1668, and the other by Prytz, "conductor" of fortification. Prytz reported that "the enclosed map of Siberia and bordering countries I copied in Moscow on 8 January 1669, as well as could be done from the poorly preserved original, given to me for just a few hours by Prince Ivan Alekseyevich Vorotynskiy, and then only on the condition that I merely look it over and not draw anything at all."<sup>117</sup> Similarly, in a letter to Charles XI, Ambassador Croneman reported on the 1667 map: "the map of all these lands and Siberia as far as China . . . was also communicated to me, and I made the copy from it after I got to keep it for one night."<sup>118</sup> In yet another act of espionage, Palmquist, a Swedish military agent on the staff of

113. On Witsen's map, see Funakoshi Akio, "Witosen no hokutō Ajia chizu o meguru nisan no monda," *Shirin* 47, no. 1 (1964): 112–41; Johannes Keuning, "Nicolaas Witsen as a Cartographer," *Imago Mundi* 11 (1954): 95–110; and Boris P. Polevoy, "K istorii formirovaniya geograficheskikh predstavleniy o severo-vostochnoy okonechnosti Azii v XVII veke (Izvestiya o 'kamennoy pregrade': Vozniknoveniye i metamorfoza legendy o 'neobkhdimom nose')," *Sibirskiy Geograficheskii Sbornik* 3 (1964): 224–70.

114. See especially Grekov, "O chertēzhe vsey Sibiri"; Andreyev, *Ocherki*, 43–62; L. A. Goldenberg, *Semën Ul'yanovich Remezov: sibirskiy kartograf i geograf, 1642–posle 1720 g.* (Moscow, 1965), 33–34; Mikami, "Supafari no Shiberia chizu," 45–48; A. Florovsky, "Maps of the Siberian Route of the Belgian Jesuit, A. Thomas (1690)," *Imago Mundi* 8 (1951): 103–8; and Yefimov, *Atlas*, nos. 30–34.

115. Florovsky, "Siberian Route"; Bagrow, "First Russian Maps"; Funakoshi Akio, "Kōki jidai no Shiberia chizu: Ra Shingyoku kyūzō chizu ni tsuite," *Tōhō Gakuhō* 33 (1963): 199–218; and L. A. Goldenberg, "Izucheniyē kart Sibiri XVII–XVIII vv. v Yaponii," *Voprosy Istorii* 8 (1981): 162–68.

116. Kordt, *Materialy*, 2:16–17, and Johannes Keuning, "Isaac Massa, 1586–1643," *Imago Mundi* 10 (1953): 65–79, esp. 67–69.

117. Kordt, *Materialy*, 2:24.

118. Letter, 19 February 1669, cited in A. E. Nordenskiöld, "Pervaya karta Severnoy Azii, osnovannaya na deystvitel'nykh nablyudeniya," *Zapiski Voyennotopograficheskogo Otdeleniya Glavnogo Shtaba* 44 (1889): 1–11, esp. 9.



the Swedish delegation in Moscow in 1673, was able to obtain—among numerous materials on Russia—sixteen maps and city plans, including the 1667 and 1673 general maps of Siberia. In the dedication to his album, Palmquist mentions that it was “not without difficulty and effort” that he had collected Russian materials. He writes: “I myself secretly observed and sketched at various places, at risk to myself, and also obtained for money some information from Russian subjects.”<sup>119</sup>

The Russian sources acquired by the Dutchman Witsen and the Swedish linguistic scholar Sparwenfeld were obtained through different channels. After visiting Russia in 1664–65 on the staff of Jakob Boreel’s Dutch legation, Witsen returned to Amsterdam to establish an energetic and long-term correspondence with contacts in Moscow, Astrakhan, Georgia, Poland, Isfahan, Constantinople, and Beijing. According to his own statements, he “gathered Volumes of Journals and Registers, which set forth the Names of Mountains, Rivers, Cities and Towns, together with a vast number of Maps made by my own order.”<sup>120</sup> This archive, in which Russian materials predominated, served as the basis for Witsen’s books and for his compilation of the map of northern and eastern Tataria of 1690.<sup>121</sup> One of Witsen’s Russian correspondents was Stanislav Loputskiy, the court painter of Czar Aleksey Mikhailovich, who provided a map of Novaya Zemlya and a copy of the 1667 general map of Siberia.<sup>122</sup> During his stay in Moscow in 1684–87, Sparwenfeld similarly made many influential friends, who willingly provided him with materials for scholarly study, including geographical materials and maps, and, not least, copies of the “Kniga Bol’shomu chertëzhu.”<sup>123</sup>

Russian science and culture were not cut off from the rest of the world. An exchange of scientific ideas with scholars in other countries was already under way in the seventeenth century. In the search for reliable materials for mapmaking, Russian cartographers became familiar with many Western European maps and atlases. But the exchange of information—as in the case of Siberia—was not evenly balanced. The areas between European Russia and the Pacific Ocean remained, for all practical purposes, *terra incognita* in Western Europe almost until the end of the seventeenth century. When Remezov began to collect and systematize materials for his first Siberian maps in the 1670s and 1680s, foreign maps proved to be of little value. They merely reproduced, with various distortions, the data from Russian sources obtained by chance. Such sources were, of course, available in an incommensurately fuller form in both Moscow and Tobolsk, and a comparison of maps showing Siberia produced in Russia with those from Western Europe shows how strikingly this affected cartographic quality. Those produced in Russia, small in number, were less sophisticated in their mathematical and technical construction

but were nevertheless reasonably accurate and rich in content. The Western European maps, although much more numerous and at first sight technically superior, contained many fanciful elements; indeed, on the majority of these maps, even the geographical grid superimposed on Siberia was more cosmetic than practical in nature. On the best foreign map of Siberia (Witsen, 1690), the errors in longitude range from  $-23^{\circ}39'$  (Yakutsk) to  $+4^{\circ}27'$  (Tobolsk), and in latitude from  $+7^{\circ}20'$  (Irkutsk) to  $-2^{\circ}30'$  (Cape Chelyuskin).<sup>124</sup>

## SEMYON ULIANOVICH REMEZOV AND THE MAPPING OF SIBERIA: THE FIRST RUSSIAN GEOGRAPHICAL ATLASES

### REMEZOV AS SCHOLAR AND SCIENTIST

Semyon Ulianovich Remezov, an Ishim Cossack (from 1668) and Tobolskian nobleman (from 1712), was a participant in land colonization and a contemporary of the geographical discoveries of the seventeenth century in Siberia. As a servant of the state, he acted as a tax collector and surveyor, icon-painter and draftsman, the architect of Siberia’s only stone kremlin in Tobolsk, and a designer of many civil engineering schemes for Siberia and the Urals. He was also an original artist and author and the first historian and ethnographer of Siberia. But above all he will be remembered as a cartographer. In the mapping of Siberia he had no equal, and he synthesized the raw materials accumulated over a century on the mapping, geography, ethnography, and history of Siberia.

Given the breadth of his interests, it is difficult to explain how he became the author in so few years of such monumental works. Indeed, the corpus of works by Remezov and his sons constitutes an original cartographic and historico-geographical encyclopedia of seventeenth-century Siberia. It includes both regional and general maps of Siberia from 1687 to 1715, three illuminated atlases (“Khorograficheskaya chertëzhnaya kniga,”

119. Eric Palmquist, *Någre vidh Sidste Kongl: Ambassaden till Tzaren i Müskoiu gjorde Observationer öfver Rysslandh* (Stockholm, 1898), and Yuriy V. Got’ye, “Izvestiya Pal’mkvista o Rossii,” *Arkheologicheskiye Izvestiya i Zametki* 3–5 (1899): 81.

120. Keuning, “Nicolaas Witsen,” 97, and Johan Fredrik Gebhard, *Het Leven van Mr. Nicolaas Cornelisz. Witsen (1641–1717)*, 2 vols. (Utrecht: J. W. Leeflang, 1882), 2:251.

121. Keuning, “Nicolaas Witsen,” 97.

122. Mikhail P. Alekseyev, “Odin iz russkikh korrespondentov Nik. Vitsena: K istorii poiskov morskikh putey v Kitay i Indiyu,” in *Sergeyev Fedorovichu O’denburgu k 50-letiyu nauchno-obshchestvennoy deyatelnosti* (Leningrad, 1934), 51–60.

123. Bagrow, “Sparwenfeld’s Map,” 66, and L. V. Cherepnin, “Materialy po istorii russkoy kul’tury i russko-shvedskikh kul’turnykh svyazey 17 v. v arkhivakh Shvetsii,” *Trudy Otdela Drevnerusskoy Literatury Instituta Russkoy Literatury* 17 (1961): 454–81, esp. 470–77.

124. Keuning, “Nicolaas Witsen,” 101.

“Chertëzhnaya kniga Sibiri,” and “Sluzhebnyaya chertëzhnaya kniga”),<sup>125</sup> the “Istoriya Sibirskaya i Kungurskiy letopisets s illyustratsiyami,”<sup>126</sup> and the Remezov Chronicle (ca. 1700).<sup>127</sup> In addition, the corpus contains a set of architectural drawings for the building of the city of Tobolsk in stone and other official documents, including a census of the Tobolsk and Tyumen *uyezds* from 1710–12, boundary maps, descriptions and measurements of land, and accounts of the construction of towns, powder mills, and iron works.

From surviving documents it is impossible to form a complete picture of Remezov’s worldview and erudition. The historical essays, forewords, dedications, introductions, and conclusions that he wrote for his atlases do not do full justice to the breadth of his thought and his interests in the social, political, religious, and cosmological spheres. All his contributions were rooted in a deep historical and geographical knowledge, and he was steeped in the literature of Russian, Ukrainian, Polish, Western European, and ancient authors. Remezov was a remarkably broadly educated and well-read scholar of the seventeenth century who had avidly studied mapmaking, geography, history, ethnography, and architecture and had creatively used the information he acquired.

Literary and artistic skills were distinctive family traits of the Remezovs. Both the father and the grandfather of the cartographer were educated men. Indeed, Remezov, brought up in Tobolsk—the cultural center of Siberia—among the families of higher civil servants, received a secular education that was advanced for his day. This upbringing also accounts for traces of Polish influence in his work. He maintained close contacts in Tobolsk with educated prisoners and exiles, including Poles, Serbs, and others from Western European countries.<sup>128</sup> It may be added that Remezov’s father Ulian Moiseyevich Remezov, before his exile, had served in Moscow at the court of Patriarch Philaret and, along with him, had probably spent about eight years in Polish captivity. In Remezov’s writings, there are many traces of the use of Polish sources.<sup>129</sup> It is also of interest that part of Ortelius’s *Theatrum orbis terrarum* had been translated from Polish into Russian early in the seventeenth century under the title *Kozmografiya sirech’ vsemirnnoye opisaniye zemel’*.<sup>130</sup> It is likely that Polish books reached Tobolsk by various channels more quickly than other foreign editions and, moreover, that the Remezov family was familiar with the Polish language.

Remezov was probably introduced to maps and mapping while still a boy. Both his father and grandfather had carried out mapping assignments during their service in government. To give just two examples, in 1643, while selecting a site for a new Turinsk settlement, Ulian Moiseyevich Remezov and S. Sharygin completed a detailed map of the area; and in 1664, Ulian, taking part in

the exploration of new grazing lands, completed a map of the area around the town of Orlov.<sup>131</sup> The awakening of Remezov’s major interest in maps and geography was also connected with the activities in these fields being carried out under the Tobolsk military governor Godunov, who had employed both Remezov’s father and Metropolitan Korniliy as mapmakers.

By the early 1680s, Semyon Ulianovich Remezov was a trained and experienced draftsman. By the end of the 1680s, he had established himself as one of a handful of experts on the natural history, history, ethnography, and cartography of Siberia. In Remezov’s writings we can detect the merging of both religious and secular learning. Certainly he was well acquainted with the Bible and ecclesiastical history, which, given the supremacy of theology in seventeenth-century thought, was perfectly natural. When compiling his first atlas, Remezov points out that he used many books, and in the introduction he adds that he consulted ancient Greek, Ostrozhskiye,<sup>132</sup> Latin, and German maps, printed and manuscript, as well as chronicles and chorographical descriptions of individual

125. A brief description of Remezov’s atlases is as follows. First atlas—“Khorograficheskaya chertëzhnaya kniga” (1697, first draft; last additions completed by 1711; 19.5 × 30 cm)—more than 150 maps of a hydrographic nature at various scales along both sides of major rivers. Reflects the period of collection of primary cartographic materials and served as a basis for the creation of subsequent composite cartographic works. Second atlas—“Chertëzhnaya kniga Sibiri” (began in 1699, completed 1701; 53 × 38.5 cm)—the Remezovs’ principal atlas, containing general maps of Siberia, maps of all Siberian *uyezds*, and a city plan of Tobolsk. A facsimile is available, Semyon Ulianovich Remezov, *Chertëzhnaya kniga Sibiri*, 2 vols. (Moscow: Federal’naia sluzhba geodezii i kartografii Rossii, 2003). Third atlas—“Sluzhebnyaya chertëzhnaya kniga” (1702–30; 31 × 20 cm)—distinctive family archive of the Remezovs, containing, mostly in reduced form, authors’ copies of the works of Remezov’s sons, primarily those maps that were compiled at various times by the father or jointly with him, copies of maps by other authors, as well as several originals by Semyon Ulianovich Remezov and materials of a biographic and official nature.

126. “The Remezov Chronicle,” in *Yermak’s Campaign in Siberia*, ed. Terence Armstrong, trans. Tatiana Minorsky and David Wileman (London: Hakluyt Society, 1975), 87–277, and L. A. Goldenberg, “O pervom istorike Sibiri,” in *Russkoye naseleniye Pomor’ya i Sibiri (period feodalizma)* (Moscow, 1973), 214–28.

127. “Remezov Chronicle.”

128. Goldenberg, *Semën Ul’yanovich Remezov*, 126, and L. A. Goldenberg, “S. U. Remezov i kartograficheskoye istochnikovedeniye Sibiri vtoroy poloviny XVII—nachala XVIII v.” (Doctoral diss., V. I. Lenin State Library, Moscow, 1967), 318–20.

129. In his “Istoriya Sibirskaya” he used Struikowski’s “Kronika,” Modrzejewski’s essay “O gosudarstve,” and Martin Bielski’s “Khronika,” translated into Russian in 1584.

130. A. Popov, ed., *Izbornik slavyanskikh i russkikh socheneniy i statey, vnesënnyykh v khronografy russkoy redaktsii* (Moscow, 1869), 476–507.

131. RGADA, stock 214, book 367, sheet 993; G. F. Müller, *Istoriya Sibiri*, vol. 2 (Moscow-Leningrad, 1941), 485–86, 490, 511, 518.

132. Russian incunabular books printed in the city of Ostrog in the Ukraine.

regions.<sup>133</sup> In the “Chertëzhnaya kniga Sibiri,” Remezov also states that he used “many geographical books” in composing the atlas.<sup>134</sup>

An important place in his works is also given to the ideological justification for the annexation of Siberia and the political interpretation of its “seizure.” Remezov’s historical and ethnographic essays are permeated with ideas on the religious-patriotic exaltation of Russia and Siberia and its capital Tobolsk, on the triumph of Orthodoxy over paganism, on the Christian and enlightening mission of the Russians, and with observations on the consolidation of autocratic power. In Remezov’s worldview can be seen elements of rationalism, but its characteristic feature is also a belief in the importance of scientific knowledge.

Remezov’s two visits to Moscow—the center of Russian culture in the seventeenth century—were also influential in forming his scientific views. In Moscow he met Winius, the learned head of the Siberian Office, and became familiar with the works of geographer and astronomer Yakov Vilimovich Bruce. Along with his cartographic work in Moscow, Remezov also studied architecture and engineering. He found himself “under instruction in the Armory,” where he was given a “printed *fryazhskaya* (Italian) book” on architecture.<sup>135</sup> After an examination at the Siberian Office, Remezov was admitted to the ranks of “the learned,” licensed to make “all maps according to custom” and able to read and write.<sup>136</sup> As well as instruction in the Armory and the Siberian Office, Remezov, to judge by his familiarity with the paintings of Simon Fedorovich Ushakov and other prominent Moscow artists of the seventeenth century, had also been introduced to the official artists employed by the Foreign Office.

In preparation for geographical and cartographic work, Remezov also made a particular study of chorography. This study was to leave a noticeable mark on his atlases and determined his use of the magnetic compass, dividers, and the application of scales. Elsewhere, as Ortelius, Mercator, and Willem Jansz. Blaeu did in their cosmographies, Remezov described the spherical earth and gave its dimensions, as well as information on latitude and longitude, geographical discoveries, and the world regions. This theoretical training in chorography was, moreover, often referred to by Remezov in the atlases that were to occupy a central place in his life. For instance, speaking of his first atlas, made by order of the czar, Remezov points out how cartography, like chorography, combines the exact mathematical sciences with the skills of the artist. It is thus close to, but not actually among, the “free” (*svobodnyye*) or art-related sciences.<sup>137</sup>

Despite its significance, Remezov’s contribution was long neglected and even his birth and death dates were not correctly known.<sup>138</sup> Not until 1939 did Andreyev link an 1882 facsimile of Remezov’s geographical atlas, the “Chertëzhnaya kniga Sibiri,”<sup>139</sup> with another Reme-

zov manuscript atlas, the “Sluzhebnyaya chertëzhnaya kniga.”<sup>140</sup> Furthermore, not until 1958 was the “Khorograficheskaya chertëzhnaya kniga,”<sup>141</sup> the first hydrographic atlas of Siberia, made known through the publication of Bagrow’s facsimile. This publication was an important episode, hitherto missing, in the development of Siberian mapping. Only in 1965 was it finally possible to attempt a comparative analysis of all Remezov’s known cartographic and geographical works and to construct a scientific biography worthy of this cartographer and geographer.<sup>142</sup>

#### REMEZOV’S CARTOGRAPHY AND THE COLONIZATION AND SETTLEMENT OF SIBERIA

Much of Remezov’s work was intimately connected with the colonization of Siberia. This link was true of the plans he created for the new city of Tobolsk (1684–89) and of

133. “Khorograficheskaya chertëzhnaya kniga,” sheet 1v.

134. “Chertëzhnaya kniga Sibiri,” sheet 2.

135. “Sluzhebnyaya chertëzhnaya kniga,” sheet 2v.

136. RGADA, stock 214 (sc)roll 1377, sheets 136, 138.

137. L. A. Goldenberg, “Semyon Ulyanovich Remezov: Outstanding Russian Cartographer and Geographer (1642–after 1720),” in *Actes du XI<sup>e</sup> Congrès international d’histoire des sciences*, 6 vols. (Warsaw, [1965]–68), 4:217–20.

138. From 1939, Andreyev’s supposition on Remezov’s birth in 1660–64 had been generally accepted as reliable in the scientific literature. Only Shibanov thought it more correct to name another date—1650; see Andreyev, *Ocherki*, 97, and Shibanov, “O nekotorykh voprosakh,” 299. However, all the approximate dates turned out to be inaccurate, and archival documents found in the 1960s conclusively fix the actual date of birth at 1642 (RGADA, stock 214, bk. 1317, sheet 755; bk. 1617, sheet 150). The year of Remezov’s death is not known, but Andreyev concluded that he died toward the end of 1715. But an autograph of the Tobolskian scholar, discovered in 1965 in a census book of the population of the Siberian capital, is dated 1720. Thus, with the help of archival sources, Remezov’s life was “extended” by almost twenty-five years (1642–after 1720): Goldenberg, *Semën Ul’yanovich Remezov*, 24, 79–81.

139. Semyon U. Remezov, *Chertëzhnaya kniga Sibiri, sostavlenneya toboł’skim synom boyarskim Semënom Remezovym v 1701 g.* (St. Petersburg, 1882). The original is preserved in RGB, Manuscript Division, stock 256, no. 346.

140. Andreyev, *Ocherki*, 76–91. The original is preserved in RNB, Manuscript Division, Hermitage Collection, no. 237.

141. Remezov, *Atlas of Siberia*. The original is preserved in the Houghton Library, Harvard University, Cambridge, Mass. Reviewed by L. A. Goldenberg in *Voprosy Istorii* 6 (1962): 183–85; see also Leo Bagrow, “Semyon Remezov—A Siberian Cartographer,” *Imago Mundi* 11 (1954): 111–25, and L. A. Goldenberg, “Novyy istochnik po istorii Sibiri—‘Khorograficheskaya chertëzhnaya kniga’ S. U. Remezova,” *Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Obshchestvennykh Nauk* 5, no. 2 (1965): 94–101.

142. Goldenberg, *Semën Ul’yanovich Remezov*, and idem, “S. U. Remezov.” The lengthy polemic between Andreyev and Bagrow on S. U. Remezov’s body of work and on the origin of his individual cartographic works has often proved fruitless, as neither ever had the opportunity to compare all three atlases. The greatest number of errors in each case arises through the study of works known only through foreign descriptions.



his general map of Siberia (1687) made for administrative and military purposes. It was also true of the many local maps he made, before 1689, of the Siberian *slobodas*.<sup>143</sup> Working tirelessly, he made detailed descriptions of settlements along the rivers in the Tobolsk *uyezd* and recorded distances between them by land and water routes (1683–85 and 1687–89). The maps of the *slobodas*, copies of which were preserved in the “Khorograficheskaya chertëzhnaya kniga,” were ordered by the military governors of Tobolsk for strategic and economic purposes and for the administration and planning of tax assessments. Depending on their purpose, the maps in Remezov’s atlases varied in scale and content. The smaller-scale and more general maps often served a military purpose. For example, a map of the Tobolsk *uyezd*, a “Chertëzh slobodam, smeta lyudem i zhil’yu, i ruzh’yu” (1684), in addition to describing thirty-three *slobodas* along the rivers in the Tobolsk *uyezd*, included the details of the location and distribution of the *slobodas*, the distances and pathways between them, and the number of people in each settlement and their weapons.<sup>144</sup> In the larger-scale and more detailed maps, the military governor had instructed Remezov to map the characteristic features of each settlement for taxation and administrative purposes. All buildings, squares suitable for commercial construction (with dimensions indicated), rivers, bridges, ferries, meadows, and arable lands were to be shown. Surviving maps of the Tobolsk *slobodas* reveal the planned features of these settlements. For example, on the plan of the Kuyarovka *sloboda* there was depicted a large road, the Kuyarovka stream, roads to other *slobodas*, administrative and residential structures (*prikaznyy*, priests’ houses, and peasant households), a lake, a meadow, farmsteads beyond the Pyshma River, a square for construction, a fort, granaries, a church, and a chapel.<sup>145</sup>

An order was dispatched from the Siberian Office in Moscow to all Siberian towns on 10 January 1696. On 17 April 1696 its two main demands were received in Tobolsk. First, it called for the compilation “on location” of maps of the *yezds* measuring three by two *arshins* (about 213 × 142 cm), showing the river network, distances between settlements, and the administrative subdivisions. Second, it required a large map of all Siberia measuring three by four *arshins* (about 213 × 284 cm) to be made in Tobolsk—for which an “artistic specialist” was to be commissioned—together with a description of the Siberian and foreign peoples and a survey of the boundaries between *yezds*. On receipt of the order, the governor of Tobolsk, A. F. Naryshkin, immediately assigned the completion of this major task to Remezov. Before he could begin, however, he had to accompany an arduous military reconnaissance to the Miass River (10 April–30 September).<sup>146</sup> Not until 28 October 1696, was Remezov able to leave Tobolsk to survey and describe the forts and *slobo-*

*das* along the Iset, Nitsa, Pyshma, Tobol, Miass, Tura, and Tavda rivers and also to gather information by inquiry. By 20 March 1697, he had completed the “Chertëzh Kazach’i ordy” on “white calico” (canvas) measuring about 213 by 142 cm (in a later variant it was called the “Chertëzh zemli vsey bezvodnoy i maloprokhodnoy kamennoy stepi”). This first map, prepared in accordance with the orders of 10 January and 17 April 1696 and forwarded to Moscow on 20 March 1697, marks the beginning of Remezov’s most productive period as a cartographer. Six months later, on 18 September 1697, a map of the Tobolsk region was sent to the Siberian Office. Reduced authorized copies of the “Chertëzh zemli Tobol’skogo goroda,” or “Chast’ Sibiri,” have been preserved in two of Remezov’s atlases.<sup>147</sup>

#### REMEZOV’S CARTOGRAPHIC METHODS AND THE “KHOROGRAFICHESKAYA CHERTËZH NAYA KNIGA”

These maps, far surpassing in content and quality other examples of seventeenth-century Russian regional cartography, were highly valued and praised by the czar. But it is difficult to grasp how Remezov, even with his great skill, was able to finish these major assignments so rapidly. We have to recognize not only the many years of experience that went into the making of his numerous regional and general maps but also the extent of the preliminary work, carefully planned and synchronized in the field. The importance of the latter cannot be overemphasized and it is fully revealed in the contents of the “Khorograficheskaya chertëzhnaya kniga.” This first atlas embodied definite methodological principles. It was to be a collection of primary cartographic materials relating to river basins and providing the framework for regional and general maps. Remezov seems to have understood that this method of map compilation in the office, incorporating reconnaissance descriptions and the questioning of local inhabitants, travelers, and explorers, would be a cartographically feasible way of producing a national map. The river system and distances between settlements, measured in days of travel or in other units, served as the fundamental framework. Thus Remezov’s first atlas, in common with his later works, has a distinct hydrographic character. Given its enormous territorial scope, the whole work is striking in its thoroughness, and it fully reveals

143. A village settlement, often of free peasants.

144. “Khorograficheskaya chertëzhnaya kniga,” sheet 162.

145. “Sluzhebnyaya chertëzhnaya kniga,” sheet 144v.

146. The purpose of the 1696 military expedition, led by the Tobolskian nobleman Andrey Klyapikov, was to guarantee the safety of the Tobolsk *slobodas* from possible attacks by the Cossack Horde.

147. “Chertëzhnaya kniga Sibiri,” sheet 2; “Sluzhebnyaya chertëzhnaya kniga,” sheets 28v–29.

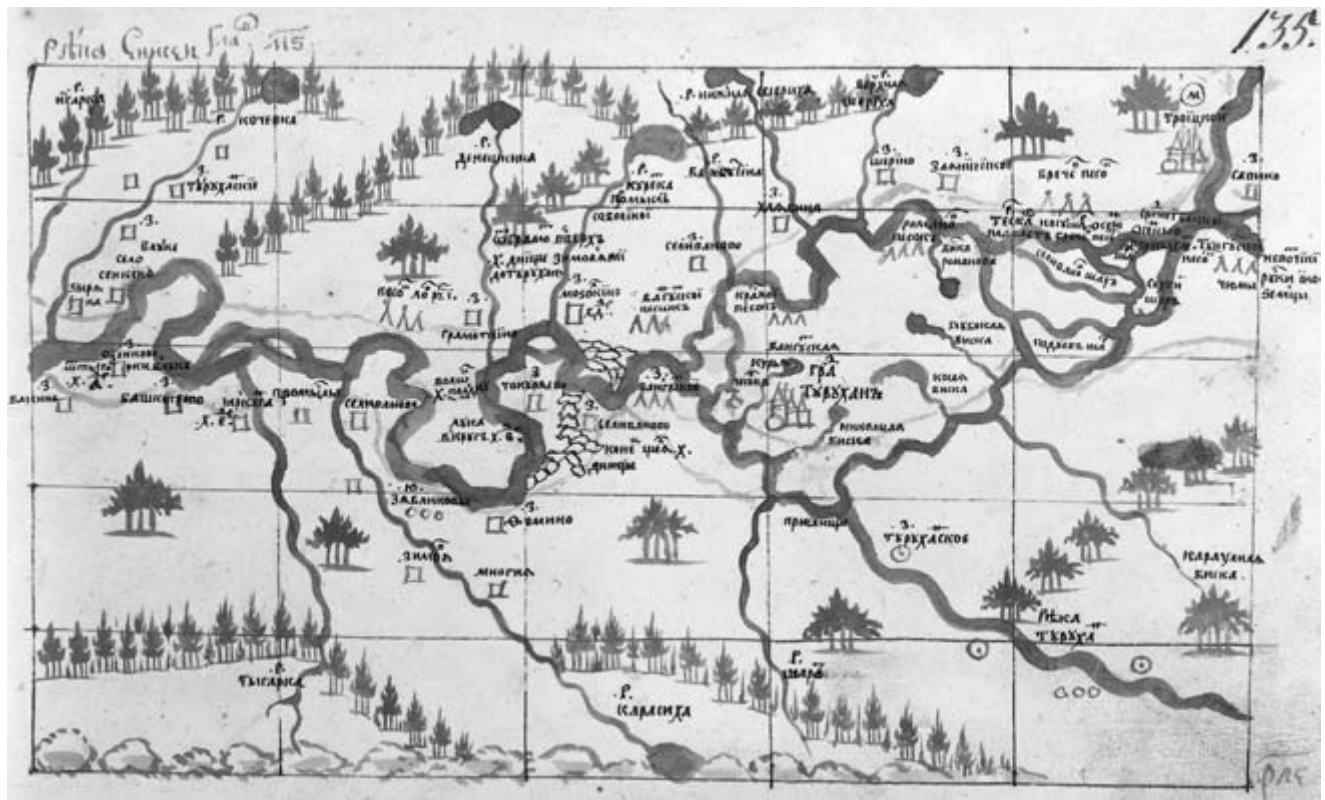


FIG. 62.19. SEMYON ULIANOVICH REMEZOV, MAP OF THE YENISEI RIVER. Above the upper frame: “River Yenisey. Chapter 46.” The ruling of the map is not connected with any system of geographical coordinates. Originally Remezov intended to put fifty *verst*s in every square along the length of all the rivers, however, because of the varying lengths

of the rivers this idea was not implemented. This kind of ruling most likely served as an aid for copying (and this applies to the other river maps in the atlas as well).

Size of the original: ca. 15.5 × 25.7 cm. From Remezov’s “Khorograficheskaya chertěžhnaya kniga,” p. 135. By permission of Houghton Library, Harvard University.

the observational skills and learning of its author (plate 79 and fig. 62.19).

Remezov had completed a rough version of the “Khorograficheskaya chertěžhnaya kniga” in 1697 and planned to present it to Peter I. As he was prevented from doing so, however, he continued to supplement the atlas with new data and maps until 1711.<sup>148</sup> The main part of the “Khorograficheskaya chertěžhnaya kniga” consists of 150 maps of the river network of Siberia drawn on identical sheets (23 × 17 cm each). The maps are of varying scales but with the better-known western Siberian rivers being plotted at the largest scale.

A small group of maps in the atlas consists of copies of maps of Tobolsk executed in 1684–89 and general and regional maps of Siberia and its parts. Among the latter are the Godunov map (1667), Remezov’s map of all Siberia (1687), and his map of the Cossack Horde (1697). Also included were a map of the Iset settlements (1695) by I. Polozov, a map of the Tobolsk and Verkhoturye *uyezds* (1697) by the Tyumen cartographer M. F. Strekalovskiy,<sup>149</sup> and *uyezd* maps of Tyumen, Tara, Berezov, Tomsk, Kuznetsk, and Mangazeya.

In considering Remezov’s working methods, as well as his prolific output, it is helpful to understand the role his three sons played in the production of the atlases. They became his main assistants in surveying, in map compilation, and in the copying of the maps.<sup>150</sup> Paleographic ev-

148. During his visit to Moscow in 1698, Remezov apparently decided not to present his work to the czar: an examination of the cartographic stocks of the Siberian Office clearly showed to what extent his atlas was based on outdated material. There is another documentarily insupportable supposition on the existence of a certain “final” atlas, supposedly sent to Moscow from Tobolsk on 1 September 1697; see Boris P. Polevoy, “Sushchestvovala li vtoraya ‘Khorograficheskaya kniga’ S. U. Remezova?” *Izvestiya Sibirskogo Otdeleniya Akademii Nauk, Seriya Obshchestvennykh Nauk* 1 (1969): 68–73.

149. L. A. Goldenberg, “Karty tyumenskogo kartografa Maksima Strekalovskogo v atlasakh S. U. Remezova,” *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva*, vol. 98, no. 1 (1966): 70–72.

150. Remezov repeatedly emphasized their contribution, reporting, for example, that the “Sluzhebnyaya chertěžhnaya kniga” was “written by Semyon Remezov and sons” or that he began the “Chertěžhnaya kniga Sibiri” on 30 January 1699, in Tobolsk “with all diligence with my sons” (“Sluzhebnyaya chertěžhnaya kniga,” sheet 1; “Chertěžhnaya kniga Sibiri,” p. 3; and “Sluzhebnyaya chertěžhnaya kniga,” sheet 115). Remezov taught his sons to read early and, discovering their inclination for

idence has reliably established the joint participation of Leontiy Semyonovich Remezov with his father in a number of works. They include the compilation of the “Khorograficheskaya chertëzhnaya kniga,” the illustration of the “Istoriya Sibirskaya,” and the surveys of the Kungur *uyezd* and of the commercial center Tobolsk.<sup>151</sup> Among Leontiy’s original works should be mentioned several manuscript maps, prepared as a result of reconnaissance missions under F. Tolbuzin, as well as sketches of the Kungur cave and stone with runic texts on the Irbit River. To the hand of another son, Ivan Semyonovich Remezov, belong a majority of the copies in the “Sluzhebnyaya chertëzhnaya kniga.” In Moscow in 1698, Semyon Semyonovich, with his father, copied Siberian *uyezd* maps. The elder Remezov prepared two general maps of Siberia along with Semyon Semyonovich. All three sons took part in the creation of Remezov’s “Chertëzhnaya kniga Sibiri” (1699–1701) and “Sluzhebnyaya chertëzhnaya kniga” (1702–30). Apart from this family team, it is impossible to reconstruct exactly how many people worked for Remezov. However, considering the creation of general maps of Siberia as his main task, then one can estimate that the labor of no fewer than twenty people would have been necessary to obtain the primary *uyezd* maps.

By an order of 20 September 1697, Remezov had been instructed to prepare two large maps on canvas of all Siberia. At that date, however, only outdated materials were available for mapmaking in Tobolsk, with new *uyezd* maps, by an order of 1696, being sent directly from the provinces to the Siberian Office in Moscow. To obtain more up-to-date materials, Remezov journeyed to Moscow with his son Semyon, and during a brief stay (11 August–4 December 1698) they were able to make copies of some thirty maps. Yet the circumstances surrounding the preparation of the Siberian map in Moscow are unclear, and there remain a number of conflicting opinions. Nevertheless, judging from the elder Remezov’s autobiographical notes and the texts on the map (fig. 62.20), the work of compilation and drafting was undertaken in a number of stages and with different end products. The Remezovs first made copies of eighteen *uyezd* maps (about 142 × 213 cm) at a single scale on canvas, and at the same time supplemented and checked the accuracy of their contents. They then created a composite map on Alexander paper, completed by 18 September 1698, which served as a working copy upon which they could make corrections.<sup>152</sup> They finished two further general maps on canvas by 8 November and then a version on polished calico (about 427 × 284 cm).<sup>153</sup> Although described by some authorities, the polished calico version has not survived, and Bagrow doubts that it was ever made.<sup>154</sup>

Of those definitely completed, however, the map that reached Peter I was rewarded with a royal reception, broadcloth, and five rubles for Remezov. Another map

(about 284 × 213 cm) on white nankin was displayed until 1907 in the Ekaterinhof Palace and afterward in the Gosudarstvennyy Ermitazh (State Hermitage).<sup>155</sup> We can get an impression of these general maps from two manuscript copies—in Russian (fig. 62.21) and German<sup>156</sup>—from the end of the seventeenth century found by Bagrow and a somewhat retouched and reduced (6.5 times with respect to the original) general map of Siberia on canvas by Remezov (1700) from the “Chertëzhnaya kniga Sibiri” sheet 21.

#### “CHERTËZHNYAYA KNIGA SIBIRI”

Remezov’s skill was greatly valued in Moscow. By imperial decree and Winius’s order of 18 November 1698, Remezov was again instructed to make *uyezd* and general maps of Siberia in Tobolsk on Alexander paper. These were to be based on regional maps that had already arrived at the Siberian Office, as well as a new map of the northern part of European Russia that was based on first-hand information. Thus was born the idea of a new atlas, to be named the “Chertëzhnaya kniga Sibiri,” begun by Remezov and his sons on 30 January 1699. A rough version had been completed by 1 January 1701, and by

---

“artistic matters,” also began to teach them cartography, giving them various tasks from manuscript copying to mapmaking. A love for drawing, appearing in Leontiy, Semyon, and Ivan while still young, grew rapidly under the experienced master, who never missed an opportunity to improve their knowledge. Trips with their father (by Semyon to Moscow and by Leontiy to Kungur) and joint work on the atlases and on a series of other general works served the same purpose. Besides cartographic works, Leontiy, Semyon, and their cousin Afanasiy N. Remezov were occupied at various times with other artistic works. Thus Semyon engraved the silver city seal of the city of Shadrinsk, and in 1713, Semyon Ulianovich, Semyon Semyonovich, and Afanasiy drew pictures in the “Governor’s Mansion” with oil paints.

151. V. N. Alekseyev, “Risunki ‘Istorii Sibirskoy’ S. U. Remezova (problemy atributsii),” in *Drevnerusskoye iskusstvo: Rukopisnaya kniga*, collection 2 (Moscow: Iskusstvo, 1974), 175–96.

152. An “Alexander sheet” refers to a sheet of paper used for mapmaking in the seventeenth and eighteenth centuries. The size of a large Alexander sheet was 73 × 52 cm (with a variance of 3 cm), and smaller sheets consisted of one-half to one-quarter of a large sheet.

153. In reduced form, the Remezovs’ maps of all Siberia of 1698 on Alexander paper were preserved in the atlases: in the “Chertëzhnaya kniga Sibiri” (sheet 21) and in the “Sluzhebnyaya chertëzhnaya kniga” (sheet 37v). On white cotton fabric (*kitayka*) a “model” map was made for the Siberian Office, which has been preserved to this day in the Hermitage Collection. A canvas (or “polished calico”) map given to Peter I has not been preserved.

154. Bagrow, “Semyon Remezov,” 116.

155. A. V. Grigor’ev, “Podlinnaya karta Sibiri XVII v. (raboty Semëna Remezova),” *Zhurnal Ministerstva Narodnogo Prosveshcheniya* 2 (1907): 374–81; G. Cahen, “Les cartes de la Sibéria au XVII<sup>e</sup> siècle,” *Essai de Bibliographie Critique* (1911): 106–13; and Baddeley, *Russia, Mongolia, China*, clvii–clviii.

156. Bagrow, “Semyon Remezov,” 118 and 124–25.





FIG. 62.20. SEMYON ULIANOVICH REMEZOV, DESCRIPTION OF THE “CHERTĚZH VSEKH SIBIRSKIKH GORODOV I ZEMEL’” WITH AN ACCOUNT OF THE PROGRESS OF HIS CARTOGRAPHIC WORKS IN MOSCOW IN 1698. In the description, along with relating the course of mapmaking work in Moscow, Remezov cites the results of distance measurements from Tobolsk in all directions all the way to China, the Caspian Sea, and the Pacific Ocean. Land routes between geographical objects are expressed in days and weeks of travel. The distances between *slobodas* along rivers are given in *versts*. Information is cited about measurements that were carried out in 1687 in western Siberia under the direction of Lyubim Zaytsev and Boris Chernitsyn. The text has been published. Size of the original: ca. 46 × 34 cm. From Remezov’s “Chertëzhnaya kniga Sibiri,” sheet 23. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

10 November 1701 it had appeared in its finished form, containing twenty-three maps (figs. 62.22 and 62.23).<sup>157</sup>

The atlas, although Russian in origin, has an unusual appearance due to the presence alongside the Russian geographical names and texts of Dutch inscriptions on almost all the maps. Apparently, the atlas was designed to be published in both languages in Amsterdam by the suc-

cessors to the printer J. A. Tessing, who had received the “privilege” from Peter I. Bagrow believed that Winius and Remezov had come to an agreement and that the “Chertëzhnaya kniga Sibiri,” supposedly transported abroad, failed to reach Moscow.<sup>158</sup> However, the archives indicate that not only did Remezov send the “Chertëzhnaya kniga Sibiri” to Moscow with the Yakutsk civil servant I. Sosnin on 10 November 1701, but also that the draftsman I. Matveyev copied four maps from this same Remezov atlas at the Siberian Office. Moreover, these records from the period 1702–3 show that the book-binder V. Yerofeyev received fifty kopecks on 1 July 1702 for binding the “Chertëzhnaya kniga Sibiri.”<sup>159</sup>

Another mistaken idea is that the existing specimen of the “Chertëzhnaya kniga Sibiri” is not the original but rather a set of copies of maps made on Winius’s instructions in Moscow in preparation for publication.<sup>160</sup> However, the 1958 facsimile edition of Remezov’s first atlas, the “Khorograficheskaya chertëzhnaya kniga,” confirmed the originality of his “Chertëzhnaya kniga Sibiri.”<sup>161</sup>

157. The “Chertëzhnaya kniga Sibiri” contained the seventeen “land” *uyezds* of Tara, Tyumen, Turinsk, Verkhoturye, Pelym, Berezov, Surgut, Narym, Tomsk, Kuznetsk, Turukhansk, Yeniseysk, Krasnoyarsk, Ilimsk, Yakutsk, Irkutsk, and Nerchinsk. The maps represent reduced Moscow copies that were copied on paper from originals on canvas, and that had been brought from the provinces to the Siberian Office in Moscow. The reduction was usually carried out with the aid of proportional compasses or squares (rectangles). None of the original *uyezd* maps on canvas has been preserved. The main source of the numerous regional studies on the geography, ethnography, and history of seventeenth-century Siberia are regional maps. See, for example, I. I. Serebrennikov, *Irkutskaya guberniya v izobrazhenii* “Chertëzhnoy knigi Sibiri” S. U. Remezova (Irkutsk, 1913). Also found in the “Chertëzhnaya kniga Sibiri” was a map of the city of Tobolsk (1 January 1701), and a map of the Tobolsk *uyezd* or “Part of Siberia” (18 September 1697). Along with these two maps, four other maps by Remezov appear in the atlas, the revised “Chertëzh zemli vsey bezvodnoy i maloprokhodnoy kamennoy stepi” and the renovated general “Chertë vseh sibirskikh gorodov i zemel’,” of which a detailed description was done in 1974; see Mikami Masatoshi, “Remezofu no ‘Shiberia chizuchō (1701-nen)’ no dai-21-zu,” *Shien* 111 (1974): 199–239. A detailed comparison of this sheet with the “Ekaterinhof” map was done by Cahen, “Cartes de la Sibéria.” The other two were the original “Chertëzh vnov’ Velikopermskiye i Pomor’ye Pecherskiye i Dvinskiye strany do solovetskiye prolivy so okrestnymi zhilishchi” and an updated version (1700) of the 1673 ethnographic map of Siberia; see Mikami Masatoshi, “Remezofu no ‘Shiberia chizuchō, 1701-nen’ no minzokushi chizu,” *Rekishigaku, Chirigaku Nenpō* 2 (1978): 5–20. All maps in the atlas were drawn on full-sized sheets measuring 73 × 52 cm.

158. Bagrow, “Semyon Remezov,” 120 and 125; Remezov, *Atlas of Siberia*, introduction, 14–15; and Bagrow, *Russian Cartography*, 42.

159. RGB, Manuscript Division, V. M. Undolskiy Collection, no. 848, sheet 303; RGADA, stock 214, book 1350, sheet 7v, 198v–199; N. N. Ogloblin, “‘Chertëshchik’ Ivan Matveyev,” *Bibliograf*, 1892, no. 1, 13.

160. Fel’, *Kartografiya Rossii*, 129–30.

161. For a detailed account on the authenticity of the “Chertëzhnaya kniga Sibiri” see the independently arrived at conclusions in the follow-

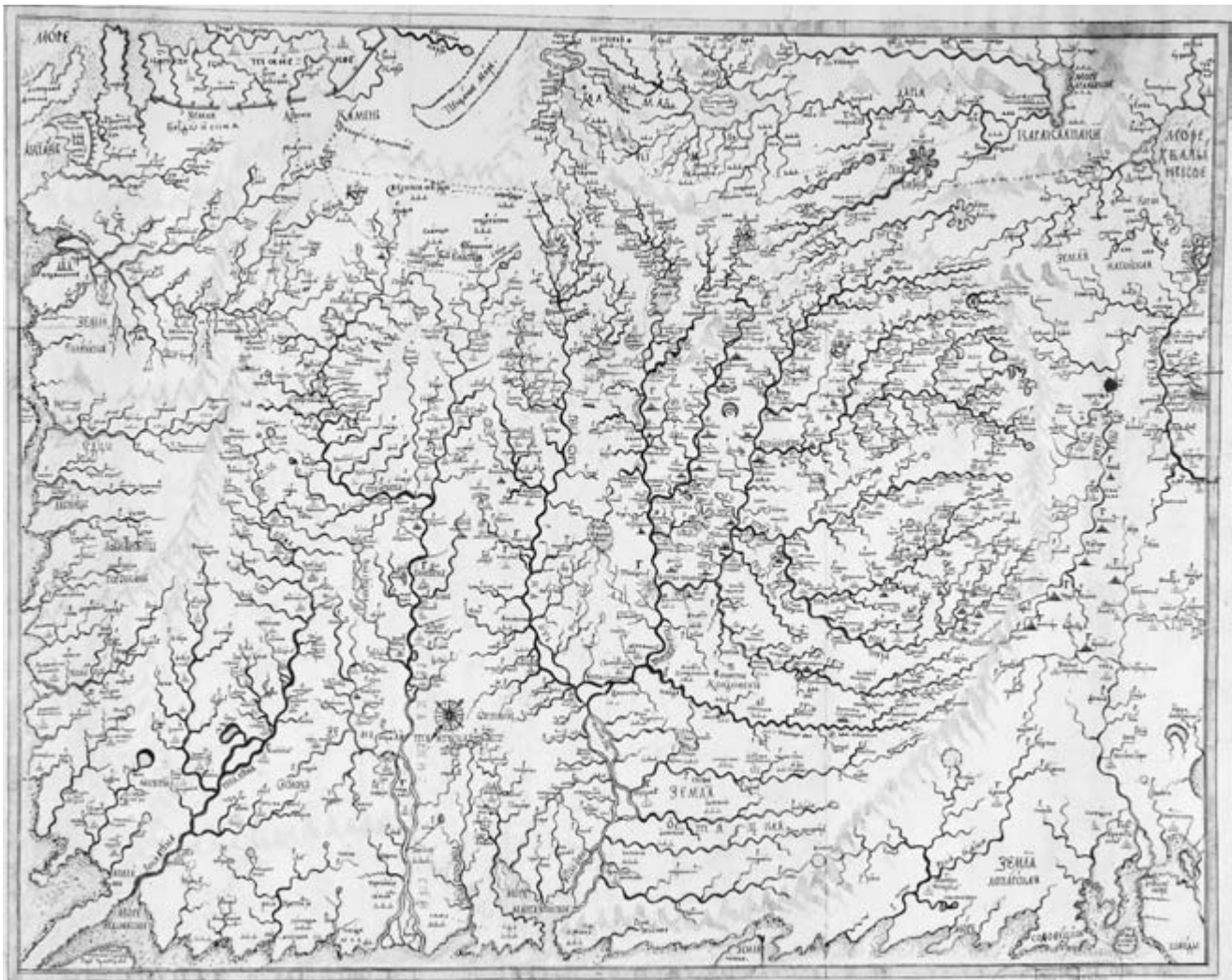


FIG. 62.21. SEMYON ULIANOVICH REMEZOV, "CHERTĚZH VSEKH SIBIRSKIKH GORODOV I ZEMEL," 1699. The copy is similar to sheets 43v–44 in "ChertĚzhnaya kniga Sibiri." It is oriented with southeast at the top and has

a compass rose.

Size of the original: 46 × 58 cm. By permission of Houghton Library, Harvard University (L.S. Bagrow Collection).

Comparison of the handwriting of texts of the introductory articles, tables of contents, forewords, and maps from both atlases confirm either Remezov's authorship or that of his sons (fig. 62.24).<sup>162</sup>

#### "SLUZHEBNAYA CHERTĚZH NAYA KNIGA"

During their many years of work, the Remezovs produced a large collection of originals and copies of various maps, plans, drawings, and descriptions. The natural tendency to organize this personal archive led the elder Remezov to the idea of creating a unified collection combining personal and official materials. The arrangement proceeded logically. At the beginning of the "Sluzhebnaia

chertĚzhnaya kniga," apart from introductory articles and a detailed table of contents, there are reference sections on cartographic methods (information on scales, compass directions, and cartographic signs), similar to

ing works: Goldenberg, *Semën Ul'yanovich Remezov*, 92–99, and Boris P. Polevoy, "O podlĭnnike 'ChertĚzhnoy knigi Sibiri' S. U. Remezova 1701 g: Oproverzheniye versii o 'rumyantsevskoy kopii,'" *Doklady Instituta Geografii Sibiri i Dal'nego Vostoka*, issue 7 (1964): 65–71. It is surprising that in 1975 Henry Castner continued to perpetrate the outdated views on Remezov's works, see Bagrow, *Russian Cartography*.

162. L. A. Goldenberg, "K voprosu o kartograficheskom istochnikovedenii," in *Istoricheskaya geografiya Rossii XII-nachala XX v.* (Moscow, 1975), 217–33, esp. 222–23.





FIG. 62.22. SEMYON ULIANOVICH REMEZOV, HEADING FOR INTRODUCTORY ARTICLE, TABLE OF CONTENTS, AND CATALOG. Remezov points to the value of his atlas, consisting of twenty-three sheets of maps (without descriptions), which enable one to see all of Siberia “as if in a mirror.” In the table of contents are enumerated the titles of all the maps. The catalog gives a list of abbreviations. Size of the original: 47.5 × 35.2 cm. From Remezov’s “Chertëzhnaya kniga Sibiri,” sheet 1v. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

the corresponding sections in the “Khorograficheskaya chertëzhnaya kniga.” These are followed by maps, plans, and texts referring to the city of Tobolsk, and then to all of Siberia and its parts. At the end appear maps of the remote region of Kamchatka and adjoining lands.

The compilation of the new atlas was begun by Remezov, probably during 1702, after the completion of the “Chertëzhnaya kniga Sibiri.” Twenty-eight out of forty-six hand-drawn copies were executed by Ivan Semyonovich Remezov on watermarked paper, which he used when copying this first group in 1703–4. The remaining copies for the “Sluzhebnyaya chertëzhnaya kniga” were made in the early to mid-1710s. The last entry on one of



FIG. 62.23. SEMYON ULIANOVICH REMEZOV, “CHERTËZH ZEMLI VSEY BEZVODNOY I MALOPROKHODNOY KAMENNOY STEPĪ.” Right half of map. Hills and mountain ranges are colored yellow. The original 1697 wall map on canvas has not been preserved. This was a new version, reduced and reworked by the author. Depicted is the territory of the southern part of western Siberia and adjacent areas of Kazakhstan and Central Asia. Mountain ranges (*kameny*) are carefully shown, where, according to the ideas prevalent at the time, all Siberian rivers had their source. It was compiled on the basis of data obtained through inquiries and the use of drafts from the “Khorograficheskaya chertëzhnaya kniga” (sheets 112, 113, 99, and 100). Under a different name and with insignificant reworking, the draft has been preserved in a copy by Ivan Semyonovich Remezov in the “Sluzhebnyaya chertëzhnaya kniga” (see fig. 62.25). Size of the original: ca. 44 × 31.2 cm. From Remezov’s “Chertëzhnaya kniga Sibiri,” sheet 42. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

the drawings in the atlas is from 1730. Thus the “Sluzhebnyaya chertëzhnaya kniga” dates from 1702–30. Although the atlas was completed in the eighteenth century, it still reflects clearly the pre-Petrine phase of Russian cartography and is fully characteristic of the Remezovs’ seventeenth-century mapping of Siberia.





FIG. 62.24. SEMYON ULIANOVICH REMEZOV, EXAMPLES OF GEOGRAPHICAL MAP HEADINGS, 1697. (1) The Tura River is drawn with the *urochishcha* (geographical features) from the mouth to the headlands; (2) Chapter 29: The Irtysh River is drawn with the *urochishcha*; (3) Chapter 32: The steppe is drawn with the *urochishcha*; (4) Chapter 51: The Ilim River with *urochishcha*; (5) Chapter 56: The Lena with *urochishcha*; (6) Chapter 60: The Olekma with *urochishcha*; (7) Chapter 61: The Kolyma with *urochishcha*; (8) Chapter 77: Map of the border of the city of Berezov with the *uyezds* up to the sea (Leontiy Seymonovich. Remezov's handwriting).

From Remezov's "Khorograficheskaya chertëzhnaya kniga," pp. 47, 67, 100, 144, 153, 159, 160, 167. By permission of Houghton Library, Harvard University.

A major part of the cartographic work in the "Sluzheb-naya chertëzhnaya kniga" consists of authorized copies of Remezov's maps (fig. 62.25), together with those of his sons—Leontiy, Semyon, and Ivan.<sup>163</sup> The originals, which have not been preserved, were compiled from the 1680s on, as were the copies of Russian and foreign maps, beginning with Herberstein's map, Ortelius's *Tartariae sive Magni Chami regni typus*, the Godunov map, and others. In terms of their scope, they can be divided into several groups: four maps of the city of Tobolsk, two maps of the surrounding area, and a map of the city of Kungur (1703);<sup>164</sup> six maps compiled in connection with various journeys and reconnaissances (1700–1710); nine small-scale maps of all Siberia and Southeast Asia and four of Kamchatka; and a group of twenty *uyezd* maps, including the "littoral towns" (1699–1700), the Kungur *uyezd* (1703), and two variants of the "Chertëzh zemel' Yakutskogo goroda."

Of particular interest are those maps that are unique to the "Sluzheb-naya chertëzhnaya kniga." They include the maps of Kungur (1703) and Kamchatka (1702–14), and Winius's map of Siberia. Judging by the table of contents of the atlas, fifteen maps were lost while acquisitions for the "Sluzheb-naya chertëzhnaya kniga" were still in progress. However, by collating all three of Remezov's atlases, it is possible to identify thirteen of the missing maps, and they can be reconstructed from the "Khorograficheskaya chertëzhnaya kniga," the "Chertëzhnaya kniga Sibiri," and other sources. Among the lost items were a map of 1704 added to the Dutch edition of Evert Ysbrants Ides's travels, a foreign map of Siberia presumably by Witsen, and a 1703 map of the Kungur caverns, copies of which were found among the papers of the German scholar Daniel Gottlieb Messerschmidt.

Remezov used at least four groups of sources—apart from printed and manuscript geographies and histories—in compiling his maps. These groups of sources were geographical descriptions, statistical data, and distance measurements; information obtained through direct inquiry; Remezov's own surveys and descriptions of Tobolsk, western Siberia, and the Urals; and local, regional, and general maps of Siberia. To obtain information on remote and unstudied regions, Remezov sought the help of "experienced people."<sup>165</sup> Thus, while compiling maps of the steppeland and the southern regions, he obtained statements from the Kalmyk ambassador Sharysh, the Russian ambassador F. Skibin, and more than twenty people who had visited the Cossack Horde from 1692 to 1696. These names are sometimes noted on the maps ("A. Nepripasov's way to the Horde," "V. Shulgin's place of death in 1693," and so on). While collecting materials for a map of northern Russia, Remezov also questioned many individuals, including the natives of twelve littoral regions, and the names of his Kungur informants are known. Hardly a major event relevant to the mapping and geography of Siberia escaped his attention. He was thoroughly familiar with the progress of Russian geographical discoveries. Accounts from the travels of Ivan Petlin and Ides, the delegations of Baikov and Spafariy, the voyages of Dezhnev and M. Mukhoplev, and the journeys of D. Potapov, Vladimir Vasil'evich Atlasov, and Ivan Petrovich Kozyrevskiy were all synthesized in his work. It is worth noting that his basic method of data collection an-

163. In addition, it contains autobiographical material and an account of Remezov's geographical conceptions and his artistic and religious ideas.

164. In the summer of 1703, Remezov and his son Leontiy surveyed and mapped the city of Kungur and its *uyezd*. See A. A. Preobrazhenskii, "Remezovskiy chertëzh goroda Kungura (istochniko-vedcheskaya karakteristika)," in *Istoricheskaya geografiya Rossii XVIII v.*, pt. 2 (Moscow, 1981), 114–26.

165. Remezov, *Atlas of Siberia*, introduction, 14–15.

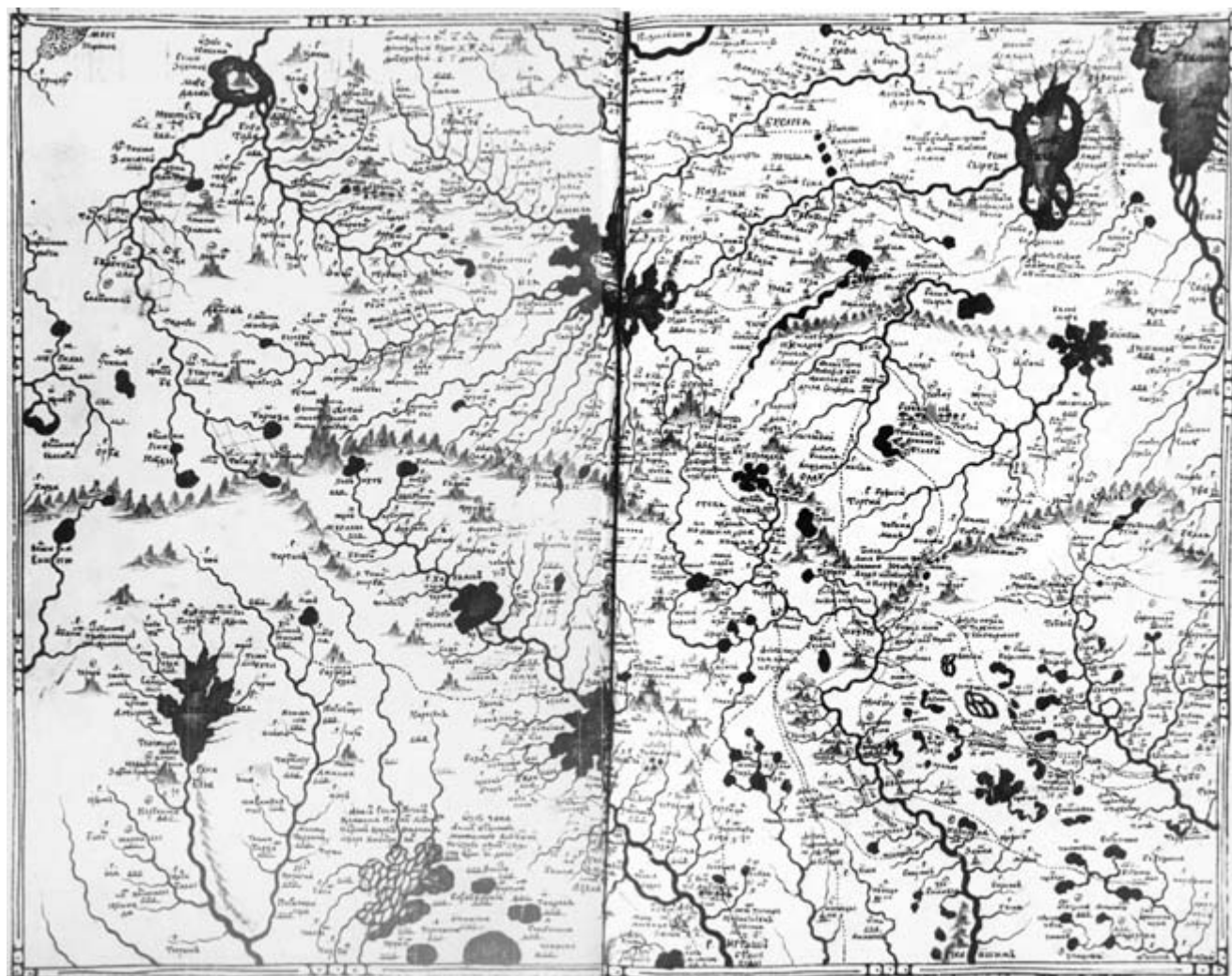


FIG. 62.25. "CHERTĚZH VSEKH S KAMENI POTOKI REK," COPY BY IVAN SEYMONOVICH REMEZOV. Somewhat reworked version of figure 62.23. Size of the original: 27.8 × 36.2 cm. From Remezov's

"Sluzhebnaya chertĕzhnaya kniga," sheets 51v-52. Photograph courtesy of RNB (Manuscript Division, Hermitage Collection, no. 237).

anticipated similar work carried out in Russia half a century later by such scholars as Tatishchev, Kirilov, and Müller.

The cartographic techniques employed by Remezov only partly anticipate later eighteenth-century practices in Russia. A linear scale was not normally included on Remezov's maps; instead, traditional written statements were employed for measurement purposes. Similarly, the absence of a single orientation, a characteristic feature of Russian cartography, shows up clearly in the Remezov atlases. Maps are oriented in various directions and without a consistent pattern, reflecting the work of different authors.

A good indication of the cartographic principles and techniques employed in the making of the atlases is provided by the way Remezov handled the maps of the

*uyezds* by unknown provincial mapmakers in Siberian towns.<sup>166</sup> In reduced form, they make up a large part of the

166. Many of the originals of the maps personally compiled by Remezov were lost and have not come down to us in original form. Fortunately, they have been preserved in authorized copies and copies by his sons in the "Sluzhebnaya chertĕzhnaya kniga." There is direct evidence that Remezov carried out surveys and measurements relating to the city of Tobolsk, the Tobolsk *uyezd* and Western Siberia as a whole, and the Urals. He personally created all of the plans of Tobolsk of 1684–89 and 1701–9, the six primary maps of the "Chertĕzhnaya kniga Sibiri" of 1701, and he seriously corrected and supplemented seventeen *uyezd* maps from the same atlas. With few exceptions he compiled all the maps of the hydrographic atlas—the "Khorograficheskaya chertĕzhnaya kniga." Remezov was the compiler of the general maps of Siberia of 1687, 1698, and 1700, the Kamchatka maps, the plan and descrip-



“Chertëzhnaya kniga Sibiri” (eighteen out of twenty-three maps) and are included in the “Khorograficheskaya chertëzhnaya kniga” (six maps) and the “Sluzhebnyaya chertëzhnaya kniga” (twenty maps). Moreover, they served as the principal source for the general maps of Siberia of 1698–1700. Remezov seems to have intuitively understood the principles of cartographic generalization. It is true that on his general maps we can occasionally pick up an arbitrary fudging of contradictory cartographic sources and that the boundaries of adjacent *uyezds* only fit together very approximately. But by a detailed analysis of one of the *uyezd* maps (Tobolsk, 1697), in relation to other maps derived from it, a two-step process of generalization can be reconstructed. Remezov started with an original map of the Tobol River, proceeded to the smaller-scale map of the Tobolsk *uyezd*, and then incorporated this as part of the general map of Siberia. This is one of the first times in the history of Russian cartography that we can detect the process by which a series of geographical data was summarized for map-making. That this process was not merely a mechanical reduction of detailed maps aided by a pair of compasses, but rather a conscious generalization, is borne out by the absence of a series of minor details on both the *uyezd* map and the general map of Siberia. It is also confirmed by the effort to express the characteristic features of the locality, such as meanders, in a generalized fashion.

No less interesting are the instructional maps of the fifteen Tobolsk *slobodas* included in the “Sluzhebnyaya chertëzhnaya kniga.”<sup>167</sup> These were composed by Remezov immediately after finishing his field surveys (fig. 62.26). To these cartographic models, designed for the use of local surveyors, Remezov also added an example of a report on a survey, an instructional topographic description,<sup>168</sup> and an example of the collection of information by inquiry.

#### CARTOGRAPHIC REPRESENTATION IN THE REMEZOV ATLASES

The primary materials collected in the “Khorograficheskaya chertëzhnaya kniga,” together with the general maps of Siberia and its individual regions in the “Sluzhebnyaya chertëzhnaya kniga” and the “Chertëzhnaya kniga Sibiri,” provide a surprisingly complete cartographic, his-

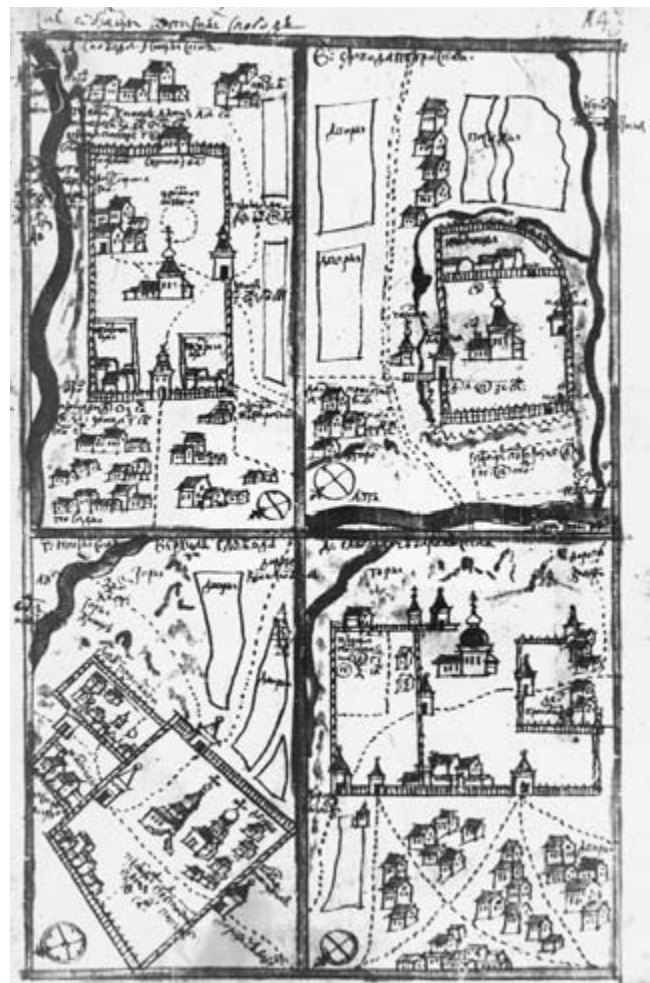


FIG. 62.26. INSTRUCTIONAL EXAMPLES OF THE MAPS OF THE SLOBODAS OF THE TOBOLSK UYEZD, 1704. Remezov's headings are: "These are the examples of the surveyed *slobodas*: (1) the Nitsynsk *sloboda*; (2) the Turinsk *sloboda*; (3) the Upper Nitsynsk *sloboda*; (4) the Chubarovsk *sloboda*."

Size of the original: 27.5 × 16.4 cm. From Remezov's "Sluzhebnyaya chertëzhnaya kniga," sheet 143. Photograph courtesy of RNB (Manuscript Division, Hermitage Collection, no. 237).

tion of the city of Kungur and the map of the Kungur *uyezd*, written reports on surveys, and the topographic description of the Tobolsk *uyezd*. By approximate calculation he was the author of around 160 maps and plans, including seventeen maps on canvas ("brocade"). For a sheet-by-sheet description of the content of all of Remezov's atlases, see Goldenberg, *Semën Ul'yanovich Remezov*, 238–51.

167. "Sluzhebnyaya chertëzhnaya kniga," sheets 143–45.

168. "Khorograficheskaya chertëzhnaya kniga," sheets 10–14v. The model, employing both text and illustrations, specified the collection of information on the main river, its general direction, bends, the incidence and angle of tributaries, the distances between the mouths of tributaries, the lengths of tributaries and the direction of their flow, the color of the water, its depth and width, curves, pools, old river-beds, shoals, fords, ferries, and mills; the description of the shores on both sides of the river, lakes, swamps, mountains, sands, portages, steep banks, meadows, steppes, hayfields, forests, and grasslands; all large and small settlements (towns, forts, monasteries, *slobodas*, *selos*, *derevnyas*), the dwellings and nomad camps of Siberian peoples, the distances between settlements, the borders of *uyezds*, and the value of lands from the standpoint of economic suitability (for cultivation, for habitation).



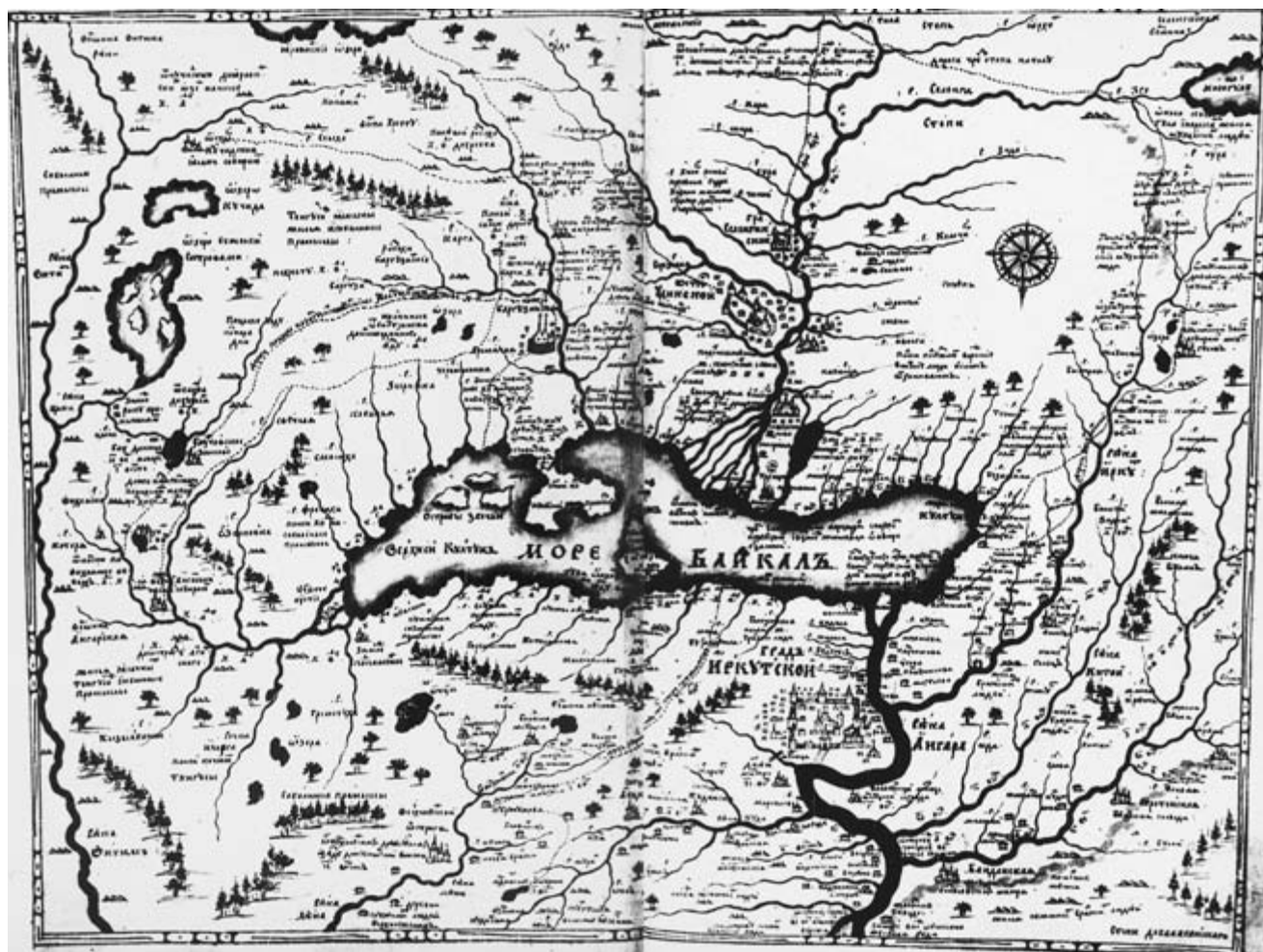


FIG. 62.27. "CHERTËZH ZEMLI IRKUTSKOGO GORODA," COPY BY IVAN SEYMONOVICH REMEZOV. From 1697–99, maps of the *uyezds* were coming into the Siberian Office, completed on location (in the eighteen Siberian *uyezd* capitals) according to the order of 10 January 1696. In the middle of 1697, a map sewn "in leather" on canvas, which has not been preserved, arrived in Moscow from Irkutsk. A map reworked in 1698 by Remezov and his son Sem-

yon has survived in the form of a copy by Ivan Seymonovich Remezov. A second copy of the same name and similar content, but in a larger scale ( $44.5 \times 62.5$  cm), was placed in the "Chertëzhnaya kniga Sibiri" (sheets 37v–38).

Size of the original:  $27.3 \times 35.8$  cm. From Remezov's "Sluzhebnyaya chertëzhnaya kniga," sheets 91v–92. Photograph courtesy of RNB (Manuscript Division, Hermitage Collection, no. 237).

torical, geographical, and ethnographic picture of Siberia. The maps give accurate and thorough representations of the dense river network, the location of numerous settlements, and of the principal features of the countryside. The main rivers are shown in detail from source to mouth, as are their tributaries and settlements. The diverse character of the mouths of the large rivers (the Yenisei, Lena, Ob, and others) and of the river channels (such as the great meanders of the Iset and Baraba) is emphasized, and major navigational features are noted. Swampy areas are not outlined and are differentiated only by their inscriptions (open, unstable, or tundra). Nor are the outlines of

lakes very accurate, but the sizes of some of them are given (figs. 62.27, 62.28, and 62.29).<sup>169</sup>

The cartographic signs used in the atlases are similar to those used for seventeenth-century Russian cartography as a whole. They could be artistic representations, showing such features as ice floes, "unknown berries," "bones," "fire," "stone people" (idols, statues, or the like), sometimes taking on the appearance of pictographs

169. To compensate for the variation of scale on a sheet, numerical figures for the distances between settlements, the lengths of rivers, the sizes of lakes, were, as a rule, indicated on such maps.

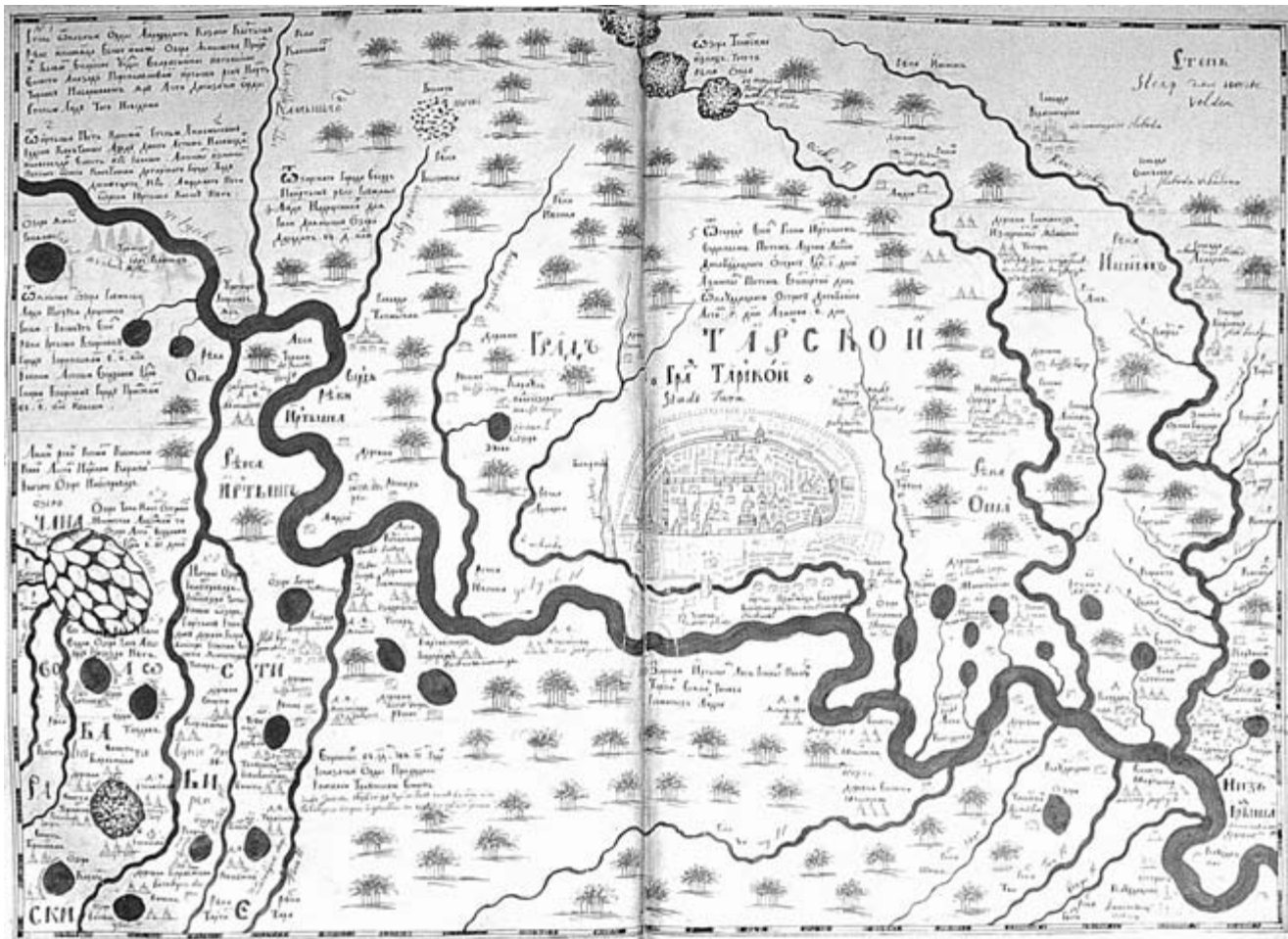


FIG. 62.28. “CHERTĚZH ZEMLI TARSKOGO GORODA” FROM THE “CHERTĚZHNAJA KNIGA SIBIRI.” Copy of the draft of the Tarsk *uyezd*, reworked in 1698 by Remezov and his sons. The original on canvas has not been preserved. An earlier reduced copy was placed in the “Khorograficheskaya

chertĚzhnaya kniga” (sheet 166v) and a later copy in the “Sluzhebnyaya chertĚzhnaya kniga” (figure 62.29).

Size of the original: 44 × 62.8 cm. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346, sheets 7v–8).

(fig. 62.30). A distinguishing feature of the maps is the widespread use of abbreviations. In many cases, only first letters of the corresponding geographical features are given, sometimes in conjunction with cartographic signs but often with confusing results (fig. 62.31). The system of abbreviations proved to be inflexible. It was difficult to distinguish between features designated by the same letter—M for *most* (bridge) and *melnitsa* (mill), K for *kolo-dets* (well) and *kurgany* (burial mounds)—without supplementary explanations or recognizable graphic signs. The lists of abbreviations in the atlases contain ninety-eight designations, alphabetically arranged from Б (B) to Я (YA). They represent an only partially successful attempt to accommodate the greatly increased flow of information from the Siberian surveys.

The atlas maps also show the special features of the individual regions: steppes, wastelands, deserts, and tun-

dra. For relief, the Remezovs used yellow coloring; mountain ranges or individual peaks were depicted sometimes with broad strokes of indefinite form, sometimes with an outline in perspective or half-perspective of a series of boulders or peaks. Mountain systems are shown in some detail, but the direction of ridges and the location of many highland areas are not accurate and reflect the inadequacy of field survey. As a result, it is not surprising to find that their depiction changes from map to map in the atlases.<sup>170</sup> Forests are depicted by a sign for individual trees (or a group), similar to the modern designation for deciduous forests, with an indication of the variety of species. But be-

170. Yevgeniy V. Yastrebov, “Ural’skiye gory v ‘ChertĚzhnoy knige Sibiri’ Semĕna Remezova,” *Voprosy Istorii Yestestvoznaniya i Tekhniki* 1, no. 38 (1972): 44–49.





FIG. 62.29. "CHERTĚZH ZEMLI TARSKOGO GORODA" FROM THE "SLUZHEBNAYA CHERTĚZHNAJA KNIGA." Size of the original: 27 × 36 cm. Photograph courtesy of RNB

(Manuscript Division, Hermitage Collection, no. 237, sheets 57v–58).

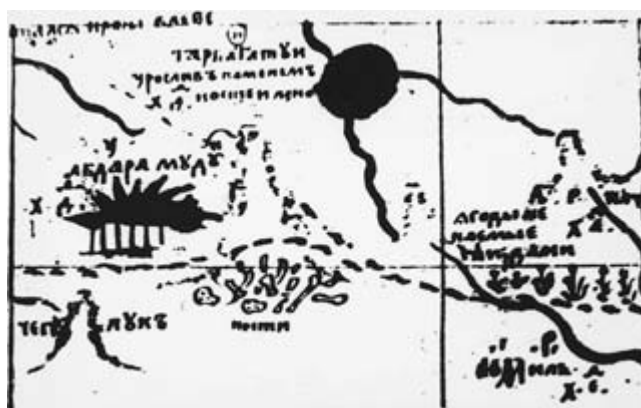


FIG. 62.30. ARTISTIC DETAILS ON SEMYON ULIANOVICH REMEZOV'S GEOGRAPHICAL MAPS. On the left, "bones" and "unknown berries"; on the right, dock at the Kalmatsk fort and the loading of salt at Lake Yamysh.



From Remezov's "Khorograficheskaya chertëzhnaya kniga," pp. 97–98. By permission of Houghton Library, Harvard University.



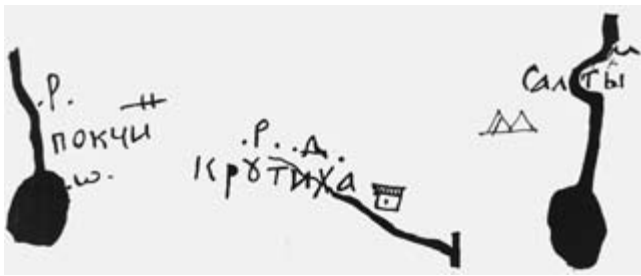


FIG. 62.31. EXAMPLES OF COMBINATIONS OF SYMBOLS, ABBREVIATIONS, AND INSCRIPTIONS, 1701. On the left, the Pokchin River and Lake; in the center, the Krukikhha River and village of the same name; on the right, some toponyms without direct connection to a geographical object (lake, tents, river).

From Remezov's "Chertëzhnaya kniga Sibiri," sheets 5v–6 and 13v–14. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

cause the outlines of the forests are not shown, the distribution of wooded areas is arbitrary. The regional fauna is indicated by drawings of such animals as wild horses, arctic foxes, and polecats and by accompanying inscriptions.

The Remezovs were also particularly concerned with indicating the economic potential of the newly colonized lands. The principal winter and summer land routes, as well as portages, are indicated by dotted lines. All regional and general maps are fully annotated with valuable data on distances along rivers and roads and between settlements and other geographical features. Other economic information includes the trades of the local population and data on mineral deposits and their exploitation (semiprecious stones, copper, sulphur, mica, lead, salt, and oil). Similarly, special attention was given to representing the results of agricultural colonization, and potential land uses—arable, hay fields, meadows—are also distinguished.

Finally, also indicating the colonial function of the maps, an important place was given to historico-ethnographic themes. The maps display the settlement patterns of Russian and aboriginal peoples, population numbers and migrations, ethnic composition and locations of nomadic Siberian peoples, as well as data on taxation, historical locations, and archeological finds. On many maps, too, representations of the Siberian *uyezd* towns, forts, and monasteries can be found. The wooden defensive installations of the settlements are represented in three ways: a barrier of palings or palisades; a closed log wall with towers; or a fence of palings reinforced with numerous towers. The systematic depiction of the towns, along with forts and monasteries shown in outline, portrays the colonial settlement form and its individual features (fig. 62.32).<sup>171</sup> Yet the system of territoriality was not firmly established. None of the maps (except the ethnographic map) employ signs for boundaries,



FIG. 62.32. TOWN PLAN OF PELYM ON THE MAP OF THE PELYM UYEZD. On the plan are represented wooden defensive structures of two types: "log" walls (lower right corner) are shown as white walls with dots and dashes depicting soldiers; the paling (or stockade) is shown as cross-hatching/shading (left and below).

From Remezov's "Chertëzhnaya kniga Sibiri," sheet 16. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

political-administrative divisions, or areas of settlement. These are replaced by detailed inscriptions, making it possible to equate the lines of political demarcation with natural barriers such as rivers and mountains.

On one level, the style of the atlases reflects the wealth of material included. The economical use of graphic embellishments and the lack of superfluous decoration indicate Remezov's scholarly approach to cartography. On another level, the black-and-white versions of the "Chertëzhnaya kniga Sibiri" and the "Khorograficheskaya chertëzhnaya kniga" fail to do justice to the well-preserved manuscript originals in color. These are adorned with decorative inscriptions and cinnabar headline letters, painted ornamentation in Russian baroque style on the introductory articles and dedications (fig. 62.33), head-

171. L. A. Goldenberg, "The Atlases of Siberia by S. U. Remezov as a Source for Old Russian Urban History," *Imago Mundi* 25 (1971): 39–46.

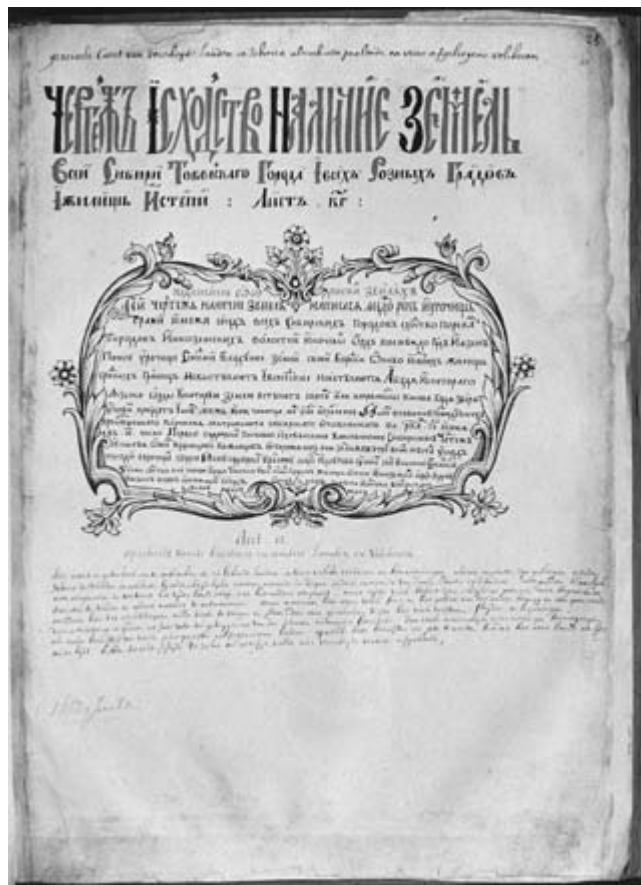


FIG. 62.33. HEADING AND INTRODUCTORY TEXT OF THE ETHNOGRAPHIC MAP OF SIBERIA. The text (in Russian and Dutch) explains the purposes of the compilation of the ethnographic map—the designation of clear and stable boundaries for the territories of Siberian peoples, necessary for preventing and regulating land disputes and for organizing *yasak* taxation.

Size of the original: ca. 44 × 31.4 cm. From Remezov's "Chertëzhnaya kniga Sibiri," sheet 47. Photograph courtesy of RGB (Manuscript Division, stock 256, no. 346).

pieces in the texts, map descriptions written in decorative cursive calligraphy, and clear semiuncial inscriptions for geographical features. The Remezovs also attained a high level of technical perfection with their lettering. The maps of the "Chertëzhnaya kniga Sibiri" alone contain 5679 geographical names, including more than 2000 hydronyms. In the "Sluzhebnyaya chertëzhnaya kniga" many of the geographical names on the maps are clear and distinct, even though less than one millimeter in size.<sup>172</sup>

For background colors, warm watercolor shades were employed but with contrasting combinations that display a feeling for size and an intuitive understanding of the harmony of colors. The mosaic of multicolored "lands" on the ethnographic maps is successful in spite of the diversity of colors. Bright orange "spheres" are skillfully com-

bined with soft colors to give the map an artistic and neat appearance (plate 80).

Overall, the atlas maps depicted individual regions and border territories with varying degrees of accuracy. Remezov's geographical and cartographic conceptions were not immutable but varied with the completeness and accuracy of the available primary materials, which were sometimes contradictory. Least exact were the depictions of the Arctic and Pacific coasts, northeastern Asia, and the southern lands, as data on these outlying regions could not be directly verified by mapmakers. Thus, for example, the indentations of the northern coast were variously depicted by Remezov on different maps. Since the "impassable capes" had been assigned different locations, Remezov was, moreover, unable to uniformly show the sea passage from Europe to the Pacific. The practical limitations to mapping northeastern Siberia and the contradictions in the geographical knowledge of this region at the end of the seventeenth century explain his errors in trying to resolve the question of the sea passage and the connection between Asia and America.

The later Kamchatka maps in the "Sluzhebnyaya chertëzhnaya kniga" (1702–14) begin, however, to reflect more accurate information.<sup>173</sup> They were compiled on the basis of data from Atlasov's journey to Kamchatka (1696–99), a map (no earlier than 1707) by D. A. Trauernicht, the governor of Yakutsk, a 1713 map, and Kozyrevskiy's journeys to the Kuril Islands. In the Soviet and Western European literature, Remezov's Kamchatka maps have been published many times and are well researched. However, the study of these maps without reference to the manuscript originals has led to errors in dating and transcription as well as in the interpretation of their geographical content (fig. 62.34).

#### THE SIGNIFICANCE OF REMEZOV'S CARTOGRAPHY

The significance of Remezov's cartography can be gauged both in terms of its contemporary influence and its legacy to modern scholarship. With respect to the former, the maps and atlases may be regarded first and foremost as the practical tools of statecraft, playing a vital role in the settlement and control of Siberia. The use of *uyezd* maps by government organizations for administrative, defensive, and commercial purposes was widespread in the seventeenth century. Primary applications for mapping were

172. "Sluzhebnyaya chertëzhnaya kniga," sheets 28v–29, 63v–64.

173. It was noted long ago that two general maps of Siberia in the "Chertëzhnaya kniga Sibiri" have the same cartographic basis. However, on the general map (sheet 21) Kamchatka is still depicted as an island, whereas the ethnographic map (sheet 23) shows it as a peninsula. Because both maps were created in the same year, it is obvious that the second of these was corrected during or after Atlasov's (explorer of Kamchatka) sojourn in Tobolsk (13–30 December 1700).





FIG. 62.34. SEMYON ULIANOVICH REMEZOV'S MAP OF KAMCHATKA. No earlier than 1712–14; it has no title. Oriented with north at the top. The map bears witness to the expansion of the Russians' geographical knowledge of northeast Siberia. The hydrography is detailed, the largest sixty-nine rivers are given with their main tributaries. The Kamchatka Peninsula is oriented to the southeast, and the map gives a representation of the Japanese islands. The western part of Alaska ("newly discovered land") is depicted on the basis of information from visiting civil servants and local residents. Size of the original: 28.5 × 18.2 cm. From Remezov's "Sluzhebnyaya chertëzhnaya kniga," sheet 102v. Photograph courtesy of RNB (Manuscript Division, Hermitage Collection, no. 237).

in determining and specifying *uyezd* boundaries, locating fortified settlements and lines, and establishing land and water communications. The maps were also a guide to colonization policies, indicating the distribution of Russian and indigenous populations, pinpointing migrations, and selecting locations for developing arable farming or for "commercial game" (*promyslovaya*) reserves involving the discovery of hunting grounds and fishing areas. They were also key to the implementation of taxation and customs policies involving the choice of customs check-

points and determining the boundaries of *yasak volosts* and undeveloped territory. It could truly be said that maps were an essential part of the infrastructure for the development of Siberia.

Remezov's atlases also led to an improved image of Siberia among Western European mapmakers. Although less realistic maps continued to be produced, such as Schleysing's map of 1690 and Philippe Avril's map of 1692,<sup>174</sup> Remezov's maps gradually helped disseminate of a more accurate picture of Siberian geography. In 1699, the Austrian envoy Khristofer Gvarienti received from Winius a copy, in German, of Remezov's 1698 map of Siberia.<sup>175</sup> This map provided the foundation for Ides's 1704 map, and on Delisle's map of 1706 it was possible to give a more accurate rendering of the "impassable cape." Outlines of the Chukchi and Kamchatka peninsulas similar to those on Remezov's maps can also be traced on many later Russian maps back to the map of 1722 published in I. Goman's 1725 atlas.<sup>176</sup> Similarly, the information gathered by Atlasov, Kozyrevskiy, and other explorers reached Western Europe through Remezov's maps and Philipp Johann Strahlenberg's map of Siberia of 1725–30.

From Remezov's biography we also know of his meetings in Tobolsk with Strahlenberg and Messerschmidt.<sup>177</sup> The two men considered Remezov an "old artist" rather than a cartographer or geographer, but nevertheless doggedly tried to get copies of his maps. They were largely successful. In Messerschmidt's archives alone were found copies of twelve regional maps from Remezov's atlases.<sup>178</sup> The depictions of nine cities in the second edition of Witsen's *Noord aen Oost Tartaryen* of 1705<sup>179</sup> turned out to be exact reproductions, with cosmetic Western European stylization, of Remezov's settlement maps from the "Chertëzhnaya kniga Sibiri." And even earlier, in Ger-

174. The French Jesuit traveler Philippe Avril added the *Nouvelle carte de la Sibirie et du Kitay* to his essay *Voyage en divers états d'Europe et d'Asie, entrepris pour découvrir un nouveau chemin à la Chine* (Paris, 1692). The latest research has established that many pages of Avril's book are copies of a series of works and notes by Spafariy; see Andreyev, *Ocherki*, 80–81.

175. Bagrow, "Semyon Remezov," 124.

176. E. F. Varep, "O kartakh, sostavlyennykh russkimi v atlase I. B. Gomana 1725 g.," *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* 91, no. 3 (1959): 290–98, esp. 290.

177. Philipp Johann von Strahlenberg, *Das Nord- und ostliche Theil von Europa und Asia* (1730; reprinted Szeged: Universitas Szegediensis de Attila József Nominata, 1975), 102, and Daniel Gottlieb Messerschmidt, *Forschungsreise durch Sibirien, 1720–1727*, 5 vols., ed. E. Winter and N. A. Figurovskij (Berlin: Akademie Verlag, 1962–77), 1:96.

178. Archive of the Rossiyskaya Akademia Nauk (Russian Academy of Sciences), stock 98, inventory 2, nos. 2–7, 9–13, 15.

179. Nicolaas Witsen, *Noord en Oost Tartaryen* (Amsterdam, 1705), 666, 729, 757, 823, 848.



many Jacob von Sandrart reproduced an engraved panorama of Tobolsk from a 1677 drawing by Remezov in the “Khorograficheskaya chertëzhnaya kniga,” without the author’s permission.<sup>180</sup> In such ways, Remezov’s cartography, which began as works of official reference, became the intellectual property of both Russian and Western European science by the end of the seventeenth century. Their subsequent dissemination and utilization can be traced throughout the first half of the eighteenth century.

Finally, there is the use of Remezov’s cartography to modern scholars. Here, too, its value can hardly be exaggerated. As early as 1886, Nordenskiöld, having received from Russia a gift of a published facsimile of Remezov’s “Chertëzhnaya kniga Sibiri,” noted in a letter of thanks that the atlas was of great use to him in his research on the history of early cartography.<sup>181</sup> Current research using the maps as fundamental documents is found in the fields of history, geography, ethnography, cartography, architecture, philology, and in the art and culture of seventeenth-century Siberia. In Soviet scholarship, Remezov’s maps and atlases have been also widely used for reconstructions in historical geography.<sup>182</sup>

Made in the last quarter of the seventeenth century and the first decade of the eighteenth century, Remezov’s cartography reflects the final development of early Russian cartography. Falling in the pre-Petrine epoch, it laid the groundwork for the later transition to maps with a finer mathematical framework and based on more exact measurements. In this respect, the Remezov stage in the mapping of Siberia, epitomizing the achievement of original Russian cartography and seventeenth-century geographical thought, was soon to become “yesterday’s” science.<sup>183</sup>

## CONCLUSIONS

Although Russian historical documents bear witness to the broad geographical outlook of chroniclers as early as the eleventh and twelfth centuries, the beginnings of old Russian cartography must be placed in the late fifteenth century. Up to this time the feudal disunity of the Russian principalities limited the interest in maps and geographical knowledge, and the Mongol-Tatar yoke of the thirteenth through fifteenth centuries hindered the economic and cultural development of Russia. A powerful impetus for the accelerated development of cartographic work was provided by the unification of Russian lands around the Muscovite Principality. The sixteenth century was the first century in which a unified, centralized state existed, whose territory continued to grow. The first general maps of Russia date to 1497 and 1523. The initial period of old Russian cartography concluded at the turn of the sixteenth to seventeenth centuries. The “Bol’shomu chertëzhu” was a general strategic map of the Russian state. The compi-

lation of general maps was based on the various cartographic works of a local and regional nature, having various purposes—land routes (roads), defense, reconnaissance, city-building, and diplomacy.

From its conception Russian cartography was characterized by the use of field investigation for initial geographical drawings, the strict centralization of cartographic works in a general state scale, and the state direction of cartographic activity. Old Russian maps were

180. Jacob von Sandrart, *Kurze Beschreibung von Moscovien, oder Russland* (Nuremberg, 1688).

181. Redzhinal’d V. Ovchinnikov, “Pis’mo A. E. Nordenshel’da v Russkoye geograficheskoye obshchestvo,” *Skandinavskiy Sbornik* 4 (1959): 47–55, esp. 48.

182. Boris O. Dolgikh successfully employed Remezov’s maps in the 1701 atlas in conjunction with information from other seventeenth-century written historical sources; see Boris O. Dolgikh, *Rodovoy i plemennoy sostav narodov Sibiri v 17 v.* (Moscow: Izdatel’stvo Akademii nauk SSSR, 1960). There are numerous other investigations. The following are particularly noteworthy: Sergey V. Bakhrushin, “Voprosy po russkoy kolonizatsii Sibiri v 16–17 vv.,” and idem, “Ostyatskiye i vogul’skiye knyazhestva v 16–17 vv.,” both in *Nauchnyye trudy*, vol. 3 (Moscow: Izdatel’stvo Akademii nauk SSSR, 1955), pt. 1, 15–162, and pt. 2, 86–152, respectively; idem, “Ocherki po istorii Krasnoyarskogo uyezda v 17 v.,” in *Nauchnyye trudy*, vol. 4 (Moscow: Izdatel’stvo Akademii nauk SSSR, 1959), 7–192; A. Dul’zon, “Drevniye smeny narodov na territorii Tomskoy oblasti po dannym toponimiki,” *Uchenyye Zapiski Tomskogo Gosudarstvennogo Universiteta, Seriya Fiziko-matematicheskikh i Estestvenno-Geograficheskikh Nauk* 6 (1950): 175–87; V. I. Vasil’ev, “Problema formirovaniya yeniseyskikh nentsev,” in *Etnogenez i etnicheskaya istoriya narodov Severa* (Moscow: Nauka, 1975), 111–47, esp. 114–15; V. S. Sinyayev, “K voprosu o yuzhnoy granitse Tomskogo uyezda v 17 v.,” *Trudy Tomskogo Oblastnogo Kravevedcheskogo Muzeya* 5 (1956): 79–88; Serebrennikov, *Irkutskaya guberniya*; S. D. Tivyakov, “Pervyye karty Zemli Kuznetskoy,” in *Zemlya Kuznetskaya* (Kemerovo: Knizhnoye Izdatel’stvo, 1978), 88–93; Yastrebov, “Ural’skiye gory”; N. F. Demidova, “Izobrazheniye srednego techeniya Irtysha na kartakh S. U. Remezova,” in *Ispol’zovaniye starykh kart v geograficheskikh i istoricheskikh issledovaniyakh* (Moscow, 1980), 122–36; I. A. Vorob’eva, A. I. Maloletko, and M. F. Rozen, *Istoricheskaya kartografiya i toponimiya Altaya* (Tomsk: Gosudarstvennyy Universitet, 1980); Goldenberg, “Kartograficheskiye materialy”; M. I. Belov, O. V. Ovsyannikov, and V. F. Starkov, *Mangazeya: Mangazeytskiy morskoy khod* (Leningrad, 1980), 113–16; Preobrazhenskiy, “Remezovskiy chertëzh”; Viktor I. Kochedamov, *Tobol’sk (kak ros i stroilsya gorod)* (Tyumen: Knizhnoye Izdatel’stvo, 1963); idem, *Pervyye russkiye goroda Sibiri* (Moscow: Stroyizdat, 1978); N. M. Petrov, “Opyt vosstanovleniya plana Tomskogo goroda i ostroga nachala 17 v.,” *Trudy Tomskogo Oblastnogo Kravevedcheskogo Muzeya* 5 (1956): 59–78; L. M. Tverskoy, *Russkoye gradostroitel’stvo do kontsa 17 veka: Planirovka i zastroyka russkikh gorodov* (Leningrad-Moscow: Stroyizdat, 1953); A. A. Tits, *Russkoye kamennoye zbiloye zodchestvo 17 veka* (Moscow: Nauka, 1966); and I. A. Vorob’eva, “Russkiye gidronimy Sibiri v 17 v. (po materialam ‘Chertëzhnoy knigi Sibiri’),” *Voprosy Geografii* 70 (1966): 62–71.

183. G. N. Teterin, *Istoriya geodezii v Rossii (do 1917 goda)* (Novosibirsk, 1994), and L. S. Khrenov, *Khronologiya otechestvennoy geodezii s drevneyshikh vremen do nashikh dney: Geodeziya, astronomiya, gravimetriya, fotogeodeziya i kartografiya* (Leningrad: GAO, 1987).

state property and were not objects of commerce. With rare exceptions, all old Russian maps and plans were hand-drawn. The absence of professional cartographic training institutions meant a (varying) quality in design and technical methods solely determined by the skill and experience of the map compilers.

The fundamental features of old Russian maps were a weak mathematical basis, the absence of grids of coordinates or unified orientation, and a high level of completeness of geographical content and toponymic saturation. The main supporting grid for old Russian maps was provided by the river systems and the distances between settlements, measured in days of travel or in units of distance. Until the eighteenth century, Russian cartography developed along its own distinct path, and the influence of Western European science was small. At the same time, the success of Western European cartographers in depicting Russia depended on the degree to which they were successful in obtaining Russian cartographic sources.

The extant archival inventories and the historical testimony of ancient documents bear witness to the variety and numbers of Russian cartographic works in the sixteenth through seventeenth centuries, but few have survived. Only one sixteenth-century land plan has been preserved, and of the original seventeenth-century wall maps on canvas there remains only a general map of Siberia and city plans of Kiev and Pskov. The general maps of Russia have been lost and regional maps exist only in reduced copies. The basic body of preserved cartographic materials consists of geographical maps and plans of plots and tracts of land, arable land and waste ground, towns, forts and town fortifications, rivers, river basins, roads, forests, and defensive structures.

The progress of Russian cartography in the seventeenth century is due to deep changes in the socioeconomic order of the state, when, under the conditions of the dominance of feudal property, elements of new bourgeois links grew stronger. The strengthening of economic relations between regions necessitated more detailed cartographic descriptions of individual regions, and the formation of an all-Russia market—the systematic compilation (and revision) of general cartographic works in the form of general maps and atlases. In 1627 the renovated “*Kniga Bol’shomu chertëzhu*” appeared, followed by a series of general maps of Siberia (1633, 1667, 1673, 1678, 1687, and 1698), and at the end of the seventeenth and the beginning of the eighteenth centuries the first Russian geographical atlases (the “map books” of Siberia).

Interwoven with the geographical discoveries in the Asian part of Russia, the process of annexing and developing Siberia necessitated the accelerated development of the mapping of huge territories from the Urals to the Pacific Ocean. The maps and geographical descriptions of civil servants and explorers became a mass of reports and documents. But they, too, shared the unfortunate general fate of the old Russian maps—with few exceptions, they have all been lost. For all practical purposes the fundamental source for the study of old Russian cartography of the historical period is the work of the Tobolskian cartographer Semyon Ulianovich Remezov. His cartographic legacy reflects the closing phase in the development of Russian cartography to the eighteenth century, which is characterized by the generalizing of a century’s worth of accumulated materials on cartography, geography, history, and ethnography, as well as the formation of the preconditions for the transition to maps having a mathematical basis.

The main value of Remezov’s maps lies in their rich geographical content. His maps and atlases give a multifaceted physical and geographical picture of a territory filled with economic, military, archaeological, and other data in which modern researchers justifiably see the earliest display of comprehensive mapmaking. The Remezov stage in the mapping of the Asiatic part of Russia has been characterized as the sum of the achievements of Russian national cartography. However, despite his accomplishments, Remezov was unable to overcome the archaic nature of the old Russian mapmaking methods he was utilizing and perfecting.

The cartographic works of Remezov have long since outgrown the confines of regional Siberian importance. They show not only the characteristic features of general Russia, but also the elements of world science and culture. The fame of the Russian self-taught scholar reached beyond the borders of Russia as early as the eighteenth century. The area of his recognition in world science significantly expanded especially after the inclusion of the “*Chertëzhnaya kniga Sibiri*” in the chronological table of the most important works of cartography of all countries and peoples of the world and Bagrow’s publication of the manuscript atlas “*Khorograficheskaya chertëzhnaya kniga*.”<sup>184</sup>

184. Erwin Raisz, “Time Charts of Historical Cartography,” *Imago Mundi* 2 (1937): 9–15, and Remezov, *Atlas of Siberia*.



