



Figure 17. A Map of Russian Finland

topographical map of the kingdom on the scale of 1:126000. This project was not difficult to accomplish since Poland had a strong topographical office, which had developed on the basis of its own cartographic traditions under the influence of French cartography during the period of the Duchy of Warsaw (1808-15). In the first stage, from 1818-31, Polish officers surveyed and mapped their own country, although relying upon Russian manuals and plans. Following the Warsaw uprising in 1830-31, Russian topographers took over and completed the project with the participation of their Polish colleagues (1832-43). I discovered the original documents of these works in the Russian State Military History Archives and the Russian State Historical Archives.³² These documents demonstrate that this project undoubtedly promoted Russian-Polish cooperation and developed cartographic skills and cartography itself as an academic discipline in both countries.

Besides *The Topographical Map of the Polish Kingdom* (which became very famous since, in contrast to the Survey of Old Finland, it was published), the Russian-Polish project produced fourteen volumes of geographic descriptions

archaic method of landform presentation appeared on the maps owing to the use of old Finno-Swedish materials. The materials provided by this atlas were actively used later for the compiling of general maps of Russian Finland (Figure 17).

The process of interaction between the Finno-Swedish and the Russian schools of field cartography continued well into the nineteenth century. It became especially active after Finland was incorporated into Russia in 1809 with the result that the topographical offices of both countries were united.

Incorporated into the Russian Empire in 1815, Poland also aroused great cartographic interest in the Russian military elites. Just after the annexation of the Polish Kingdom, Russia launched an ambitious cartographic project for compiling a

³² RGVA, f.40, op.1, d.106; Ibid., Fond VUA, d.19445, d.25207; Rossiiskii gosudarstvennyi istoricheskii arkhiv, f.1646, op.1, d.342, to name but a few.



Figure 18. Road Map of the Polish Kingdom



Figure 19. Forest Map of the Polish Kingdom

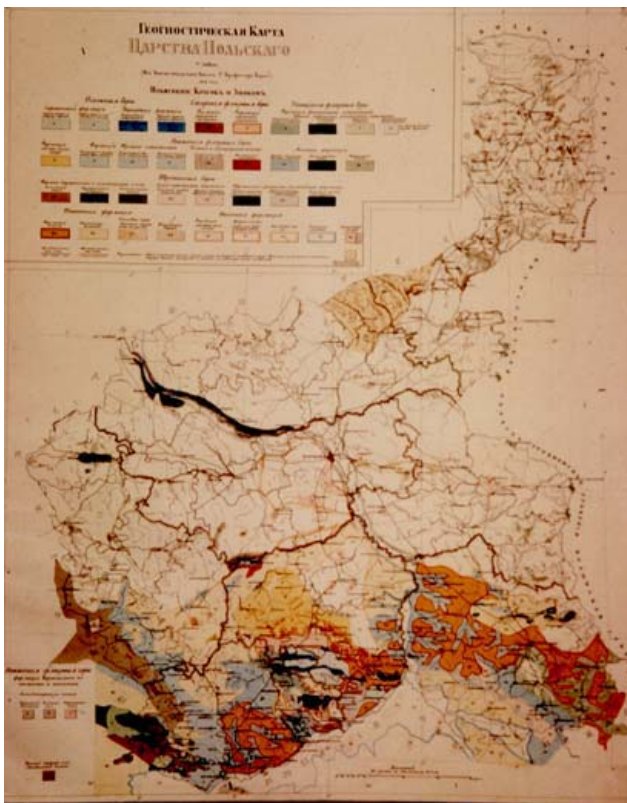


Figure 20. Geognostic Map of the Polish Kingdom

and a thematic atlas of Poland (1843), whose only copy survives as manuscripts in the Russian State Military History Archives. These are extremely interesting as historical-geographic sources for Poland in the first half of the nineteenth century. The thematic atlas of Poland includes twenty-two maps of population, roads, religion, post, industry, agriculture, education, trade, relief, hydrography, forests, geology, mineral waters, and some military aspects. Actually it is one of the earliest thematic atlases in the history of world cartography (see Figures 18, 19, and 20).

Along with the active use of foreign methods, Russian cartographers had their own achievements, in particular in the areas of military and cadastral cartographies, as well as “frontier cartography” in Russian geographic explorations.

After the General Staff of the Russian Army was established in 1763, military topography began to develop rapidly. As early as 1716, the War Code issued by Peter I charged quartermasters with surveying and mapping, but it was only in 1731, due to the formation of the Nobility's Cadet Corps [Military School] of the Army, that army officers started to be trained in topography.



Figure 21. Symbols for "Cadet" Mapping

special attention was attached to the elements of landscape considered important for the stationing of troops. Figure 21 shows several conventional symbols which were included in a manual for the cadets in 1794-97.

One of the first Russian military schools which taught cartographic surveying was the Finnish Gappaniemy Topographical Corps, which educated many topographers for the General Staff of the Russian Army from 1812 until the early 1830s. In 1822, the Military Topographers' Corps was founded in St. Petersburg and became the main college for the training of military geodesists and topographers. This institution has survived to the present day despite all the drastic changes in Russia. In 1854, the Geodetic Department was established at the General Staff Academy in which courses in geodesy and topography had already been taught since 1832.

Russian military topographers scored many successes in the academic generalization of topographic map-making. Proceedings of the Military Topographers' Corps were published regularly starting in 1837; F.F. Shubert, A.P. Bolotov, and V.V. Vitkovskii produced ground-breaking studies in geodesy and topography which were the most advanced in the world at that time.

An example of the excellent work done by Russian military cartographers is a beautiful atlas - *The Atlas of the Russian Imperial Troops' Campaign in Switzer-*

Judging by one of the earliest courses in this field drafted by S. Nazarov in 1761, future officers were trained in surveying, which considerably differed from land surveying. Plane table survey was preferred to all others, and topographic features were drawn in the field. In mapping, special



Figure 22. Cover of The Atlas of the Russian Imperial Troops' Campaign in Switzerland

land under the Command of Genera-
lissimos, Prince of Italy, Count
Suvorov Rymnikskii, in the Presence
of His Imperial Highness, Heir to the
Throne, Great Prince Konstantin
Pavlovich in 1799 (Figure 22).
This manuscript atlas was com-
piled during A.V. Suvorov's fa-
mous crossing of the Alps via
Italy as a leader of the interna-
tional troops against Napoleon I.
Surveys and mapping for this
atlas were made by very young
Russian officers of the General
Staff, some of whom, such as K.F.
Tol' and A.I. Khatov, would soon
become outstanding leaders of
the Russian Military Topogra-
phers' Corps. The quality of their
work in 1799 can be seen in the
maps of this atlas, especially with
respect to the artistic presenta-
tion of mountain reliefs (Figure 23).



Figure 23. A Map Included in The Atlas of the Russian Imperial Troops' Campaign in Switzerland

A different kind of cartography was seen in civilian surveys and mapping during the General Land Measuring of estates. Beginning in the 1760s, the single cartographic trend founded under Peter I began to split into two: one run by the land survey department, and the other by the war department. Different requirements by the two departments inevitably resulted in different approaches

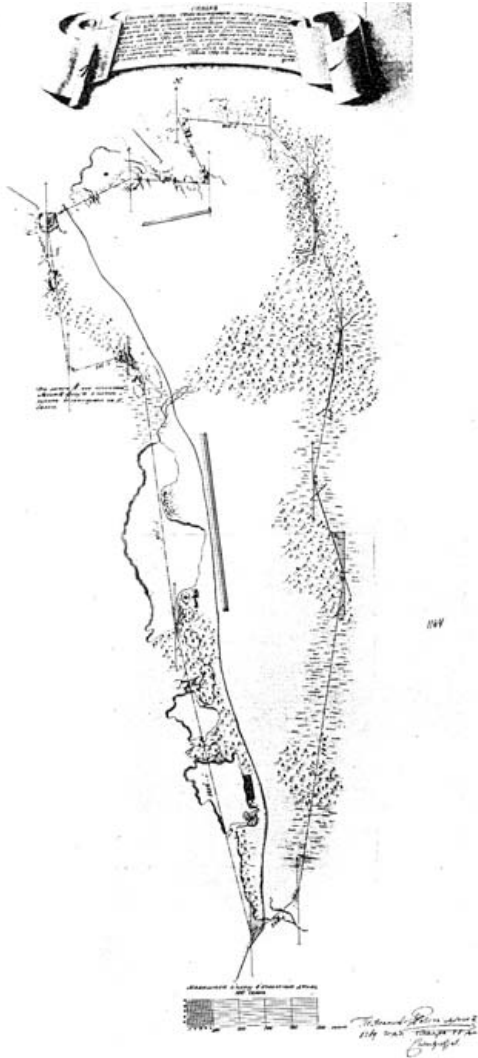


Figure 24. A Manual for Land Surveying

Russia needed to standardize methods, instructions, and legends, and have qualified surveyors. Already in 1767, a school attached to the Drafting Survey Expedition of the Governing Senate was founded in St. Petersburg to train surveyors and draftsmen for the General Survey. In 1779, a survey school was set up in Moscow (presently the Russian State University of Geodesy and Cartography). The technical foundations for land-measuring were decisively influenced by surveying methods from the earlier period, that is, astrolabe traverse lines with chain measurements of distances. In contrast to surveys during the reign of

to surveying and mapping, and consequently, different training of land surveyors and military topographers. Previously, despite the diversity of cartographic purposes, all large-scale maps contained a more or less similar set of cartographic details differing only in scope: they were all general geographic maps. With the emergence of the two approaches, maps became more specialized. Thematic cartography in Russia is believed to have emerged in the late seventeenth century,³³ but only in regard to the period from the 1760s can thematic cartography be discussed in the scientific and technical senses.

From 1765 on, surveying on an unprecedented scale took place in Russia as part of the state project of cadastral mapping, for which

33 V.S. Kusov, "Cartographic Memorials of the Old Moscow State (Discoveries of Recent Years)," paper presented at the 8th International Cartographic Conference held in Moscow, 1976; N.W. Castner, "Special Purpose Mapping in Eighteenth Century Russia: A Search for the Beginnings of Thematic Mapping," *American Cartographer* 7 (1980), pp. 163-175.

Peter I characterized by traverse lines arranged along main roads, land surveying was based on closed areas along the “surrounding boundary,” that is, along the boundary of an estate. In Figure 24 one can see an example of a land surveying method included in one of the early manuscripts of an



Figure 25. A Fragment from the Atlas of the Archangel Governorship official Russian manual on survey methods. This land surveying was done to ensure the detailed cartographic analysis of territories within individual estates, to evaluate plow lands, pastures and other assets, and to determine their boundaries. In short, its ultimate purpose was to consolidate the rights of landlords.

Performing this government project, Russian civilian surveyors compiled thousands of estates’ plans and many atlases of guberniyas and uyezds, only one of which, the Atlas of the Kaluga Governorship (*Atlas Kaluzh-skogo namestnichestva*), was published in 1782. These plans and atlases contained much information on the nature, population, agriculture, industry, and many other aspects of European Russia in the second half of the eighteenth and early nineteenth centuries. Some of these atlases show artistic qualities and ethnographic interest which is

clearly seen in fragments of maps from the Atlas of the Archangel Governorship (*Atlas Arkhangel’skogo namestnichestva*) (Figures 25, 26, 27, and 28). On the basis of maps from this survey, some regional maps such as “Carte



Figure 26. A Fragment from the Atlas of the Archangel Governorship

delta Provincial di Mosca, 1774” (*Geograficheskaya karta Moskovskoi provin-tsii...*, Figure 29) were published.

As noted earlier, place names were usually preserved close to their original (or native) forms on Old Russian maps. During the period of the General Land Measuring, however, we find the first instance of government decreed changes in toponyms.

In 1766, Catherine II, probably in response to her feminine feelings of prudence, ordered that “all rivers, rivulets, villages, and other places which were found during the Land Measuring to have indecent or even obscene names should be named on the maps in new forms by adding or skipping some letters of their original names, so that their

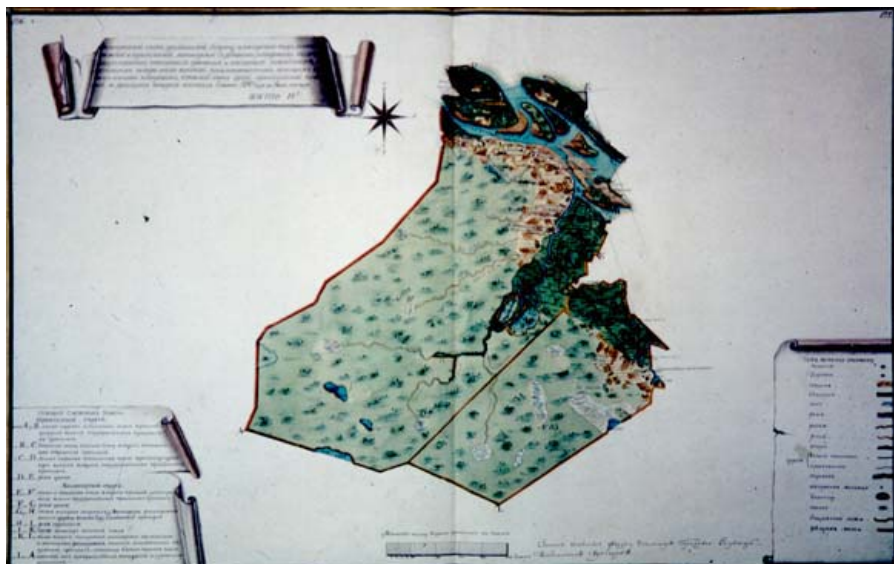


Figure 27. A Fragment from the Atlas of the Archangel Governorship

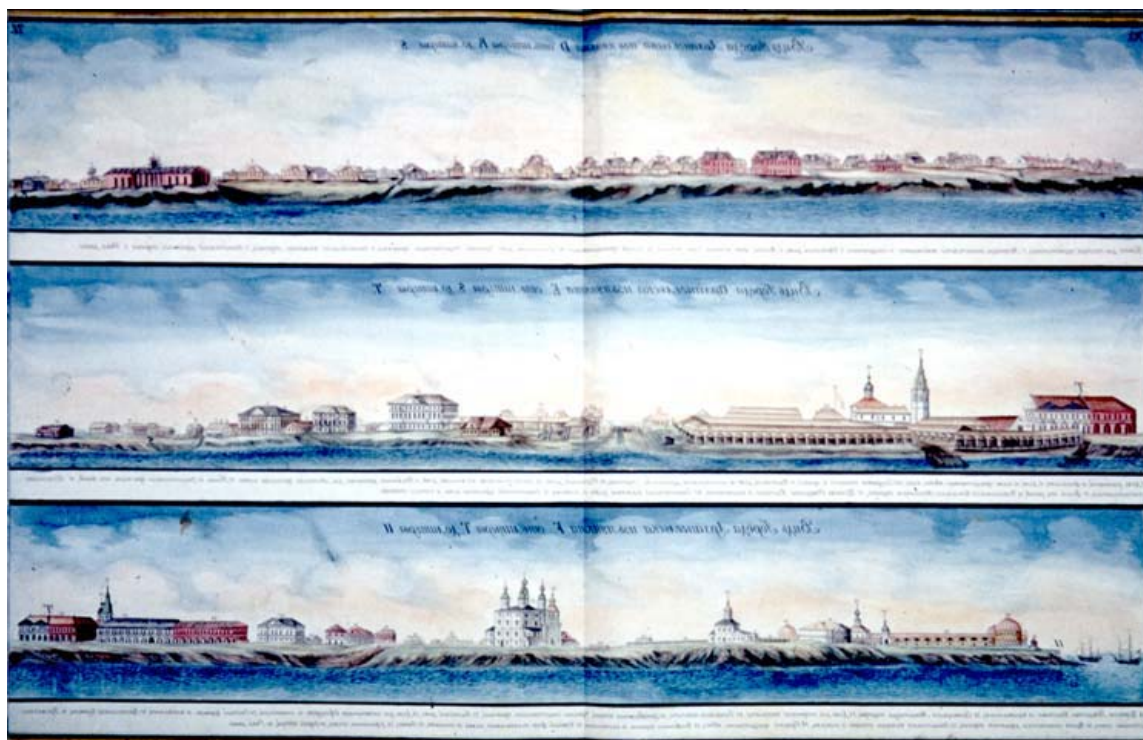


Figure 28. A Fragment from the Atlas of the Archangel Governorship